

In addition, meetings with personnel from local, state, and federal government agencies and several stakeholder groups were also conducted. All comments received have been compiled into a scoping summary, which is part of this document's Planning Record.

1.7 Public Scoping Issues of Concern

Verbal and written comments received during the scoping period from the public and the various agencies were used to help determine specific issues of concern. Potential issues were determined to be significant to the analysis of the proposed action if they fell within the scope of the proposed action, if they suggested different actions or mitigation, or if they influenced the decision on the proposed action. Solutions responsive to many of the public's concerns and questions were integrated into elements of the alternatives developed for consideration in this EA. Based on public and agency comments, USAG-AK focused analysis in this EA on the following categories:

- **Purpose and Need:** A clearer definition of purpose and need for construction of a boundary fence at Fort Richardson
- **Fence Design and Placement:** The overall design and placement of the boundary fence at Fort Richardson.
- **Recreational Access:** Impacts to existing year-round access to Fort Richardson and surrounding recreation areas resulting from the construction of a boundary fence
- **Wildlife Movement:** Impacts to wildlife movement, especially moose migration, across Fort Richardson

Impact analysis was completed for each relevant issue to determine the environmental consequences of the alternatives and is discussed in Chapter 3, Description of the Affected Environment and Environmental Consequences of the Proposed Action and Alternatives. USAG-AK has identified additional mitigation measures to address the concerns raised by state and local governmental agencies, stakeholders, and the general public.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

USAG-AK is proposing to install fencing along the Fort Richardson military installation boundary to provide boundary delineation, prevent vehicular trespass and illegal activity, protect resources necessary for National Defense, and to provide soldiers with an increased opportunity to safely and efficiently train to standard.

The existing Fort Richardson fencing is discontinuous along the boundary and utilizes several fence designs that provide varying degrees of boundary demarcation and security. Currently, soldiers are used as guards along the boundary, which reduces their participation in training events.

USAG-AK currently estimates that fencing is needed along the eastern boundary of Fort Richardson, beginning in the northernmost portion of Fort Richardson along Knik Arm, running

south to Clunie Lake, along the shared boundary with the town of Eagle River and the Anchorage Landfill until the boundary intersects the Glenn Highway. At this point, fencing is needed along both sides of the Glenn Highway. The northern section would follow the Glenn Highway and terminate at the Elmendorf Air Force Base boundary. The southern portion would also follow the Glenn Highway. The fencing would then continue south along the shared boundaries of Municipality of Anchorage subdivisions, including Muldoon and Stuckagain Heights, and Far North Bicentennial Park. The needed fencing would continue along the eastern boundary and terminate just beyond the North Fork of Campbell Creek.

The proposed fencing is based on the location of existing National Defense resources including training ranges, lands, and cantonment infrastructure, their proximity to non-military lands, and their associated vulnerability to unauthorized vehicular and pedestrian access.

Relevant environmental and social issues regarding the placement of the installation fencing include the accommodation of local wildlife movement (especially moose that travel to and from the coastal plain), possible impact to wetlands and floodplains, recreational access to Fort Richardson, and the aesthetic impact of overall design and placement of the security fencing near existing neighborhoods.

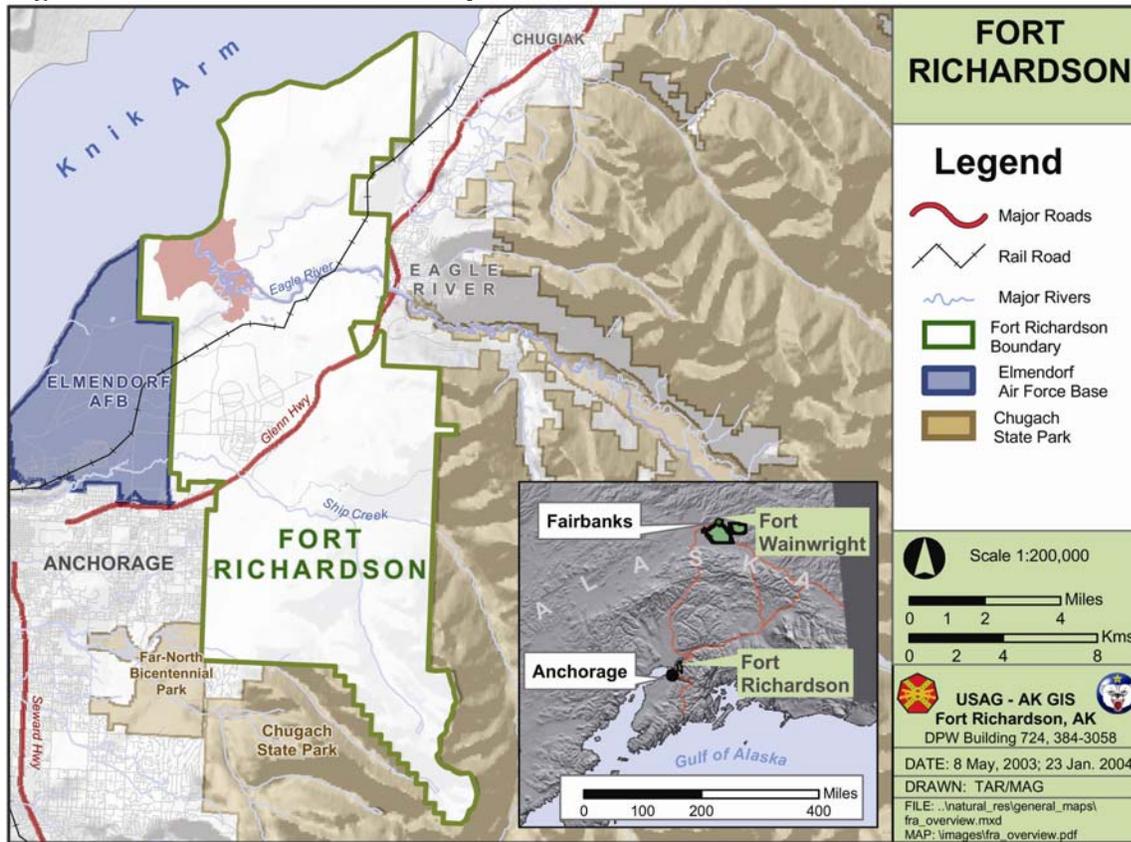
A reasonable alternative for this proposed installation fencing would be one that provides boundary delineation, prevents vehicular trespass and illegal activity, protects resources necessary for National Defense, and increases opportunities for soldiers to effectively and safely train to standard. Four reasonable fencing alternatives were considered: 1) No Action (Existing Fencing) Alternative; 2) Pipe Rail and Full Cantonment Security Fencing Alternative; 3) High Security Fencing Alternative; and 4) Setback Fencing Alternative. Other alternatives were considered but were eliminated from further consideration because they failed to meet the purpose and need of the proposed action, or only represented minor variations of the alternatives selected for analysis. (See Section 2.4, Description of Alternatives Considered and Eliminated from Detailed Study)

This section defines the proposed action, presents alternatives that were considered in this analysis and alternatives that were eliminated from further consideration, and summarizes the environmental consequences of the alternatives.

2.1 Location and General Description of the Area

Fort Richardson is located in south-central Alaska, approximately seven miles northeast of downtown Anchorage, and is adjacent to the town of Eagle River and Elmendorf Air Force Base (Figure 1). Fort Richardson encompasses approximately 62,000 acres with about two thirds of the area on the coastal plain and the other one third on the western slopes of the Chugach Mountains. The Knik Arm of Cook Inlet borders the north side of the post, and Chugach State Park lies to the south and the southeast. The Main Gate onto Fort Richardson is located along the Glenn Highway.

Figure 1. General Location of Proposed Action



2.2 Description of Proposed Action

USAG-AK proposes to construct new fencing along portions of the Fort Richardson installation boundary and the cantonment area. Four alternatives have been analyzed regarding placement and design of a fence, each consistent with the purpose and need. Three types of fencing are proposed: pipe rail, chain link, and a combined security design. Each alternative utilizes the three fencing types in different combinations (see Section 2.3, Reasonable Alternatives). Existing fencing (including chain link, pipe rail, net wire, and combined security types) would remain in place and would be retrofitted and repaired as needed. Additional law enforcement patrols would be conducted to further meet the purpose and need of the proposed action. In addition, each alternative involves the creation of a construction and maintenance access corridor along the proposed installation fencing.

The pipe rail fencing design would consist of two rails (Figure 2). The top rail would have an approximate height of 40 inches, and the bottom rail would be approximately 22 inches from the ground surface. This would create a 12-1/2 inch gap between the upper and lower rail. This fence design has the same approximate dimensions as the existing pipe rail fence on South Post (along Muldoon Subdivision boundary). The pipe rail fence would be constructed within one foot of the installation boundary. This fencing type is the primary design proposed under Alternative 2.

The chain link fencing design consists of an eight-foot-high barrier topped with three strands of barbed wire (Figure 3). The chain link would be nine-gauge mesh with four-inch center posts being placed every ten feet. The barbed wire top guard would extend outward at a 45° angle away from installation boundary. This fencing type would be used along portions of the cantonment area under Alternative 2 and along the boundary under Alternative 4.

The combined security fencing design involves an eight-foot-high chain link fence and three strands of barbed wire with two horizontal galvanized pipe rails placed at the base of the fence (Figure 4). This fencing type is the primary design proposed under Alternative 3 and will be used in sections under Alternative 2.

Additional law enforcement patrols would be conducted as part of the proposed action. These patrols would be conducted by military personnel other than soldiers scheduled for training events. Possible personnel used for patrols could include Military Police, Conservation Law Enforcement Officers, or Range Inspectors.

A corridor 30 feet in width would be cleared along the military side of the proposed installation fencing under each alternative. Construction of the fence in upland areas would be carried out year-round. To avoid substantial impacts to wetlands and waterways, fence construction in these areas would be limited to the winter when the ground is frozen. Frozen ground and water bodies would support construction equipment needed to install the fence. This would prevent rutting and vegetation degradation.

Construction equipment would include powered vehicles that would be driven along the fence corridor during initial construction. A rubber tire mounted hydro-axe and a feller buncher would be needed to cut and remove the trees in the corridor. Several pick-ups and larger sized trucks would be needed to haul supplies and equipment and to provide the manpower to construct the fence.

Most fence posts would be pile-driven to a depth of 40 inches. However, concrete footings would be utilized at gates, bracing panels, and corner panels to provide added support. Gates would be provided at all vehicle access ways as part of the proposed action. Gates would be manually operated and swing-type with concrete footings and cable reinforcement. Tamper-proof lock guards using heavy-duty padlocks would be utilized. Gates would be placed on both North and South Post to allow for emergency access.

“No trespass” warning signs would be posted every 100 feet and would reference USAG-AK’s Access Policy and the USARTRAK check-in system. The USARTRAK system is designed to inform the public of training area closures in order to eliminate potential safety conflicts during active training. Flagpoles with red flags, which indicate a range is active, would also be installed in high-use areas to provide notice to the public when training events are occurring.

Figure 2. Pipe Rail Fencing Design

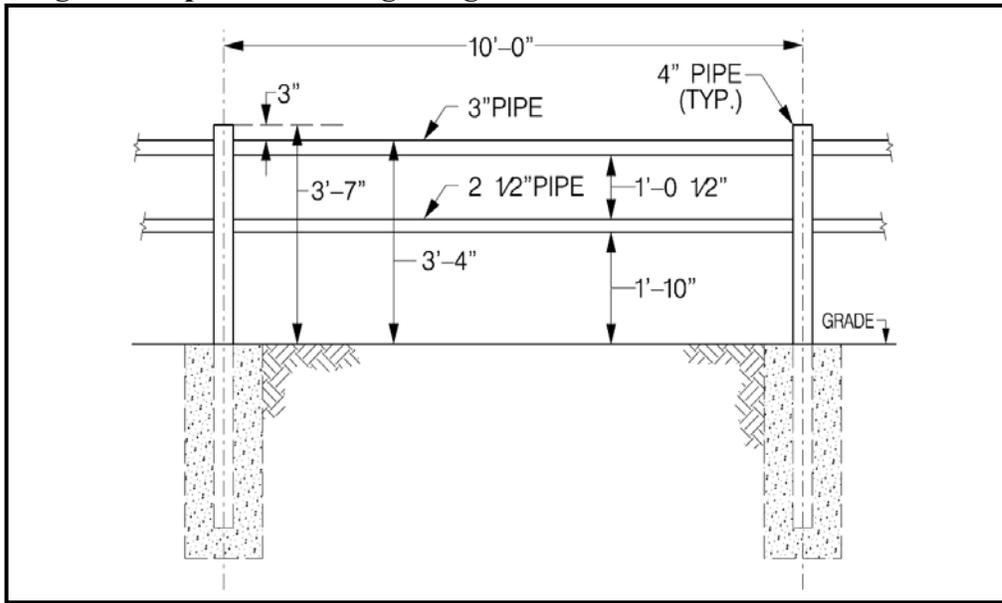


Figure 3. Chain Link Fencing Design

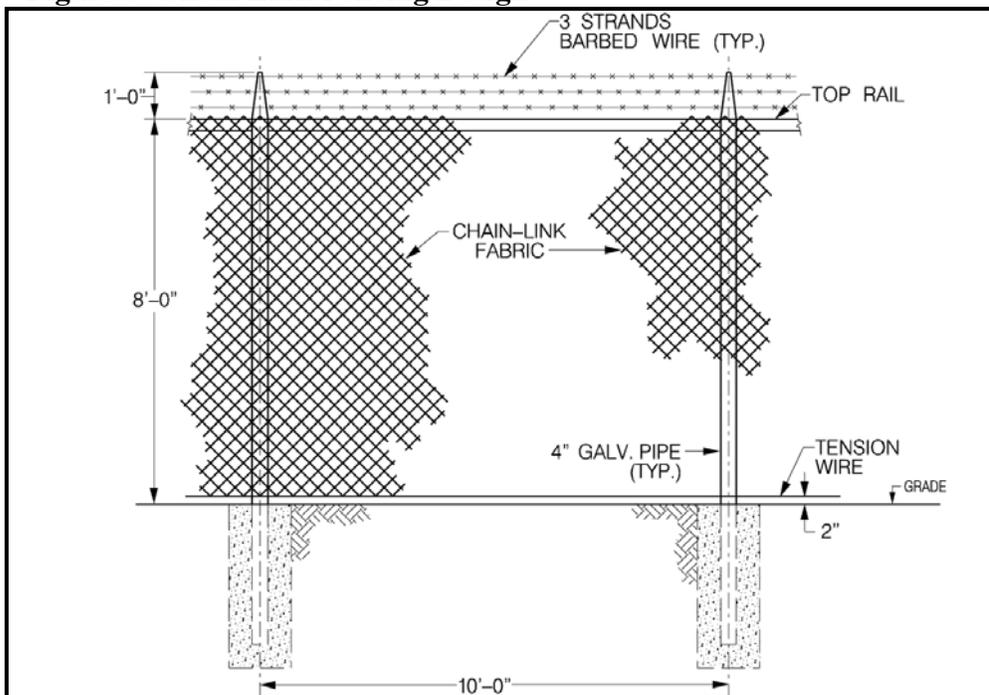
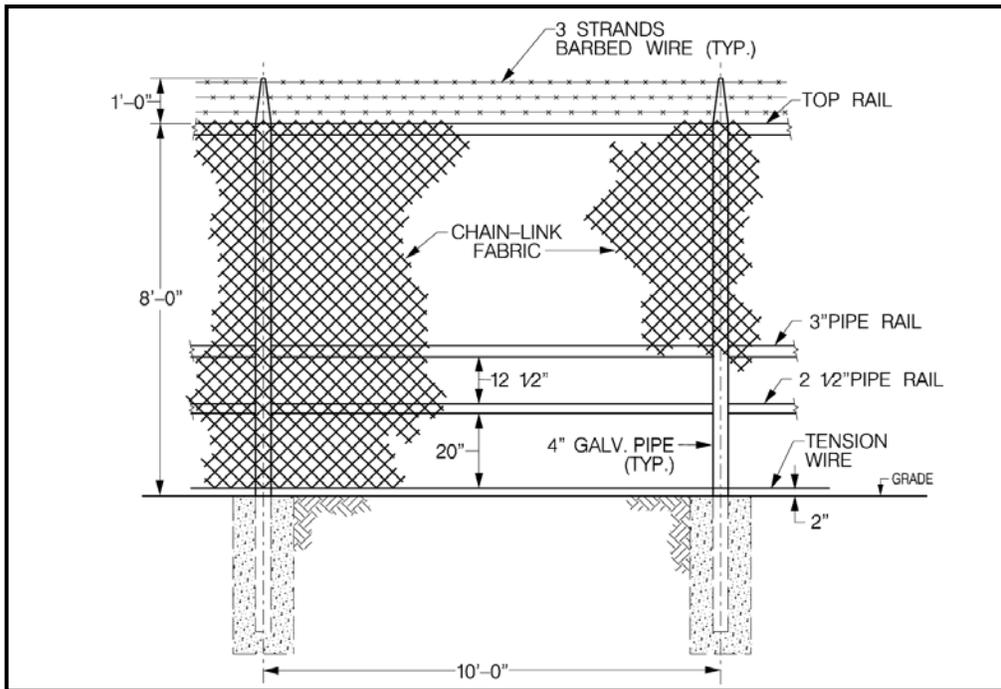


Figure 4. Combined Security Fencing Design



2.3 Description of Reasonable Alternatives

2.3.1 Alternative 1: No Action (Existing Fencing)

This option represents the status quo. Figure 5 illustrates the current fencing conditions at Fort Richardson including existing chain link, net wire, pipe rail, and combined security fencing types. Under this alternative, no new fencing would be installed at Fort Richardson. Existing fencing would not be modified, except for routine, ongoing repair and maintenance activities. The existing fence would continue to provide limited security measures, discontinuous boundary demarcation, and the least amount of public safety. Currently, soldiers conduct security measures during training events.

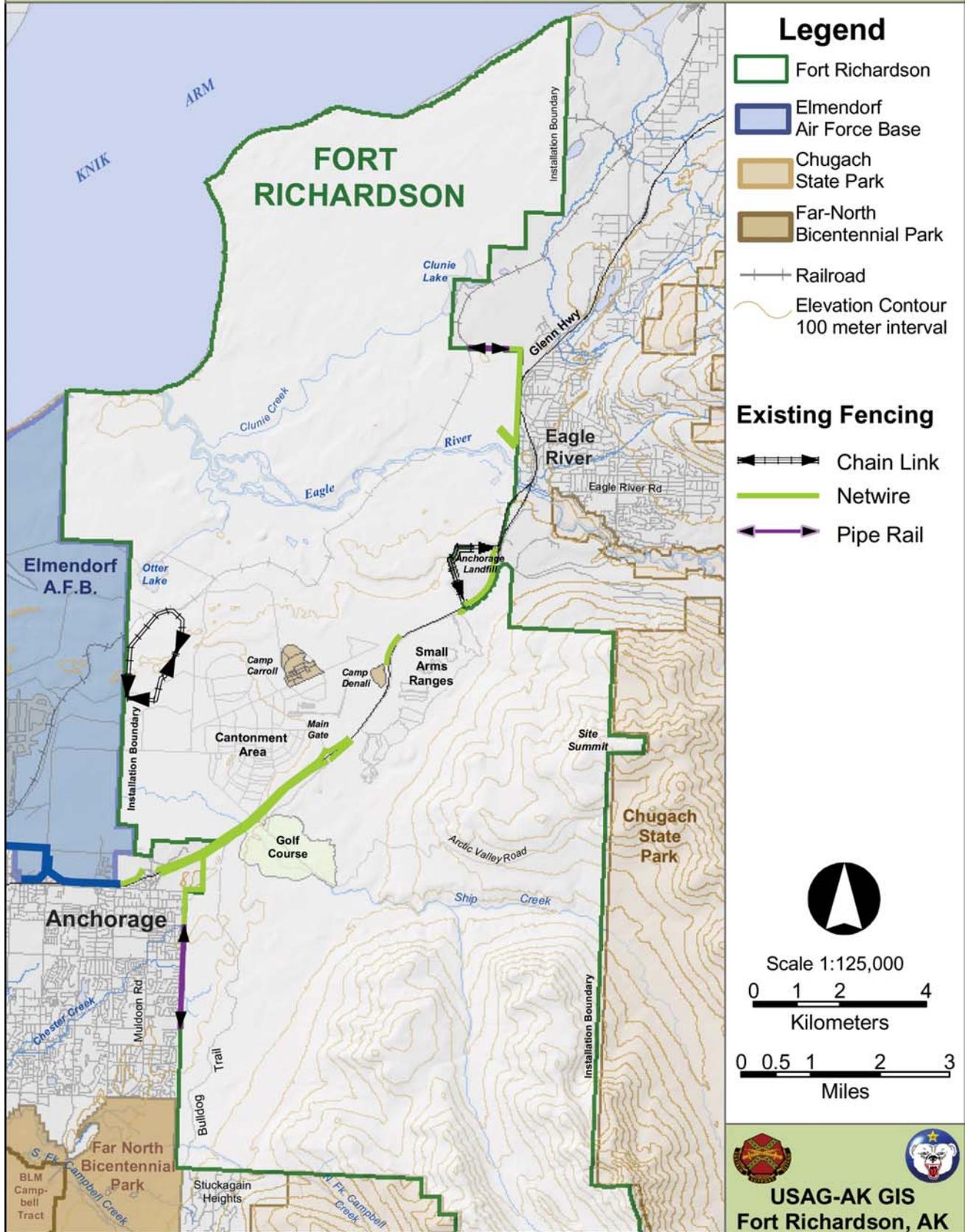
Two major moose crossings would remain unaffected, namely the Glenn Highway between Camp Denali (National Guard Armory) and the State of Alaska Weigh Station, and the south boundary of Fort Richardson near the South Fork of Campbell Creek.

Fort Richardson has continuously provided authorized recreational users access to the post through the Main Gate House off the Glenn Highway. Some individuals living near the installation boundary have, with relative ease, unknowingly or improperly entered the installation from nearby streets and adjacent subdivisions due to the lack of a delineated installation boundary. This practice creates an unsafe condition for the trespasser and Army personnel that are engaged in training. Under the No Action Alternative, recreational users would be required to follow post access regulations which include the newly developed USARTRAK.

This alternative does not meet the purpose and need or objectives of the proposed action. Currently, soldiers are used for security purposes during training events rather than participating in required mission tasks. In addition, the existing fencing does not provide a continuous boundary demarcation (Figure 5), thus creating opportunity for intentional and unintentional trespass of USAG-AK lands, including the cantonment area. Safety risks to Army personnel and civilians are not reduced under this alternative.

Mitigation: No mitigation has been proposed under this alternative.

Figure 5. Alternative 1: No Action (Existing Fencing)



2.3.2 Alternative 2: Pipe Rail and Full Cantonment Security Fencing

This option includes the installation of three fence types: pipe rail, chain link and combination security fence. The pipe rail fence design would follow the Fort Richardson installation boundary and would be constructed within one foot of the boundary. Eight-foot chain link fencing with three strands of barbed wire would be placed around the north side of the Fort Richardson cantonment area and combination security fence would be placed along the cantonment boundary adjacent to the Glenn highway under this alternative (Figure 6). In areas where the new pipe rail fence encounters existing fence, including the net wire fencing along the Glenn Highway, it would be placed at a given distance behind it. In areas where new pipe rail fencing encounters existing pipe rail fence, the old fencing would remain in place and be incorporated into the new fencing. The proposed pipe rail fence design is identical to the existing pipe rail fencing on South Post (along Muldoon Subdivision boundary).

The proposed chain link fencing would enclose the northern portion of the cantonment area, beginning at the Ammunition Storage Point running east along the northern boundary of Camp Carroll to the Glenn Highway. At this point, combination security fencing would follow the northern side of the Glenn Highway, past the Main Gate, and proceed to the point where the existing net wire fencing terminates near the Fort Richardson boundary (Figure 6). The proposed fencing to be placed on the eastern boundary of Camp Denali would not include a barbed-wire top guard. Road gates would be installed within the chain link fencing on the northern portion of the cantonment area to provide access to North Post and to allow for wildlife passage. Gates would also be installed along the Glenn Highway in locations matching the existing gaps (moose gates) in the net wire fencing to allow for wildlife movement. This alternative would protect cantonment area resources necessary for National Defense while accommodating existing wildlife movement patterns.

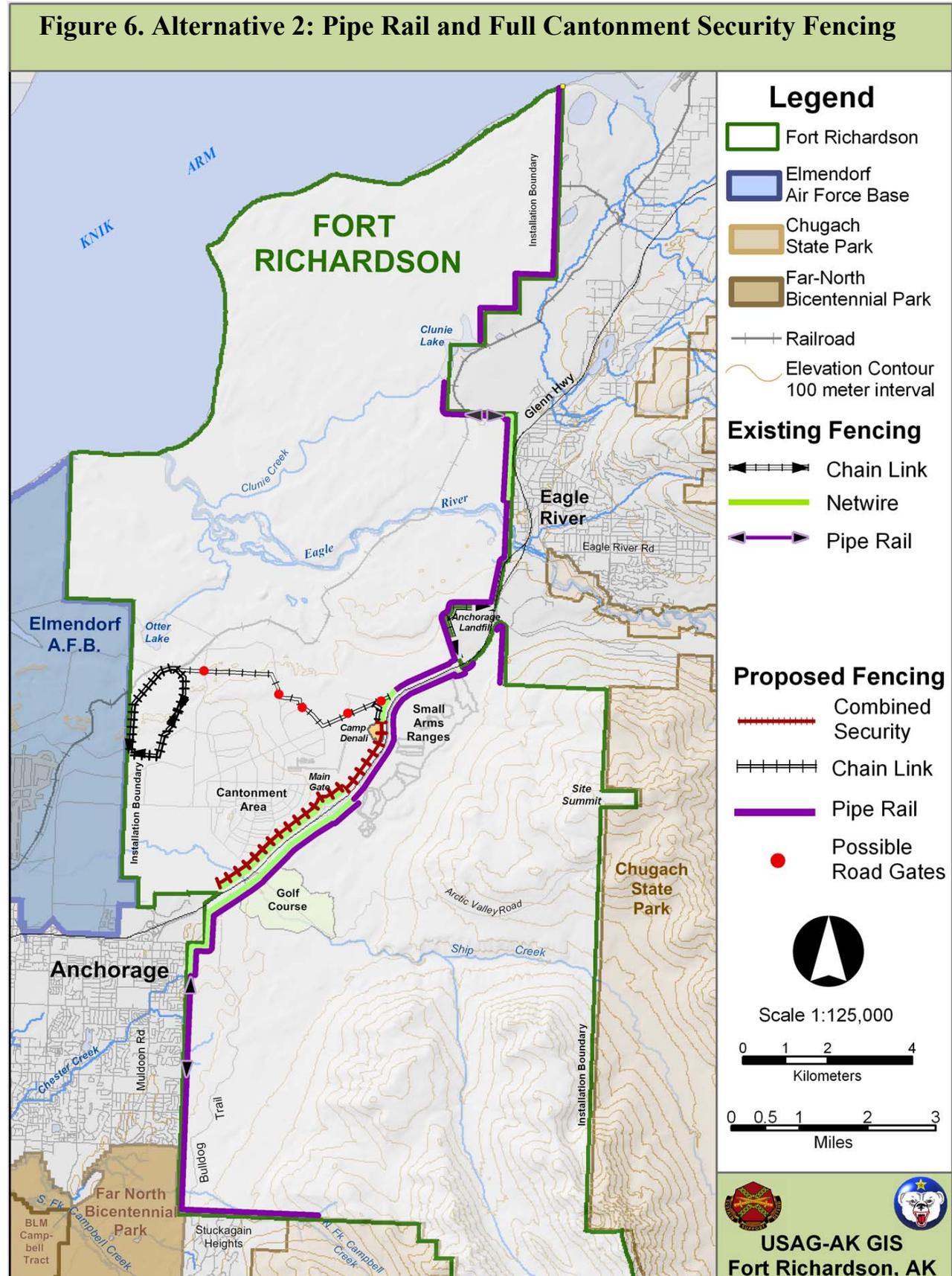
Gaps allowing for large animal passage would be placed in the pipe rail fence under this alternative. The location of these gaps would be determined after consultation with state Fish and Game officials. Existing fence gaps and gates would not be modified. Gates would be placed on both North and South Post to allow for emergency access. Additional law enforcement patrols would be conducted as part of this alternative. A 30-foot construction and maintenance corridor would also be cleared along the military side of the proposed fencing.

This alternative would allow wildlife movements and migration to and from the Chugach Mountains to continue uninterrupted by the installation of a fence. The pipe rail design would allow small animals to go under the two rails, while special openings would accommodate larger animal movement on and off of Army land. Gates within the chain link fencing would be placed to match existing wildlife gates.

The pipe rail design and signs would serve to notify pedestrians of potential innocent trespass and will prevent unauthorized motorized vehicular entry. Individuals recreating on South Post (areas south of the Glenn Highway), would still be able to enter military land without using the Main Gate but would be required to use the USARTRAK check-in system. Those individuals recreating on North Post (areas north of the Glenn Highway and within the cantonment area) would be required to enter through the Main Gate.

This alternative meets the purpose and need and objectives of the proposed action. The pipe rail design and increased patrols would provide overall installation boundary delineation, help to reduce vehicular trespassing and illegal activities, secure the cantonment area, and increase the opportunity for soldiers to train rather than provide security services. In addition, Alternative 2 achieves the established purpose and need with the least impact to wildlife movement and recreational access. Fence design and placement under this alternative is also considered the least visually offensive to residents of adjacent neighborhoods.

Mitigation: Mitigation measures proposed as part of Alternative 2 are discussed in Section 2.3.5, Mitigation.



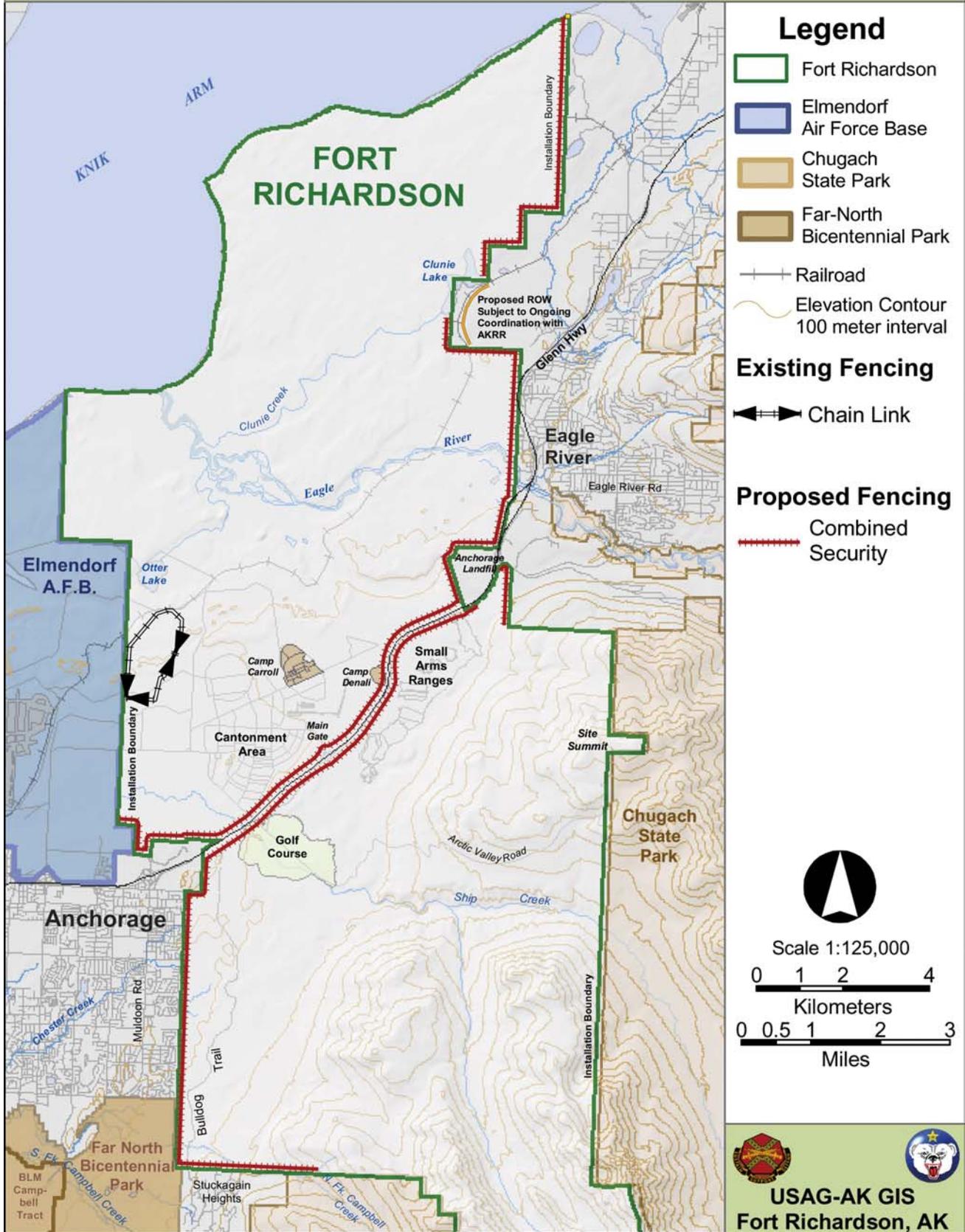
2.3.3 Alternative 3: High Security Fencing

This option includes a single fence type: combined security. This fence design would follow the Fort Richardson installation boundary and would be constructed within one foot of the boundary (Figure 7). The existing fence would remain and would be retrofitted or repaired where needed. In areas where the new combined security fence encounters existing fence, including the net wire fencing along the Glenn Highway, it would be placed at a given distance behind it. Gates would be placed on both North and South Post to allow for emergency access. This alternative would not include additional law enforcement patrols being conducted. Gaps allowing for animal movement and pedestrian access would not be installed in the combined security fence under this alternative. A 30-foot construction and maintenance corridor would also be cleared along the military side of the proposed fencing. Alternative 3 would not include the placement of fencing along the northern portion of the cantonment area.

This alternative meets the purpose and need and objectives of the proposed action by providing overall installation boundary delineation, helping to reduce vehicular trespassing and illegal activities, securing the cantonment area, and increasing the level of training and safety for soldiers. Overall, this alternative provides the highest security for vehicular and pedestrian incursions. However, Alternative 3 would achieve the established purpose and need with the greatest adverse impact to wildlife movement. Fence design and placement under this alternative would also be considered the most visually offensive to residents of adjacent neighborhoods.

Mitigation: Mitigation measures proposed as part of Alternative 3 are discussed in Section 2.3.5, Mitigation.

Figure 7. Alternative 3: High Security Fencing



2.3.4 Alternative 4: Setback Fencing

This option includes the installation of two parallel fences. A pipe rail fence would follow the Fort Richardson installation boundary and would be constructed within one foot of the boundary (Figure 8). An eight-foot chain link fence with three strands of barbed wire would be placed at an offset inside distance from the pipe rail fence. The existing fence would remain and would be retrofit or repaired where needed. Gates would be placed on both North and South Post to allow for emergency access. Additional law enforcement patrols would be conducted as part of this alternative.

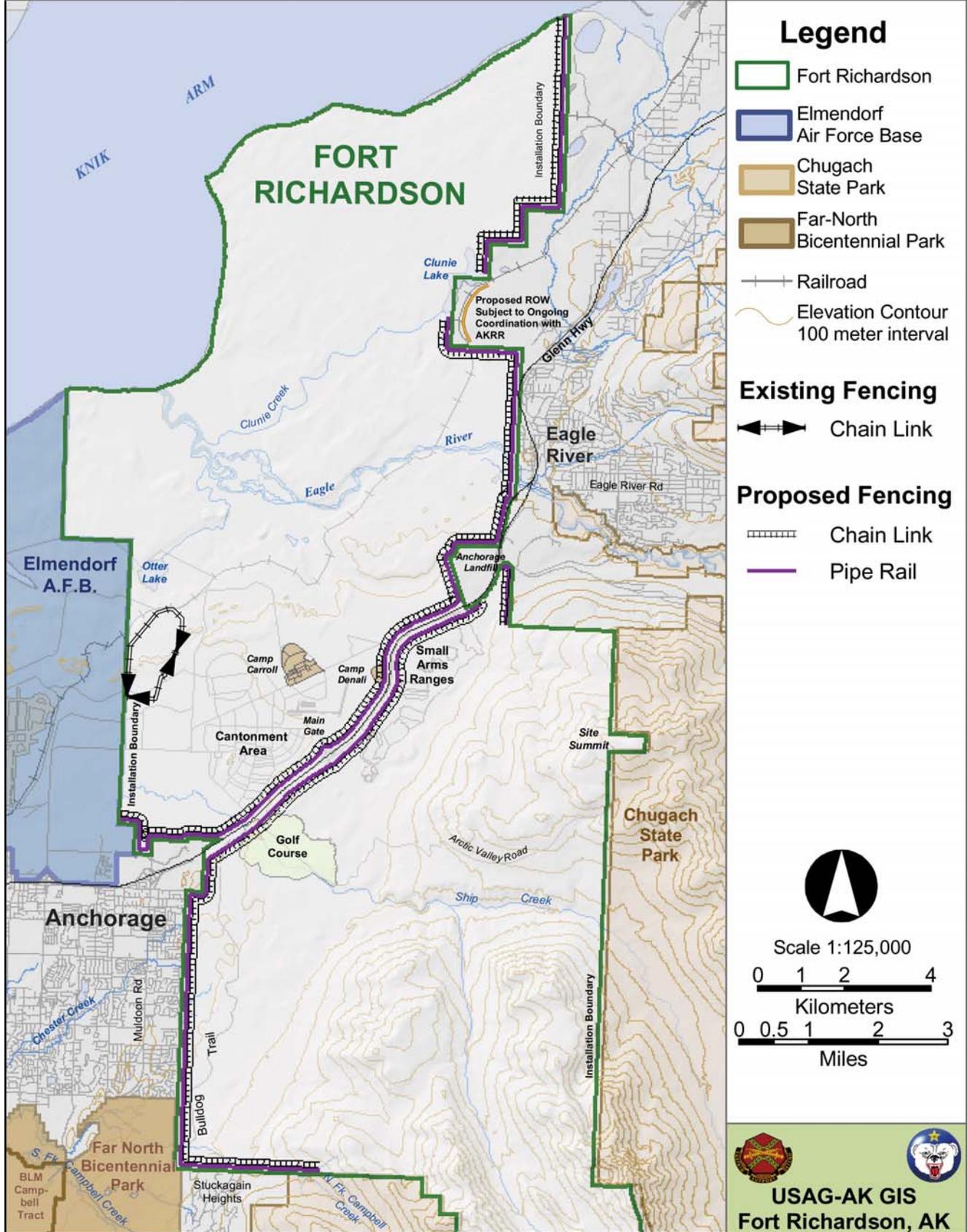
Gaps allowing for animal movement and pedestrian access would be installed in the setback chain link fence at intervals, determined through consultation with Agency officials. The spacing would be based on terrain, movement patterns of wildlife, and proximity to military training resources.

A 30-foot construction and maintenance corridor would also be cleared along the military side of the proposed fencing. Alternative 4 would not include the placement of fencing along the northern portion of the cantonment area.

This alternative meets the purpose and need and objectives of the proposed action by providing pipe rail fencing to delineate the installation boundary (Figure 8), helping to reduce trespassing (vehicular and pedestrian) and illegal activities, securing the cantonment area and increasing the level of training and safety for soldiers. Alternative 4 would provide animal and pedestrian access. This option would be less restrictive to wildlife movement and access than Alternative 3 but more restrictive than Alternative 2. Fence design and placement under this alternative would also be considered less visually offensive to residents of adjacent neighborhoods than Alternative 3.

Mitigation: Mitigation measures proposed as part of Alternative 4 are discussed in Section 2.3.5, Mitigation.

Figure 8. Alternative 4: Setback Fencing



2.3.5 Mitigation

As defined in CEQ Regulation 1508.20, "Mitigation" includes: 1) avoiding the impact altogether, 2) minimizing impacts by limiting the degree or magnitude of the action, 3) rectifying the impact through repairing, rehabilitating, or restoring, 4) reducing or eliminating the impact over time by preservation and maintenance operations, or 5) compensating for the impact by replacing or providing substitute resources or environments.

Several mitigation measures have been proposed as part of the proposed action. The following measures are applicable to Alternatives 2, 3, and 4: except where noted.

Air Quality

- Excavations, embankments, stockpiles, haul roads, permanent and temporary access roads, and all other project activities in or outside the project boundaries would be maintained to ensure they are kept free from fugitive dust.
- The application of water to the soil would control nuisance dust and minimize air quality impacts.

Soils

- Established USAG-AK and Alaska Department of Environmental Conservation procedures would be followed if contaminated soils or materials are discovered during construction.
- Exposed soils would be stabilized and storm water would be managed in a manner conforming to the existing Fort Richardson Storm Water Pollution Prevention Plan. In addition, the project contractor would be required to prepare a site-specific storm water pollution prevention plan and implement best management practices to stabilize exposed soils and manage storm water runoff.
- Berming or removal of surface soils during vegetation clearing or grubbing operations would be avoided to improve natural revegetation.

Vegetation

- A strip of natural riparian vegetation would be left intact along the banks of waterways (i.e. vegetation in the 30-foot-wide corridor on Army property would not be cleared to the edge of the waterway) to mitigate for potential loss of cover and forage area as well as for increased chances of erosion and downstream siltation.
- Within the 30-foot corridor on Army property, vegetation would be managed to prevent the establishment of invasive plant species and to maintain a low vegetative cover.
- Harvestable timber would be stockpiled. If any harvesting would occur, it would be coordinated with USAG-AK installation forester. Timber that is stockpiled during construction would also be coordinated through the installation forester.
- Existing large white spruce and paper birch would be used in the landscape design if possible.

Water Resources

- Seedings, hay bails, siltation fence techniques and other appropriate engineering controls during and following construction would be used to stabilize exposed soils and control storm water runoff.

- Storm water would be managed in a manner conforming to the existing Fort Richardson Storm Water Pollution Prevention Plan. In addition, the project contractor would be required to prepare a site-specific storm water pollution prevention plan to manage storm water runoff.

Floodplains

- The proposed fencing would be placed five feet outside the high-water mark to mitigate for potential flood hazards.
- Where necessary, the fence would be designed and installed according to FEMA guidance.

Wetlands

- All construction activities in wetlands, including those that surround Chester Creek near the Muldoon Subdivision, would be conducted during winter months to prevent damage to wetlands.
- Hydro axing would be completed during the winter months when sufficient snow cover (a minimum of six inches) and frozen ground (a minimum of 12 inches) exists to prevent mechanical disturbance in wetland areas.
- Fort Richardson officials will consult with the U.S. Army Corps of Engineers to determine if project activities will require CWA Section 404 permit and abide by all conditions set by the Corps for such permit.

Fisheries

- The proposed fencing would be placed five feet outside of the high water mark to mitigate for creation of barrier that could impede fish movement.
- A strip of natural riparian vegetation would be left intact along the banks of waterways (i.e. vegetation in the 30-foot-wide corridor would not be cleared to the edge of the waterway) to mitigate for potential loss of cover and forage area as well as for increased chances of erosion and downstream siltation.
- Any crossing of anadromous waterways with construction equipment would be done when the waterway is frozen.
- If required, a Fish Habitat Permit from the Alaska Department of Natural Resources, Office of Habitat and Permitting would be obtained prior to initiation of the proposed action.

Wildlife

- Under Alternative 2 the pipe rail fence would include gaps located at various points to accommodate large mammals. Location of gaps will be determined in consultation with state Fish and Game officials and other stake holders.
- Under Alternative 2 gates would be installed within the chain link fencing along the northwest side of the Glenn Highway that correspond to existing gaps (moose gates) to allow for small, medium, and large animal passage. Additional gates would be installed in the chain link fence extending along the northern boundary of the Fort Richardson cantonment area.
- Under each alternative, the Chugach Mountain and coastal plain moose populations would be monitored as part of the Army's Ecosystem Management Program. After

consultation with Fish and Game officials, changes to the fence and/or adaptive management techniques would be applied when necessary to protect continued viability of the moose population.

- Under Alternative 4 gaps would be placed in the offset eight-foot chain link and pipe rail fencing at undetermined intervals to allow for small, medium, and large animal passage.

Public Access and Recreation

- Under the USAG-AK Access Policy, recreational users would be required to obtain a Recreational Access Permit (RAP) from the MWR Office, Visitor Center, or Natural Resource Office to recreate on Fort Richardson. After obtaining a permit, users are required to use the U.S. Army Recreation Tracking System (USARTRAK) to recreate on Fort Richardson and to obtain information on range closures.
- Under the USAG-AK Access Policy, recreational activity on South Post (areas south of the Glenn Highway) would be accessible without using the Main Gate but use of the USARTRAK system would be required. However, for activity on North Post (areas north of the Glenn Highway and within the cantonment area) individuals would be required to enter through the Main Gate.
- The agreement between the Chugiak Dog Mushers Association and USAG-AK would be retained for the use, maintenance, and operation of trails which are located within the military installation boundary.
- Gates would be installed in specific locations to allow access for the Mayor's Midnight Sun Marathon and the Iditarod Sled Dog Race.
- Gaps with bollards would be installed at existing entry points for mushing along the northeastern boundary.

Fire Management

- The Division of Forestry Matanuska-Susitna/Southwest Office would be given access onto military lands from different points along the boundary for initial attack and suppression of wildfires.
- Dimensions of gates would accommodate personnel as well as fire engines and larger equipment. The decision where to locate access gates will be made after consultation with the Division of Forestry Matanuska-Susitna/Southwest Office and the Alaska Fire Service.
- A site visit would be coordinated with the Division of Forestry Matanuska-Susitna/Southwest Office and the Alaska Fire Service after fence placement to determine corridor maintenance methods. The corridor would be maintained (grass beds treated annually) to prevent regeneration of flammable, prolific invasive species and reduce human safety risks from fire danger in areas with a high human population.

Cultural Resources

- If cultural resources are located during construction, mitigation measures would be implemented, including halting excavation or associated construction activity pending notification to the USAG-AK Cultural Resources Manager.

2.4 Description of Alternatives Considered and Eliminated from Detailed Study

NEPA requires that all reasonable alternatives for federal actions be analyzed. The Army examined all possible actions to build an effective and reasonable range of alternatives. Several additional alternatives were considered and eliminated because these alternatives failed to satisfy the purpose and need or objectives for the proposed action, were not substantially different from one of the alternatives being considered so as warranting inclusion, or were otherwise infeasible. These objectives (demarcate boundary of the training area for public safety, deter vehicle trespassing, protection of cantonment area resources and train soldiers to standard safely and efficiently) are the standards that the proposed action and alternatives must meet to be considered reasonable. The following alternatives will not be brought forward for further analysis in this EA.

2.4.1 Variations of Pipe Rail and Cantonment Area Fencing

Several options were developed using pipe rail fencing as the primary fencing type north of the Fort Richardson cantonment area with variations occurring along the southern boundary of Fort Richardson near the Municipality of Anchorage subdivisions. The following sections describe these variations.

2.4.1.1 Full Pipe Rail with Setback and Full Cantonment Area Security Fencing

This alternative proposes to install pipe rail fencing along the same route as described under Alternative 2 (section 2.3.2). However, an additional setback chain link fence would be installed at an undetermined distance behind the pipe rail fence beginning on the west side of Ship Creek and continuing to a point just beyond the North Fork of Campbell Creek. This setback chain link fence would have gates installed at an undetermined interval. In addition, chain link fencing would be placed along the entire cantonment area boundary. This alternative was eliminated from further study because it did not provide any additional advantages to boundary delineation or reduction in trespass as compared to Alternative 3. Including this alternative in the analysis would be redundant to the discussion.

2.4.1.2 Partial Pipe Rail with Setback and Full Cantonment Area Security Fencing

This alternative proposes to install pipe rail and cantonment chain link fencing similar to what was described in section 2.4.1.1. However, pipe rail fencing would not be installed along the southern boundary between Fort Richardson and the Municipality of Anchorage subdivisions. A setback chain link fence with gates would be installed at an undetermined distance from the boundary. This alternative was considered and eliminated because it failed to meet the purpose and need of the proposed action by not fully demarcating the installation boundary. A clear definition of the military boundary is needed along the southern portion of Fort Richardson in order to reduce the intentional or unintentional access of military training land. Boundary demarcation would also reduce the likelihood of safety issues for those seeking recreational opportunities.

2.4.1.3 Full Pipe Rail with No Setback and Partial Cantonment Area Security Fencing

This alternative proposes to install pipe rail fencing along the same route as described under Alternative 2 (section 2.3.2). However, chain link fencing would not be placed along the entire

cantonment area boundary. Only the northern portion of the cantonment area would be fenced using chain link fencing. This alternative was considered and eliminated from further study because it fails to meet the purpose and need of the proposed action to reduce the cantonment area's vulnerability to unauthorized vehicular and pedestrian intrusion and protect resources necessary for National Defense.

2.4.2 Fencing Only the Cantonment Area

This alternative proposes to install security fencing around only the Fort Richardson cantonment area which requires the highest security of the entire installation. This alternative satisfies several environmental concerns; however, it does not accomplish the objectives of removing soldiers from guard positions during training events, demarcating the Fort Richardson boundary, or preventing unauthorized personnel and vehicles from entering the installation. Because this alternative fails to meet the purpose and need of the proposed action, this alternative was eliminated from further consideration.

2.4.3 Permanent Masonry Fence

The second eliminated alternative involves the construction of a permanent ten-foot-high barrier type masonry fence with embedded, concealed sensors and/or video monitors along the installation boundary. This is the most permanent and secure fencing alternative; however, the cost is approximately three times that of a standard, chain link fence. In addition, this option would severely limit wildlife movement and recreational access. While this type of fencing may be desirable in locations near military housing areas which are close to the installation boundary, funding is not available.

2.4.4 Increasing Sentry Patrols and Enforcement

This alternative would not involve installing fencing, but would consist solely of enhancing patrols and other enforcement along the installation boundary to minimize unauthorized access. This alternative has been eliminated because it would not fully satisfy the purpose and need of the proposed action. Instead of reducing the number of soldiers required for guard positions during training events, the number of soldiers required would increase. Thus, a greater number of soldiers would not receive training. Boundary demarcation and unauthorized access objectives would also not be met under this alternative. In addition, this alternative would be costly and difficult, if not impossible, in those portions of the reservation where the boundary is not clearly delineated.

2.4.5 Utilize Existing Net Wire Fencing Along Glenn Highway

This alternative would involve the construction of fencing along the installation boundary and would cease once the existing net wire fence along the Glenn Highway is encountered. The existing fence along the Glenn Highway does not currently prevent vehicle or pedestrian trespass. This alternative has been eliminated because it would not fully satisfy the purpose and need or objectives of the proposed action.

2.4.6 Complete Installation Fencing

This alternative proposes to construct a chain link fence along the entire length of the Fort Richardson boundary including the cantonment area. The fencing would be installed along the Knik Arm, Elmendorf Air Force Base, and along the boundary of Chugach State Park. This

alternative was eliminated because it was deemed unnecessary to have fencing around the entire boundary when the need for vehicle or pedestrian trespassing was highest near subdivisions and the Glenn Highway corridor. In addition, this alternative would be extraordinarily costly and difficult, if not impossible, in some portions of the reservation.

2.5 Summary of Environmental Consequences

2.5.1 Summary of Impacts

Table 1 contains a summary matrix of the alternatives comparing their environmental consequences for the specific resource categories, with intended proposed mitigation actions factored into the assessment of impact. Chapter 3 contains a more detailed discussion of the environmental consequences of the proposed action and alternatives. The qualitative terms used in the matrix are generally defined as:

- None – No impact is expected to occur.
- Minor – Impacts are expected to occur; impacts would be measurable and may have slight impact to resource.
- Moderate – Impacts are expected to occur; impacts would be noticeable and would have a measurable effect on resource.
- Severe – Impacts are expected to occur; impacts would be obvious and would have serious consequences to resource.
- Beneficial – Only beneficial impacts are expected to occur.

Table 1. Summary of Environmental Consequences for the Proposed Alternatives

| Resource Categories | Alternatives | | | |
|---|---|--|---|-----------------------------------|
| | Alternative 1: No Action (Existing Fence) | Alternative 2: Pipe Rail and Full Cantonment Security Fencing | Alternative 3: High Security Fencing | Alternative 4: Setback Fencing |
| Air Quality | None | Minor | Minor | Minor |
| Soils | None | Minor | Minor | Minor |
| Vegetation | None | Minor | Minor | Minor |
| Water Resources | None | Minor | Minor | Minor |
| Floodplains | None | Minor | Minor | Minor |
| Wetlands | None | Minor | Minor | Minor |
| Fisheries | None | Minor | Minor | Minor |
| Wildlife | None | Minor | Moderate to Severe | Moderate |
| Public Access and Recreation | None | Minor | Moderate | Minor |
| Infrastructure | None | Minor | Minor | Minor |
| Fire Management | None | Minor | Minor | Minor |
| Cultural Resources | None | Minor | Minor | Minor |
| Environmental Justice (Minority and Low-Income Populations) | None | Minor | Minor | Minor |
| Environmental Justice (Protection of Children) | None | Beneficial | Beneficial | Beneficial |
| Socioeconomics | None | Beneficial | Beneficial | Beneficial |
| Aesthetics | None | Minor | Moderate to Severe | Moderate |