13. LAND USE

This chapter identifies and describes applicable regulations, describes the affected environment, and provides an analysis of the effects of the proposed action and alternatives on land use, recreation, and hazardous materials in the project area. Section 13.1 addresses land use resources, except recreation uses. Section 13.2 addresses recreation resources. Section 13.2 also summarizes considerations relating to Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 United States Code [U.S.C.] Section 303 and 23 U.S.C. Section 138). Appendix M of the Environmental Impact Statement (EIS) provides a full analysis of such considerations. Section 13.3 describes potential impacts on hazardous materials and hazardous wastes sites.

13.1 Land Use Resources

13.1.1 Applicable Regulations

Federal Regulations

The Bureau of Land Management (BLM), under the authority of the Federal Land Policy and Management Act (FLPMA) 43 U.S.C. 1732, administers most of the Federal lands in the project area. Under FLPMA, the Secretary of the Department of the Interior (DOI) has the authority to regulate use, occupancy and development of public lands and prevent unnecessary or undue degradation of public lands.

Non-military uses of some military lands within the project area are regulated by BLM under FLPMA. Military concurrence is required for BLM to authorize non-military uses of military lands. Therefore, such uses of U.S. Army lands must also be in accordance with the Final Integrated Natural Resources Management Plan for the U.S. Army Garrison, Alaska (USAG-AK, 2007), and the BLM's Fort Greely Resource Management Plan (1994).

The U.S. Army Corps of Engineers (USACE) manages the Chena River Lakes Flood Control Project (CRLFCP), which includes the northern portions of the project area.

State Regulations

Alaska Statute (AS) 42.40.460, Extension of the Alaska Railroad, provides for the Alaska Railroad Corporation (ARRC) to delineate a proposed transportation rail line between North Pole and the Canadian border. Once delineated, the Alaska Department of Natural Resources (ADNR), after consultation with potentially affected parties and after addressing the provisions of AS 42.40.460, would reserve the transportation rail line and eventually convey the state's interest in the land when construction of the rail line extension was complete.

Local Regulations

The Fairbanks North Star Borough (FNSB) has comprehensive planning, zoning, and land use regulations applicable to the portion of the project area within the Borough. The City of Delta Junction has land use regulations that applicable within its city limits.

13.1.2 Affected Environment

The project area is within the Tanana and Big Delta River valleys in Interior Alaska. Richardson Highway is on the northeastern side of the rivers and extends through the project area from northwest to southeast. Most of the lands in the project area are undeveloped, although there are residential, agricultural, commercial, recreational, and military land uses throughout the project area.

Fairbanks North Star Borough

The northern portion of the proposed rail line is in the FNSB and is subject to land use planning requirements and regulations. The incorporated City of North Pole is immediately west of the northern extent of the proposed rail line. Land in the City of North Pole would not be affected by the rail line. The FNSB communities of Moose Creek, Harding-Birch Lakes, and Salcha are south of North Pole along Richardson Highway and in the vicinity of the proposed rail line. These communities are unincorporated and do not have land use restrictions other than those afforded by the FNSB.

Southeast Fairbanks Census Area

The Southeast Fairbanks Census Area encompasses the proposed rail line from the southern boundary of the FNSB near Delta Creek to the terminus of the proposed rail line in Delta Junction. The community of Big Delta is on Richardson Highway near the confluence of the Tanana River and Big Delta River. The Southeast Fairbanks Census Area is not within a Borough and is not subject to local land use regulations. The City of Delta Junction is incorporated and has land use regulations that apply within city boundaries.

U.S. Army Corps of Engineers

The USACE manages all lands within the CRLFCP boundaries in accordance with the CRLFCP Master Plan (USACE, 1984 and 1989). The Master Plan provides management guidelines for specific planning units in the CRLFCP. The proposed rail line would traverse planning units I2, I4, H1, and H2 of that plan. All areas are managed primarily for the flood control purposes of the project. These planning units are additionally managed for recreation, low-density use, and wildlife management.

U.S. Military Lands

Federal lands in the project area under the management of the U.S. Department of Defense for military purposes include Fort Wainwright, Eielson Air Force Base (AFB), and Fort Greely.

Fort Wainwright is home to U.S. Army units, including the Tanana Flats Training Area (655,000 acres, which includes the Blair Lakes Conventional Range); the Yukon Training Area (247,952 acres, which includes the Yukon Tactical and Electronic Warfare Range; and the Donnelly Training Area (624,000 acres, which includes the Oklahoma Range. The Training Areas continue to be administered by the BLM but have been withdrawn for military use.

Eielson AFB is southeast of the City of North Pole. Richardson Highway crosses the base near its southern boundary. The base occupies 19,789 acres. Eielson AFB is home to the 354th

Fighter Wing and the 353rd Combat Training Squadron. The Blair Lakes Conventional Range, the Yukon Tactical and Electronic Warfare Range, and the Oklahoma Range within Fort Wainwright are under the training supervision of the Air Force.

Fort Greely (U.S. Army) is within 5 miles of the City of Delta Junction near the junction of Richardson and Alaska Highways. Fort Greely encompasses 7,200 acres. The installation is comprised of three main areas: Allen Army Airfield, Cantonment Area, and Missile Defense Complex. The Missile Defense Agency's ground-based midcourse defense's Anti-Ballistic Missile Defense System is supported by the 49th Missile Defense Battalion (USAG-AK, 2006c).

Native Lands (Native Allotments)

The Tanana Chiefs Conference manages a trust service with the Bureau of Indian Affairs and acts as trustee for native allotment property owners. According to the Chief's Conference, there are two native allotments near Salcha and in the vicinity of the proposed rail project. These parcels of land along the Salcha River in the vicinity of Munson's Slough and the former Salchaket Indian Village, are in residential use or are vacant.

Alaska State Lands

State lands within the project area include state parks, recreation areas, the Tanana Valley State Forest, and lands managed by the ADNR Division of Mining, Land, and Water.

State parks and recreation areas in the project area include Big Delta State Historic Park, Clearwater State Recreation Site, Delta State Recreation Site, Quartz Lake State Recreation Area, Birch Lake State Recreation Site, Harding Lake State Recreation Area, and Salcha River State Recreation Site. These legislatively designated state lands are managed by the ADNR Division of Parks and Outdoor Recreation primarily for public access and recreation. Use of these lands is discussed in detail in Section 13.2, Recreational Resources.

The Tanana Valley State Forest encompasses 1.78 million acres and lies almost entirely in the Tanana River Basin. Almost 90 percent of the land in the State Forest is forested, chiefly with hardwood and hardwood-white spruce forest types. The forest is managed for multiple uses and its sustained yield of renewable resources. The Tanana Valley State Forest Management Plan, 2001 Update, establishes the management objectives and policies for the forest (ADNR, 2001). Forest lands in the vicinity of the project are located north of Richardson Highway, and would not be directly affected by any of the proposed rail line segments. As of March 2008, several parcels located between Fort Greely and the Tanana River near Flag Hill are still on the list of proposed additions to the Tanana Valley State Forest under SB 229, and could be affected by proposed rail line segments in the area. The parcels consist of productive white spruce stands and mixed white spruce/hardwood stands. Management goals for the parcels would emphasize wildlife, recreation and timber resources.

Other state lands in the project area are managed by the Division of Mining, Land, and Water. The Division of Mining, Land, and Water's Tanana Basin Area Plan—adopted in 1985 and updated in 1991—established land management direction for multiple uses of these lands including hunting, fishing, trapping, recreation, wood-cutting, subsistence activities, access, oil and gas exploration/production, and mining (ADNR, 1985, updated 1991). The Division of Forestry also manages forest classified lands in the Tanana Basin Area Plan unit. There are

forest classified lands west of the Tanana River that are included in the Division of Forestry's sustainable yield.

Alaska Mental Health Trust Lands

The Alaska Mental Health Trust manages approximately 1 million acres of land in the state. Income derived from trust lands is used to fund a comprehensive integrated mental health program for the citizens of Alaska. Resource categories managed by the trust land office include coal, gas, materials, minerals, oil, real estate, and timber.

University of Alaska Lands

The University of Alaska currently owns and manages approximately 150,000 acres in Alaska. Some of this land is located in the project area. University "trust lands" owned and managed by the university are for the use and benefit of the university and are not considered state public domain land. The university develops, leases, and sells land and resources to generate funds for the University's Land Grant Trust Fund.

Private Lands

Private lands in the Tanana River Valley are used for residential, commercial, and agricultural purposes. Residential and commercial sites are generally located along Richardson Highway or along secondary roads. Concentrations of agricultural lands are located near Eielson Farm Road, at Whitestone Farms near Big Delta, and in the vicinity of Delta Junction.

13.1.3 Environmental Consequences

Methodology

Land ownership maps, land management plans and regulations, and other information available in the public domain have been analyzed to identify potential consequences of the proposed action and alternatives on land uses in the project area.

For each segment of the rail line extension, information pertaining to existing and proposed land use has been presented to identify and disclose environmental consequences. Table 13-1 identifies the amount of land, by owner, that could be affected by the proposed alternative segments. The following discussion provides further information about the potential impacts to these lands. Impacts related to permanent facilities (roads, towers, terminals) are discussed under individual alternative segments where specific facilities are designated. Chapter 20 of the EIS discusses proposed mitigation for impacts to land use.

Common Impacts to Land Use

The majority of land that would be directly affected by the rail line is owned by the Federal Government, Alaska, and private owners. In general, the federally owned lands are used for military purposes (bases, ranges, or training areas). The ARRC would acquire the rail line right-of-way (ROW) from existing land owners. Lands that are within the proposed rail line ROW would then shift to management by ARRC for rail line operations and maintenance, and any non-rail uses of the

Table 13-1
Land Ownership within 200-Foot Rail Line ROW (acres)[a]

Segment	Military[b]	ADNR	Private	FNSB[c]	Alaska Mental Health Trust	USACE CRLFCP	University of Alaska	*Totals*
North Common	0	0	0	0	0	64	0	64
Eielson Alternative 1	118	46	52	<1	34	0	0	250
Eielson Alternative 2	133	3	78	<1	30	0	0	244
Eielson Alternative 3	178	5	55	<1	8	0	0	246
Salcha Alternative 1	236	35	14	0	0	0	0	285
Salcha Alternative 2	12	169	92	12	6	0	44	335
Central Alternative 1	22	101	0	0	0	0	0	123
Central Alternative 2	22	65	0	0	0	0	0	87
Central Connector A	106	0	0	0	0	0	0	106
Central Connector B	80	0	0	0	0	0	0	80
Central Connector C	56	0	0	0	0	0	0	56
Central Connector D	21	0	0	0	0	0	0	21
Central Connector E	0	52	6	0	0	0	0	58
Donnelly Alternative 1	183	439	0	0	0	0	0	622
Donnelly Alternative 2	0	635	4	0	0	0	0	639
South Common Segment	0	255	0	0	0	0	0	255
Delta Alternative 1	34	214	3	0	0	0	0	251
Delta Alternative 2	21	217	59	0	0	0	0	297

[a] Sources: FNSB, 2000; ADNR, 2007.
[b] Includes lands administered by the Bureau of Land Management but withdrawn for military use; for example, the Tanana Flats and Donnelly Training Areas.
[c] < means less than.

ROW would occur only as authorized by Entry Permits issued by ARRC. Once the ROW is legally established on Federal, state, and private lands, any occupancy, use, or crossing of the ROW without an Entry Permit from ARRC would be considered trespassing.

State of Alaska lands in the project area include state parks, state recreation areas, the Tanana Valley State Forest, other forest classified lands, and lands managed for multiple purposes by the Division of Mining, Land, and Water. These lands are used for recreation, hunting, and fishing. Mining and timber harvest are also allowed by permit. Impacts on recreation activities are discussed in Section 13.2; impacts on timber harvest are discussed below. Crossing of the proposed ROW to reach timber harvest areas or mining claims or land disposal areas could be allowed under the ARRC's Entry Permit Program discussed above.

Privately owned lands are primarily in agricultural and residential use. Existing land use for a small portion of the project area would be permanently changed, and any non-rail associated activities within the proposed ROW would also require an Entry Permit from ARRC. Lands outside the 200-foot ROW would maintain their existing ownership and uses, but could be changed by the landowner as allowed by building or zoning rules. The presence and operation of the rail line would not likely induce substantial changes in land use patterns in the project area.

Permanent ancillary facilities that would be constructed outside of the ROW include permanent access roads, communications towers, and a passenger terminal. Existing land ownership or control and use in these areas would be permanently changed to allow for these facilities associated with rail operations and maintenance. These impacts are discussed under individual alternative segments where specific permanent facilities (roads, towers, terminals) are designated.

Timber Resources

There are commercial timber resources within the needleleaf, broadleaf, and mixed forests of the project area. White spruce, black spruce, tamarack (larch), paper birch, balsam poplar and aspen within these forests have commercial value as saw logs, poles and fire wood.

Table 13-2 lists the acres of forest, by rail segment, that would be cleared for construction of the rail project. The volume of commercial timber within areas that would be cleared for the project ROW has not been quantified by a timber survey.

The ARRC has not developed specific plans for timber salvage from lands that would be cleared for the ROW. For the areas of rail ROW that would be located on state or Federal lands, applicable land management plans, policies and regulations require that timber with commercial or personal use values should be salvaged from lands that are to be cleared for other uses such as mining, transportation or utility corridors, and habitat enhancement projects, where feasible and prudent (ADNR, 1985, updated 1991; FLPMA, 43 U.S.C. 1732; USAG-AK, 2007; USACE, 1984 and 1989). Similar provisions for timber salvage within other non-Federal and non-state lands that would be cleared for rail ROW would assure that timber resources affected by the project are properly utilized. A mitigation measure addressing timber salvage in all areas of the rail ROW is presented in Chapter 20 of the EIS.

Table 13–2
Summary of Forest Impacts (acres) by Alternative Segment[a]

Alternative or Segment	Closed Needle Leaf Forest	Open Needle Leaf Forest	Closed Broad Leaf forest	Open Broad Leaf Forest	Closed Needle Leaf/Broad Leaf Forest	All Forests[b]
Common Facilities	80.9	192.9	75.8	35.1	126.8	511.4
North Common	1.0	7.2	7.5	6.1	14.3	36.1
Eielson 1	20.6	72.0	38.6	30.2	73.6	235.0
Eielson 2	13.7	104.9	30.5	18.1	54.0	221.2
Eielson 3	11.8	91.4	43.5	10.2	53.5	210.5
Salcha 1 + Extra	50.0	41.1	52.8	82.7	154.7	381.4
Salcha 2 + Extra	167.0	100.6	64.8	28.2	110.9	471.4
Central 1	16.5	40.0	1.8	9.2	21.1	88.6
Central 2	64.7	7.8	-	-	11.8	84.3
Connector A	29.4	30.7	0.4	3.6	26.2	90.2
Connector B	56.6	12.2	-	0.2	9.6	78.5
Connector C	30.6	8.6	0.1	2.0	3.6	44.9
Connector D	19.4	0.4	-	-	1.4	21.2
Connector E	8.2	8.0	1.3	0.1	6.8	24.3
Donnelly 1 + Extra	123.0	324.1	7.1	17.1	75.3	546.5
Donnelly 2 + Extra	209.4	149.7	36.1	8.4	157.4	561.0
South Common	57.8	99.1	18.7	8.5	60.1	244.2
Delta 1 + Extra	124.3	63.8	9.0	5.3	44.0	246.4
Delta 2 + Extra	44.8	53.1	21.5	6.6	80.8	206.9
Proposed Action[c]	578.3	847.6	215.6	165.3	556.9	2363.6
Minimum Area Alternative[d]	578.8	668.1	242.8	165.7	669.6	2325.0
Maximum Area Alternative[e]	621.7	908.2	223.2	141.6	529.7	2424.4

[a] Source: BLM *et al.*, 2002.
[b] Column and row totals may not sum exactly due to rounding, column subtotal for all forests cover is sum of the five forest cover types.
[c] Proposed Action includes North Common, Eielson 3, Salcha 1, Connector B, Central 2, Connector E, Donnelly 1, South Common, and Delta 1.
[d] Minimum Project Area includes North Common, Eielson 2, Salcha 1, Connector B, Central 2, Donnelly 2, South Common, and Delta 2.
[e] Maximum Project Area includes North Common, Eielson 1, Salcha 2, Connector C, Central 1, Donnelly 1, South Common, and Delta 1.

Construction Impacts to Land Use

As described in Chapter 2, Proposed Action and Alternatives, construction activities would occur in a designated 200-foot rail ROW. Existing land uses in the ROW would be changed, affected, or curtailed by construction and operation of the proposed rail line extension. The area in the ROW cleared for construction but not needed for permanent structures would be restored to natural conditions consistent with rail line maintenance requirements.

Operations Impacts to Land Use

Land use outside of the rail ROW would not be affected by the operation of the proposed project. It is not anticipated that introduction of new passenger and freight rail as part of Northern Rail Extension (NRE) would stimulate changes to existing land uses or shift development patterns along the project area. However the presence of the passenger rail service might serve to stimulate business activity in the vicinity of stations. This effect would be slight due to the proposed minimal capacity and frequency of service.

Construction Impacts to Land Use by Alternative Segment

North Common Segment

Construction activities would affect approximately 64 acres of land along North Common Segment (see Table 13-1 and Figure 2-6). The area that would be affected within the segment includes 64 acres of land within USACE-managed CRLFCP. At present, all land in this segment of the ROW is undeveloped and exists in a natural state. This undeveloped land would be converted into the 200-foot ROW if the rail line were constructed.

A new communication tower, the Moose Creek Bluff Tower, would be collocated in the Eielson Construction Staging Area. Construction of the tower would directly affect less than one quarter of an acre of presently undeveloped land.

Eielson Alternative Segment 1

Construction activities would affect approximately 250 acres of mostly undeveloped land in the 200-foot ROW along Eielson Alternative Segment 1 (see Table 13-1 and Figure 2-6). No construction staging areas or temporary access roads would be located outside the ROW.

Based on a review of aerial photography, a portion of the privately held land in the ROW is developed. Approximately 2 acres of privately owned land in agricultural use would be directly affected by construction of the rail line. The 200-foot ROW would either directly cross or would be close to agricultural or residential development on the remaining 50 acres of private or FNSB-owned lands. Eielson Alternative Segment 1 crosses through the middle of a residential area located to the west of Richardson Highway and southwest of Eielson AFB. Eielson Alternative Segment 1 would directly affect two to three residences. Approximately 25 additional residences are within 2,000 feet of the proposed ROW and would be indirectly affected by construction disturbance, and possibly changes to visual resources (see Chapters 9 and 14).

Eielson Alternative Segment 2

Construction activities would affect approximately 244 acres of mostly undeveloped land in the 200-foot ROW along Eielson Alternative Segment 2 (see Table 13-1 and Figure 2-6). There would be no construction staging areas or temporary access roads located outside the 200-foot ROW.

Based on a review of aerial photography, a portion of the privately held lands in the ROW is developed. Approximately 2 acres of privately owned agricultural land would be directly affected by construction of the rail line. The 200-foot ROW either directly crosses or is in proximity to residential development on the remaining 76 acres of private and FNSB land. Eielson Alternative Segment 2 parallels residential areas west of Richardson Highway. While it appears that no residences would be directly in the path of the rail line, as many as 75 residences would be within 2,000 feet of the ROW and would be indirectly affected by construction disturbance, such as noise, and changes to visual resources (see Chapters 9 and 14).

Eielson Alternative Segment 3

Military lands in Eielson Alternative Segment 3 are part of Eielson AFB, and are undeveloped. More military lands (178 acres) would be affected by Eielson Alternative Segment 3 than by the

other Eielson alternative segments. The rail line would closely parallel Richardson Highway and Eielson AFB, coming within 1,200 feet of the base runway. A very small portion of the route would extend across the edge of the south clear zone for the runway. As defined by the Federal Aviation Administration, a runway clear zone is an area at ground level. It begins at the end of the primary surface and extends with the width of each approach surface. It terminates directly below each approach surface slope at the point where the slope reaches a height 50 feet above the elevation of the runway or 50 feet above the terrain at the outer extremity of the clear zone, whichever distance is shorter. The height limits for development where the segment would cross the approach/departure surface and transitional surface are 55 feet. Transportation is not a compatible land use in the clear zone; therefore, this segment would have to be moved slightly to the south to avoid the clear zone.

Based on aerial photography, a portion of the privately held land in the ROW for Eielson Alternative Segment 3 is developed. The ROW would either directly cross or would be close to residential developments on the approximately 55 acres of private and FNSB land situated south of Eielson AFB and west of Richardson Highway. Similar to Eielson Alternative Segment 2, Eielson Alternative Segment 3 parallels these residential areas west of Richardson Highway. While it appears that no residences would be directly affected, approximately 60 residential structures are within 2,000 feet of the ROW and would be indirectly affected by construction disturbance, and possibly changes to visual resources (see Chapters 9 and 14). Under this alternative segment, no private land would be crossed northwest of Eielson AFB.

Salcha Alternative Segment 1

During construction, a temporary access road encompassing approximately 5 acres of private land outside of the 200-foot ROW would be required. This access road would be on private land adjacent to the eastern bank of the Tanana River. In addition, two bridge staging areas, each covering approximately 5.7 acres on either side of the Tanana River, would be required. Land ownership of these areas is private on the east side of the river and military on the west side. Approximately 25 to 30 residences would be affected by the staging area and access road on the east side of the Tanana River. Although effects to some of these residences would be temporary because the area could be restored after construction and original land use could be reestablished, effects to several residences within the ROW would be permanent. The proposed staging area on the west bank of the Tanana River would be on undeveloped, relatively inaccessible land used by the military for training purposes. This use would be temporarily affected, because training exercises could be resumed after construction of the bridge.

This proposed alternative segment would bisect the Salcha airstrip, a privately owned airstrip at the north end of the Salcha alternative segments.

A new communication tower, the Site A Tower, would be constructed on military lands in the Tanana Training Area, approximately 1 mile west of the segment. Construction would directly affect less than one quarter of an acre of presently undeveloped, inaccessible land in the Tanana Flats Training Area.

Salcha Alternative Segment 2

Construction activities would affect approximately 335 acres of land in the 200-foot ROW along Salcha Alternative Segment 2 (see Table 13-1 and Figure 2-7). Existing land ownership in this

segment's ROW includes lands of the Alaska Mental Health Trust (6 acres), FNSB (12 acres), University of Alaska (44 acres), ADNR (169 acres), military (12 acres), and privately owned (92 acres). Approximately 98 acres of ADNR lands are submerged areas associated with the Tanana River and other waterways.

Salcha Alternative Segment 2 mainly lies along the eastern bank of the Tanana River; it would traverse privately owned and partially developed land in the northern part of the segment in the vicinity of the Salcha community and undeveloped University of Alaska lands in the southern portion of the segment immediately north of the river crossing. Some undeveloped ADNR land parcels that would be affected are on the east side of the river. There are approximately 150 homes or businesses within approximately 2,000 feet of the proposed rail line and these would be directly affected by construction on or through their properties, or indirectly affected by construction disturbance near their properties. Construction of this alternative segment would require the relocation of a portion of Richardson Highway (see Figure 2-8). Consequently, highway use in this area would be affected by construction delays and possible detours.

As with Salcha Alternative Segment 1, Salcha Alternative Segment 2 would bisect the Salcha airstrip.

In addition, this alternative segment comes very close to the Salcha School building (within 300 feet, see Figure 2-8). Relocation of the highway in front of the school would necessitate moving the school building and grounds. This would affect students and other site users during the school relocation process.

The proposed ROW crosses the Tanana River at a location south of the Salcha community near Flag Hill. On the western bank of the river, the rail line would pass through undeveloped military lands associated with the Tanana Flats Training Area. Military use of the land in the immediate vicinity of the rail line could be temporarily affected during rail line construction. There are several parcels of land in the vicinity of Flag Hill that have been recommended for additions to the Tanana Valley State Forest. As of March 2008, the parcels are still on the proposed additions list. If added to the Tanana Valley State Forest, these parcels could be managed for timber resources, and rail line construction and operations could adversely impact access for forest management and timber harvest purposes. The existing Flag Hill Tower would be upgraded as part of this alternative segment, which would affect less than one quarter of an acre of private land to the east of the segment near the Tanana River crossing, close to residential development.

Central Alternative Segment 1

Military land use on the northern portion of the segment could be temporarily affected by the presence of construction equipment and crews both in and adjacent to the ROW as the rail line is constructed. This presence could curtail military training operations in the immediate vicinity of the ROW. Impacts would only occur during the active construction period, and it is likely that training activities could resume unaffected after construction. The ROW permit would likely stipulate coordination with the military during construction activities to ensure avoidance of conflicts. See Chapter 20 for proposed mitigation measures that would require the ARRC to conduct this coordination.

The southern portion of the segment would cross undeveloped, relatively inaccessible land owned by ADNR. Land use would be affected by rail line construction in the ROW. Land use outside of the ROW would not be affected.

Central Alternative Segment 2

Military land use on the northern portion of the segment would be temporarily affected, as described above for Central Alternative Segment 1. There are many small parcels of private land in three areas south of the military land boundaries. These private parcels would be adjacent to but not in the ROW. The southern portion of the segment would cross undeveloped, relatively inaccessible land owned by ADNR. Land use would be affected by rail line construction in the ROW. Land use outside of the ROW would not be affected.

Central Connector Segments A-E

Central Connector Segments A, B, C, and D are on military lands. Use of these lands would be affected as described above for Central Alternative Segment 1. Central Connector Segment E would cross undeveloped, relatively inaccessible land owned by ADNR. Approximately 6 acres of privately owned lands would also be affected by construction of the segment. Land use would be affected by rail line construction in the ROW. Land use outside of the ROW would not be affected.

Donnelly Alternative Segment 1

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

An existing communication tower, the Canyon Creek Tower, would be upgraded to support rail line operations in this area. The existing tower is situated on ADNR lands in a relatively undeveloped but highway-accessible area approximately 2 miles north of the Tanana River. Effects on existing land use due to tower improvements are not expected.

Donnelly Alternative Segment 2

This alternative segment lies closer to the Tanana River, compared to Donnelly Alternative Segment 1, and the majority of the land that would be crossed is undeveloped, relatively inaccessible land owned by ADNR (635 acres), with a minor amount of private land (4 acres) supporting several recreational cabins. Approximately 2 acres of the ADNR lands are submerged under the waters of the Little Delta River and Delta Creek. Recreational land use would be affected by rail line construction in the ROW. Land use outside of the ROW would not be affected.

After crossing the Little Delta River, the rail line traverses part of the Donnelly Training Area. Land use outside of the ROW would not be affected.

The Canyon Creek Tower, described under Donnelly Alternative Segment 1, would be upgraded to support rail operations in this area. As described in the previous section, there are no impacts to land use expected as a result of the tower improvements.

South Common Segment

All of the land this segment would cross is ADNR-owned undeveloped land. However, based on aerial photography, one parcel of land within approximately 2,000 feet of the ROW is presently being used for agricultural purposes. Use of ADNR lands in the ROW would be affected if the rail line were constructed. Land use outside of the ROW would not be affected. Agricultural use of the nearby parcel would not be affected by construction or operation of the proposed rail line.

A new communication tower, the Site B Tower, would be constructed on ADNR lands along South Common Segment. The tower would be situated on high ground near the siding, south of Delta Creek. This tower would have an access road connecting from an ADNR winter trail. Construction would directly affect less than one quarter of an acre of presently undeveloped, inaccessible land.

Delta Alternative Segment 1

Most of Delta Alternative Segment 1 would be on the western side of the Delta River and would not cross the river until a point south of the City of Delta Junction. This rail line segment would pass through generally inaccessible, undeveloped ADNR lands on the western side of the Delta River. After crossing to the eastern side of the river, the rail line would pass through military lands within Donnelly Training Area. There are a few acres of private land near the terminus of the proposed rail line. The undeveloped state lands in the ROW would change to rail use. Land use outside of the ROW would not be affected.

Based on a review of aerial photography, there are several facilities or buildings within 500 feet of the ROW on the military land. Near the terminus, the rail line would cross three parcels of private land, and approximately 50 houses or businesses are within 2,000 feet of the ROW. Use of these facilities and residences would likely be affected by disturbance during construction. A passenger terminal and 30-foot permanent access road would be built on approximately 4 acres near the terminus of the segment, on land presently owned by the military. The parcel to be used for the terminal is undeveloped and lies between the 200-foot ROW and Richardson Highway.

An existing communication tower, the Delta Tower, would be upgraded to support rail line operations in this area. The existing tower is situated on ADNR land in a relatively undeveloped but road-accessible area approximately 2 miles east of Richardson Highway. Approximately five nearby residences could be indirectly adversely affected by construction activities associated with the tower upgrade. River areas excavated for gravel removal are expected to refill with gravel due to materials transport by river flows from upstream areas. Therefore, effects within the river bed are expected to be of short duration.

Delta Alternative Segment 2

The majority of the land required for the ROW and permanent facilities is ADNR-owned undeveloped land, with minor amounts owned by the military. However, the segment would also cross privately owned land, mostly in or near the City of Delta Junction. The ROW would affect approximately 59 acres of private land presently used for agricultural and residential purposes within Delta Alternative Segment 2. Management of the ROW on these lands would be under ARRC jurisdiction, as described under common impacts. An additional 21 acres are within the Donnelly Training Area. These lands would shift to management by ARRC for rail line operations and maintenance, and any non-rail uses of the ROW would occur only by obtaining an Entry Permit from ARRC.

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

No-Action Alternative

The No-Action Alternative would have no effect on existing land ownership and uses because the rail extension would not be constructed.

13.2 Recreation Resources

This section discusses recreation resources and activities as they may be affected by the proposed action and alternatives. These activities include recreational boating, hunting, fishing, wildlife viewing, hiking, winter sports, and a variety of other activities. The section is organized in three main parts, as follows: discussion of the Federal, State of Alaska, and local regulatory environments for recreation activities in the area (Section 13.2.1), description of existing recreational resources in the vicinity of the project (Section 13.2.2), and potential environmental consequences to recreational resources (Section 13.2.3).

13.2.1 Applicable Regulations

Federal Regulations

Bureau of Land Management

The BLM oversees a wide variety of recreational activities on its public lands. The BLM is required under the FLPMA Act of 1976 to set guidelines for managing recreational visitors in a multiple-use setting. All BLM lands administered in the vicinity of the project have been withdrawn for use by the U.S. Department of Defense. Some of this land is physically within

military training areas and military access regulations apply to recreational uses. Management of these lands for recreation is now the responsibility of the Department of Defense as described below. The remainder is within the CRLFCP and is managed by USACE, primarily for flood control; recreation is a secondary management objective.

U.S. Military Lands

Rail alternative segments would traverse sections of U.S. military lands at Eielson AFB, the Tanana Flats Training Area, Donnelly Training Area, and Fort Greely. The U.S. military permits recreational activities on government land, provided that the activity does not interfere with military training activities or missions. Public recreation access is guided by the *Final Integrated Natural Resources Management Plan for the U.S. Army Garrison, Alask*a (USAG-AK, 2007). Military lands include open use areas (open to all types of recreational activity), modified use areas (off-limits to off-road vehicles, except in the winter), limited use areas (open only to low-impact activities, such as hiking, bird watching, skiing, and berry picking), and off-limit areas (closed to all recreation).

Recreationists seeking entrance to military lands must obtain a free Recreation Access Permit, and sign in via telephone to the U.S. Army Recreation Tracking System. At Eielson AFB, individuals are required to obtain either a Recreational Access Permit or hunting or fishing license from the Base. Many recreational activities are limited within Tanana Flats Training Area and Donnelly Training Area; these areas are used primarily for military training purposes, and recreation cannot interfere with military training activities. Even though access could be improved by the proposed bridges, recreational activities in the Tanana Flats Training Area and Donnelly Training Area would still require recreation permits and would continue to be limited so that military training guidelines are met.

U.S. Army Corps of Engineers

USACE manages the CRLFCP, which includes the northern portions of the project area. Section 13.1.1 describes the management plan for the CRLFCP.

U.S. Department of Transportation

Section 4(f) refers to the statutory requirements that were originally enacted through the Department of Transportation Act of 1966 (49 U.S.C. Section 1653(f). As part of a 1983 rewriting of the Act, Section 4(f) was amended and recodified as Section 303 (49 U.S.C. Section 303). Tradition within the environmental field, however, has resulted in continued reference to the program as Section 4(f). Section 4(f) applies to agencies within the Department of Transportation, and applies to the proposed action through the involvement of the Federal Railroad Administration and the Federal Transit Administration, which are serving as cooperating agencies for the proposed project. The Federal Transit Administration is involved in the project because it has a commuter rail component of the proposed action. The Federal Railroad Administration is administering grant funding to ARRC for preliminary engineering and environmental analysis of the proposed rail line. The Federal Railroad Administration could also provide funding for rail line construction and would enforce rail safety regulations on the operating rail line. Section 4(f) mandates that the Secretary of Transportation not approve any transportation project requiring the use of publicly owned parks, recreation areas or wildlife and waterfowl refuge, or significant historic sites, regardless of ownership, unless (1) there is no

prudent and feasible alternative to using that land and (2) the program or project includes all possible planning to minimize harm to the public park, recreation area, wildlife or waterfowl refuge, or significant site that would result.

Appendix M of the EIS provides the complete Section 4(f) evaluation, which is summarized later in this chapter.

State Regulations

Alaska Department of Natural Resources

ADNR manages a large amount of land outside of the military installations along the project route. Most of these non-park lands are to be managed for multiple uses—primarily fish and wildlife habitat, forestry, and public recreation. ADNR land management policies for these areas are outlined in the Tanana Basin Area Plan (ADNR, 1985, updated 1991). This document states that the recreation goals for the Tanana Basin include providing the full spectrum of recreational opportunities to visitors; protecting sensitive ecological, scenic, and other recreational resources; and managing resources to promote economic development. The following summary of guidelines specifies ADNR's roles and responsibilities pertaining to recreation for various management policies, as outlined in the Tanana Basin Area Plan.

Public Access: "Improve or maintain public access to areas with significant public resource values by retaining access sites and corridors in public ownership, by reserving rights of access when state land is sold or leased, by acquiring access, or by asserting rights-of-way through Revised Statutes Section 2477 (RS 2477). Generally, section line easements should not be vacated unless alternative, physically usable access can be established."

Recreation and Tourism: "The state's proper role is to retain and manage land supporting recreational opportunities of regional or statewide significance. The state and federal governments are particularly capable of providing recreational opportunities, such as hunting, dispersed wilderness hiking, or boating, that require large land areas."

Trails: Corridors for trails of regional or statewide significance (the majority of trails identified by ADNR) have a minimum buffer width of 100 feet to protect the quality of user experience and minimize potential adverse effects from adjacent land uses. Buffer widths for special trails (due to historical significance or unique values) may be wider than 100 feet. Local trails (not of regional or statewide significance) may be protected either through public ownership and management, or through establishment of an easement; in some cases local trails may be dedicated to the public or a local government. Prior to lease or disposal of land, ADNR Division of Land acts as the lead agency to identify trails that merit protection.

Trail Rerouting: "Rerouting trails for a short distance may be authorized to minimize land use conflicts or to facilitate use of a trail if alternate routes provide opportunities similar to the original. If trails are rerouted, provision should be made for construction of new trail segments if warranted by type of use. Rerouting trails should be done in consultation with affected divisions of Department of Natural Resources (DNR), Department of Transportation and Public Facilities (DOT&PF), Department of Fish & Game (DF&G), and local trail committees. Historic trails that follow well-established routes should not be rerouted unless necessary to maintain trail use."

Trail Crossing: If a utility line, pipeline, or roadway (or railroad) must cross a trail, the Tanana Basin Area Plan recommends the crossing be constructed at a 90-degree angle when feasible.

Fish and Wildlife Habitat: Maintain and protect publicly-owned habitat base. Ensure access to public lands and waters. Land use activities must be conducted with the appropriate planning and implementation to minimize adverse affects to fish and wildlife, or mitigation would be required to rectify adversely affected habitat.

Stream Corridors and Instream Flow: Provision of recreational opportunities within stream corridors is a goal, along with protection of fish and wildlife habitat, and preservation of water quality. ADNR should prioritize public over private uses along stream corridors, retain publicly-owned buffers along streams to provide for a variety of public access and recreation opportunities, and retain public access easements for travel along or across a stream when the primary management intent is to protect public access rather than to retain an area for public use. Easements for travel should establish the right of the public to travel by foot, dog sled, horseback, and snowmachine, and may reserve use of off-road or wheeled vehicles when in the public interest. These guidelines also set the minimum riparian buffer and easement widths, as well as allowable uses within buffers and easements.

Transportation: Minimize the number of stream crossings and cross at 90-degree angle when feasible. Design bridges and culverts to avoid alteration of stream velocity or flow, and to minimize impacts to migrating or spawning habits of fish and wildlife. Bridges should be designed to allow safe passage of boats, horses, pedestrians, and large game wherever these activities take place or are anticipated at significant levels. Important fish and wildlife habitat should be avoided in siting transportation routes unless no other feasible and prudent alternatives exist. Off-road use of vehicles such as snowmachines, jeeps, and small all-terrain vehicles are generally allowed activity on state land. Lands designated as "special use" may require a permit for off-road vehicle activity.

No fee is required to access general ADNR land, although ADNR charges a variety of access and use fees for state parks and recreation areas. There are several Alaska state parks and recreation areas near the proposed rail line, including the Tanana Valley State Forest (generally adjacent to Richardson Highway and north of the Tanana River), but none of the alternative segments would directly cross any of these resources.

Alaska Statute 42.40.460, authorizes the construction of the Northern Rail Extension. This statute directs ADNR to determine whether the location of the proposed rail line ROW and rail land minimizes adverse effects on existing and potential rights-of-way. The statute specifies that ADNR convey land to ARRC following construction of the rail line, and in doing so "shall reserve the right to authorize, by lease, permit, or other method, a person to cross or construct access across the transportation corridor and associated rail land," subject to concurrence with ARRC regarding considerations of safety and efficient operation of the rail line.

ADNR regulation 11 AAC 96.020 allows individuals to construct and maintain trails up to 5 feet wide on state land. Individuals are not required to report the location or purpose of this type of trail to the ADNR, so there is no detailed record of them. Trails of this type are widespread, and many of them have a significant history of use.

Alaska Department of Fish and Game

The Alaska Board of Game sets hunting season means and bag limits for Game Management Units 20A and 20B (which include Tanana Flats Training Area, Donnelly Training Area, and Eielson AFB), and 20D (including Delta Junction and Fort Greely). The Alaska Board of Fisheries sets sport and personal use seasons, methods, and bag limits for the Tanana River Drainage, including the NRE project area. The ADF&G implements and administers the resulting regulations.

Borough Lands

Many of the alternative segments would pass through the FNSB. The FNSB Planning and Zoning regulations apply outside of incorporated areas within the Borough. The FNSB Regional Comprehensive Plan (FNSB, 2005) establishes goals, strategies and actions for the Borough's land uses including recreational lands.

The Comprehensive Plan provides land use guidance through its land use map and land use category designations. Comprehensive Plan land use categories that would be crossed by the alternative segments include lands designated for open space and recreational use.

The FNSB Zoning Map and Zoning Code are extensions of the Comprehensive Plan land use categories, and are the administrative tools for implementing land use policies and regulations. Zoning districts establish allowable uses for land, including recreational uses.

13.2.2 Affected Environment

The project area is southeast of Fairbanks, within a vast region of the Interior Alaska lowlands and is well suited for both winter- and non-winter outdoor recreation activities.

State Recreation Areas and Facilities

ADNR manages a number of parks and recreation areas in the vicinity of the project area. Recreation activities within these areas include boating, fishing, swimming, water skiing, historical tours, camping, picnicking, hiking, volleyball, and wildlife and botanical viewing. These state recreation areas are generally located adjacent to Richardson Highway, and none would be directly crossed by the alternative segments. Parks and recreation areas (and their distance from the nearest rail segment ROW) include:

- Big Delta State Historic Park (2.1 miles);
- Delta State Recreation Site (1.0 mile);
- Quartz Lake State Recreation Area (4.7 miles);
- Birch Lake State Recreation Site (3.9 miles);
- Harding Lake State Recreation Site (2.5 miles); and
- Salcha River State Recreation Site (1.2 miles).

ADNR also manages a large amount of general use land along the project route, on both sides of the Tanana River. This land is used for a variety of recreation purposes such as fishing, hunting, trapping, berry picking, plant collecting, boating, snowmachining, dog-sledding, and off-road vehicle use. Management of ADNR lands is governed by the Tanana Basin Area Plan, which

divides the Tanana Basin into management units and subunits, designating primary and secondary land uses for subunits. All the alternative segments would pass through Tanana Basin Area Plan subunits, some of which have been designated for public recreation as a primary use (see Table 13-3). Dispersed use recreation activities take place widely throughout ADNR lands that are not designated for primary recreation use, as well.

Table 13-3
Tanana Basin Area Plan Management Subunits Crossed by the Proposed Project[a]

Subunit	Name	Alternative Segment(s)	Primary Surface Use	Secondary Surface Use
1Q1	Tanana River	Eielson 1, Eielson 2, Salcha 1, Salcha 2	Wildlife Habitat	Public Recreation
1Q2	Tanana River	North Common, Eielson 1, Eielson 3	Agricultural Settlement	Wildlife Habitat
1Z4	Harding/Birch Lake	Salcha 2	Forestry	None
4Q2	Lower Dry creek/Japan Hills	Salcha 1, Salcha 2, Connectors A-E, Central Common, Donnelly 1, Donnelly 2	Wildlife Habitat	None
4Q3	Lower Dry Creek/Japan Hills	Donnelly 1, Donnelly 2	Forestry/Wildlife Habitat	None
7F1	Tanana River	South Common, Delta 1, Delta 2	Forestry, Public Recreation, Wildlife Habitat	None
7G1	Delta Creek	Donnelly 1, Donnelly 2	Forestry, Wildlife Habitat	Public Recreation
7G2	Delta Creek	Donnelly 1, Donnelly 2, South Common, Delta 1	Forestry, Wildlife Habitat, Public Recreation, Agriculture	None
7G3	Delta Creek	South Common	Public Recreation, Watershed, Wildlife Habitat	None
7I2	Delta Junction	Delta 1	Public Recreation	None

[a] Source: ADNR, 1985, updated 1991.

Areas south and west of the Tanana River are accessible via watercourses or trail systems. The main water routes into ADNR areas are the Fivemile Clearwater River, Little Delta River, Kiana Creek, Delta Creek, Richardson Clearwater River, Providence Creek, North Creek, and Delta River. Major trail routes into ADNR areas include an ADNR trail beginning at the Silver Fox Lodge site (Alaska Division of Lands [ADL] #409488, south of Harding Lake on the Richardson Highway); a series of trails collocated from a trailhead near Birch Lake on Richardson Highway, with one leading south along the western bank of the Little Delta River (ADNR Winter Trail), one leading to Koole Lake within the Donnelly Training Area (Koole Lake Trail[1], ADL #415320), and one leading southeast into the Donnelly Training Area (Donnelly-Washburn Trail,

[1] To promote the settlement of the American West in the 1800s and provide access to mining deposits on Federal lands, Congress adopted Revised Statute 2477, or RS 2477, as part of the Mining Law of 1866. The provision granted rights-of-way for the construction of highways across public land not reserved for public uses. In FLPMA, enacted in 1976, Congress repealed RS 2477, but did not terminate valid rights-of-way that existed on the date of FLPMA's enactment.

RS 2477 Trail #0064). Major trails also include an ADF&G winter trail from the Delta River leading west to Rainbow Lake (Rainbow Lake Trail, ADL #415270); an ADNR Division of Forestry winter road also originating at the Delta River and leading northwest to Delta Creek (ADNR Forestry Winter Road, ADL #415868); and an ADNR winter trail (Phillips Road, ADL #400064) originating approximately 2.5 miles north of Delta Junction and leading northeast, where it joins a more extensive trail network. The U.S. Army also holds a permit for a route connecting the Donnelly Training Area and the Tanana Flats Training Area (Land Administration System [LAS] #20385), which is collocated with portions of the Koole Lake/Donnelly-Washburn/ADNR Winter Trail near the Delta River, and is open for public use.

Alaska state law (ADNR regulation 11 AAC 96.020) allows individuals to construct and maintain trails up to five feet in width. Individuals are not required to report the location or purpose of this type of trail to the ADNR, so no detailed record of them exists. These types of trails were visually identified at numerous points along the proposed alternative segments, most notably west of the City of Delta Junction (along Delta Alternative Segment 1 and South Common Segment) and north of Delta Junction (along the Delta Alternative Segment 2). It is likely that numerous other routes of this type may be found elsewhere in the proposed project area (these types of trails are also likely to be found on Federal lands, but do not have the same state-sanctioned status). Some of these trails have considerable history of public use for a variety of purposes (Durst, 2008; Taylor, 2008).

Lakes and Rivers

The project area and its surrounding vicinity have numerous, high-quality rivers and lakes. ADF&G stocks some of the lakes in the region. Anglers can find year-round fishing opportunities in the area. During winter, ice fishing primarily occurs in stocked lakes. Some ice fishing occurs on rivers, primarily for burbot and northern pike (ADF&G, 2007e).

Rainbow Lake, an ADF&G-stocked lake located on ADNR lands (Figure 13-7), is accessible by an approximately 10-mile-long winter trail, which is sometimes used by cross-country skiers (Young, 2007). The ADNR easement for this trail is held by the ADF&G (ADL #415270, issued March 12, 2002). ADF&G also stocks Koole Lake, which is located in Donnelly Training Area (Figure 13-6) and is accessible via a public trail (see Donnelly Training Area affected environment, below) (Parker, 2008).

Some lakes, ponds, and rivers are accessible to anglers directly from roads. Most road-accessible angling locations have a boat launch, sized as necessary for the characteristics of the particular waterbody. Less-accessible locations must be accessed through other means, such as hiking, boating, canoeing, flying in light aircraft, or by using off-road vehicles, snowmachines, cross-country skis, snowshoes, or dog sleds (ADF&G, 2007e). Outfitting firms, guides, and transporters service the area. Transportation to high quality fishing sites is usually by aircraft or boat. Some firms also operate lodging and rent boats.

The Tanana River is the main southern tributary to the Yukon River, and all of the high-quality streams listed below are part of the Tanana Watershed. The Tanana is a glacial-fed river, and the amount of silt in the river does not allow for a great deal of sport fishing. However, anglers are known to fish for burbot in the winter. Clear-running tributaries to the Tanana River are more highly valued as sport fisheries, and the Tanana is the main route (either via boat or snowmachine) to access many of these other rivers and lakes (Parker, 2007). The Tanana River

also provides recreational boating opportunities, though estimating the amount of boating is difficult, because the state does not require registration of nonpowered boats and many launch points are not monitored (Brase, 2007).

The Tanana River and its tributaries serve an important function as access ways during ice-free and winter periods. Rivers provide routes to remote, backcountry areas by boat, dog sled, snowmachine, ski, and snowshoe. Most clearwater rivers and streams are spring-fed, and do not freeze at all or do not freeze solidly enough to support transportation by any vehicle other than boat (Durst, 2008).

Some of the potentially affected water bodies are listed below. Tributaries that are not clearwater provide important access to backcountry areas in both summer and winter. There are many other small lakes and tributaries to the Tanana; however, these are the major known sport fisheries in the vicinity of the project area:

Clearwater Rivers	**Lakes**
Piledriver Slough	Bathing Beauty Pond
Little Salcha River	Eielson AFB lakes adjacent to
Salcha River	Richardson Highway
Fivemile Clearwater River	Harding Lake
Richardson Clearwater River	Birch Lake
Other Rivers	Koole Lake
Little Delta River	Rainbow Lake
Delta Creek	Quartz Lake
Delta River	Backcountry lakes stocked by
Jarvis Creek	the ADF&G (more than 50)

Chena River Lakes Flood Project Area

The proposed rail extension would cross land managed by USACE for flood protection and public recreation in the CRLFPA. Areas south of the Chena Floodway are characterized as low-density and non-motorized (Schaake, 2008). The proposed route would cross USACE planning units I2, I4, H1, and H2 of the CRLFPA.

Unit I2 consists of the Diversion Dike Access Road (Chena Flood Road), and is managed to provide public recreation access to Piledriver Slough and the Tanana River, and low-density uses including canoeing, wildlife viewing, fishing, and sightseeing. A public parking area is currently available where the Old Richardson Highway previously crossed the Chena Floodway, approximately 350 feet west of the proposed ROW (USACE, 1989).

The site of the proposed Moose Creek grade separation between the existing ARRC rail line and Richardson Highway (at Milepost 345) would be approximately 0.25 mile west of the Chena Flood Road crossing, and would include recreational features. A tentative agreement has been negotiated between USACE, the Alaska Department of Transportation, and ARRC for USACE to provide gravel for construction of a grade separation. The resulting gravel pit would be filled with water, stocked by ADF&G with gamefish, and a boat launch would be constructed that would include access to Piledriver Slough and subsequently to the Tanana River. At this time it is not clear if the project will proceed, and its construction could depend partly on the development of the NRE (Schaake 2008).

Unit I4 is managed for recreation and low-density use, consisting of recreational access for fishing, boating, and other water-related activities. Unit H1 is managed for wildlife management, including low-density, dispersed recreation activities (including hunting and fishing). Unit H2 is also managed for wildlife management, although the ultimate land use objective is for recreation and intensive use, contingent on good public access to the southern side of Piledriver Slough. Intensive uses are hunting, fishing, snowmachining, dog-sledding, boating, and target shooting (USACE, 1989).

Military Lands

The proposed rail extension would cross several areas under military management and ownership—Eielson AFB, Tanana Flats Training Area, Donnelly Training Area, and Fort Greely, from north to south along the proposed route. All of the military lands that would be directly affected by the proposed alternative segments are open to public recreation.

Eielson AFB—Located at the northernmost portion of the project area, recreation taking place on Eielson AFB land includes hunting, fishing, berry picking, picnicking, camping, canoeing, trapping, dog-sledding, bird watching, and off-road vehicle and snowmachine use. Piledriver Slough and adjacent lakes are important, high-quality fisheries and hunting areas (Koenen, 2007). There is an outdoor recreation area between Piledriver Slough and Richardson Highway. This area has five lakes stocked by the ADF&G, campsites, picnic areas, a playground, parking areas and access roads to reach campsites and Piledriver Slough (Slater, 2008).

A series of high-quality, multi-use trails pass through the western portion of Eielson AFB, adjacent and west of Piledriver Slough. These trails are known alternatively as Twentythreemile Slough Dog Mushing Trails and Piledriver Slough Dog Mushing Trails. They are used primarily for dog-sledding, and are identified as "Class C" multi-use trails in the Fairbanks North Star Borough Comprehensive Trails Plan. Class C trails are defined as "neighborhood recreational trail systems" and are maintained by user groups, in this instance, the Salcha Dog Mushers Association. Some trails follow frozen watercourses, but most are upland of sloughs and streams (Hancock, 2007, 2008; Cox, 2008). Although some portions of Twentythreemile Slough and Piledriver Slough can freeze solidly enough during the winter to support vehicles such as dog sleds and teams and snowmachines, ice integrity is generally not reliable to support transportation other than by boat (Durst, 2008).

Access to Piledriver Slough is available directly from Richardson Highway, and via small roads between Piledriver Slough and the Tanana River.

Tanana Flats Training Area—This area is along the west side of roughly 30 miles of the Tanana River. It is vast and remote, with few direct access points. Accessibility is mainly by boat, small aircraft, off-road vehicle, or snowmachine. Tanana Flats Training Area is used primarily for military training purposes; recreational activities are considered secondary uses within the training area. Impact areas within Tanana Flats Training Area are permanently closed to recreation, while other areas are provisionally open to recreation when not in use for military training. All military training activities in the vicinity of the proposed rail line would be compatible with a rail line. Dog-sledders and numerous snowmachiners use the area in the winter. Recreation activities include hunting, trapping, fishing, recreational boating, off-road vehicle riding, snowmachining, dog-sledding, and bird watching. Moose hunting is the most popular activity in the area, and Tanana Flats provides high-quality, moose-rearing habitat

(Steinnerd, 2007). An unofficial trail exists approximately 4.3 miles west of Harding Lake and 2.6 miles northwest of the convergence point between the Salcha Alternative Segments 1 and 2. This trail leads west toward the Blair Lakes area.

Donnelly Training Area—This area is situated along approximately 35 miles of the proposed rail line route, also on the south and west side of the Tanana River. It is similar to the Tanana Flats Training Area. Rivers provide good access to both the western and eastern portions of the training area in winter (Little Delta River, Delta Creek, Delta River). Recreation activities include hunting, trapping, fishing, off-road vehicle use, snowmachining, dog-sledding, and dog walking (Haddix, 2007). As in Tanana Flats, moose hunting is popular. Koole Lake is a popular moose hunting, trapping, and fishing location (mostly in the winter). The lake is stocked by the ADF&G, and is accessible via the Koole Lake Trail (ADL #415320), which crosses the Tanana River from Birch Lake (Milepost 306.2 on Richardson Highway) and proceeds up the Little Delta River, then east to Koole Lake. The trail is collocated with the Donnelly-Washburn trail (RS 2477 Trail #0064), which continues southwest into the Donnelly Training Area at the point where the Koole Lake Trail turns east to Koole Lake.

Fort Greely—Fort Greely borders Delta Junction immediately to the south. The final southern segments of the proposed rail line would pass through a small portion of Fort Greely. There could be some recreation use in this area, including dog walking, grouse hunting, and moose hunting. However, reliable data regarding recreation use in this area is difficult to obtain, because individuals from nearby Delta Junction are likely to casually use the area without acquiring permits (Haddix, 2007).

Fairbanks North Star Borough Lands

The proposed project would cross a small amount of land managed by Fairbanks North Star Borough south of Eielson AFB. Eielson Alternative Segment 1 would cross a small corner of one parcel owned by FNSB Department of Land Management. This parcel is south of the southern border of Eielson AFB in the Piledriver Slough area, and includes several sections of the Piledriver Slough multi-use trail system. There are also trails serving neighborhoods in this area that are not designated in the FNSB Comprehensive Trails Plan. This parcel is zoned for general use, and FNSB has no specific plans at this time for future development, although it is currently used for recreational purposes (Shaw, 2008; Hancock, 2007).

The FNSB Department of Land Management owns the Salcha Ski Area, which is just north of the Village of Salcha on Salcha Bluff. The ski area includes approximately 15 miles of multi-use trails and a start/finish stadium area of approximately 2.2 acres. Salcha Ski Area is designated as a Borough Park, and the trails are included in the FNSB Comprehensive Trails Plan. The area is managed by the FNSB Department of Parks and Recreation to the extent that new improvements or funding must be facilitated through that department, but the area is otherwise managed by a volunteer group, the Salcha Ski Club. The Salcha Ski Area hosts a number of competitive cross-country running and ski races each year, and provides recreational opportunities to the general public (Hancock, 2008). The Salcha Ski Area would be affected directly and indirectly by construction of Salcha Alternative Segment 2, which would require the relocation of Richardson Highway through the ski area.

Salcha School is at the same site as Salcha Ski Area. The school includes a number of recreation facilities, including a playground, ballfield, basketball court, outbuildings that house recreational

equipment, public parking area (which also serves the ski area), and the school building itself. The Salcha Ski Club, which manages and maintains the Salcha Ski Area, was founded as an activity and recreational training program for students of Salcha School. The FNSB Board of Education owns and operates the school (Hancock, 2008).

13.2.3 Environmental Consequences

Methodology

This analysis utilized recreational data available from ADNR, ADF&G, and the military. Plans and documents were reviewed to determine the location of site-specific recreation activities (such as parks and actively planned recreation areas), as well as dispersed use recreation activities (such as fishing or hunting). The review included conversations with land use managers for all of the aforementioned agencies, as well as with staff for the FNSB Parks and Recreation Department, FNSB Land Management Department, and members of the public.

Maps of the alternative segments were reviewed in coordination with land managers to identify potentially affected areas and key recreation access points and paths.

Potential impacts to recreation include both common consequences and segment-specific consequences. For instance, access to hunting areas would be an impact common to all potential alternative segments, while altered access of a particular trail would be specific to one area, and one or more alternative segments. This analysis of environmental consequences reviews common impacts, and then identifies segment-specific impacts in more detail as applicable. Recreational activities and assets identified in the Affected Environment section and not mentioned here would have no identified impact from construction and operation of any of the alternative segments. Chapter 20 of the EIS describes proposed mitigation for impacts to land use.

Common Impacts to Recreation

Because recreation activities are generally dispersed over a vast area, most potential impacts to recreation would be common to all alternative segments.

Construction Impacts to Recreation

Impacts during the construction period would include temporary closure of some roads, trails, navigable rivers, and other access routes. Closure would be necessary for construction of the rail line and crossings with passive warning devices. Construction activities would result in noise and dust, which could have a negative impact on the public's enjoyment of recreational areas.

Prior to construction, to limit potential impacts to recreational users, ARRC would develop a plan to ensure construction activities occurred during the most appropriate time of year. The plan would be developed in consultation with appropriate agencies (see Chapter 20, Mitigation, for information on the process of crossing location determination).

Operations Impacts

Impacts that could result from train operations would be similar for all alternative segments. In-depth discussions related to noise, water quality, and wildlife are included in Chapters 9, 4, and 5, respectively, of this document.

Maintenance activities could result in temporary decreases in water quality in water bodies adjacent to the rail line, potentially affecting the quality of fishing.

Locomotive and vehicular traffic using the rail line and access roads would constitute a new source of noise that could decrease public enjoyment of recreation areas. Motor noise originating from both train and automobile traffic would be infrequent and of short duration. Locomotive horns would constitute a new, intermittent source of high-intensity noise at some locations. For safety reasons, ARRC locomotives sound their horns at all at-grade crossings.

Access to areas would be impeded primarily by prohibition of crossing or use of the rail line ROW. However, ARRC would allow limited use and crossing of the ROW though an Entry Permit Program. Pedestrians or vehicles crossing the rail line ROW where no designated crossing exists without an Entry Permit would be trespassing and prohibited by law. This legal prohibition would also extend to walking along the tracks. Though illegal ROW crossing would likely occur on occasion, enforcement of the ROW crossing prohibition would generally result in decreased or denied access to hunting and other recreation activities on public lands bisected by the rail line. Many of the alternative segments west and south of the Tanana River would include long stretches with no designated public crossing points. Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited

Curtailed public access would contradict a number of ADNR's Tanana Basin Area Plan management guidelines. Guidelines including public access provisions that could be adversely affected include public access, fish and wildlife habitat and harvest, recreation and tourism, stream corridors and instream flow, trail management, and transportation.

The ADNR and BLM would determine the locations of the trail crossings conditions of the issuance of state and Federal land conveyance and ROW permits. In preliminary route details, ARRC has proposed two at-grade crossings for the ADNR Winter Trail in the vicinity of Little Delta River and at-grade crossings along Eielson Alternative Segment 3 for access to the Eielson AFB outdoor recreation area and along the Salcha alternative segments for access to the Twentythreemile Slough Dog Mushing Trails. At-grade crossings would allow for adequate access for pedestrian traffic. However, the ARRC has indicated that it does not favor vehicles (including dog sleds) crossing the ROW at grade, and that grade separation is preferable to allow vehicles safe passage.[2] One grade-separated crossing is proposed at the end of the Eielson alternative segments and the beginning of the Salcha alternative segments for access to the Twentythreemile Slough Dog Mushing Trails and Old Richardson Highway. Figure 13-1 is an illustration of a typical grade-separated trail crossing culvert, as provided by ARRC. However, ARRC has not proposed any specific grade-separated trail crossings.

[2] Grade-separated crossings would accommodate all types of terrestrial traffic, but the design of a crossing can inhibit or facilitate access. A culvert crossing, as shown in Figure 13-1, would not have adequate snow cover to allow passage of snowmachines, dog sleds, cross-country skiers, and snowshoers. Bridging the ROW over a trail crossing (or vice versa) would provide better access.

ADNR regulations allow for the construction of trails up to 5 feet wide (unserialized trails) on state land. Individuals are not required to report the use or location of these trails to the ADNR. Trails of this type are quite common on state lands along many of the proposed alternative segments. The Alaska Division of Mining, Land & Water, has indicated that it would consider closure of these generally allowed trails to be an impact, would require further investigation to determine their location and use, and would require accommodation of these legal features (Proulx, 2008).

Access to areas west and south of the Tanana River (the majority of the proposed project route) is generally available via tributary river systems in both summer and winter. These river systems provide access for boats, and winter access for snowmachiners, dog-sledders, skiers, and snowshoers. Access up these river systems depends on clear passage, and the numerous bridges and culverts that would be required for the proposed rail line could result in an obstruction, depending on the amount of clearance available for passing under a bridge or through a culvert. Use of culverts on smaller waterways would likely block all access; however, it is generally assumed that most main river access routes to areas west of the Tanana River would be via larger rivers and streams (Fivemile Clearwater Creek, Little Delta River, Delta Creek), where bridges with ample clearance would be used. Major bridges at the Salcha River, Tanana River, and Delta River would also have adequate clearance for boats and other vehicles. In addition, ARRC has supplied conceptual design information pertaining to bridges on smaller streams (see impact analysis for individual segment alternatives), and not all small bridges would be passable by boats or other vehicles. ADNR's Tanana Basin Area Plan includes a management guideline to provide adequate clearance for passage of boats, pedestrians, horses, and large game whenever these uses occur or are anticipated to occur at significant levels. Water Quality Management Guideline E states that alternative public access must be provided if a structure would block access (ADNR, 1985, updated 1991).

Off-road vehicles provide an important mode of accessing areas west of the Tanana River. Routes for these vehicles may follow established trails and roadways. Riding snowmachines, jeeps, and small off-road vehicles on ADNR land is a generally allowed activity, though permits can be required in areas with special designations. ADNR and ARRC are encouraged to develop a negotiated agreement that would define rail line crossings for off-road vehicle access on existing roads and trails.

ARRC to provide for a systematic mitigation approach for existing public roads and trails. In roadless areas, off-road vehicles would be prohibited from crossing the rail line at non-designated points. Several stretches of alternative segments have long distances between crossable locations (at roads/trails or along waterways with adequate bridge clearance to allow an off-road vehicle to pass underneath). This would likely result in decreased off-road vehicle access to public lands west of the rail line.

ARRC has not designated vehicular or non-vehicular crossing points for most established trails and roadways known to ADNR, nor has a method been developed to date for identifying and mitigating the numerous unserialized trails developed by members of the public and allowed under Alaska state law. All trails and roads that have no existing mitigation proposed by ARRC could result in closure of the resource and commensurate decrease in public access. This would contradict the public access management guidelines as outlined in the Tanana Basin Area Plan, in which retention of existing public access constitutes the first goal (ADNR, 1985, updated 1991).

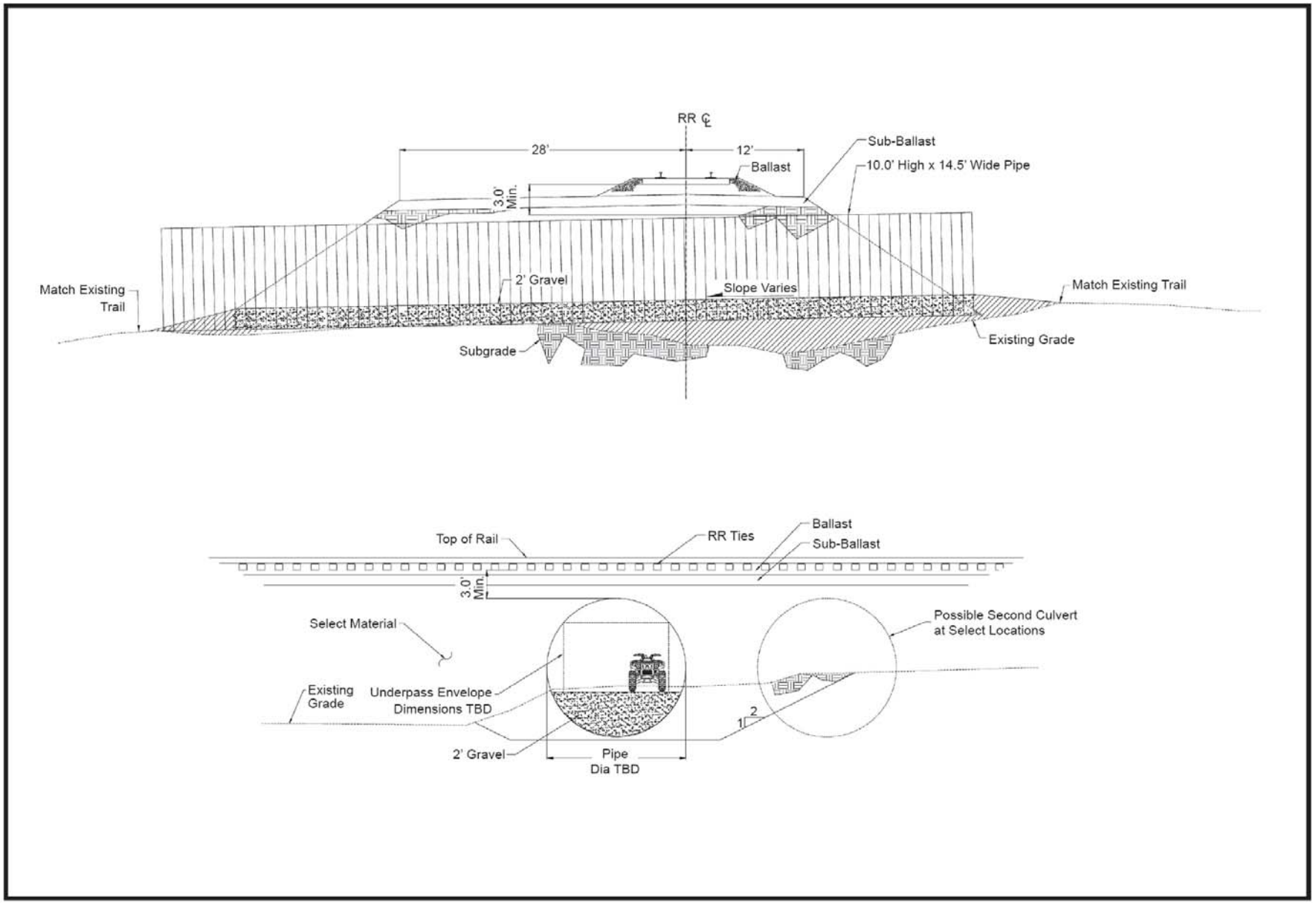

Figure 13-1 – Grade-Separated Recreational Trail Crossing

Impacts by Alternative Segment

North Common Segment

North Common Segment would cross portions of the CRLFCP, which is managed for flood control and public recreation use (Figure 13-2). Access to Chena Flood Road, which provides a route to the Tanana River, would be temporarily disrupted during construction. Access along Piledriver Slough and dispersed use areas south of the Chena Floodway would also be temporarily disrupted. ARRC has indicated that Chena River Flood Road would remain accessible via an at-grade crossing. ARRC would construct a navigable bridge across Piledriver Slough approximately 2,900 feet southeast of the northernmost point of the project. If constructed, North Common Segment and a proposed grade separation of the existing at-grade crossing of the Eielson Branch rail line and Richardson Highway could affect fishing resources at a new nearby lake, or affect access between this lake and Piledriver Slough.

Eielson Alternative Segments 1, 2, and 3

Some multi-use trails on all three Eielson alternative segments (maintained by the Salcha Dog Mushers Association and categorized as Class "C" trails by FNSB Parks and Recreation) would be closed during construction. Construction activities would also result in closure of, or limited access to, other trails and recreation access routes. Access via boat and other vehicles on Piledriver Slough would be temporarily disrupted during construction. Construction activities could result in temporary impacts to water quality in the Piledriver Slough fishery and ADF&G-stocked lakes within Eielson AFB.

Construction of Eielson Alternative Segment 3 would temporarily impact access to parking areas and campsites (Figure 13-3).

All Eielson alternative segments would cross segments of the Twentythreemile Slough Dog Mushing Trails. Eielson Alternative Segment 1, on the west side of Piledriver Slough and farthest west from Richardson Highway, would cross approximately 11 trail segments; Eielson Alternative Segment 2 would cross approximately 8 trail segments. Eielson Alternative

Segment 3 (closest to Richardson Highway) would cross one segment of this trail system. There could be other trail crossing locations along these alternative segments that are upland from sloughs and would not be associated with planned bridges or culverts. Access on the main stream of Piledriver Slough would be preserved through the construction of navigable bridges for all alternative segments. No designated crossings have been planned for any segments of the Twentythreemile Slough Dog Mushing Trail system.

Eielson Alternative Segment 1 would cross one east-west access road (sometimes known as Bailey Bridge Road) on Eielson AFB, south of Grayling Lake. The crossing would occur west of Piledriver Slough. ARRC has not designated a crossing for this road, which provides access from the Eielson Farm area to the west side of Piledriver Slough. Overall, Eielson Alternative Segment 1 would be passable via boat or dog sled under a navigable bridge over a Piledriver Slough tributary (west of Scout Lake), and via an at-grade road crossing of the Old Valdez Trail. All other watercourse crossings would be via non-navigable culvert. Eielson Alternative Segment 1 would cross the southwest corner of the parcel owned by FNSB Department of Land Management, and includes portions of the Twentythreemile Slough multi-use trail system.

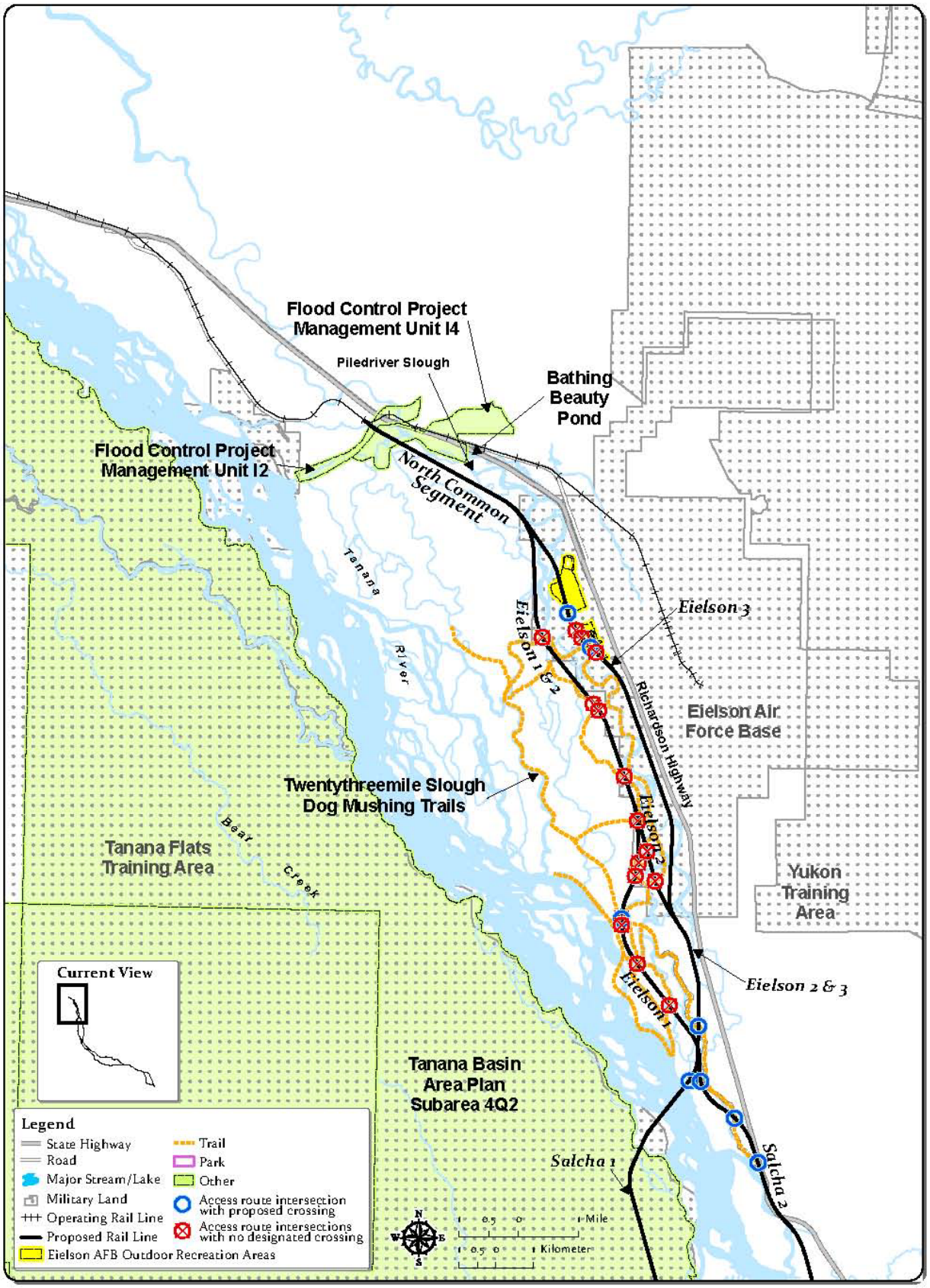

Figure 13-2 - Map of Recreational Facilities along North Common and Eielson Alternative Segments

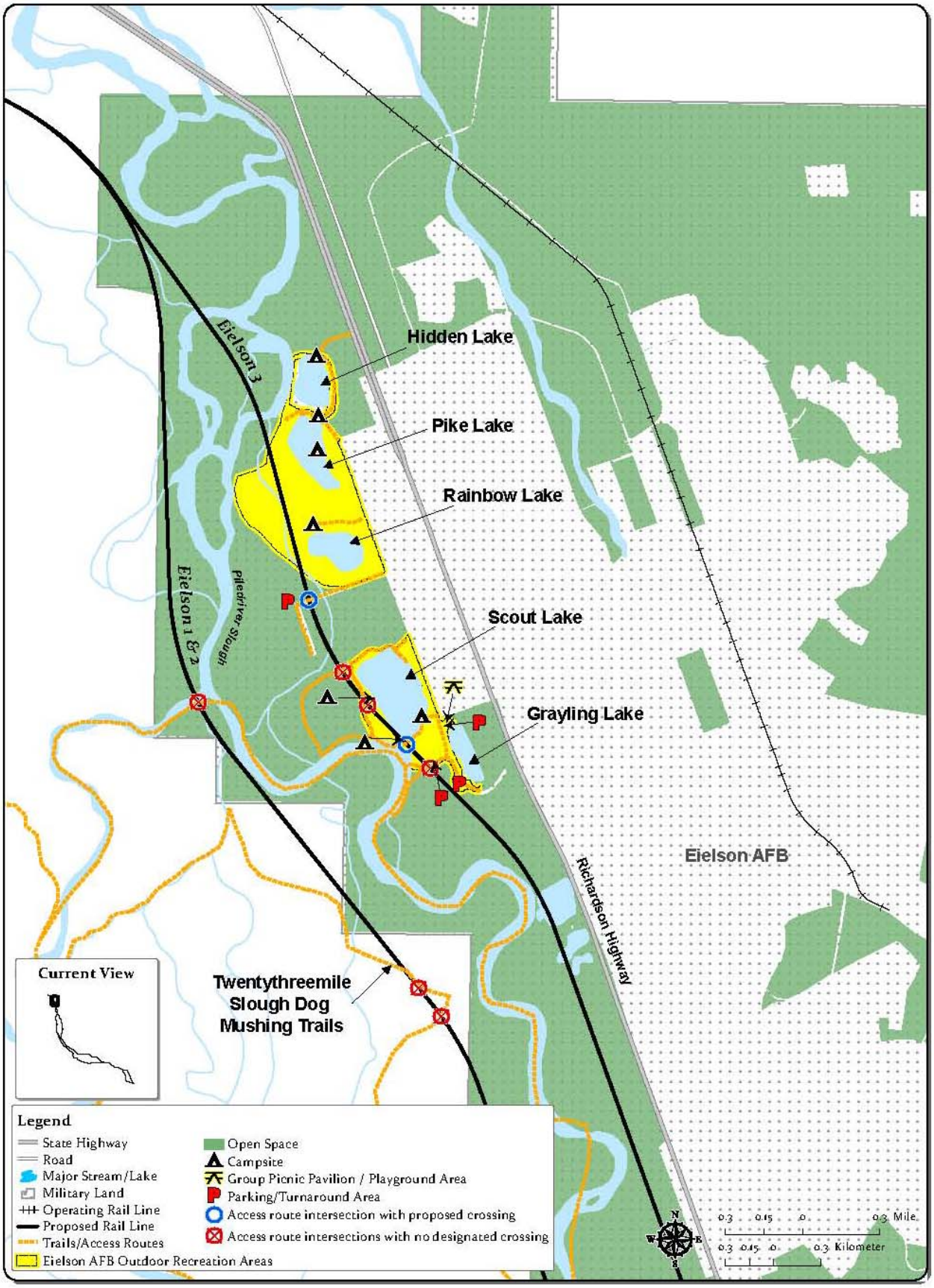

Figure 13-3 - Map of Recreational Facilities along the Eielson Alternative Segments

Eielson Alternative Segments 2 and 3 would be near Richardson Highway, and could act as an access barrier between the highway and Piledriver Slough. Eielson Alternative Segment 3 would include a navigable bridge where it would cross the Twentythreemile Slough Trail and at five at-grade road crossings west and south of Eielson AFB (two unnamed roads near Scout Lake, Bailey Bridge Road [east of Piledriver Slough], Stringer Road, and the Old Richardson Highway). All other points where Eielson Alternative Segment 3 would cross various sloughs are via non-navigable bridges or culverts. ARRC has not proposed any additional designated trail crossings along Eielson Alternative Segment 3. Eielson Alternative Segment 2 would be passable under two navigable bridges where it would cross Piledriver Slough (southwest of Eielson AFB) and a tributary to Piledriver Slough (west of Scout Lake), and again at two at-grade road crossings (Stringer Road and the Old Richardson Highway) All other watercourse crossings would be via non-navigable culvert.

Eielson Alternative Segment 3 would affect campsites in the Eielson AFB Outdoor Recreation Area. The entrances to two campsites on the southern and western sides of Scout Lake are within the proposed ROW. Access to these campsites could require crossing the rail ROW following construction; ARRC has proposed a crossing for the entrance to the campsite on the south side of Scout Lake, and one for the parking area on the south side of Rainbow Lake. Campsites are also likely to experience acute noise-related impacts from the intense new source of noise from nearby trains.

Eielson Alternative Segment 3 would affect a parking area west of Grayling Lake that leads to a trail providing access to Piledriver Slough. A portion of the parking area is within the proposed ROW. If the entirety of the proposed ROW were used following construction, available parking space would be diminished.

Salcha Alternative Segments 1 and 2

Construction of bridges and the rail line ROW would temporarily restrict boating and fishing access to Little Salcha River (Salcha Alternative Segment 2) and Salcha River (Salcha Alternative Segment 2) (Figures 13-4 and 13-5) resulting in adverse impacts to recreational fishing. Navigable bridges would allow for boat passage on the Little Salcha and Salcha Rivers during rail line operation; however, many side channels and sloughs along both Salcha Alternative Segments 1 and 2 would not be accessible via boat due to non-navigable culverts and bridges.

Salcha Alternative Segment 2 would require the rerouting of Richardson Highway through the Salcha School grounds and building, and also through the Salcha Ski Area. The highway relocation would likely require the relocation of the school facilities and ski area, resulting in temporary closure of all facilities during construction of the highway and any reconstruction of the school and ski area recreation facilities. The highway relocation would also result in the closure of the Salcha School parking lot, which provides access to the recreational facilities of the school and ski area. Salcha Alternative Segment 2 and relocation of Richardson Highway would affect approximately 0.93 acre of school property and 1,254 feet of multi-use trails. Access across Salcha Alternative Segment 1 on the east side of the Tanana River would be via one designated at-grade crossing and access across Salcha Alternative Segment 2 would be via three designated at-grade crossings.

Public access across Salcha Alternative Segment 1 would be limited west of the Tanana River. Tanana Flats Training Area is provisionally open to recreation activities and public access, but might be entirely closed to the public at times. It would be desirable to ensure public access across the rail line within Tanana Flats Training Area; however, allowed public use is subject to approval by the U.S. Military and BLM. Salcha Alternative Segment 1 would include a stretch of approximately 11 miles (between the Tanana River crossing point and the beginning of Central Alternative Segment; see Figure 13-4) with no designated public crossing. Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited.

Most of Salcha Alternative Segment 1, and a much smaller southern portion of Salcha Alternative Segment 2, would pass through an area considered prime habitat for moose and fur-bearing species, and important habitat for many other species (ADNR, 1985, updated 1991). Both Salcha Alternative Segments 1 and 2 would also cross the Tanana River, an area considered important habitat for moose, fish, and fur-bearing species that ADNR notes has experienced an intensive amount of big and small game hunting and trapping (ADNR, 1985, updated 1991). The rail line could adverse impact game hunting and trapping.

Connector Segments A through E

Boating and fishing access would be restricted at bridge sites on the Fivemile Clearwater River (Connectors B and E) (Figures 13-4 and 13-6), resulting in temporary adverse impacts to recreational fishing during construction. Construction activities would also necessitate the closure of a trail leading from the mouth of the Fivemile Clearwater River to the Blair Lakes Area (Connectors A and B); ARRC has not proposed any crossings of this trail at this time. According to the Tanana Basin Area Plan, all of the connector segments would pass through an area considered prime habitat for moose and fur-bearing species, and important habitat for many other species. The rail line could adversely impact game hunting and trapping (ADNR, 1985, updated 1991).

Central Alternative Segments 1 and 2

Under Central Alternative Segments 1 and 2, there could be impacts to access to state lands west of the proposed NRE (Figures 13-4 and 13-6). ADNR indicated that the area between the Tanana Flats Training Area and the Little Delta River (Central Common Segment crosses approximately 0.75 mile of this area) serves a critical purpose in providing public access to vast public lands to the west. At present, public access to military lands is provisionally available in some areas, but can be entirely restricted at times.

Both alternative segments would cross the Tanana Basin Area Plan subunit described under Connector Segments A through E above (Subunit 4Q2 – Lower Dry Creek/Japan Hills); there would likely be effects to hunting and trapping. Without the creation of trail crossings, Central Alternative Segment 1 would include stretches ranging from approximately 14.9 miles (including portions of Connector C and Donnelly Alternative Segment 1) to 16.1 miles (including portions of Connector A and Donnelly Alternative Segment 1) without a crossing or navigable bridge. Central Alternative Segment 2 would include stretches ranging from approximately 7.4 miles (including portions of Connector B and Connector E) to 11.6 miles (including portions of Connector D and Donnelly Alternative Segment 2) without a crossing or navigable bridge. Without the creation of trail crossings along these long stretches, public access across the rail

ROW would be significantly restricted or prohibited. Public access across the Central alternative segments is desirable within Tanana Flats Training Area, but allowed public use is subject to approval by the U.S. Army and BLM.

Donnelly Alternative Segments 1 and 2

Construction activities would result in the closure of Silver Fox Lodge Trail, Koole Lake/Donnelly-Washburn Trails, ADNR Winter Trail, U.S. Army Permit Route, and the ADNR Forestry Winter Road (Figures 13-6 and 13-7). There could be temporary impacts to access during construction of bridges at the Little Delta River and Delta Creek, which both segments would cross.

Both Donnelly alternative segments would cross ADNR's established and recognized Silver Fox Lodge Trail (ADL #409488) several miles northwest of the Little Delta River. The trail provides access to ADNR land disposals along Fivemile Clearwater River, and is used primarily in winter. ARRC has not proposed crossings of this trail at this time.

Donnelly Alternative Segment 1 would cross trails near the Little Delta River at four points. The main trail begins at Birch Lake on the east side of the Tanana River, crossing the Tanana and following the Little Delta River to the southwest. West of the Little Delta River, the segment would cross two trails – ADNR Winter Trail and U.S. Army Permit Route. East of the Little Delta River, the segment would cross two trails – the collocated Koole Lake/Donnelly-Washburn Trail, and Koole Lake Trail.

Donnelly Alternative Segment 2 would cross the ADNR Winter Trail on the west side of the Little Delta River, closer to the Tanana River. Donnelly Alternative Segment 1 would also cross an ADNR Division of Forestry winter road, approximately 0.6 mile west of the meeting point between the two Donnelly alternative segments and South Common Segment. ARRC has proposed crossings for the ADNR Winter Trail, but no other crossings have been designated at this time.

Crossings of the Little Delta River and Delta Creek would be bridged by navigable structures for both segments. Without the creation of trail crossings or navigable crossing structures, distances of approximately 7.4 and 12.1 miles for Donnelly Alternative Segment 1, and 12 and 14.1 miles for Donnelly Alternative Segment 2, would not have designated rail line crossing points. Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited. Moreover, several mapped and recognized public trails on ADNR lands that have long histories and are regularly used would have no designated crossings. The ADNR indicated that the area between the Tanana Flats Training Area and the Little Delta River (both Donnelly Alternative Segments 1 and 2 would cross several miles of this area) serves a critical purpose in providing public access to vast state lands farther west. The Tanana Flats Training Area and Donnelly Training Area bracket this area on the north and south. Public access through military lands is provisionally open in some areas, but can be entirely restricted at times. Public access across the Donnelly Alternative Segments is desirable within Donnelly Training Area, but allowed public use is subject to approval by the U.S. Army and BLM. Portions of both Donnelly Alternative Segments 1 and 2 would affect Tanana Basin

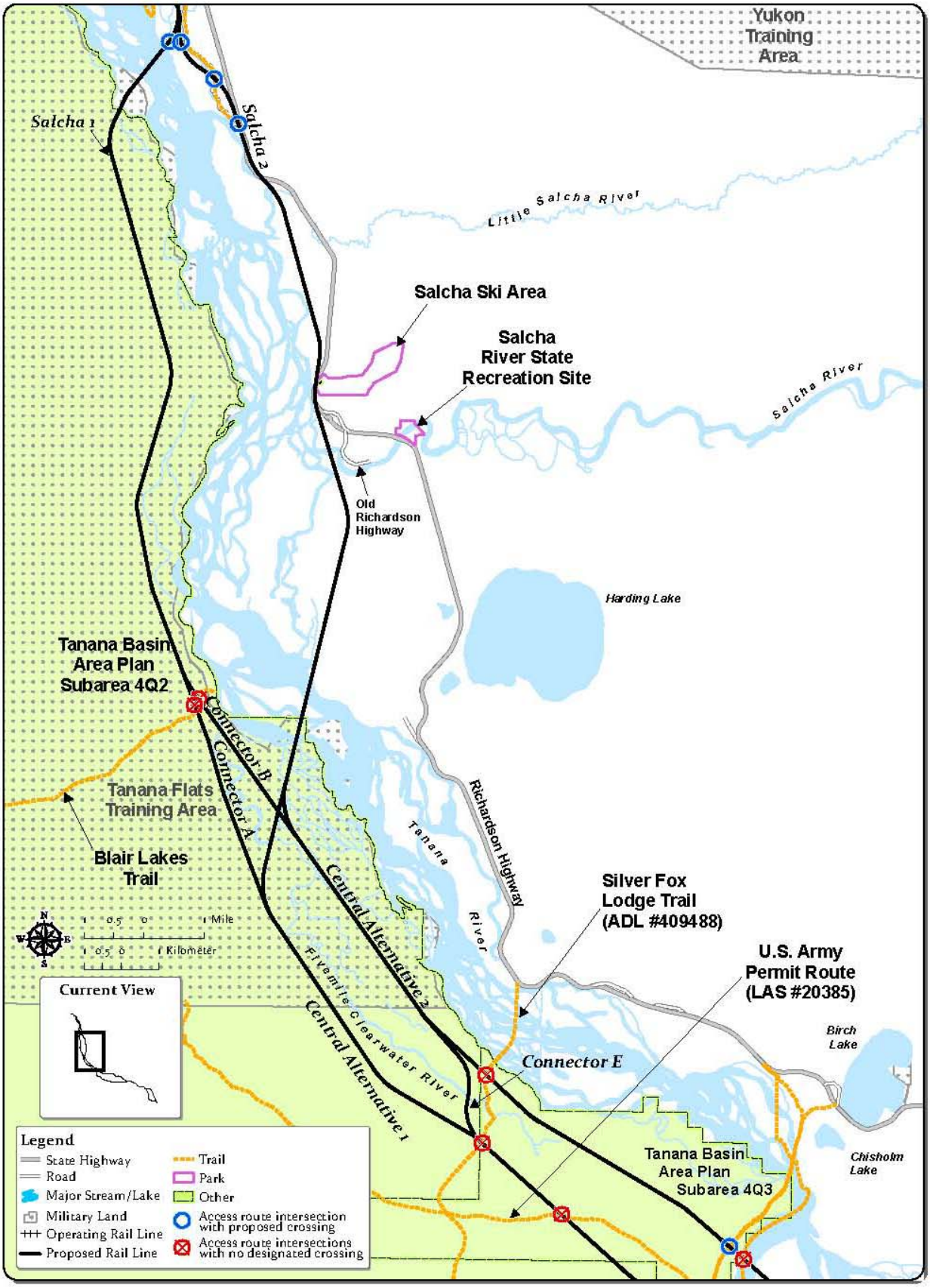

Figure 13-4 – Map of Recreational Facilities along the Salcha, Connector, and Central Alternative Segments

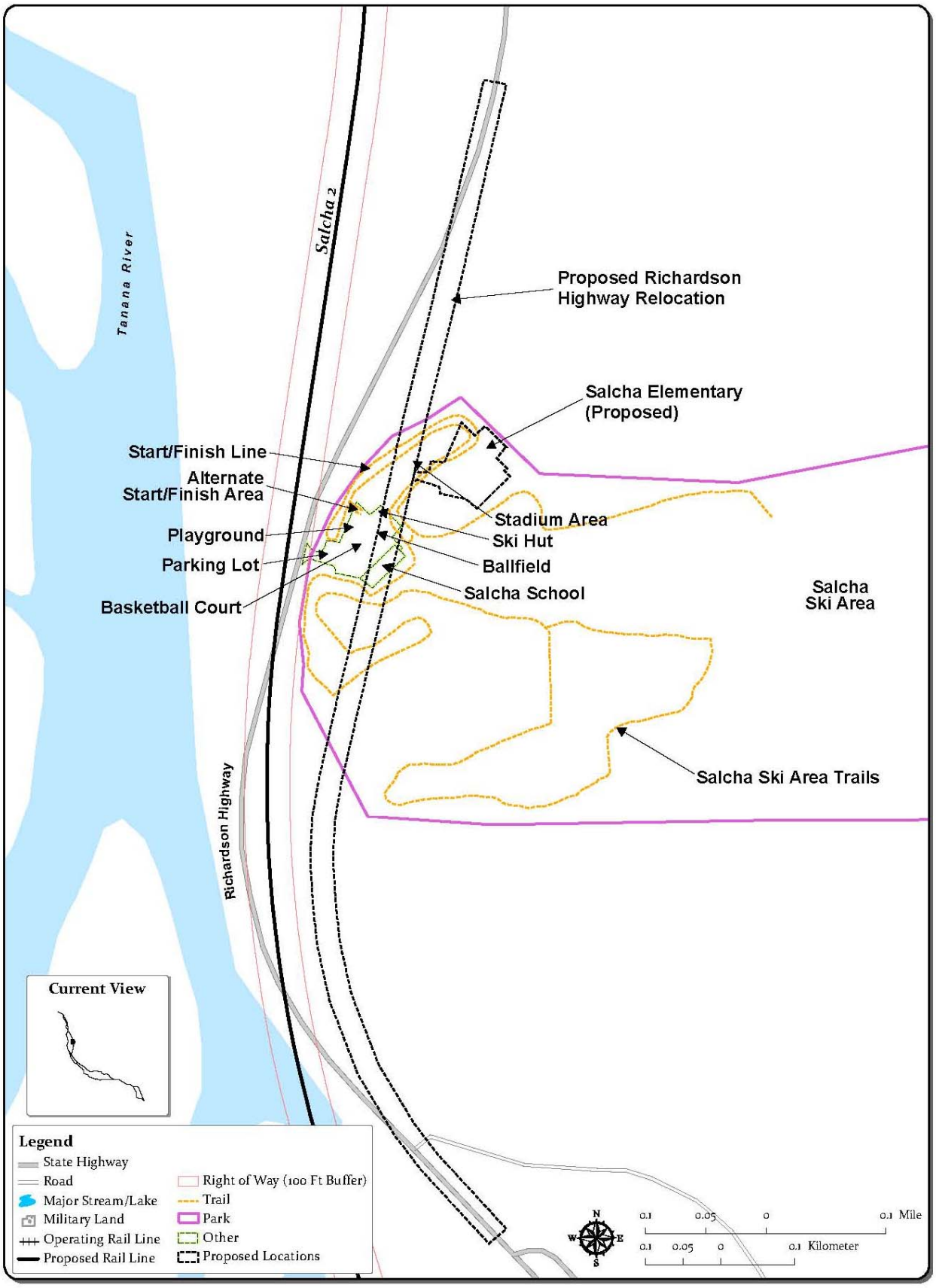

Figure 13-5 – Map of the Salcha Elementary School and Skiing Area

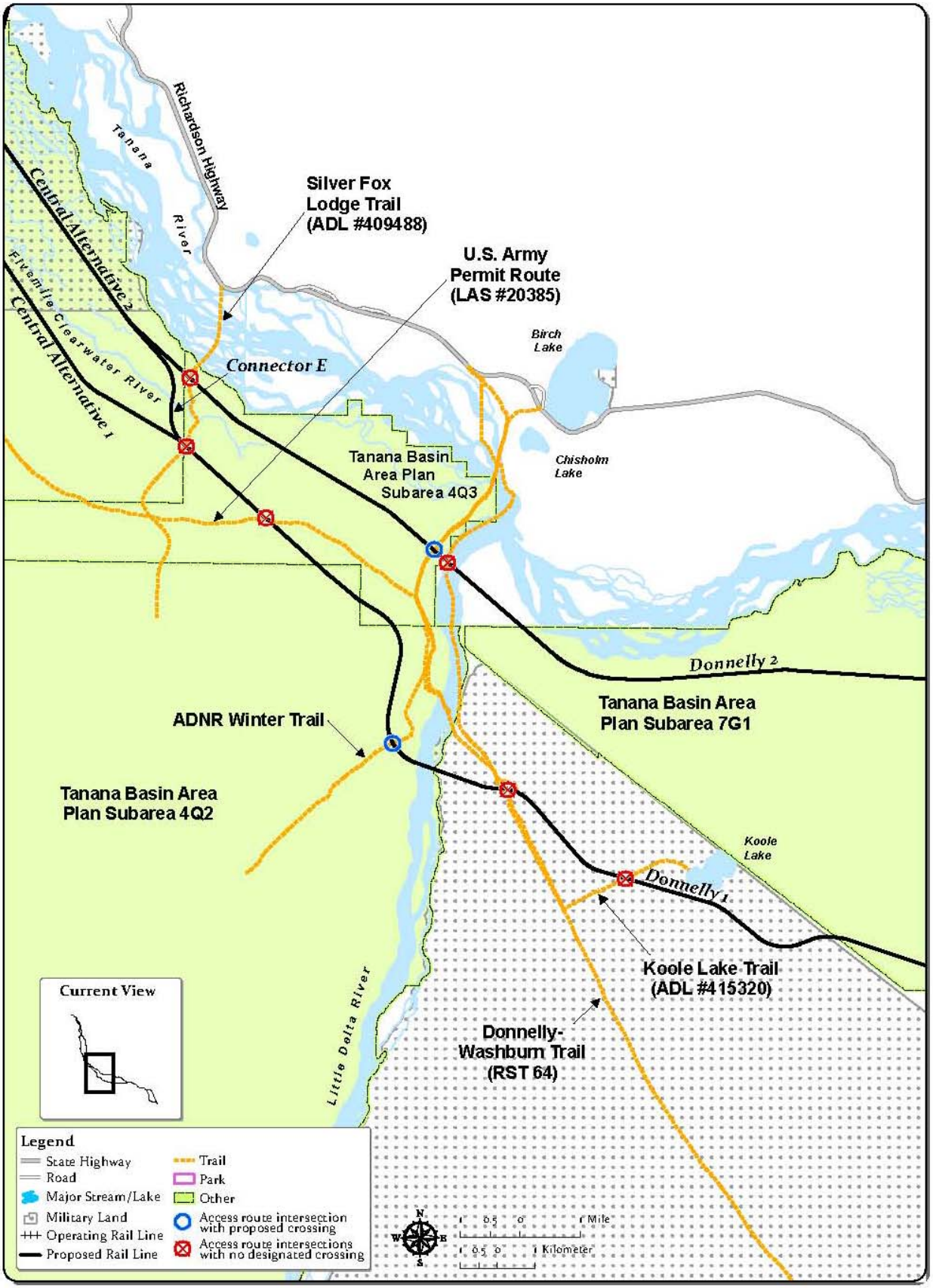

Figure 13-6 – Map of Recreational Facilities along the Donnelly Alternative Segments

Area Plan subunit 7G3, which designates public recreation as a primary surface use. This area is also considered prime habitat for moose and fur-bearing species, and important habitat for many other species; the rail line could adversely impact game hunting and trapping (ADNR, 1985, updated 1991).

South Common Segment

Possible impacts would include construction-related impacts to water, temporary access restrictions to dispersed-use areas, and temporary closure of the Rainbow Lake Trail, ADNR Forestry winter road, unserialized trails, and access routes for the Richardson Clearwater River during construction (Figure 13-7 and 13-8).

South Common Segment would cross an ADF&G trail to Rainbow Lake (ADL #415270). This trail is also used for cross-country skiing. The crossing would be approximately 1 mile west of the Delta River, several miles northwest of Delta Junction. South Common Segment would also cross an ADNR Division of Forestry winter road that provides access to the northwest across ADNR lands to Delta Creek, and would cross several other unserialized trails and blazed section lines on state land (see State Regulations, ADNR, in Section 13.1.1).

There could be impacts to access on three tributaries to the Richardson Clearwater River crossed by non-navigable culverts and bridges. Without the creation of designated trail crossings, South Common Segment would have stretches of 24.7 miles (including portions of Donnelly Alternative Segment 1 and Delta Alternative Segment 1, from Delta Creek to the Delta River) and 16.3 miles (including parts of Donnelly Alternative Segment 2 and Delta Alternative Segment 2, from Delta Creek to the Delta River) with no crossings or navigable bridges. Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited. Rail line operations activities could result in adverse impacts to recreational fishing in the Richardson Clearwater River tributaries by restricting access across the ROW. Portions of South Common Segment would affect Tanana Basin Area Plan subunits 7G2 and 7G3, which designate public recreation as a primary surface use. These Tanana Basin Area Plan subunits are also areas where fish and wildlife habitat is a designated primary or important use (ADNR, 1985, updated 1991).

Delta Alternative Segments 1 and 2

Construction of the Delta alternative segments would result in impacts to access to the Delta River (both rail segments), the Phillips Road Winter Trail (ADL #400064; Delta Alternative Segment 2), and unserialized trails to the north and west of the City of Delta Junction (both rail segments) (Figure 13-8). Delta Alternative Segment 1 would cross such trails west and south of Delta Junction, and Delta Alternative Segment 2 would make numerous crossings north of Delta Junction. Delta Alternative Segment 1 would cross an ADNR parcel designated primarily for public recreation use near the confluence of Jarvis Creek and the Delta River. Access to existing trails, ADNR parcels, and access across the proposed rail line would be temporarily restricted during construction of the rail line. Access on the Delta River would be temporarily restricted during construction of a major bridge. The Alaska Division of Mining, Land and Water has indicated that it would consider closure of these generally allowed trails to be an impact, would require further investigation to determine their location and use, and would require accommodation of these legal features (Proulx, 2008). ARRC has not proposed any trail crossings along either alternative segment at this time.

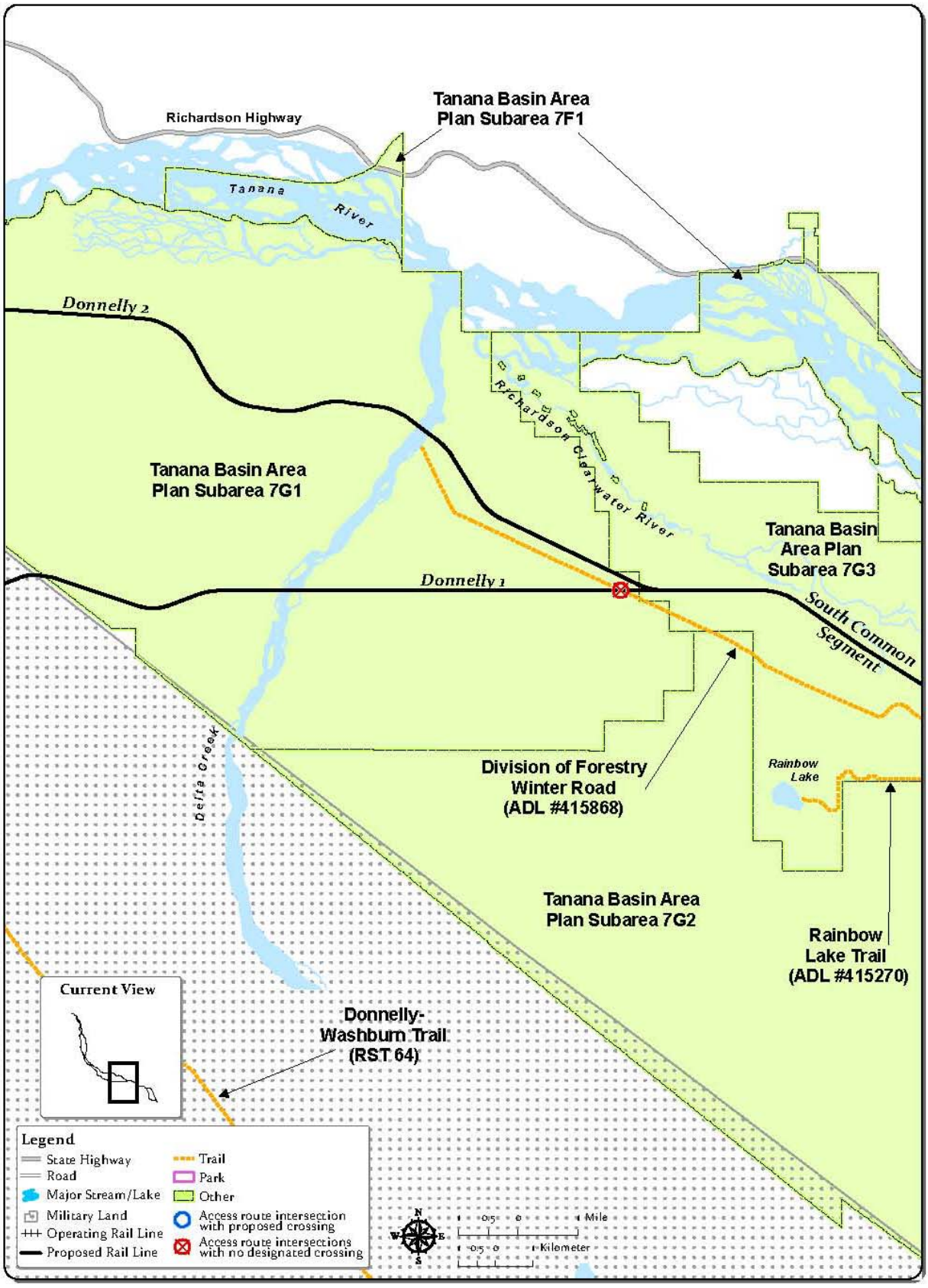

Figure 13-7 – Map of Recreational Facilities along the Donnelly Alternative Segments and South Common Segment

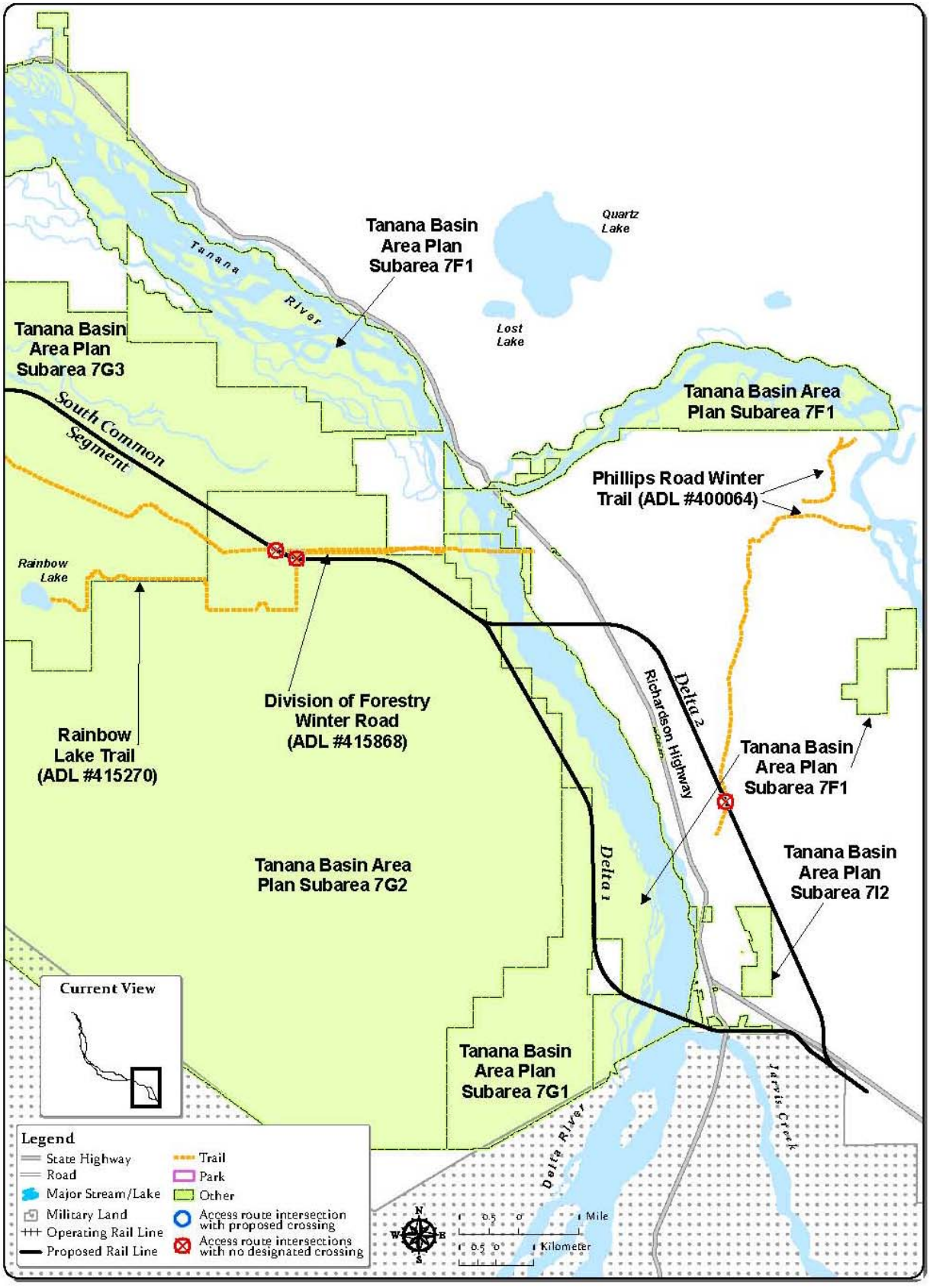

Figure 13-8 – Map of Recreational Facilities along South Common Segment and Delta Alternative Segments

Without the creation of trail crossings, access to the ADNR parcel designated for public recreation would remain available from surface streets; however, access to the parcel on a legal, informal trail following Jarvis Creek would be prohibited or closed. In addition, without the creation of trail crossings, long stretches of the rail line ROW would not have any designated crossing points west of the Delta River (both Delta alternative segments), and public access across the ROW would be prohibited. Portions of both Delta Alternative Segments 1 and 2 would affect Tanana Basin Area Plan subunits 7F1, 7G2 and 7I2, which designate public recreation as a primary surface use. A small portion of Delta Alternative Segment 2 and most of Delta Alternative Segment 1 also would cross through areas designated in the Tanana Basin Area Plan as primary fish and wildlife habitat. The rail line could adversely impact fishing and hunting in these areas. (See Chapter 5 for additional detail on impacts to game mammals and fisheries.)

No-Action Alternative

Under the No-Action Alternative, recreational access would be preserved in its present state, and there would be no impacts to existing recreational resources.

13.2.4 Section 4(f) Resources

The proposed project has the potential to affect Section 4(f) properties. The Section 4(f) Evaluation is included as Appendix M of the EIS, and contains a detailed analysis of these potential impacts and avoidance alternatives. For recreation properties, impacts would include (from north to south) the Chena River Lakes Flood Control Project area, the Twentythreemile Slough area multi-use trails, Eielson AFB Outdoor Recreation Area, Salcha School and Salcha Ski Area, the Silver Fox Lodge Trail, the U.S. Army Permit Route, the Koole Lake Trail, the Donnelly–Washburn Trail, the ADNR Forestry Winter Road, the Rainbow Lake Trail, the Phillips Road/Delta Junction area trail network, and dispersed-use areas designated for public recreation in the Tanana Basin Area Plan. Potential temporary and permanent impacts could include closure of some existing trails and other access routes; relocation of recreation facilities; decreased user enjoyment arising from vegetation clearance; increased dust and noise; decreased water quality and fishery quality; decreased availability of parking; and decreased habitat for game species.

The project alternatives could impact cultural resources protected under Section 4(f) at sites along Salcha Alternative Segment 2. In the case of archaeological or historic sites, Section 4(f) applies to those sites that are on or eligible for inclusion in the *National Register of Historic Places* that warrant preservation in place. It does not apply to sites that are eligible only for their research potential. The National Register eligibility of specific resources is established through a consultation process outlined in Section 106 of the National Historic Preservation Act. Determinations of eligibility are made by the lead Federal agency (Federal Railroad Administration and Federal Transit Administration), and concurrence is sought from the Alaska State Historic Preservation Officer. Two sites were identified in the area of potential effect (APE) that could be eligible under National Register criteria A and B and that could warrant preservation in place (sites XBD-293 and XBD-294). The precise nature of all potential impacts is unknown, at present, because the existing known sites consist of small discovery areas, and

excavation/preparation of a railbed could impact an unknown number of sites that have not yet been discovered.

Direct impacts would include removal of surface artifacts, surface disturbance (resulting in artifact and feature dislocations), subsurface disturbance, and contamination of organic residues such as hearths and fauna. Indirect impacts would include access-related impacts (including other uses of the proposed access routes), and erosion. Direct and indirect impacts would result from construction and maintenance activities.

13.3 Hazardous Materials/Waste Sites

This section identifies sites in the project area that have potentially been contaminated by hazardous materials and sites that are regulated hazardous waste facilities. The project area includes lands within 1 mile of each alternative segment (Figure 13-9). Hazardous material sites more than 1 mile from the proposed alternative segment would not be likely to be directly affected by rail construction and operations. Potential impacts that could result from rail line construction and operations on and near known sites are also identified and discussed.

A contaminated site is an area that has been affected by spills of oil or other hazardous substances, by the migration of hazardous substances from a separate source, or by disposal of hazardous substances in a manner once considered acceptable practice. Disposal could also have been conducted illegally or in an unauthorized manner. A regulated hazardous waste facility is a facility approved for handling (generating, transporting, treating, storing, disposing) hazardous wastes in accordance with Federal and state regulations. Combined, these sites are where known hazardous substances or petroleum products are present under conditions that indicate an existing release, past release, or a potential release into soil, groundwater or surface water.

There would be impacts resulting in environmental consequences during project construction if contaminated soils or groundwater are removed and relocated or used elsewhere as fill. Removal by excavation or dewatering could expose contaminants and increase risks to human health or the environment. Similar risks from exposure to contaminated soil or groundwater also are possible during transport followed by disposal or use as fill material.

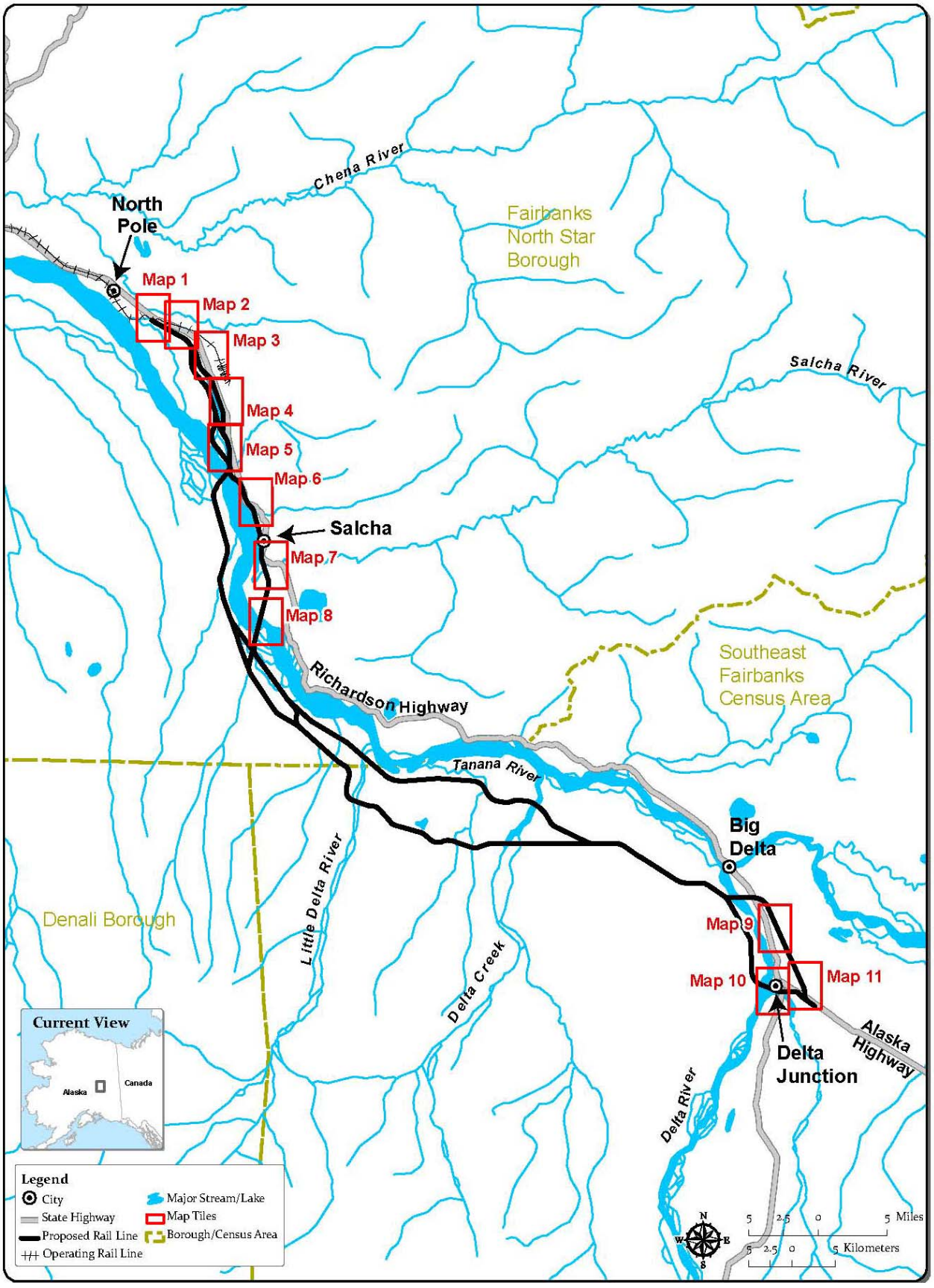

Figure 13-9 – Project Area Overview and Guide to Potentially Contaminated Sites

13.3.1 Applicable Regulations

Table 13-4 summarizes relevant regulatory requirements concerning hazardous material sites and regulated facilities at the Federal, state, and local levels. This information is summarized by regulation, regulatory agency jurisdiction, and related oversight program.

Table 13-4
Applicable Environmental Regulations, Agencies, and Oversight Programs

Regulation or Law	Agency	Oversight Program
Federal		
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1976 and Superfund Amendments and Reauthorization Act (SARA) of 1986	U.S. Environmental Protection Agency (USEPA)	Superfund program compels responsible parties to clean up or reimburse government for USEPA-led cleanups of abandoned hazardous waste sites
The Resource Conservation and Recovery Act (RCRA) of 1976	USEPA	RCRA program focuses on active facilities containing or handling (generating, transporting, treating, storing, disposing) hazardous waste
Amendments to RCRA in 1984	USEPA	RCRA amendments address environmental problems resulting from petroleum underground storage tanks (USTs). Also creates a comprehensive UST program
Safe Drinking Water Act (SDWA) and National Primary Drinking Water Regulations (40 Code of Federal Regulations [CFR] 141)	USEPA	Under SDWA, USEPA Region 10 Drinking Water Program sets standards for drinking water quality and oversees the states, localities, and water suppliers.
Federal Water Pollution Control Act Amendments (Clean Water Act) of 1972, 1977, and 1984; and National Pollutant Discharge Elimination System (NPDES)	USEPA	NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.
Summary of the Emergency Planning & Community Right-to-Know Act (EPRCA) of 1986	USEPA	Alaska State Emergency Response Commission (SERC) helps local communities protect public health, safety, and the environment from chemical hazards.
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1996	USEPA	FIFRA mandates Federal control of pesticide distribution, sale, and use.
The Toxic Substances Control Act (TSCA) of 1976	USEPA	TSCA gives USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States.

Table 13-4
Applicable Environmental Regulations, Agencies, and Oversight Programs (continued)

Regulation or Law	Agency	Oversight Program
State of Alaska		
Alaska Water Quality Standards (18 AAC 70)	Alaska Department of Environmental Conservation, Division of Water Quality (ADEC/WQ)	Water Quality Standards Assessment & Reporting Program establishes criteria for protected classes of water use for groundwater and surface water.
Oil and Hazardous Substances Pollution Control (18 AAC 75)	ADEC, Division of Spill Prevention and Response (SPAR)	Contaminated Sites Program (CSP) protects human health and the environment by managing the cleanup of contaminated soil and groundwater in Alaska.
Underground Storage Tanks (18 AAC 78)	ADEC/SPAR	CSP UST staff of the Industry Preparedness Program (IPP) provides technical/regulatory assistance on UST systems.
Alaska Solid Waste Management Regulations (18 AAC 60)	ADEC, Division of Environmental Health (EH)	Solid Waste Program manages solid waste (including hazardous waste) to prevent violation of the Alaska water quality standards (18 AAC 70).
Alaska Hazardous Waste Management Regulations (18 AAC 62)	USEPA	Regulations apply to hazardous waste generators, transporters, owners/operators of treatment, storage, and disposal facilities. Although hazardous waste regulations are promulgated for Alaska, USEPA is the primary enforcement agency for hazardous waste management in Alaska under the Federal RCRA regulations.
Defense State Memorandum of Agreement (DSMOA) in 1991	USEPA CERCLA and ADEC/SPAR CSP	In 1991, Alaska and the U.S. Department of Defense agreed to cooperatively work on cleaning up Department of Defense-contaminated sites (1,200 individual sites located on approximately 200 facilities).
Eielson AFB Federal Facilities Agreement (FFA) of 1990	USEPA and ADEC/SPAR CSP	In 1990, Eielson signed a 3-party FFA with USEPA and Alaska that specified the framework and schedule for environmental clean-up efforts at 66 areas of concern at Eielson AFB.

13.3.2 Affected Environment

Known contaminated sites and regulated hazardous waste facilities within 1 mile of each alternative segment were identified by searching site records in Federal and state databases and interviewing regulatory program staff. A total of 92 known sites were identified for further evaluation of risks and potential impacts that could result from proposed rail line construction and operations. Environmental Data Resources, Inc. (EDR), supplied initial data and facilities information about the contaminated sites. EDR also provided a list of 250 "orphan sites" that also might be within 1 mile of the alternative segments. An orphan site is a contaminated site with inadequate information regarding its exact location. Additional records were also reviewed and several regulatory program managers interviewed to assist in estimating the locations of orphan sites of concern. Appendix L, Table L-2, lists the Federal and state databases searched and the appendix provides notes from interviews with regulatory program managers.

Figures 13-10 through 13-20 show the locations of the 92 known sites. Appendix L, Table L-1, provides detailed descriptions of the identified sites.

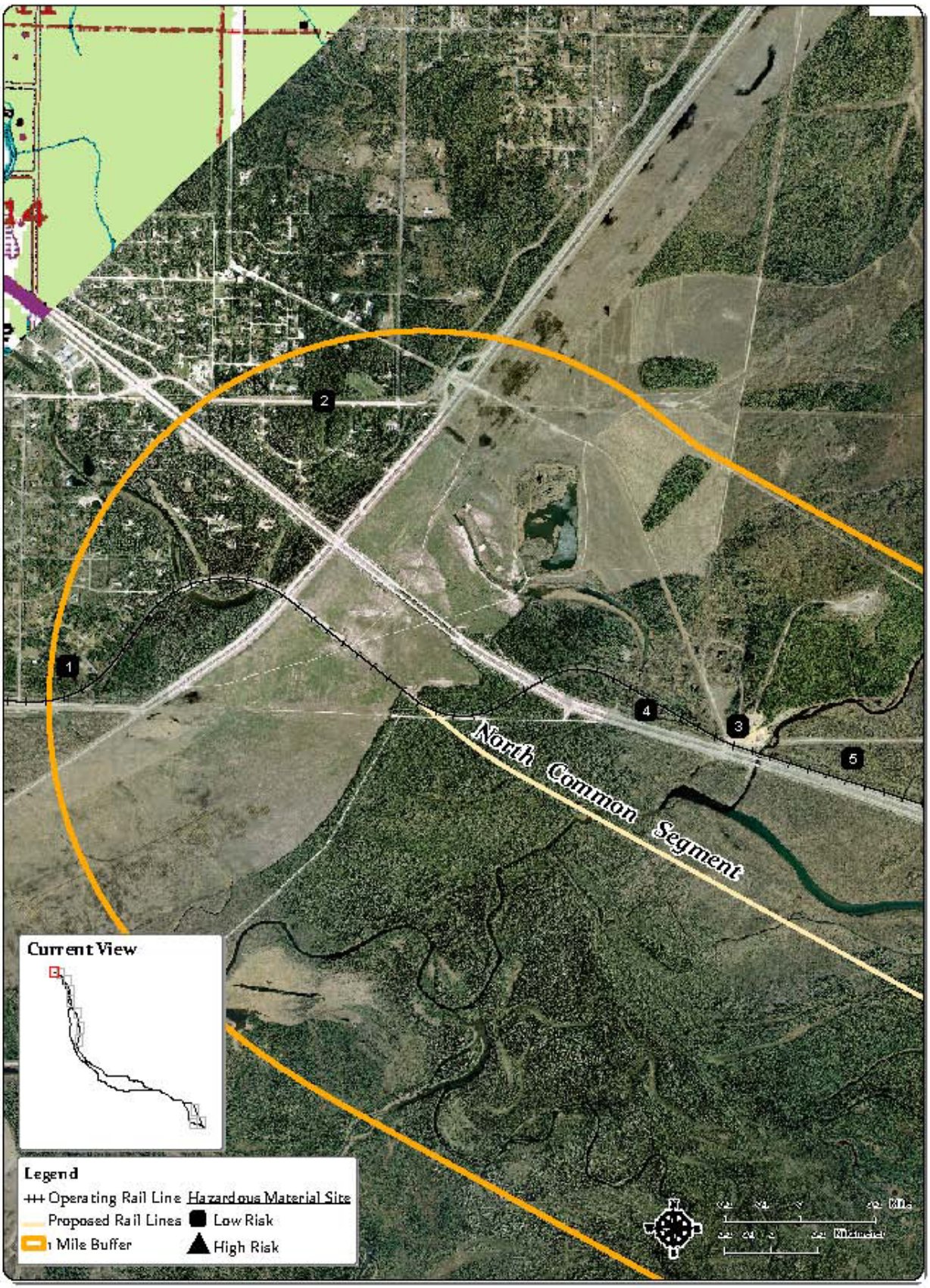

Figure 13-10 – Hazardous Materials/Waste Sites along the Northern Section of North Common Segment

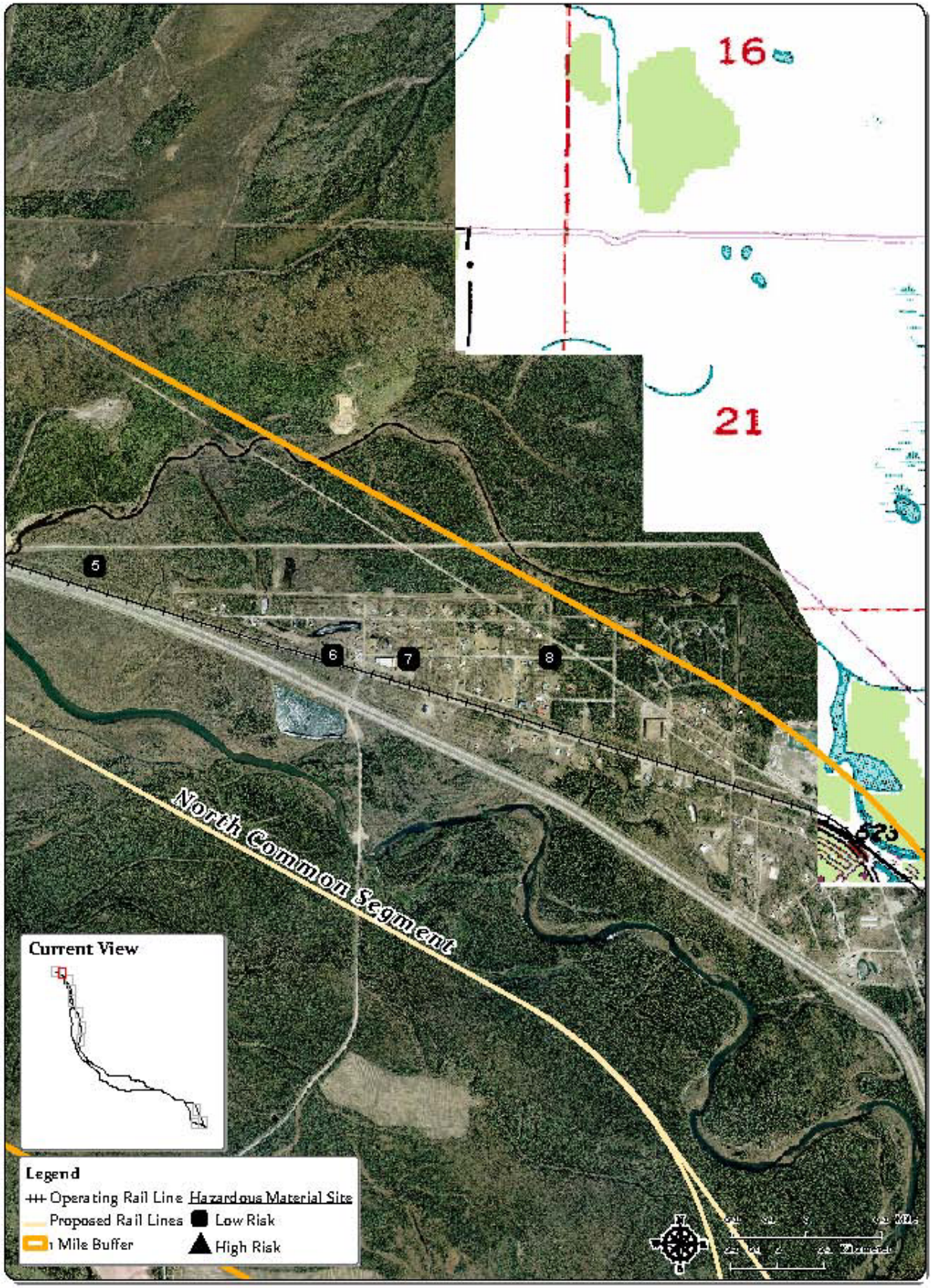

Figure 13-11 – Hazardous Materials/Waste Sites along the Southern Section of North Common Segment

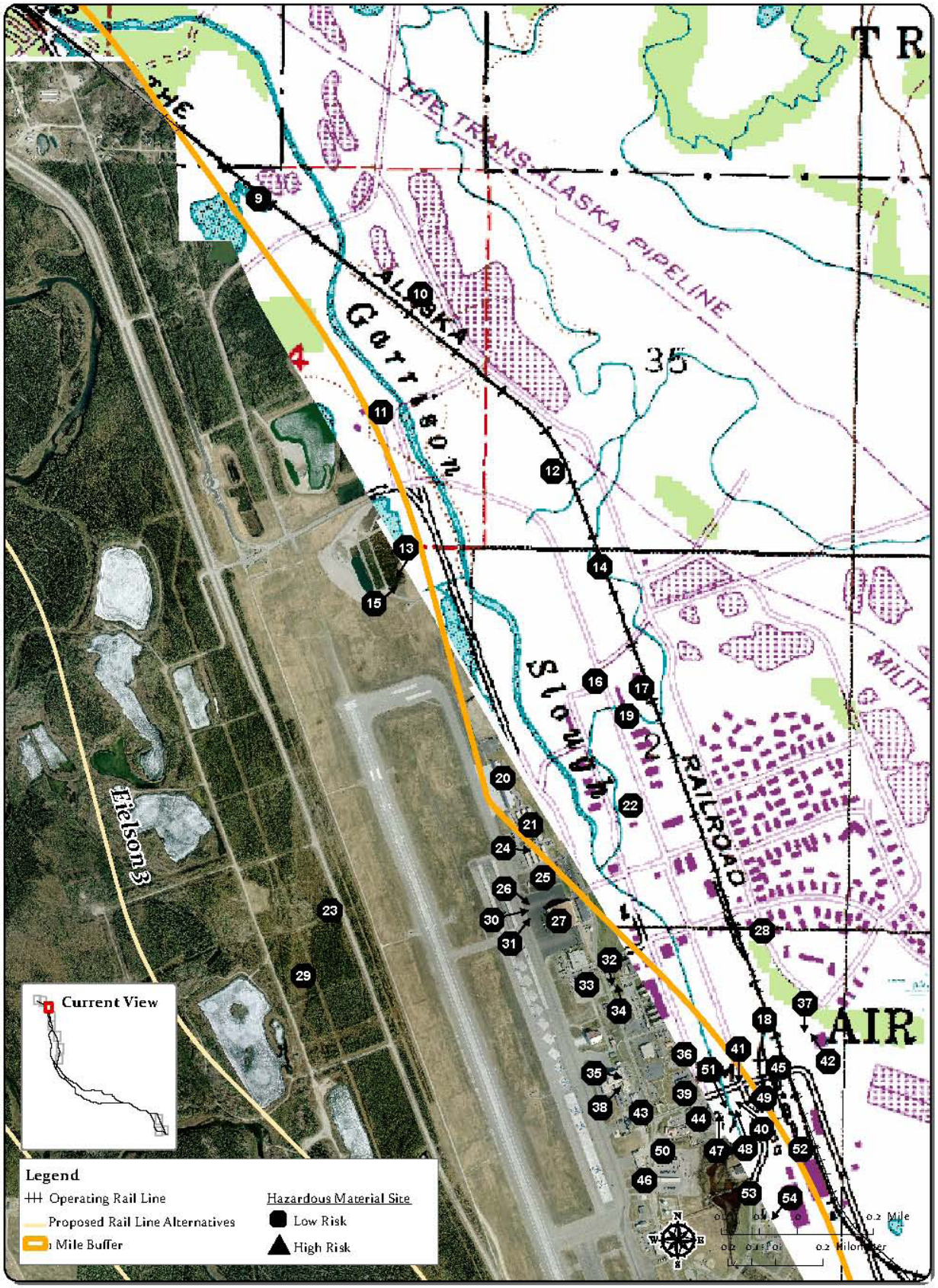

Figure 13-12 – Hazardous Materials/Waste Sites along the Northern Section of the Eielson Alternative Segments

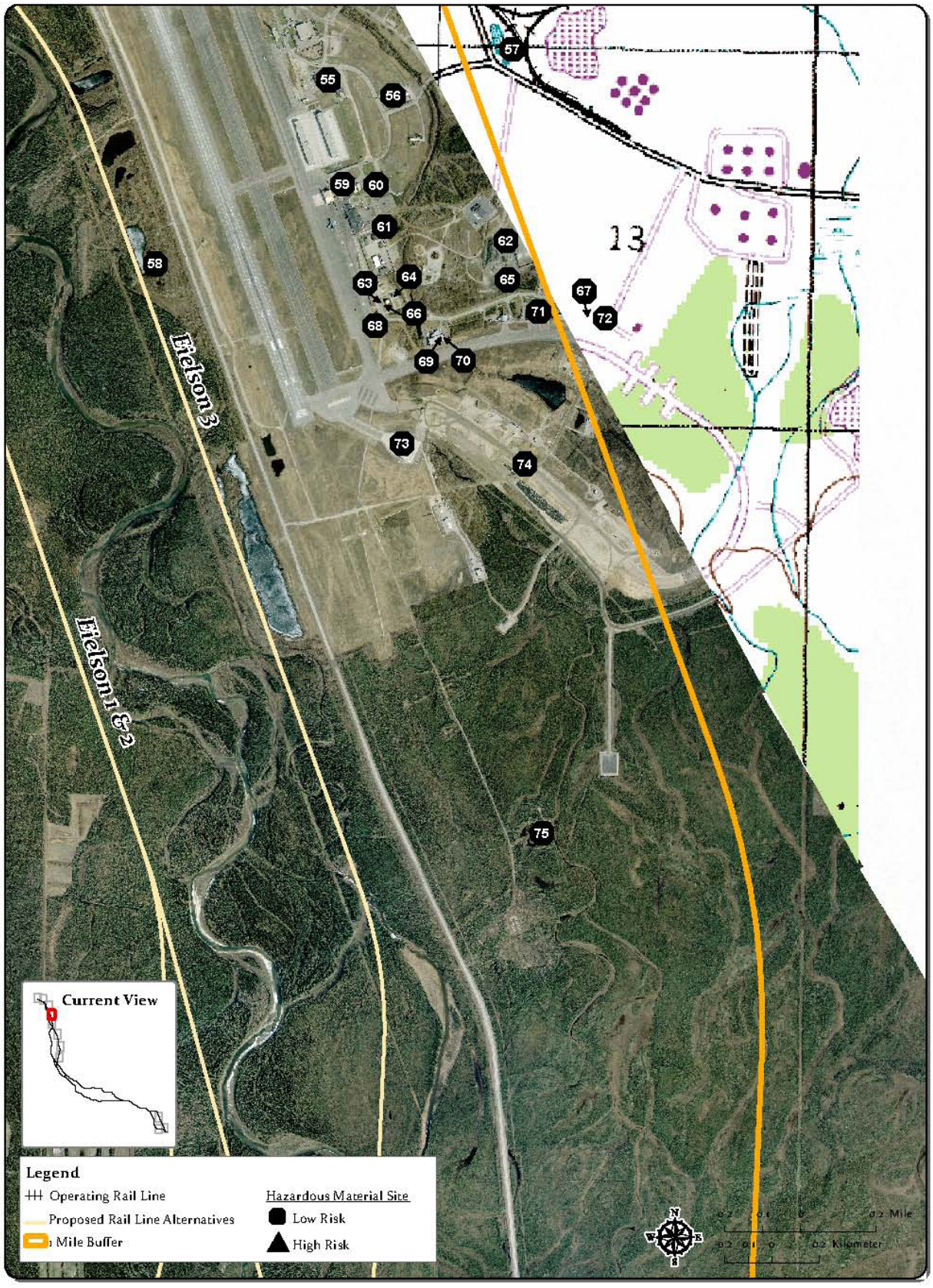

Figure 13-13 – Hazardous Materials/Waste Sites along the Middle Section of the Eielson Alternative Segments

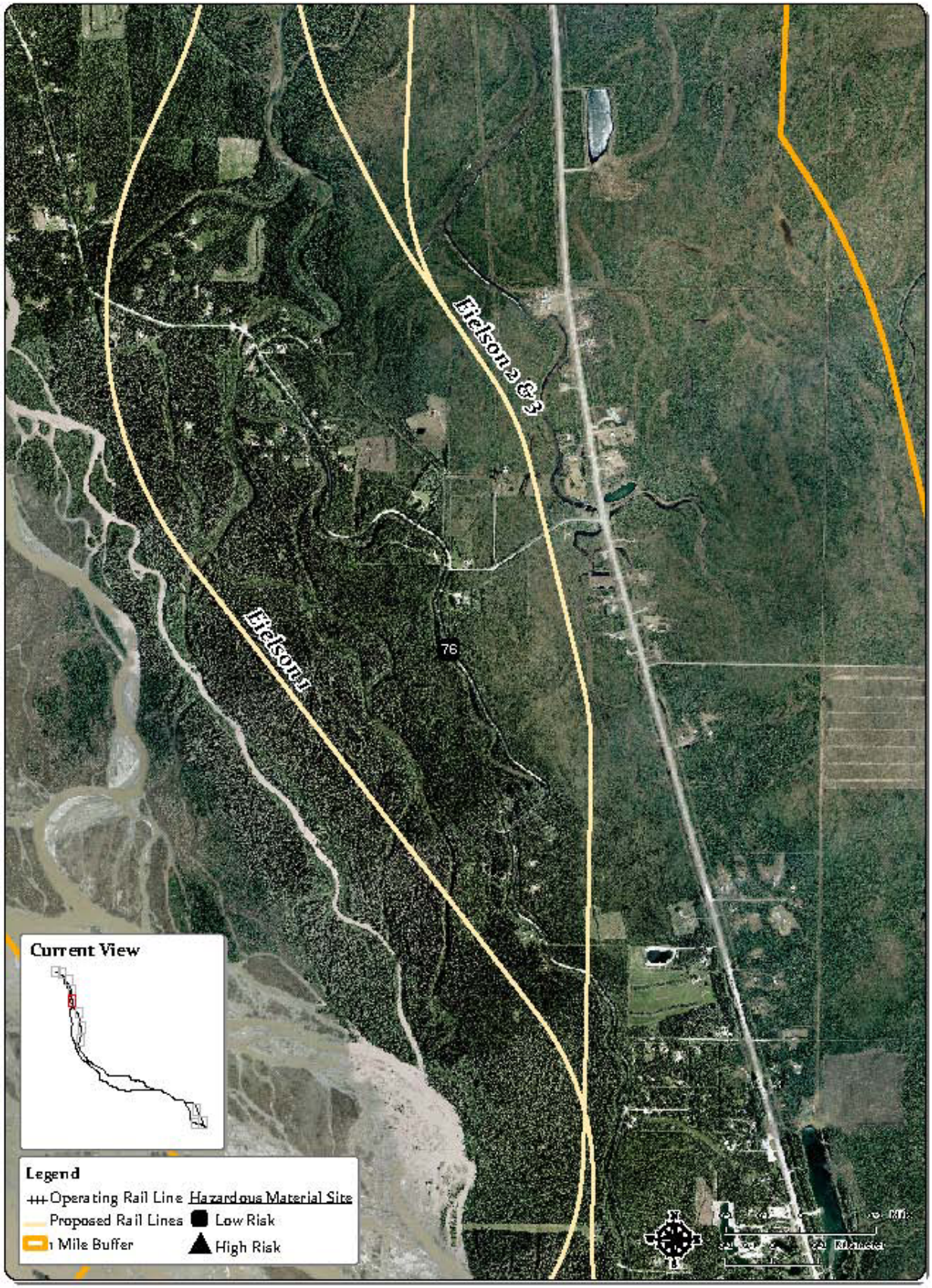

Figure 13-14 – Hazardous Materials/Waste Sites along the Southern Section of the Eielson Alternative Segments

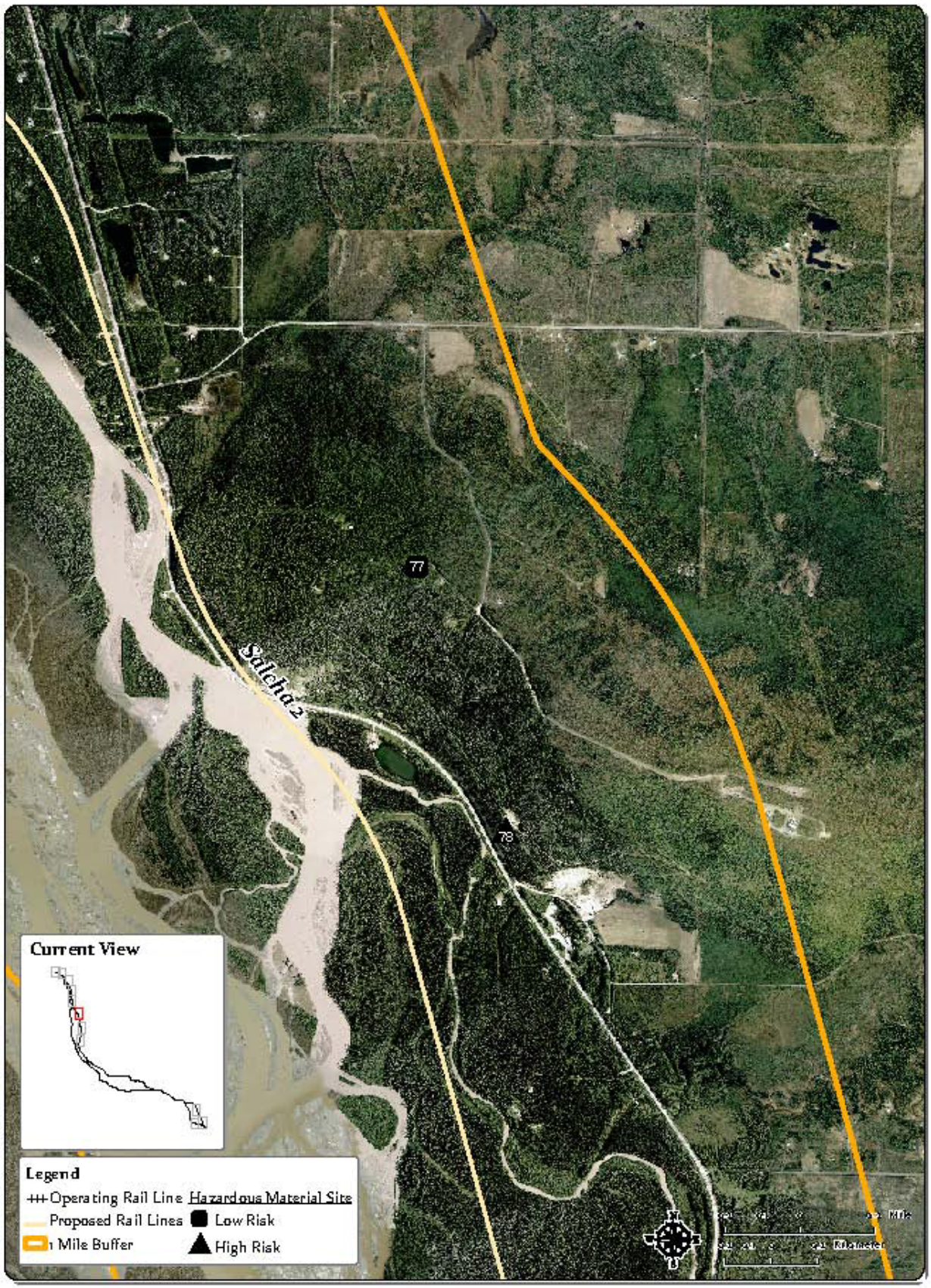

Figure 13-15 – Hazardous Materials/Waste Sites along the Northern Section of the Salcha Alternative Segments

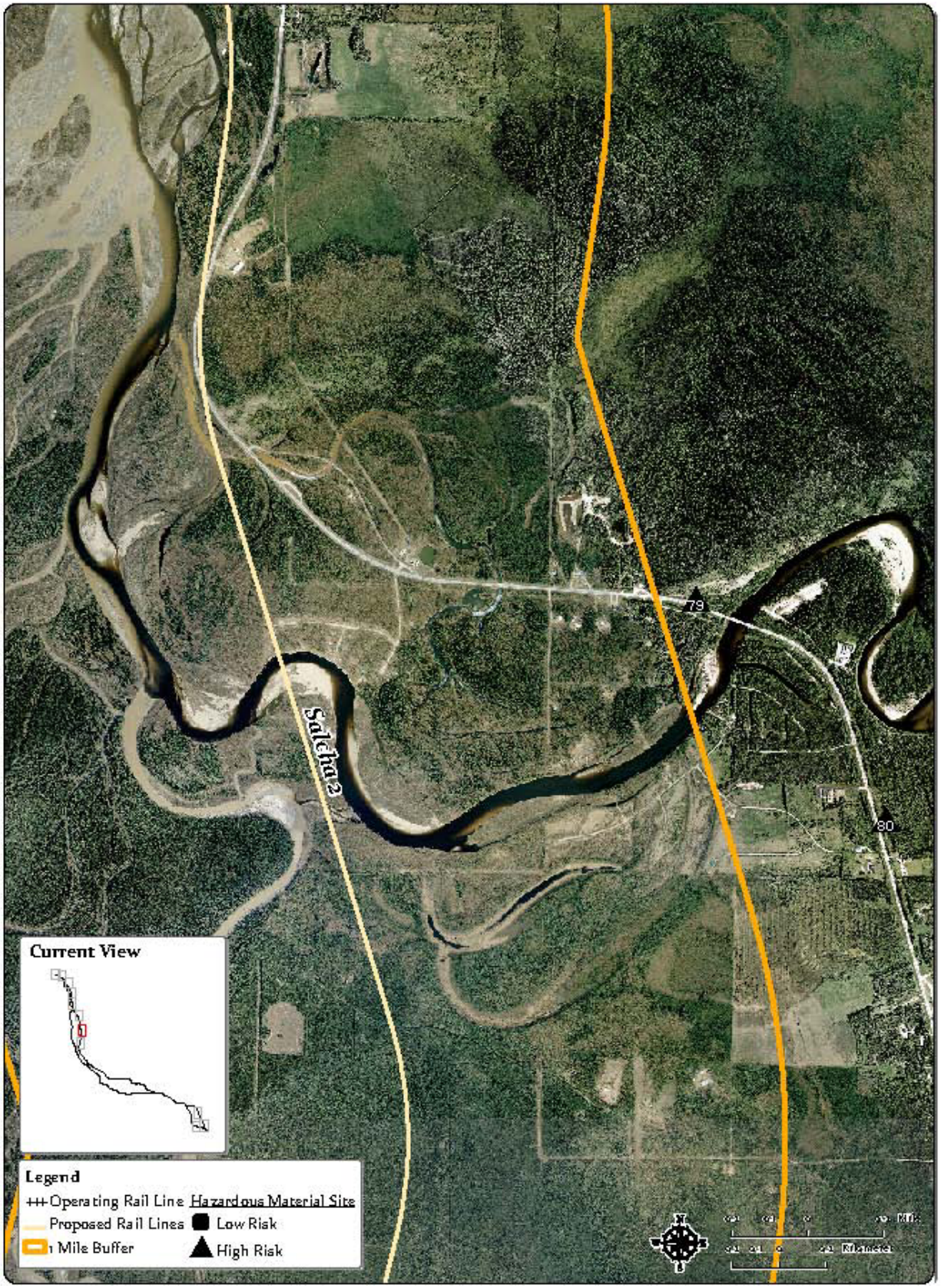

Figure 13-16 – Hazardous Materials/Waste Sites along the Middle Section of the Salcha Alternative Segments

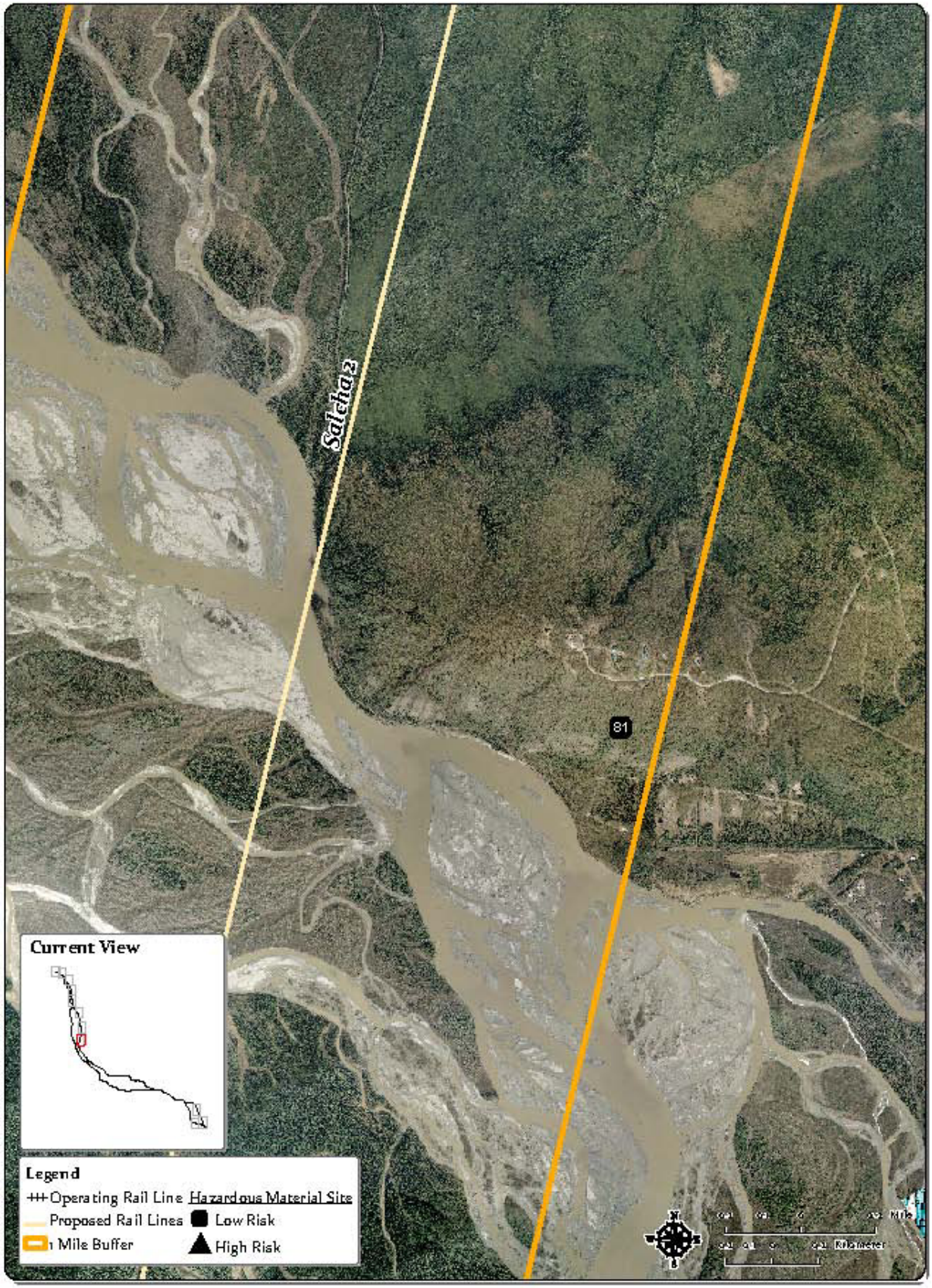

Figure 13-17 – Hazardous Materials/Waste Sites along the Southern Section of the Salcha Alternative Segments

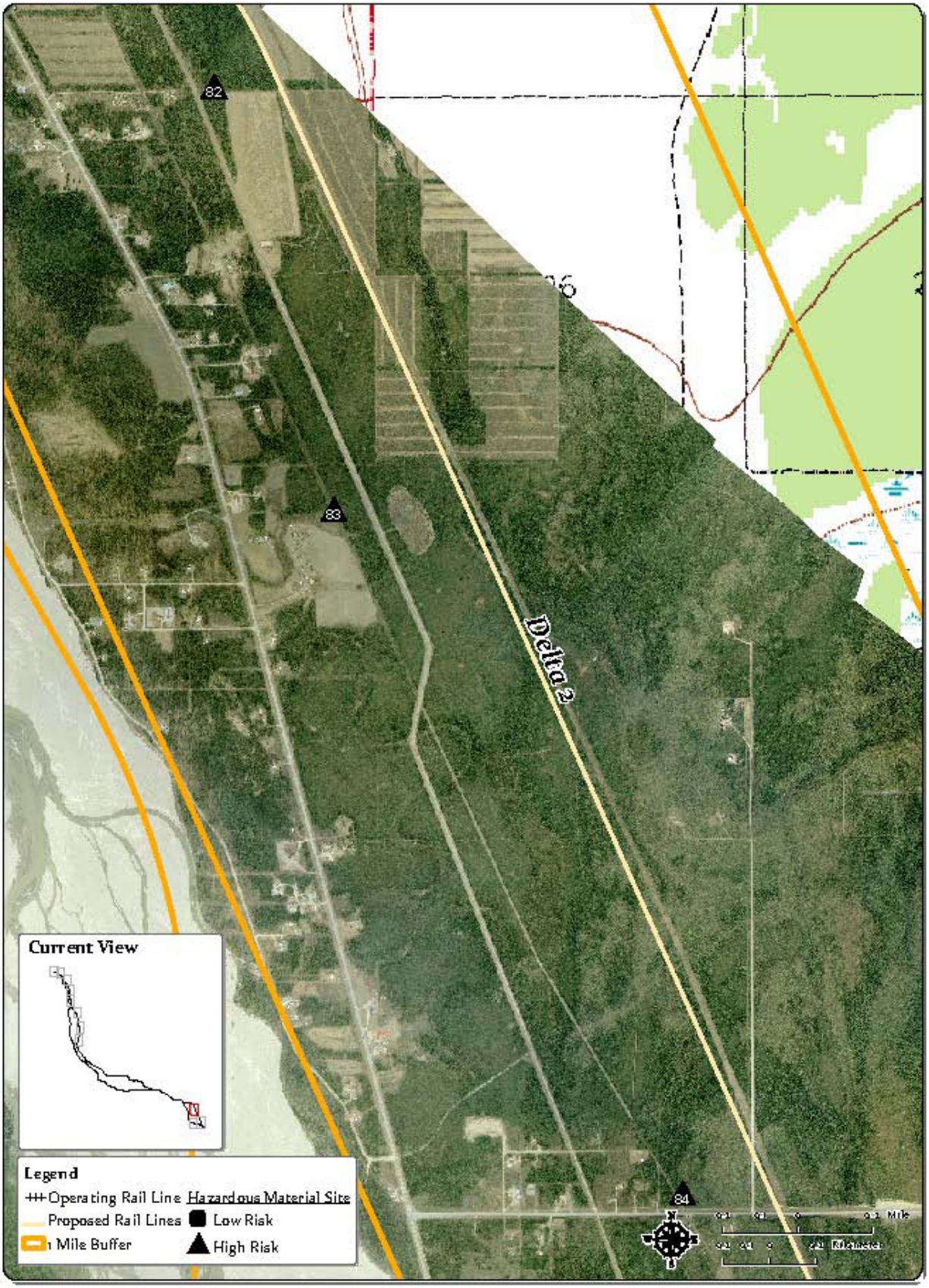

Figure 13-18 – Hazardous Materials/Waste Sites along the Northern Section of the Delta Alternative Segments

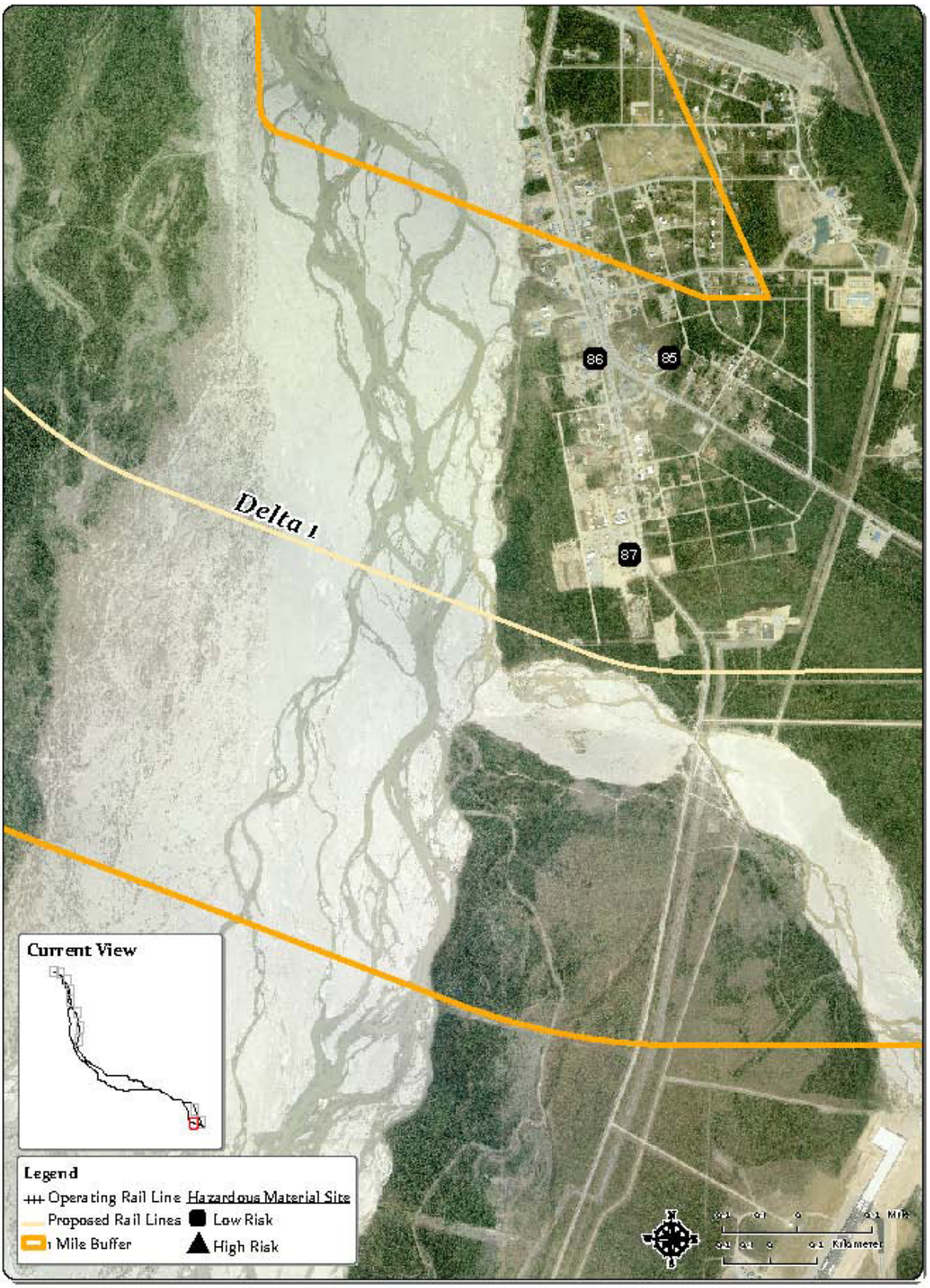

Figure 13-19 – Hazardous Materials/Waste Sites along the Middle Section of the Delta Alternative Segments

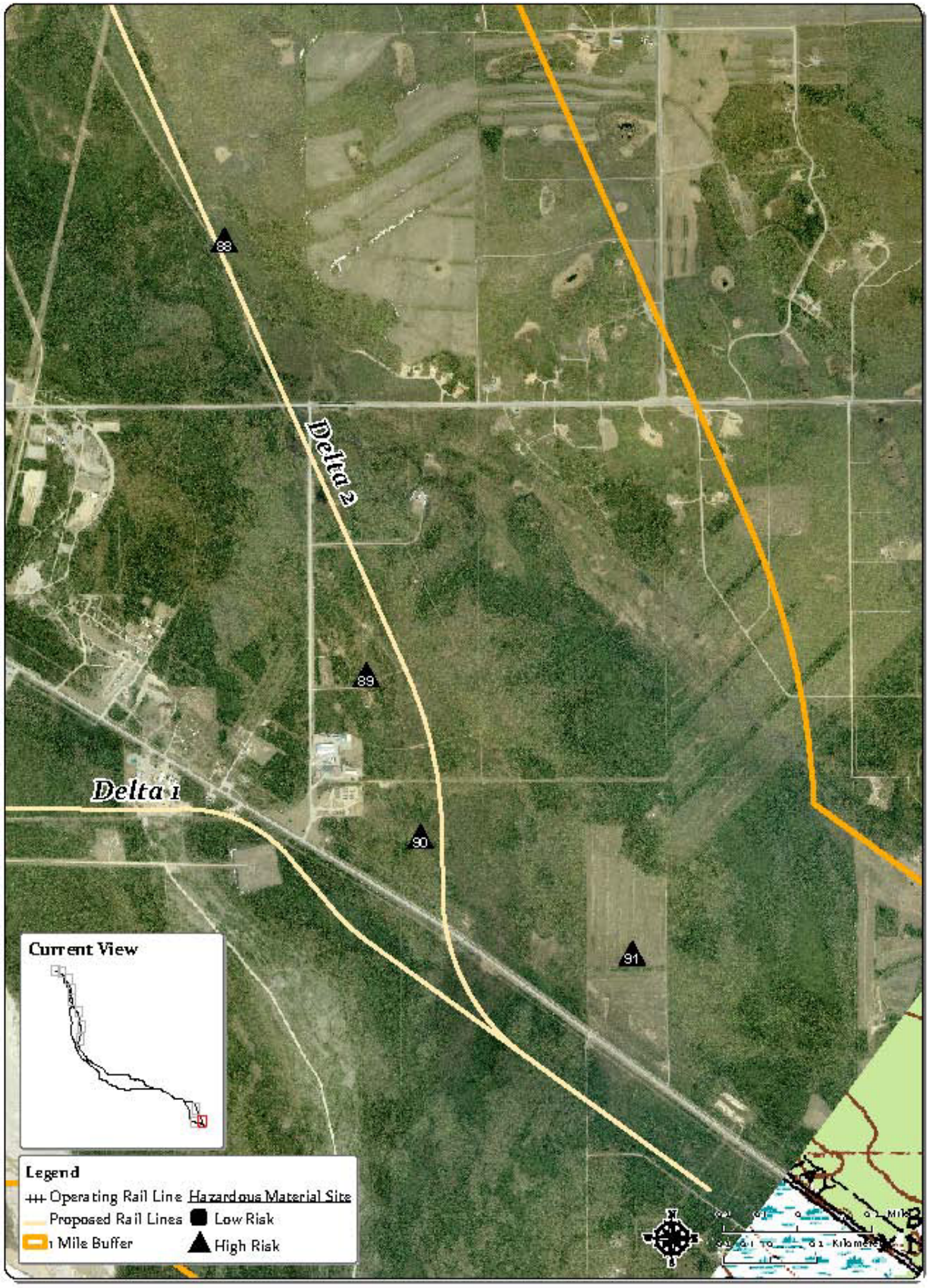

Figure 13-20 – Hazardous Materials/Waste Sites along the Southern Section of the Delta Alternative Segments

13.3.3 Environment Consequences

Methodology

Known sites within 1 mile of either side of each alternative segment were identified and then evaluated to assess the potential environmental consequences to lands, surface water, and groundwater that could result from construction of the proposed rail line.

Each identified contaminated site was evaluated based on the available information regarding location, proximity to the proposed rail line ROW, contaminant characteristics, and regulatory status (*e.g.*, "open" or "active" sites and sites approved for "conditional closure"). Closed sites where completed remediation activities included removal of contaminated soil or groundwater were considered to present negligible risk for contaminants that could affect the proposed rail project.

The list of sites of concern that could present a greater risk for exposure or spread of contaminants as a result of the proposed rail line was further refined to include the following:

- **Sites within 500 feet of the rail line ROW** that could be excavated or otherwise disturbed by intrusive actions associated with proposed rail line construction; and

- **Sites within 1 mile of the rail line ROW** where land use, local zoning and/or institutional controls (deed and/or regulatory restrictions) do not prohibit borrow-pit development.

Construction work is not considered likely to result in adverse environmental consequences on or near negligible risk hazardous material sites or regulated facilities.

The analysis of environmental consequences for hazardous materials/ waste sites is presented by common impacts briefly, and then by site-specific effects in more detail as applicable. These assessments are preliminary and are not intended to take the place of more detailed studies of subsurface soils and groundwater, if warranted, at a later date. Furthermore, prior to construction, site conditions would be thoroughly assessed to ensure that no hazardous materials or waste sites would be encountered. Chapter 20 of the EIS identifies proposed mitigation for impacts to land use.

Common Impacts

Construction Impacts

Environmental impacts or consequences could occur as a result of excavating contaminated sites during construction of road and rail grades, cuts, grade separations and retaining walls. Borrow pits developed for fill and ballast materials could also result in the disturbance and movement of contaminated materials and groundwater.

Based on the stated evaluation criteria, 11 of the 92 sites identified present a potential for environmental consequences that could result from construction activities in contaminated areas. These sites are listed and described in Table 13-5 and their locations are depicted in Figures 13-15, 13-16, 13-18, and 13-20. Section-wide orphan sites could be located anywhere within the listed section(s) of land detailed in the address column of the table.

All 11 of the sites of concern warrant further evaluation and study prior to construction. The investigations should focus specifically on areas where planned construction activities would involve soil excavation and/or related dewatering operations. These investigations would provide a basis for determining construction health and safety specifications, contaminated soil and groundwater remediation, and disposal procedures. Additionally, preparation and implementation of any remediation plans for excavated soil or affected groundwater shall be coordinated with the ADEC Contaminated Site Solid Waste Programs.

If unanticipated sources of hazardous or regulated materials are encountered during construction activities (such as along the Haines Fairbanks Pipeline ROW in the Delta Junction area), the construction manager shall immediately notify the ADEC and ARRC's health, safety and environment staff, and stop all work in the area until a corrective action plan has been approved by ADEC. The plan shall contain specific actions to address the type, level, and quantity of contamination encountered. The handling, treatment, and disposal of any hazardous materials must occur in full compliance with all Federal, state, and local requirements.

Operations Impacts

Adverse impacts from contaminated sites are not expected to result from typical rail operations. Spill or hazardous materials issues related to rail line operations (*i.e.*, spills or leaks from railcars or incidents related to materials carried by the railcars) are discussed in Chapter 11, Transportation Safety and Delay.

Construction Impacts by Alternative Segment

North Common Segment

The only known sites of concern along North Common Segment are the orphan sites associated with ALCAN Highway construction camps. These sites are considered orphan sites because they have not yet been located, but are historically known for petroleum spills and other releases. The former camp sites were situated along the existing Richardson Highway and Old Richardson Highway rail lines and were used during construction of the highway in the 1940s. Contaminated areas could be inadvertently excavated during development of borrow pits within 1 mile of portions of North Common Segment.

Eielson Alternative Segments 1, 2, and 3

There are no known sites of concern that present a potential for environmental consequences resulting from construction activities along Eielson Alternative Segment 1. The only known sites of concern along Eielson Alternative Segments 2 and 3 are the orphan sites associated with ALCAN Highway construction camps, as described for North Common Segment.

Salcha Alternative Segment 1

There are no known sites of concern that present a potential for environmental consequences resulting from construction activities along Salcha Alternative Segment 1.

Table 13-5
Known Hazardous Material Sites and Regulated Facilities of Concern

Map No.	Name	Address	Longitude	Latitude	Notes	Status
Figure 13-15 (Hazardous materials/waste sites along the northern section of the Salcha alternative segments.)						
78	Residence 6432 Richardson Highway Heating Oil Tank (located within 1850 feet of the rail ROW)	6432 Richardson Highway	64°31'34.93"N	146°59'22.37"W	Confirmed 1,200-gallon heating oil release from corroded leaking UST that was removed at the residence. Contaminated soil removal limited at western end of excavation by structures. Soil confirmation sample at western end of excavation had Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) above clean-up levels. Over 500 gallons of product was removed from the culvert recovery well. Four soil stockpiles left onsite were thermally treated. ADEC Institutional Controls (ICs) in place.	Active
Figure 13-16 (Hazardous materials/waste sites along the middle section of the Salcha alternative segments.)						
79	Haines Fairbanks Pipeline (HFP) Mile 541.5 (located within 4750 feet of the rail ROW)	Salcha River Crossing Gate Valve #67	64°28'11.38"N	146°56'8.85"W	HFP valve area on north side of Salcha River; contamination found in 2007. Extent unknown.	Active
80	HFP Mile 539 to Mile 538.5 (section-wide orphan site)	Section 21, Township 9 South/Range 10 East (T9S/ R10E), FM	64°28'11.38"N	145°45'52.40"W	Delta Alternative Segment 2 railbed ROW parallels HFP in area with documented herbicide use in 1960s and undocumented releases.	Active
Figure 13-18 (Hazardous materials/waste sites along the northern section of the Delta alternative segments.)						
82	HFP Mile 538.5 to Mile 536.5 (section-wide orphan site)	Sections 22 and 27, T9S/ R10E, FM	64° 6'47.84" N	145°45'43.99"W	Delta Alternative Segment 2 railbed ROW parallels HFP in area with 1960s herbicide use and undocumented releases.	Active
83	HFP Mile 536.5 to Mile 535 (section-wide orphan site)	Sections 26 and 35, T9S/R10E, FM	64° 5'49.11" N	145°45'6.44"W	Delta Alternative Segment 2 railbed ROW parallels HFP in area with documented herbicide use in 1960s and undocumented releases.	Active
84	HFP Mile 535 to Mile 534 (section-wide orphan site)	Sections 34 and 35 T10S/R10, FM	64° 4'14.10" N	145°43'16.28"W	Delta Alternative Segment 2 railbed ROW parallels HFP. 1960s documented herbicide use and undocumented POL releases.	Active
Figure 13-20 (Hazardous materials/waste sites along the southern section of the Delta alternative segments.)						
88	HFP Mile 534 to Mile 531.8 (section-wide orphan site)	Sections 11, 12 and 15, T10S/ R10E, FM	64° 2'50.47" N	145°41'21.49"W	Delta Alternative Segment 2 railbed ROW parallels HFP in area with documented herbicide use in 1960s and undocumented releases.	Active

Table 13-5
Known Hazardous Material Sites and Regulated Facilities of Concern (continued)

Map No.	Name	Address	Longitude	Latitude	Notes	Status
89	HFP Mile 531.8 to Mile 530.5 (section-wide orphan site)	Section 19 T10S/R10E and Section 24, T10S/ R11E, FM	64° 1'50.00"N	145°40'37.04"W	Delta Alternative Segment 2 railbed ROW parallels HFP in area with documented herbicide use in 1960s and undocumented releases.	Active
90	HFP Ft. Greely Pump Station and Terminal Mile 528.5 (located within 265 feet of the rail ROW)	Sections 25 T10S/R10E and Section 30 T10S/R11E, FM	64° 1'27.42"N	145°40'20.00"W	Investigation of terminal and pump station underway by U.S. Army as an active Department of Defense installation. Documented past practices for purging fuels between different runs and documented releases indicate extensive soil and groundwater contamination.	Active
91	HFP Mile 530 to Mile 529 (section-wide orphan site)	Section 29, 30 and 32, T10S/R11E, FM	64° 1'11.12"N	145°39'12.91"W	Delta Alternative Segment 1 railbed ROW parallels HFP in area with documented herbicide use in 1960s and undocumented releases.	Active
Project-wide (Along North Common, Eielson 2, Eielson 3, Salcha 2, Delta 1 and Delta 2 Alternative Segments)						
92	Alaska-Canadian (ALCAN) Highway construction camps (Project-wide orphan site[s])	Project-wide	NA	NA	Formerly Used Defense Sites (FUDS) investigation of ALCAN Highway construction camps from 1940's underway. Anecdotal information on disposal practices suggests potential for contaminated sites	Active

Eielson AFB Institutional Controls (ICs) include:

- Prohibition on the installation or use of drinking water wells
- All monitoring wells are secured with locks
- Any activity that may result in exposure to contaminated soil and groundwater requires approval of Civil Engineering Squadron's Environmental Flight (CES/CEV)
- Contaminated soil/groundwater removed from the source must be disposed of or treated in accordance with regulation
- Any activity disturbing a remedial action requires approval of CES/CEV
- Notify ADEC and USEPA of any proposal to change the existing land use or land use controls at the site.

ADEC Institutional Controls include:

- Site added ADEC Contaminated Sites Database identifying the nature and extent of contamination remaining onsite.
- In accordance with 18 AAC 78.274(b) OR 18 AAC 75.370(b), ADEC approval must be obtained prior to removal and/or disposal of soil or groundwater from this site to an offsite location.

Active Risk sites include:

- Sites within the ROW where potential contamination remains or is suspected and where excavations for railbed cuts, separated crossing, retaining walls and embankments may occur.
- Sites within 1 mile of route alternatives where contamination remains or is suspected and there are no land restrictions or ICs for borrow pit development.

Salcha Alternative Segment 2

Three known sites of concern were identified along Salcha Alternative Segment 2. Two sites, Site 78 (Figure 13-15) and Site 79 (Figure 13-16) are known to contain contaminated soils. Site 80 (Figure 13-16) is related to the Haines Fairbanks Pipeline and is considered a "section-wide orphan site" stemming from the abandoned pipeline ROW parallel to the Salcha Alternative Segment 2 railbed. There are documented and undocumented spills and releases that occurred during pipeline operations in this area, which could cause exposure to contaminated soil during excavation and development of borrow pits.

In addition, orphan sites associated with the ALCAN Highway construction camps could be encountered along this segment, as described above for North Common Segment.

Central Alternative Segments 1 and 2; Central Connector Segments A, B, C, D, and E

There are no known sites of concern that present a potential for environmental consequences resulting from construction activities along Central Alternative Segment 1, Central Alternative Segment 2, or Central Connector Segments A, B, C, D and E.

Donnelly Alternative Segments 1 and 2

There are no known sites of concern that present a potential for environmental consequences resulting from construction activities along either Donnelly Alternative Segment 1 or 2.

Delta Alternative Segments 1 and 2

There are seven sites of concern along Delta Alternative Segments 1 and 2. All of the sites are related to the abandoned Haines Fairbanks Pipeline in the Delta Junction area, where Delta Alternative Segments 1 and 2 parallel the former Haines Fairbanks Pipeline ROW (Figure 13-18 and Figure 13-20). Six of these are also section-wide orphan sites. Starting at approximately "Mile 3" of Delta Alternative Segment 2 and "Mile 5" of Delta Alternative Segment 1 and continuing to the southeastern terminus of the rail line extension, documented and undocumented spills and releases occurred during pipeline operations. If encountered during excavation for project construction, including the proposed terminal facilities, spill areas could cause exposure to petroleum contaminants. Construction of borrow pits in these areas could also lead to exposure to contaminants.

Site 90 (Figure 13-20) was a former Haines Fairbanks Pipeline pump station with known and located surface spills of petroleum products. This former pump station is now being investigated under the Formerly Used Defense Site program. Site 90 also encompasses a large area in which there may be unknown releases. If encountered during excavation for construction of the railbed, terminal facilities, and/or development of borrow pits, the former pump station could cause exposure to contaminants. In addition, orphan sites associated with the ALCAN Highway construction camps could be encountered along this segment as described for the North Common Segment.

No-Action Alternative

The only hazardous materials effects under the No-Action Alternative would be from other projects or natural processes such as flooding, soil erosion, or landslides that disturb contaminated sites.