

FHWA ENVIRONMENTAL RE-EVALUATION

Project Name: Glenn Highway Rehabilitation Long Lake Section MP 84.5-92

Project Number (state/federal): AK DOT 135(4)

Date: November 6, 2018

Document Type:

CE

CE Designation(s):

23 CFR 771.117 () ()

23 CFR 771.117 () ()

EA Re-Evaluation

EIS

Approval Date of Original Environmental Document: 1993

Date(s) of previous Re-evaluation(s):

West Chickaloon Grade MP 77.4-78.1

Chickaloon Bridge MP 78, Re-Evaluation 6/18/2014

Cascade to Hicks Creek MP 92-97, Re-Evaluation 8/25/2006;

Parks to Old Glenn MP 34-42, Re-Evaluation 6/24/2011;

Caribou Creek (MP 100-109),

Pinochle Hill MP (97-100),

Moose Creek to Kings River (MP 55-67) and the

Arctic Avenue to Fishhook-Willow Road (MP 42-49)

List of Tables:

Table 1 Affected Environment Revisions that were not in the 1993
EA or are updates

List of Attachments:

Appendix A - Long Lake Section: MP 84.5 to 92 Map

Appendix B – Long Lake Section MP 84.5 to 92 NHCA Section 106
documentation (Pending)

Appendix C - Long Lake Section MP 84.5 to 92 Section 4(f) of the US
Department of Transportation Act of 1966
documentation (draft)

Appendix D - Long Lake Section MP 84.5 to 92 Section 6(f) of the
Land and Water Conservation Fund (LWCF) Act
documentation (draft)

Appendix E – Chickaloon Village Public Meeting Notes (Pending)

Appendix F – Long Lake/Kings River Bridge Public Meeting
Notes
(Pending)



The Glenn Highway Rehabilitation Long Lake Section Mile Post 84.5 to 92 (see Attachment A), is a section of the larger Glenn Highway MP 35-109 Project that was analyzed in an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) approved by the Federal Highway Administration (FHWA) on January 5, 1993. This document is a reassessment of that EA and 1993 FONSI for Reconstruction of Glenn Highway Mile Post 35 to 109. The 72-mile length of the Glenn Highway Project makes it impractical to reconstruct the entire facility at one time. Project design and construction has been and will continue to be prioritized and segmented for further development. Project segments are being developed and prioritized for construction. The Glenn Highway Rehabilitation Long Lake Section is to address issues to traffic safety and flow and extend the service life of the highway by realigning the Glenn Highway to run south of Long Lake for approximately 4 miles, tying back into the existing highway east of the Purinton Creek bridge at MP 89. The intent of this re-evaluation is to address changes in the project scope, affected environment, impacts, and proposed mitigation as a result of refined design since the 1993 EA/FONSI and ensure its findings remain valid prior to beginning a final design effort. This memo describes the methods and results of the NEPA reevaluation performed by Western Federal Lands Highway Division (WFLHD).

BACKGROUND

Alaska Department of Transportation and Public Facilities (ADOT&PF) requested that the Western Federal Lands Highway Division (WFLHD) undertake the National Environmental Policy Act (NEPA) re-evaluation and complete the preliminary alignment and grade design for the King's River (MP 66.5) to Cascade (MP 92) section of Glenn Highway. As funding has been approved within this 25.5 mile long corridor to advance projects, ADOT&PF has further requested WFL to deliver design plans, specifications, and estimate packages for contracting through a design, bid, build process, as well as provide construction support services for the Chickaloon River Bridge Replacement and the West Chickaloon Grade projects between MP 77.4 and 78.2. The Chickaloon River Bridge construction began in summer 2015 and was completed in Fall 2016. The West Chickaloon Grade was selected as the second priority in the highway corridor, construction began in summer 2017 and was completed fall 2018. The third priority in the highway corridor is the Long Lake Rehabilitation which realigns the Glenn Highway to run south of Long Lake for approximately 4 miles, tying back into the existing highway east of the Purinton Creek bridge at MP 89. This road realignment will resolve the current rockfall issues associated with the existing alignment and have horizontal and vertical alignments that will meet the AKDOT&PF 60 MPH design criteria. Other safety features include providing wider lanes and shoulders, broader curves, better sight distance, new guardrail, and rockfall ditches. Additionally, climbing lanes are proposed throughout the corridor on long grades where new alignments or natural terrain permits their construction.

Need for Project:

The existing Long Lake Segment is cut into a steep sidehill and climbs for a considerable distance. The highway separates Long Lake and a large cliff to the north. Adequate shoulders are lacking and grades exceed 7 percent. The steep terrain and talus slopes restrict development of pull-offs along the cliff, and heavy trucks operate at crawl speeds to overcome the gradient climbing the hill, hindering the flow of traffic. Rockfall from the highway cuts is generally fist to basketball sized, but often generates 3 to 10 foot blocks of rock that impact the travel way, are a regular hazard on the road, especially in the winter/spring freeze-thaw cycles, and a chronic maintenance headache. Car crashes are a significant problem (passing with inadequate sight distance, hitting fixed objects like boulders in the road, going off the road, etc.).

Selected Alternative:

The road realignment is located south of Long Lake for approximately 4 miles, tying back into the existing highway east of the existing Purinton Creek Bridge at MP 89. Near the east end of Long Lake, the Selected Alternative transitions away from the prior evaluated alignment, winding northeast through a narrow valley along the south facing slope. The alignment then crosses Purinton Creek with a new 425-foot bridge, then continues northeast and connects to the existing highway just beyond Purinton Creek.

1993 EA/FONSI

The 1993 EA/FONSI describes three build alternatives for improvements at MP 84.5-92. Alternative 1 would remain in the existing alignment between MP 85 and MP 92 but incorporate improvements such as retaining walls on the upslope and downslope sections of the road. The improvements would not alleviate the severe erosion and rockfall conditions nor the excessive grades up Long Lake Hill. Alternative 2 was the preferred alternative and described in the EA as "a 6.3 mile realignment which would involve Section 4(f) property. The road would leave the exiting roadway southwest of the park wayside (MP 85) and merge with the existing roadway near the Cascade Maintenance Station at MP 92." Alternative 3 was a realignment of the Glenn Highway through presently undisturbed areas south of the existing Long Lake SRS.

2019 Re-evaluation

Alternative 2 from the 1993 EA/FONSI remains the selected alternative. This alignment is described as the realignment of the Glenn Highway through the Long Lake State Recreation Site (SRS). This road would extend approximately 6.3 miles on a new alignment, and tie back into the existing highway near MP 92. This alignment is more well defined in 2019 than it was during the 1993 EA/FONSI. The alignment initially crosses a series of saddles and benches immediately south of Long Lake and within the Long Lake SRS. Near the east end of Long

Lake, the Preferred Alternative transitions away from the 1993 alignment, winding northeast through a narrow valley along the south facing slope. The alignment then crosses Purinton Creek; the bridge would be 425 feet long. The alignment continues northeast and connects to the existing highway just beyond Purinton Creek.

I. Proposed Action

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

The project scope?

The project design?

1. The project funding sources?

Describe changes:

There have been changes in environmental regulations and more specificity in design since the 1993 EA. The type and extent of environmental impacts from the proposed design changes are consistent with impacts described in the 1993 EA. The analysis described in this re-evaluation support the conclusion that no additional NEPA documentation will be needed for the actions proposed with this project and the 1993 FONSI is valid.

II. Purpose and Need

N/A YES NO

1. Have there been any changes in the project purpose and need from that described in the original approved environmental document?

2. Describe changes:

1993 EA/FONSI

The 1993 EA/FONSI states, “The purpose of the project is to provide a safe highway with an acceptable 20-year Level of Service (LOS) for anticipated traffic in the year 2015.”

2019 Re-evaluation

The purpose and need remain the same as discussed in the 1993 EA/FONSI. The rehabilitation will: preserve and extend the service life of the highway, enhance safety, provide climbing lanes and mitigate rock fall. Design service life of the new facility remains 20 years and would accommodate anticipated traffic for the next 20 years.

III. Environmental Consequences

N/A YES NO

Identify (yes or no) if there have been any changes in project impacts from those identified in the original environmental document. For each “yes”, describe the magnitude of the change. Include any supporting analysis or studies as Attachments to this document.

1. Have there been any changes in the affected environment within or adjacent to the project area that could affect any of the impact categories (e.g. new regulations, transportation infrastructure, protected resources, land use plans, etc.)?

Describe changes: **See Table 1 below.**

Table 1 – Affected Environment Revisions that were not in the 1993 EA or are updates

AFFECTED ENVIRONMENT	1993 EA/FONSI	2019 Long Lake MP 84.5-92 Re-evaluation																						
POPULATION	Year 2015 mid-range population estimate for the Matanuska-Susitna Borough was 72,000 (ISER 1989).	2010 U.S. Census data reports current population in the Matanuska-Susitna Borough to be 88,995. Projected population in 2030 is estimated to be 121,718 – 158,262 (AK Department of Labor and Workforce Development)																						
TRAFFIC VOLUMES	ADT in 2015 is estimated to be 1,900 from Chickaloon Branch Road to MP 109 and 2,300 from Granite Creek MP 63 to Chickaloon Branch Road. EA Appendix A.	<p>The ADOT&PF Annual Traffic Volume Report indicates the ADT in 2017 on Glenn Highway from Mile Post 70 to 87 is 1,073. http://akdot.maps.arcgis.com/home/webmap/viewer.html?webmap=7c1e1029fdb64d7a86449d55ef05e21c&extent=-180.54,7188,-127.111,70.3005</p> <p>The 2033 projected design AADT for the South King River to Cascade Road Station segment is 1,657.</p>																						
LAND USE	<p>The Matanuska-Susitna Borough (MSB) did not have a comprehensive Borough land use plan. A MSB Transportation Plan was approved in 1984.</p> <p>In 1993 MSB was in the process of developing comprehensive plans for the Palmer Core and Chickaloon areas.</p>	<p>The Matanuska-Susitna Borough has an updated Long Range Transportation Plan, adopted December 2017. <i>Matanuska Susitna Borough Long Range Transportation Plan 2035</i>. The plan is located at http://www.matsugov.us/plans/lrtp .</p> <p>The Chickaloon Comprehensive Plan has been revised since 1993, most recently in 2008. The plan is located at: https://www.matsugov.us/28-documents/plans/13544-chickalooncompplan?highlight=WyJjaGlja2Fsb29uIiwY29tcHJlaGVuc212ZSIsInBsYW4iLCJwbGFuJ3MiLCJjaGlja2Fsb29uIGNvbXBvZWhlbnNpdmUiLCJjaGlja2Fsb29uIGNvbXBvZWhlbnNpdmUgcGxhbiIsImNvbXBvZWhlbnNpdmUgcGxhbiJd&template=msb_bolide</p>																						
CULTURAL RESOURCES	<p>Cultural Resources identified in the Long Lake Archaeological District include:</p> <ol style="list-style-type: none"> 1. ANC-017 2. ANC-732 3. ANC-736 4. ANC-737 5. ANC-738 6. ANC-731 (highly disturbed, non-contributing) 7. ANC-739 (highly disturbed, non-contributing) 	<p>In 2019 the project Area of Potential Effect (APE) was expanded from the direct project APE to also include a secondary indirect APE for the project, which is largely consistent with existing and proposed expansions of the boundaries of the Long Lake State Recreation Site (SRS). As a result, more sites are incorporated into the study area.</p> <table border="1" data-bbox="748 1367 1596 1633"> <thead> <tr> <th data-bbox="748 1367 850 1434">AHRIS #</th> <th data-bbox="850 1367 959 1434">Site Name</th> <th data-bbox="959 1367 1105 1434">Description</th> <th data-bbox="1105 1367 1263 1434">NRHP Status</th> <th data-bbox="1263 1367 1443 1434">Project Impact</th> <th data-bbox="1443 1367 1596 1434">Section 106 Eff</th> </tr> </thead> <tbody> <tr> <td data-bbox="748 1434 850 1491">ANC-4068</td> <td data-bbox="850 1434 959 1491">Glenn Highway</td> <td data-bbox="959 1434 1105 1491">Historic Road</td> <td data-bbox="1105 1434 1263 1491">Recommended Exempt</td> <td data-bbox="1263 1434 1443 1491">Rehabilitation through Project</td> <td data-bbox="1443 1434 1596 1491">Recommended Exempt</td> </tr> <tr> <td data-bbox="748 1491 850 1633">ANC-4179</td> <td data-bbox="850 1491 959 1633">Ridge Site</td> <td data-bbox="959 1491 1105 1633">Newly Identified Prehistoric Archaeologic al Site</td> <td data-bbox="1105 1491 1263 1633">Recommended Eligible</td> <td data-bbox="1263 1491 1443 1633">Physical Destruction and Damage Around Station 4490+00</td> <td data-bbox="1443 1491 1596 1633">Adverse Effect</td> </tr> </tbody> </table>					AHRIS #	Site Name	Description	NRHP Status	Project Impact	Section 106 Eff	ANC-4068	Glenn Highway	Historic Road	Recommended Exempt	Rehabilitation through Project	Recommended Exempt	ANC-4179	Ridge Site	Newly Identified Prehistoric Archaeologic al Site	Recommended Eligible	Physical Destruction and Damage Around Station 4490+00	Adverse Effect
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ANC-4068	Glenn Highway	Historic Road	Recommended Exempt	Rehabilitation through Project	Recommended Exempt																			
ANC-4179	Ridge Site	Newly Identified Prehistoric Archaeologic al Site	Recommended Eligible	Physical Destruction and Damage Around Station 4490+00	Adverse Effect																			

CULTURAL RESOURCES	AHRS #	Site Name	Description	NRHP Status	Project Impact	Section 106 Effect
	ANC-737	NA	Prehistoric Archaeological Site	Eligible	Physical Destruction and Damage Around Station 4505+00	Adverse Effect
	ANC-736	NA	Prehistoric Archaeological Site	Eligible	Physical Destruction and Damage Around Station 4506+00	Adverse Effect
	ANC-17, Area B	Long Lake Wayside Site	Prehistoric Archaeological Site	Eligible	Physical Destruction and Damage Around Station 4511+00	Adverse Effect
	ANC-17, Area A	Long Lake Wayside Site	Prehistoric Archaeological Site	Recommended Ineligible	Physical Destruction and Damage Around Station 4512+00	No Effect to Historic Properties / No Historic Properties Affected
	ANC-17, Area F	Long Lake Wayside Site	Prehistoric Archaeological Site	Eligible	Physical Destruction and Damage Around Station 4516+00	Adverse Effect
	ANC-739	NA	Prehistoric Archaeological Site	Ineligible	Physical Destruction and Damage Around Station 4524+00	No Effect to Historic Properties / No Historic Properties Affected
	ANC-1225	NA	Prehistoric Archaeological Site	Recommended Eligible	Physical Destruction and Damage Around Station 4529+00	Adverse Effect
	ANC-731	NA	Prehistoric Archaeological Site	Ineligible	Physical Destruction and Damage Around Station 4532+00	No Effect to Historic Properties / No Historic Properties Affected
	ANC-266, Locus 6	Long Lake Site #2	Prehistoric Archaeological Site	Recommended Eligible	Physical Destruction and Damage Around Station 4600+00	Adverse Effect
	ANC-41	Weiner Lake Site	Prehistoric Archaeological Site	Recommended Ineligible	Physical Destruction and Damage Around Station 4641+00	No Effect to Historic Properties / No Historic Properties Affected
	ANC-4245	Old Puritan Creek Site 2	Newly Identified Prehistoric Archaeological Site	Recommended Ineligible	Possibly Within Proposed New Possible Physical Destruction and Damage Around Station 4710+00	No Effect to Historic Properties / No Historic Properties Affected
	ANC-762	Long Lake Archaeological District	Prehistoric Archaeological District	Eligible	Physical Destruction and Damage at Multiple Locations	Adverse Effect

WETLANDS & WATERS	Approximately 17.30 acres of palustrine wetlands would be impacted, of which 1.25 acres are within the Long Lake SRS. Streams/jurisdictional drainage impacts were not separately quantified in the 1993 EA	Alternative 2 has been updated in 2019 to better quantify impacts and is based upon an on-site wetland delineation in 2017. An updated quantification of impacts based upon the 2019 design reveals approximately 2.8 acres of palustrine emergent/palustrine forested wetlands will be permanently impacted. Additionally approximately 0.25 acres of stream/jurisdictional drainage will be permanently impacted. Compensatory mitigation: required under Executive Order 11990, 23 CFR 777.9 and 33 CFR Parts 325 and 332; would be provided through purchase of mitigation credits at Great Land Trust, an in-lieu fee wetland mitigation supplier approved by the Alaska District of the US Army Corps of Engineers for sale of mitigation credit.
FISH AND WILDLIFE	The EA did not specifically address the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. (33 USC 668-668d), It stated that bald and golden eagles, and migratory birds inhabit the project area and that there could be impacts to habitat	The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts*, nests, or eggs. A "take" included disturbance. Disturbance includes to agitate or bother a bald or golden eagle to a degree that causes, 1) injury, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment. Also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment Several important raptors such as the peregrine falcon, gyrfalcon, and bald and golden eagles inhabit the area.
THREATENED OR ENDANGERED SPECIES	American Peregrine Falcon on the Endangered Species List (ESL)	American Peregrine Falcon removed from the ESA list. Cook Inlet Beluga Whale listed as endangered, and Cook Inlet declared Critical Habitat. Project is not in identified Cook Inlet Beluga Whale or Critical Habitat.
INVASIVE SPECIES EXECUTIVE ORDER 13112	Executive Order (EO) 13112 was not signed by the President until February 3, 1999.	EO 13112 was a presidential directive signed in 1999. It describes requirements that Federal agencies whose actions "may affect the status of invasive species" must follow to prevent the spread of invasive species. The project will use BMPs to meet the Federal Agency Duties as described in the EO.
NOISE	Future noise levels are expected to intensify regardless of the selected project alternative, including the No-Build, due to the anticipated increase of traffic levels.	FHWA conducted a noise analysis study in 2017. The conclusion of the study was the project would result in some operational traffic noise and temporary construction noise. Under the build alternative, traffic noise is predicted to approach or exceed the substantial increase criterion at one individual receiver. No Noise Abatement Criteria (NAC) exceedance impacts are predicted as a result of the project. Noise abatement in the form of a noise barrier was evaluated for feasibility and reasonableness at the impacted receiver, but the wall did not meet the established criteria. Therefore, noise abatement is not recommended for this project.
HAZARDOUS WASTE	No record of accidental spills or hazardous waste material.	The ADEC Oil and Hazardous Substance Spills Database revealed two spills recorded in the Long Lake corridor: <ul style="list-style-type: none"> • Matsu Glenn Highway MP 84, Service Oil and Gas Collision, spill of 2,900 gallons of diesel. Action shown as Case Closed, No Further Action on 11/8/2000. • Matsu Chickaloon Parks Hwy MP 83, Consteel Collision, spill of 25 gallons of diesel. Action shown as Case Closed, No Further Action on 9/27/1999.

WATER QUALITY	NPDES guided by the Environmental Protection Agency (EPA).	On October 31, 2009, the authority to issue storm water discharge permits for large and small construction activities was transferred from the EPA to Alaska Department of Environmental Conservation. No change in impacts. The project will meet Alaska DEC requirements set out in the permit.
ALASKA COASTAL MANAGEMENT PROGRAM	1987 Matanuska-Susitna Borough Coastal Management Plan	On May 14, 2011, the Alaska State Legislature did not pass legislation to extend the Alaska Coastal Management Program (ACMP). The ACMP became defunct on June 30, 2011.
CONSTRUCTION IMPACTS	Project would be phased. Construction impacts would extend over many seasons and necessitate blasting operations, road closures and traffic detours.	Construction impacts remain the same.
RIGHT OF WAY IMPACTS	The 1993 EA/ FONSI described right-of-way impacts in the Long Lake Segment as “Approximately 43 acres would be required from the park for right-of-way. About 66 acres of abandoned highway roadbed and right-of-way would be relinquished to DPOR: 41 acres within park boundaries and 25 acres east of the park. Portions of the old roadway would be converted into a recreation trail. In abandoned roadbed areas away from the cliff, natural conditions would be restored.”	Updated design of the proposed alignment has identified right-of-way impacts as approximately 102 acres would be required of the 480 acre Long Lake State Recreation Site. About 70 acres of abandoned highway roadbed and right-of-way would be relinquished to DPOR. Portions of the old roadway would be converted into a recreation trail. The remaining 71 acres of highway roadbed would remain to serve access to private inholdings, the right-of-way would be relinquished to the Matanuska-Susitna Borough.

A. Right-of-Way Impacts

Have there been any changes to the following since the approval of the original environmental document:

N/A YES NO

- | | | |
|--|-------------------------------------|-------------------------------------|
| 1. The right-of-way requirements for the project? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. The project’s effects on minority or low income populations as defined in E.O. 12898? (DOT Order 6640.23, December 1998)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project’s use of ANILCA land? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Describe changes for each ‘yes’ above: **See Table 1**

B. Social and Cultural Impacts

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The project’s effect on neighborhoods or community cohesion?
- 2. The project’s effect on travel patterns and accessibility (e.g. vehicular, commuter, bicycle, or pedestrian)?
- 3. The project’s effect on schools, recreation areas, churches, businesses, police and fire protection, etc.?

C. Economic Impacts

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The project’s potential to have adverse economic impacts on the regional and/or local economy, such as the effects of the project on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales?
- 2. The project’s potential to have adverse effect on established businesses or business districts?

Describe changes for each ‘yes’ above:

D. Local Land Use and Transportation Plan

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. Local land use or transportation plan(s)?
- 2. The potential for the project to have adverse indirect and cumulative effects on land use or transportation?
- 3. Is the project, as currently proposed, consistent with current land use and transportation plans?

Describe changes for each ‘yes’ above: **See Table 1**

E. Impacts to Historic Properties

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The status of National Register-listed or eligible sites in the project area?
- 2. The involvement of any road that is included on the “List of Roads Treated as Eligible” in the Alaska Historic Roads PA?

F. Wetlands Impacts

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document: See Table 1.

- 1. The project’s wetland impacts? *If yes, complete a through d and resource*

agency coordination is required.

- | | | | |
|---|-------------------------------------|-------------------------------------|--------------------------|
| a. List total acres of impact (original/changed): <u>17.3 AC/2.8 AC</u> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. List total fill quantities in wetlands (original/changed): _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. List total dredge quantities (original/changed): _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Have mitigation measures changed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
2. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to the original environmental document. **See Table 1**

G. Water Body Involvement

- | | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|--------------------------|-------------------------------------|-------------------------------------|
| Have there been any changes to the following since the approval of the original environmental document: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1. The project's effects on water bodies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The project's effects on a navigable water body as defined by USCG (Section 9)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project's effects on Waters of the U.S. as defined by the USACE (Section 404)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. The project's effects on Navigable Waters of the U.S. as defined by the USACE (Section 10)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. The project's effect on a resident fish stream (Title 16.05.841)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. The project's effects on a Catalogued Anadromous Fish Stream (Title 16.05.871)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. The project's effects on a designated Wild and Scenic River or land adjacent to a Wild and Scenic River? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

H. Fish and Wildlife Impacts

- | | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|--------------------------|--------------------------|-------------------------------------|
| Have there been any changes to the following since the approval of the original environmental document: | | | |
| 1. The project's effects on anadromous or resident fish habitat? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The project's effects on Essential Fish Habitat (EFH)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project's effects on wildlife resources? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The project's effect on bald eagles or golden eagles? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. The project's compliance with the Bald and Golden Eagle Protection Act? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. The project's effect on migratory birds? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. The project's compliance with the Migratory Bird Treaty Act? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Describe changes, including any changes to previously proposed mitigation and/or environmental commitments: **See Table 1**

I. Threatened and Endangered Species (T&E) Impacts

- | | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|------------|------------|-----------|
| Have there been any changes to the following since the approval of the original environmental document: | | | |

- | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|
| 1. The status of listed, proposed or candidate T&E species that will be directly or indirectly affected by the project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. The status of critical habitat in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project's effect on listed, proposed or candidate T&E species or designated critical habitat? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Describe changes for each 'yes' above: **See Table 1**

J. Hazardous Waste

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- | | | | |
|--|--------------------------|-------------------------------------|--------------------------|
| 1. The status of known or potentially contaminated sites within or adjacent to the existing and/or proposed ROW? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Any proposed excavation plans adjacent to, or within, a known hazardous waste site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. The potential for encountering hazardous waste during construction? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Describe changes, including any changes to previously proposed mitigation and/or environmental commitments: **See Table 1**

K. Air Quality (Conformity)

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| 1. The project's effect on a nonattainment area or maintenance area, which will require a new or revised conformity determination? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments: | | | |

1993 EA/FONSI

The 1993 EA/FONSI states, "The proposed project is located in an attainment area for air quality. The State Implementation Plan (SIP) does not contain any transportation control measures for the project corridor, therefore, the project is not subject to conformity review as outlined in 23 CFR 770. Some temporary impacts on air quality are expected to occur during construction activities..."

2019 Re-evaluation

The proposed project area remains in an air quality attainment area and a revised conformity determination is not required.

L. Floodplain Impacts

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| 1. The project's encroachment into the 100-year floodplain (i.e. base floodplain in fresh or marine waters). <i>If yes, attach</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|

documentation of public involvement conducted per E.O. 11988 and 23 CFR 650.109. Consultation with a regional or statewide Hydraulics/Hydrology expert and a location hydraulic study will be required per 23 CFR 650.111(c).

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| 2. The project's potential to have significant encroachment as defined by 23 CFR 650.105(q)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project's potential to encroach on a regulatory floodway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The status of local flood hazard ordinances? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. The project's consistency with local flood protection standards and E.O. 11988? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments: | | | |

1993 EA/FONSI

Flood Insurance Rate Maps (FIRM) were not available for the Matanuska Valley area when the 1993 EA/FONSI was completed and coordination with the Federal Emergency Management Agency (FEMA) was not required. The document states construction would not promote any incompatible development with floodplains and bridges and culverts would be designed to withstand a 50-year flood.

2019 Re-evaluation

A new bridge crossing Purinton Creek is proposed, approximately 1 mile downstream of the existing crossing. The bridge will span the canyon, the height of the roadway profile will be approximately 100 feet higher than the channel bottom, minimum low chord elevation will not affect river hydraulics. Piers will be located outside of the main channel and beyond the 100-year floodway.

M. Noise Impacts

- | | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|--|--------------------------|-------------------------------------|-------------------------------------|
| 1. Does the project as currently proposed involve any of the activities, listed below, that would trigger the need for a noise analysis? Activity list: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <ul style="list-style-type: none"> • construction of a highway on a new location • substantial alteration in vertical or horizontal alignment as defined in 23 CFR 772.5 • increase in the number of through lanes • addition of an auxiliary lane (except a turn lane) • addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange • restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane • addition of a new or substantial alteration of a weigh station, rest stop, ride share lot or toll plaza). | | | |
| 2. Was a noise analysis completed on the original project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| a. Was the noise analysis completed prior to implementation of the final noise rule (23 CFR 772) and the current DOT&PF Noise Policy (April 2011)? NOTE: If yes, the project likely needs a revised noise analysis to comply with the current noise rule. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. If the project needed a noise analysis are there any newly identified noise sensitive receivers in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Describe results of a new noise analysis, identification of new impacts, newly identified noise sensitive receivers or changes in noise abatement measures: See Table 1 | | | |

N. Water Quality Impacts

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- | | | | |
|---|--------------------------|--------------------------|-------------------------------------|
| 1. The project's involvement with a public or private drinking water source? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The project's effect on discharges of storm water into Waters of the U.S.? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project's effect on ADEC designated Impaired Waterbody? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The project's involvement with an area that is covered by a municipal separate storm sewer system (MS4) APDES permit? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. The potential for the project's runoff to be mixed with discharges from an APDES permitted industrial facility? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. The potential for the project to discharge storm water to a water body within a national park or state park, a national or state wildlife refuge? <i>If yes and an Alaska Construction General Permit applies to the project, consultation with ADEC is required at least 30 days prior to planned start of construction</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document: | | | |

1993 EA/FONSI

A plan to control erosion and sedimentation would be developed prior to construction. Temporary degradation of water quality may result from construction. No significant or long-term impacts to water quality or potable water sources are expected.

2019 Re-evaluation

Best Management Practices (BMPs) to control erosion and sedimentation will be developed and implemented during construction. No significant or long-term impacts to water quality or potable water sources are expected.

O. Construction Impacts

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| 1. Temporary degradation of water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Temporary stream diversion? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Temporary degradation of air quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Temporary delays and detours of traffic? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Temporary impacts on businesses? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Temporary noise impacts? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Other construction impacts? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document. | | | |

P. Section 4(f)/6(f)

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| 1. The status of Section 4(f) properties affected by the proposed action or the project's effects on such properties? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The determination of whether the project would "use" land from a Section 4(f) property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The status of Section 6(f) properties affected by the proposed action? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The determination of whether the use of a Section 6(f) property is a "conversion of use" per Section 6(f) of the LWCFA? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Describe changes, including any changes to previously proposed mitigation and/or environmental commitments: **See Appendix C for changes to proposed mitigation for 4(f) property and Appendix D for changes to proposed mitigation for 6(f) property**

IV. Permits and Authorizations

N/A YES NO

Have there been any changes to the status of the following permits and authorizations since the approval of the original environmental document:

- | | | | |
|--|-------------------------------------|-------------------------------------|--------------------------|
| 1. USACE, Section 404/10 Includes Abbreviated Permit Process, Nationwide Permit, and General Permit | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Coast Guard, Section 9 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. ADF&G Fish Habitat Permit (Title 16.05.871 and Title 16.05.841) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Flood Hazard | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. ADEC Non-domestic Wastewater Plan Approval | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. ADEC 401 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. ADEC APDES | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8. Noise | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Eagle Permit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Other. If yes, list below. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Describe changes compared to original environmental document:

1993 EA/FONSI

The 1993 EA/FONSI identifies the following permits/approvals necessary for the project: Clean Water Act Section 404/401, Alaska Department of Environmental Conservation Section 401 Water Quality Certification, Alaska Department of Fish and Game Fish Habitat Permit, Alaska Department of Environmental Conservation National Pollutant Discharge Elimination Permit.

2019 Re-evaluation

All of the permits listed above are applicable in 2019; with the exception of the Alaska Department of Fish and Game Fish Habitat (Section 16) Permit. Congress has waived sovereign immunity for State regulation of Federal activities in only a limited number of circumstances, such as water pollution requirements and for state dredge and fill requirements under the Federal Water Pollution Control Act, as amended (Clean Water Act). Congress has not authorized States to regulate Federal activities within or affecting anadromous fish streams or aquatic habitat.

V. Comments and Coordination Conducted for the Re-evaluation

N/A YES NO

1. Has public/agency coordination occurred since the original environmental document was approved?
2. Describe all outreach and coordination efforts taken for this project since approval of the original environmental document. From 2014-2018 WFLHD has hosted a booth at the Mat-Su Borough Transportation Fair. The Fair is to provide status updates on the development of the segments of Glenn Highway targeted for rehabilitation.
3. Discuss pertinent issues raised by the public and other agencies. Attach applicable correspondence and responses.
See Appendix D – Chickaloon Village Public Meeting Notes
See Appendix E – Long Lake/Kings River Bridge Public Meeting Notes.

VI. Changes in Environmental Commitments or Mitigation Measures

N/A YES NO

1. Have there been any changes in the environmental commitments or proposed mitigation?
2. Describe all changes compared to original environmental document: **See Table 2.**

Table 2 – Environmental Commitments or Mitigation Measures Specific to the Long Lake Segment in the 1993 EA and Current Re-evaluation

ENVIRONMENTAL COMMITMENTS	1993 EA/FONSI	2019 Long Lake MP 84.5-92 Re-evaluation
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)	Due to the passage of time between document approval and actual design of the various project segments, ADOT&PF will have to reevaluate its approved environmental document. Should project scope, affected environment, impacts and mitigation change, additional environmental documentation is required.	Approach to NEPA compliance remains the same. Re-evaluate the 1993 EA/FONSI as each segment of the project is proposed for construction.
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)	The preferred Alternative 2 would establish a new transportation corridor along an existing utility road on the south side of Long Lake, then continue along lower lying areas of undeveloped parkland. Access would be provided to the existing park wayside. The highway would be moved from the exposed location on the cliff and be located approximately 550 feet south of the existing boat launch and park facilities.	Alternative 2 is still the preferred alternative. The alignment initially crosses a series of saddles and benches immediately south of Long Lake and within the Long Lake SRS. Near the east end of Long Lake, the Preferred Alternative transitions away from the 1993 alignment, winding northeast through a narrow valley along the south facing slope. The alignment then crosses Purinton Creek; the bridge would be 425 feet long. The alignment continues northeast and connects to the existing highway just beyond Purinton Creek.
SECTION 4(f) OF THE TRANSPORTATION ACT OF 1966	The project would not impact park facilities, with the exception of the Long Lake State Recreation Site (SRS).	4(f) impacts remain the same. Only the Long Lake State Recreation Site (SRS) will be impacted.

<p>SECTION 4(f) OF THE TRANSPORTATION ACT OF 1966</p>	<p>About 66 acres of abandoned highway roadbed and right-of-way would be relinquished to DPOR: 41 acres within park boundaries and 25 acres east of the park. Portions of the old roadway would be converted into a recreation trail. In abandoned roadbed areas away from the cliff, natural conditions would be restored.</p>	<p>Updated design of the proposed alignment has identified right-of-way impacts as approximately 102 acres would be required of the 480 acre Long Lake State Recreation Site. A full description of the proposed 4(f) mitigation is found in Appendix C.</p>
<p>FISH & WILDLIFE</p>	<p>Moose are year-round residents in the Matanuska River Valley area. A known concentration is around the east side of Long Lake, within the Long Lake SRS. Flattened roadway embankments and clear zones would help reduce wildlife/vehicle conflicts by making animals more visible to traffic and facilitate wildlife crossings. In areas of new alignments, roadway tangents would improve drivers' sight distances to avoid animals encountered along the highway. Signing cautioning motorists of moose in the area would be incorporated into the project to reduce these conflicts.</p>	<p>In 2017 communications with AF&G is less concerned about moose/car collisions as the Long Lake area is less populated than other corridors. Staff indicated moose do not typically take advantage of crossing structures (oversized culverts) unless led to them via a fence. A fence is not preferable in this area. Of greater concern to AF&G is when a moose traversing over roadway embankments and appearing to come out of nowhere. Providing adequate sight distance for drivers is the preferred method for minimizing impacts. Design criteria is for fill sections with a height greater than or equal to 6ft, a side slope 4:1/5:1 or greater is preferable.</p>
<p>FISH & WILDLIFE</p>	<p>Several important raptors such as the peregrine falcon, gyrfalcon, and bald and golden eagles inhabit the area.</p>	<p>Before construction and during the eagle breeding season (June 1 through mid-August), biologists would conduct bald eagle nest surveys in a 660-foot buffer of the road centerline to determine nesting activity. Construction activities (including blasting) would not be conducted within 660 feet of observed active nests until the chicks have fledged.</p>

WETLANDS	Long Lake Hill Alternatives (MP 85)]: Approximately 17.30 acres of palustrine wetlands would be impacted, of which 1.25 acres are within the Long Lake SRS.	Alternative 2 has had design refinement to better quantify impacts and is based upon an on-site wetland delineation in 2017. An updated quantification of impacts based upon the 2019 design reveals approximately 2.8 acres of palustrine emergent/palustrine forested wetlands will be permanently impacted. Additionally approximately 0.25 acres of stream/jurisdictional drainage will be permanently impacted. For permanent wetland impacts compensatory mitigation is required under Executive Order 11990, 23 CFR 777.9 and 33 CFR Parts 325 and 332; would be provided through purchase of mitigation credits at Great Land Trust, an in-lieu fee wetland mitigation supplier approved by the Alaska District of the US Army Corps of Engineers for sale of mitigation credit.
HAZARDOUS MATERIALS	A Hazardous Material Control Plan will be developed by the Contractor to address containment, cleanup, and disposal of all construction-related discharges of petroleum fuels, oil and/or other hazardous substances. The plan shall comply with the requirements of 18 AAC 75 and Title 46 of the Alaska Statutes.	For construction the Contractor will be required to prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan.

VII. Environmental Re-evaluation Determination

- | | N/A | YES | NO |
|--|-------------------------------------|-------------------------------------|--------------------------|
| 1. The conclusions of the original environmental document approval remain valid. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. The project meets the criteria of the DOT&PF Programmatic Approval 2 authorized in the December 8, 2015 “ Chief Engineer Directive – 6004 Programmatic Categorical Exclusions ”. <i>If yes, the Re-evaluation may be approved by the Regional Environmental Manager. If no, the Re-evaluation must be approved by a Statewide NEPA Manager.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The project meets the criteria of the April 13, 2012 “Programmatic Categorical Exclusion for Use on Federal-Aid Highway Projects in Alaska” agreement between FHWA and DOT&PF. <i>If yes, the Re-evaluation may be approved by the Regional Environmental Manager. If no, the Re-evaluation may be approved by the FHWA</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

VIII. Environmental Re-evaluation Determination

Area Engineer.

- | | N/A | YES | NO |
|---|--------------------------|--------------------------|-------------------------------------|
| 4. The changes in the project scope, environmental consequences, environmental commitments or public controversy require a new or supplemental environmental document. <i>If yes, consultation with the FHWA Project Manager and the FHWA Environmental Manager or FHWA Area Engineer or is required.</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

IX. Environmental Documentation Approval Signatures

Prepared by: _____
[Sign] Environmental Impact Analyst

Date: 2/1/2019

Stephen T. Morrow
[Print Name] Environmental Impact Analyst

Reviewed by: _____
[Sign] Engineering Manager

Date: _____

Reuben Johnson
[Print Name] Engineering Manager

Approved by: _____
[Sign] Regional Environmental Manager

Date: _____

Scott Smithline
[Print Name] Regional Environmental Manager

EA or EIS Re-evaluation

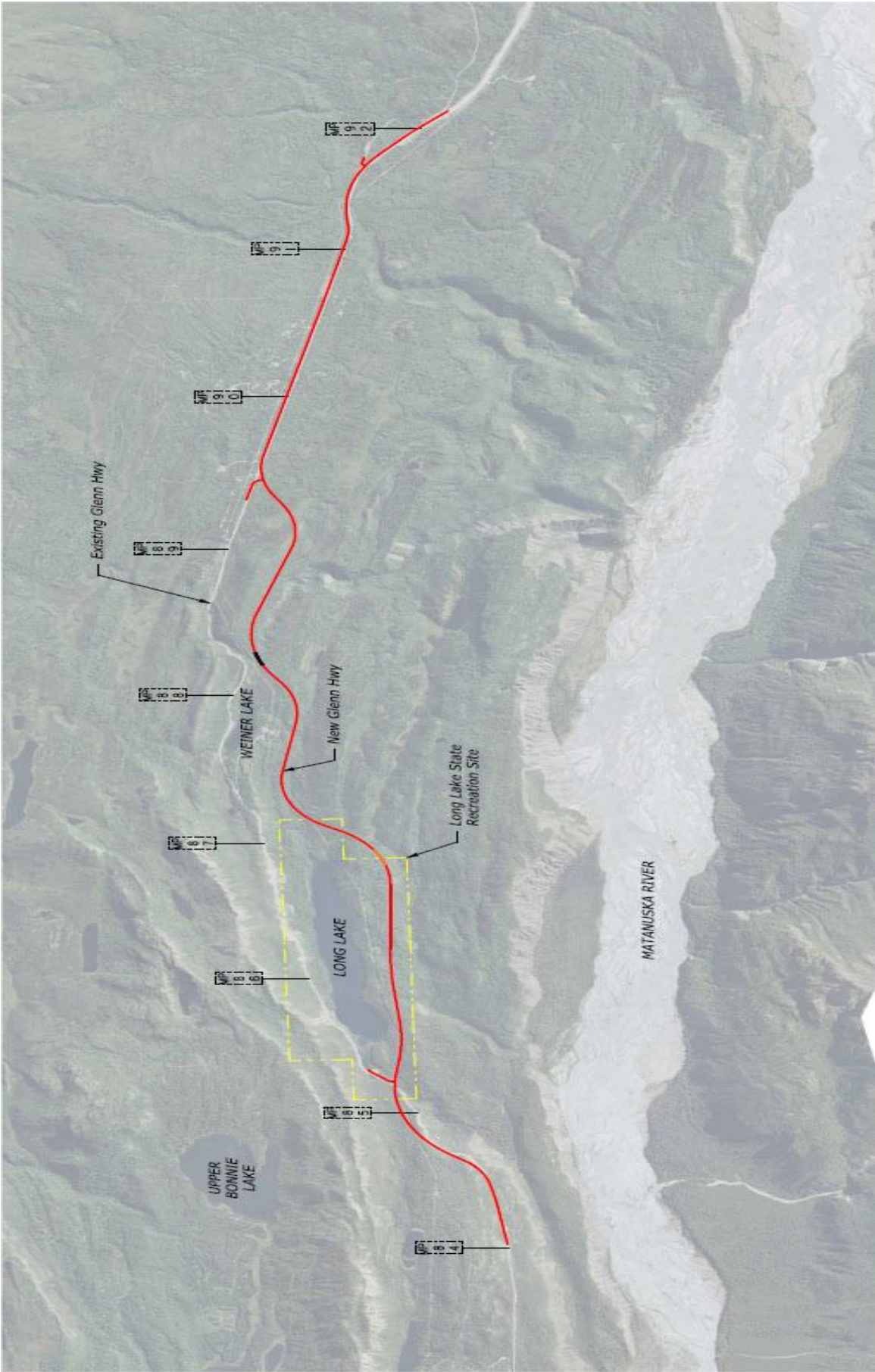
Approved by: _____
[Sign] FHWA Area Engineer or FHWA NEPA Project Manager

Date: _____

Peter F. Field
[Print Name] FHWA Area Engineer or FHWA NEPA Project
Manager

Attachment A

DRAFT



Glenn Highway Rehabilitation, Long Lake Section MP 84.5-92

Attachment B

DRAFT

Attachment C

DRAFT

Net-Benefit Programmatic Section 4(f) Evaluation: *Glenn Highway MP 84-92, Long Lake State Recreation Site*

Prepared for Western Federal Lands Highway Division
Federal Highway Administration
Vancouver, Washington

January 2019

Prepared by HDR, Inc., Anchorage, Alaska

1. Introduction and Applicability

The Western Federal Lands Highway Division (WFL) of the Federal Highway Administration (FHWA), in partnership with the Alaska Department of Transportation and Public Facilities (DOT&PF), is proposing the Glenn Highway Rehabilitation Long Lake Section: Milepost 84.5-92.0 Project, AK DOT 135(4). The Glenn Highway is the primary link to the Alaska Highway and, through Canada, to the remainder of the U.S. National Highway System, connecting Anchorage with Tok. The proposed project is to address issues to traffic safety and flow and extend the service life of the highway by realigning the Glenn Highway to run south of Long Lake for approximately 4 miles, tying back into the existing highway east of the Purinton Creek bridge at MP 89 (Option 5 shown on Figure 1). Because the proposed road alignment passes through the 429-acre Long Lake State Recreation Site (SRS),¹ there will be a “use” under Section 4(f) of the U.S. Transportation Act of 1966 and a conversion of use under Section 6(f) of the Land and Water Conservation Fund (LWCF) Act.

FHWA WFL has determined, in consultation with the Alaska Department of Natural Resources (DNR), Division of Parks and Outdoor Recreation (DPOR) that the project would result in a net benefit to the recreation site and that use of a nationwide Net Benefit Programmatic Section 4(f) Evaluation applies to this project. This paper provides the documentation needed for the programmatic Section 4(f) evaluation.

FHWA lists six applicability criteria for use of the net benefit programmatic Section 4(f) evaluation.² Criteria 3 and 4 pertain to historic sites and are not pertinent to the Long Lake State Recreation Site. Criteria 1, 2, 5, and 6 pertain to recreation areas. WFL has determined that the criteria apply and that the project qualifies for use of the programmatic Section 4(f) Evaluation, as further explained in the rest of this document. The pertinent criteria are:

¹ The boundaries of the SRS encompass 479.72 acres. There are two private inholdings totaling 9.59 acres. Approximately 41 acres are Glenn Highway right-of-way. State-owned land managed by DPOR is 429.13 acres.

² The programmatic Section 4(f) evaluation is on the FHWA web site:
https://www.environment.fhwa.dot.gov/legislation/section4f/4f_netbenefits.aspx

(1.) The proposed transportation project uses a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site. (See section 2, Alternatives). *The Long Lake State Recreation Site is a recreation area protected under Section 4(f). This was established in the 1993 EA and has not changed.*

(2.) The proposed project includes all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection. *See Section 4, Measures to Minimize Harm.*

(5.) The official(s) with jurisdiction over the Section 4(f) property agree in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property. *See Section 3.2 and Section 5, which address consultation with DPOR and the anticipated concurrence in writing.*

(6.) The Administration determines that the project facts match those set forth in the Applicability, Alternatives, Findings, Mitigation and Measures to Minimize Harm, Coordination, and Public Involvement sections of this programmatic evaluation. *See Section 7, Approval.*

2. Alternatives

This section describes the potential avoidance alternatives. The Findings section evaluates them. This section also addresses the other alternatives evaluated, including the preferred alternative.

2.1 Avoidance Alternatives Evaluated

FHWA guidance indicates the following three avoidance alternatives must be addressed:

1. Do Nothing
2. Improve the transportation facility in a manner that addresses the project purpose and need without a use of the Section 4(f) property
3. Build the transportation facility at a location that does not require use of the Section 4(f) property.

Alternative 1: Do Nothing/No Build. The existing Long Lake segment is cut into a steep sidehill and climbs for nearly 2 miles, with grades in some areas exceeding 7 percent. See Figure 1, Option 1.

Alternative 2: Improvement in Place without Using Adjacent Section 4(f). Conceptual designs for improvements without leaving the existing right-of-way include minor flattening of curves where possible, and widening lanes and shoulders and, where possible, ditches and clear zones. Along the 8,500-foot long hill segment, beginning at the Long Lake SRS wayside, this alternative would involve sheet pile retaining walls which would be driven into the slope to minimize excavation. Another retaining wall would be required to support the slope on the uphill side and would be placed approximately 16 feet from the edge of the highway shoulder. The existing slope would be cut back this distance to provide a ditch to function as a safety clear zone, facilitate snow storage, and contain errant rocks. The uphill wall would extend about 20 feet above the highway. There would be little change to the long grade but minor changes to the horizontal alignment to flatten tight curves. The right-of-way could be altered slightly in areas outside the Long Lake SRS. See Figure 1, Option 1.

Alternatives 3a and 3b: Road Realignment, Avoiding Long Lake SRS. In 1993, the Glenn Highway improvements EA evaluated realignment through undisturbed areas south of the existing Long Lake SRS (1993 Alternative 3). See Figure 1, Option 2. In addition, there is the conceptual option of routing north of the SRS. The northwest corner of the recreation area extends to and beyond the ridge of cliffs above

Long Lake (the ultimate source of rockfall). Routing to the north would entail routing a longer length of the highway north of a 7-mile-long cliff band. Figure 1 labels the areas where Options 2 and 3 were examined, but no alignment was advanced because none was found that would be feasible.³

2.2 Other Alternatives Evaluated

1993 Proposed Alignment. The 1993 EA indicated a proposed realignment through the recreation area and south of Long Lake that would have extended farther to the east and tied into the existing Glenn Highway near MP 92, near Cascade Creek. See Figure 1, Option 4. This alignment is located south of Long Lake, extends approximately 6.3 miles on a new alignment, and ties back into the existing highway near MP 92. This alignment initially crosses a series of saddles and benches immediately south of Long Lake and within the Long Lake SRS. Near the southeast corner of the recreation area, the proposed alignment winds through a narrow valley, cutting into the south facing slope. In this valley, the proposed alignment crosses several peat bogs as it approaches Purinton Creek. The alignment crosses Purinton Creek at a 700-foot wide by 300-foot deep canyon with a 1,000-foot bridge. East of Purinton Creek, the alignment climbs a narrow valley, traverses just north of a small pond, and then travels up a wide sloping plane to connect with the existing highway.

2019 Preferred Alternative. The Preferred Alternative is located south of Long Lake, extends construction on a new alignment for approximately 4 miles, and ties back into the existing highway east of the existing Purinton Creek Bridge at MP 89. See Figure 1, Option 5. Initially, this alternative follows the same alignment as the 1993 proposed alignment, crossing a series of saddles and benches immediately south of Long Lake and within the Long Lake SRS. Near the east end of Long Lake, the Preferred Alternative transitions away from the 1993 alignment, winding northeast through a narrow valley along the south facing slope. The alignment then crosses Purinton Creek; the bridge would be 425 feet long. The alignment continues northeast and connects to the existing highway just beyond Purinton Creek.

2.3 Effects of the Preferred Alternative

The Preferred Alternative would have a right-of-way generally 300 feet wide. Where the highway would run close to the southern border of the SRS, DOT&PF would acquire land to the boundary to avoid leaving a remainder not reasonably useable as part of the SRS. In total, the project would use 102.2 acres (24 percent) of the recreation area land. This use of Section 4(f) property will be balanced by transferring the existing highway right-of-way to DPOR as part of the recreation area and by acquiring other outdoor recreation property. See Section 3.2, Findings.

Other adverse recreation impacts, before mitigation, include the following:

- The new highway would traverse parts of the recreation area that currently are relatively far from the highway, without much influence of highway noise.
- The new highway would cross an informal trail twice, likely curtailing most use on parts of the trail east of the new highway. This trail appears to be kept open by all-terrain vehicle use, which is allowed in the recreation area. It is not a DPOR-maintained or sanctioned trail. Crossing it with the new highway could result in ATV users re-routing the trail and could result in some users crossing the new highway at-grade, which could be a safety hazard to those recreating and to people driving the highway.

³ Section 4(f) regulations at 23 CFR 774.17 define “feasible” as part of the definition of “feasible and prudent avoidance alternative,” as follows: “An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.”

Other beneficial recreation impacts, before considering mitigation measures, include the following:

- The highway would be removed from the steep slope above the lake. Sights and sounds of highway traffic on the steep slope would be eliminated at the recreational parking area and boat launch ramp at the western end of the lake, although some highway traffic sounds still would be audible from the realigned highway. The line of the old highway would remain visible, but eroding slopes would be expected to stabilize somewhat over time as they approached a natural angle of repose and grew more vegetation. This would improve the visual quality as seen from the lake. The sounds of vehicles laboring up the long grade and of trucks down-shifting and using jake brakes on the long descent would be eliminated.
- Access to the recreation area pullout, currently a wide gravel area without a defined entry/exit or stop bar, would be standardized as a distinct driveway with turning lanes and acceleration lanes, where warranted, and with a stop bar, stop sign, and other features that would make for safer and more efficient entry and exit.

Multiple other beneficial recreation impacts are proposed as measures to minimize harm and mitigation. See Section 4.

3. Findings

Section 3.1 provides findings related to the potential for feasible and prudent avoidance alternatives. Section 3.2 provides findings related to an overall net benefit to the Section 4(f) property.

3.1 Avoidance Alternatives Findings

Avoidance alternatives 1, 2, and 3 and their variations are not feasible and prudent avoidance alternatives, as further described in this section.

Alternative 1: Do Nothing Alternative. The existing highway (Figure 1, Option 1) separates Long Lake and a large cliff to the north. The steep terrain and talus slopes restrict development of pull-offs or climbing or passing lanes, and heavy vehicles operate at crawl speeds to overcome the gradient climbing the hill, hindering the flow of traffic (grades exceed 7 percent in some areas). Rockfall from the highway cuts is generally fist to basketball sized, but can generate 3-foot to 10-foot blocks of rock that impact the travel way.⁴ Active rockfall and rocks in the travel lanes are a regular hazard on the road, especially in the winter/spring freeze-thaw cycles, and a chronic maintenance issue. Car crashes are a significant problem (passing with inadequate sight distance, hitting fixed objects like boulders in the road, going off the road, etc.). The Do-Nothing Alternative would not correct the public safety issues identified nor address the transportation purpose and need of the proposed project.

The Do Nothing Alternative would not involve the use of Section 4(f) property. However, according to DPOR, the existing road detracts from the quality of the recreational experience of the Long Lake SRS, especially for users of the lake. Under this alternative there would not be any highway improvements and the safety issues to the traveling public would remain. The highway and through traffic would continue to be adjacent to the existing public use area and the lake (an area which lacks natural screening buffers), and would continue to detract from the recreation and scenic values at Long Lake SRS.

⁴ Western Federal Lands Highway Division, Federal Highway Administration. 2015. Rockfall Probabilities for the Long Lake Section of Glenn Highway from Approximately MP 65.4 to 87, Mat-Su Borough, Alaska. Geotechnical Memorandum 10-15. Vancouver, Washington.

Alternative 2: Improvement within Existing Right-of-Way. Improvement within the existing highway right-of-way (Figure 1, Option 1) would make minor improvements to the existing alignment on the Glenn Highway between MP 85 and MP 92 but would not alleviate the severe rockfall conditions nor the grades in excess of 6 percent, which is the maximum grade according to design criteria for this project. This alternative would not require additional right-of-way and thus would not involve the use of Section 4(f) property. Safety would still be a problem due to rockfall slides onto the roadway. Traffic congestion and slowing would remain as steep grades would not be reduced. High construction costs and continued slope and ditch maintenance of such a facility are an on-going cost and area of concern. Expected rock slides could affect the long-term stability of the roadway. Identified traffic flow and traffic safety issues would not be addressed. In addition, the presence of these retaining walls could affect scenic viewing from the roadway and present an additional visual scenic intrusion along the cliff. For the reasons listed, this alternative does not meet the transportation purpose and need of the proposed project and therefore is not a feasible and prudent avoidance alternative.

Alternative 3a. Avoidance of the Recreation Area to the South. Avoiding the recreation area to the south (Figure 1, Option 2) would push the alignment toward the Matanuska River. There would not be any Section 4(f) property involvement with this action. The terrain is mountainous and abrupt, and topography becomes more extreme south of the Long Lake SRS toward the Matanuska River. Excessive earthwork would be required to negotiate the high ridges and deep ravines. A cost effective and feasible⁵ roadway corridor to the south of the Long Lake SRS could not be defined. Based upon these factors, this alternative was found to not be a feasible and prudent avoidance alternative and was eliminated from further consideration.

Alternative 3b. Avoidance of the Recreation Area to the North. Avoiding the Long Lake SRS by relocating Glenn Highway north of the SRS (Figure 1, Option 3) would involve a longer segment of highway—perhaps 10 miles or more. The steep slope that the existing highway crosses above Long Lake rises to the base of a set of cliffs, which are the ultimate sources for rockfall. These cliffs, used sometimes by rock climbers, form a long ridge, and the existing highway roughly parallels the ridge. The northwest corner of the SRS extends to and over the top of the ridge, so to avoid the recreation area, the highway would have to be routed north of the ridge and cliff band. The ridge and cliffs overall extend about 7 miles, and in the Long Lake area, there is another similar ridge farther north. The topography in general is extremely difficult and in some places abrupt, and it generally rises to the north. No alignment that could meet grade standards and avoid rockfall issues similar to those that occur today would be feasible without extreme measures such as tunneling. Also, any alignment in this area would be forced into higher elevations, with more extreme weather and snow and ice conditions. Finally, people have settled along the existing Glenn Highway and require access, but the area north of Long Lake over the ridge is undeveloped state land, which would cut them off from the realigned highway.

It is not feasible to re-route the entire highway north of the ridge while meeting design standards. The difficult topography means similar rockfall issues would be likely anywhere the highway was on similar steep slopes. More importantly, such re-routing would not be prudent expenditure of public funds. DOT&PF still would need to maintain the existing alignment to provide access to rural homes, businesses at a rural airport west of Long Lake, and Long Lake proper within the recreation area. Costs would be high both to rebuild a longer segment of highway and to maintain two roads in the area. For these

⁵ Section 4(f) regulations at 23 CFR 774.17 define “feasible” as part of the definition of “feasible and prudent avoidance alternative,” as follows: “An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.”

reasons, re-routing the highway to the north of the recreation area is not a feasible and prudent avoidance alternative.

The combination of impacts, costs, and problems would be unique when compared with the proposed use of Section 4(f) property, after taking into account measures to minimize harm and mitigate for adverse uses, and measures to enhance the functions and value of the Section 4(f) property.

3.2 Net Benefit Finding

This subsection addresses the 1993 proposed alternative (Figure 1, Option 4) and the 2019 Preferred Alternative (Figure 1, Option 5). Both would use Section 4(f) property and would not be avoidance alternatives. This paper as a whole documents the FHWA WFL finding that the 2019 Alternative would provide a net recreation benefit. Specifically, FHWA WFL considered the adverse effects to the recreation area and the beneficial effects to the recreation area, both from Section 2.3, and considered the additional enhancement and mitigation measures, from Section 4.

The 1993 Alternative would resolve the current rockfall issues associated with the existing alignment and reduce grades. However, this alternative would result in a significant (ten-fold) increase in permanent impacts to wetlands, compared to the 2019 Preferred Alternative, and would require a 1,000-foot bridge to span the Purinton Creek Canyon. The 50 percent greater length of new road construction (6 miles instead of 4 miles) and the long bridge would result in a considerable increase in construction costs over the Preferred Alternative.

The 2019 Alternative is the Preferred Alternative because it would resolve the current rockfall issues associated with the existing alignment and have horizontal and vertical alignments that meet the DOT&PF 60 MPH design criteria. It would have less impact to the natural environment than the 1993 Alternative (e.g. 10 times fewer wetland impacts). Safety features of this alternative include wider lanes and shoulders, broader curves, better sight distance, new guardrail, and rockfall ditches. Additionally, climbing lanes are proposed throughout the corridor on long grades where new alignments and natural terrain permit their construction. These proposed improvements will enhance the safety and drivability of the roadway. In addition, this alternative is expected to have an overall net benefit to the recreation area.

Adverse impacts of the Preferred Alternative to the recreation area are that it would use 102.2 acres from the recreation area (24 percent of the existing total acreage under DPOR management) and would affect areas not affected by the existing highway, including an informal trail.

To counterbalance these impacts, the Preferred Alternative would:

- Remove the highway, and thus the sight and noise of traffic, from the current alignment on the prominent slope above the lake.
- Transfer the existing highway right-of-way from DOT&PF to DPOR as an addition to the recreation area, including an extension of the recreation area to the northeast for about a mile toward Wiener Lake, for a total addition to the recreation area of roughly 70 acres, resulting in a net loss of about 32 acres.
- Convert a portion of the abandoned highway about 2 miles long to a gravel trail.
- Replace lost SRS land with acreage by acquiring land of equal value at high-priority Mat-Su-region DPOR recreation areas—Denali State Park and Nancy Lake State Recreation Area—as further described in Section 4.
- Add to the Long Lake SRS an expansion of the parking lot at the west end of the lake, with multiple enhancements described in Section 4.

- Add to the Long Lake SRS a new parking and overlook area near the east end of the lake, with enhancements described in Section 4.
- Configure formalized driveway at both access points for efficiency and safety, as described in Section 4.

FHWA WFL, after consultation with DPOR, finds the balancing of the adverse and beneficial impacts and enhancements results in a net benefit to the recreation area and to the recreating public.

The 2019 alignment is an engineering refinement of the 1993 alignment and is the Preferred Alternative because it would function as well, cost less, impact far fewer wetlands, and impact less undeveloped land, forest, and wildlife habitat than the 1993 alignment. The measures to minimize harm and mitigate impacts for the Preferred Alternative could be applied as well to the 1993 alternative, and a net benefit also would accrue under that alternative. Either alternative theoretically could be selected, but FHWA WFL believes the 2019 Preferred Alternative provides the same net benefit for the Section 4(f) property that the 1993 Alternative would provide and has fewer other impacts, and therefore has less overall harm.

4. Measures to Minimize Harm and Mitigation

All possible planning to minimize harm. Minimization of harm occurs for the Preferred Alternative by removing the existing highway, including all visibility of traffic and the noise of traffic on that alignment, from the prominent slope in view across the lake.

Mitigation/enhancement Compensatory mitigation concepts incorporated into the project appear in the attached Mitigation Plans (three images). These include:

- Reconstructing the parking and lake access area at the west end of Long Lake. Improvements include surfacing the parking lot, striping to delineate parking areas for vehicles with trailers and motorhomes (approximately 15 spaces) and for standard vehicles (approximately 13 spaces), improving traffic circulation, improving access to the boat ramp, installing vault toilets, creating approximately five picnic areas (each with a picnic table and fire ring), installing information kiosks, and associated landscaping. See Mitigation Plans.
- Striping and signing an at-grade pedestrian crossing near the west end of Long Lake at the Recreation Area entrance for pedestrian connectivity to future park development south of the Glenn Highway, as planned by the Alaska DPOR. See Figure 2.
- Constructing a new parking area at the east end of Long Lake. Improvements include constructing and surfacing a new parking lot with spaces for about 16 vehicles, creating a basic access trail from the parking lot to the base of the embankment near existing informal trails, and installing vault toilets. See Mitigation Plans.
- Transferring the existing highway right-of-way that passes through the recreation area to DPOR for incorporation into the recreation area, including nearly 1 mile of right-of-way that extends northeast outside the existing Recreation Area boundary, and reclaiming the existing Glenn Highway to an aggregate-surfaced, non-motorized recreational trail terminating at a new cul-de-sac near the western end of Wiener Lake. An existing gravel pullout will provide parking at the Wiener Lake end of the trail. See Figure 2.
- Replacing the value of land lost from the recreation area to new right-of-way (102.2 acres appraised at \$347,500 in 2015) by acquiring private inholdings in other highly-used and high priority Mat-Su state park units—Denali State Park and Nancy Lake State Recreation Area—as determined through the Land and Water Conservation Fund Act’s Section 6(f) requirements. It is anticipated that up to nine lots (about six owners) totaling up to 86 acres with a total assessed value of \$364,600 would be replacement property for the 102.2 acres lost to the new right-of-way

in the Long Lake Recreation Area. Figure 5 shows the locations of these other state park units. Note that Section 6(f) conversion of use and replacement land documentation is addressed separately and is intended to be appended to the project's Environmental Assessment Reevaluation (reevaluating the Environmental Assessment and Finding of No Significant Impact approved by FHWA in 1993).

- These measures will be included in a Memorandum of Agreement between FHWA WFL and DPOR that may specify more design details and will include on-going consultation during the final design process.

Officials with jurisdiction at DPOR have agreed in principle to these mitigation measures. Based on this draft document, DPOR will be asked to concur in writing. See Sections 5 and 7.

5. Coordination

Coordination regarding the Long Lake SRS has occurred with DPOR and its parent agency DNR, as well as with the State liaison for the Land and Water Conservation Fund Act (Section 6(f)). Coordination has also occurred with the Chickaloon Village Tribal Council. Coordination has included:

- 2016-2018: Ongoing coordination with DPOR to identify priority parcels for acquisition as Section 6(f) replacement properties and Section 4(f) mitigation and measures to minimize harm.
- 2016-2018: Ongoing contact with DPOR's LWCF Act liaison to coordinate Section 6(f) land replacement issues.
- February 8, 2018: Meeting with the Chickaloon Village Traditional Council regarding the preferred alternative for the Long Lake alignment, including discussion of impacts to cultural and recreational resources.
- June 7, 2018: Meeting of WFL and DOT&PF with DNR and DPOR representatives in Anchorage regarding Section 4(f) mitigation.
- February 12, 2019: (Scheduled) meeting with Chickaloon Village Tribal Council, and a February opportunity for comment on the current Long Lake segment plan and this Section 4(f) documentation.

The final version of this programmatic Section 4(f) evaluation will be offered to DPOR, to other interested parties, and to others who request it, per requirements of the programmatic evaluation. Note that DPOR has agreed in principle in meetings and email exchanges that the project as a whole, and specifically the measures to minimize harm and mitigate for adverse impact, would result in a net benefit. Final concurrence in writing will be secured and attached to this document in Appendix A before this document is approved.

6. Public Involvement

The FHWA programmatic Section 4(f) evaluation states that the project shall include public involvement activities per 23 CFR 771.111. This federal regulation requires states to have public involvement procedures in place, and DOT&PF does in in the Alaska Environmental Procedures Manual and other documents. This project included public involvement activities for the 1993 EA. The project was first narrowed to MP 66.5-92 and then further narrowed to MP 85-92, with public involvement at each stage. More recent public involvement included:

- October 22, 2014 Mat-Su Transportation Fair, MP 66.5-92

- May 7, 2014 Public open house in Chickaloon, MP 66.5-92
- October 13, 2015 Mat-Su Transportation Fair, MP 66.5-92
- September 22, 2016, 2016 Mat-Su Transportation Fair, MP 66.5-92
- September 28, 2017, 2017 Mat-Su Transportation Fair, MP 66.5-92
- September 13, 2018, 2018 Mat-Su Transportation Fair, MP 66.5-92
- February 12, 2019 (scheduled) public meeting in the project area and a February opportunity for public comment on the current Long Lake segment plan (MP 85-92) and this Section 4(f) documentation.

7. Approval

After the public meeting scheduled for February 12, 2019, and after considering any comments submitted, FHWA WFL intends to finalize its findings. By signing below, DPOR concurs with the finding of this document that the overall result of the project and its measures to minimize harm and mitigation will be a net benefit to the Long Lake Recreation Area. By signing below, FHWA WFL indicates its determination that:

1. The project meets the applicability criteria set forth in the Applicability section (Section 1);
2. All of the alternatives set forth in the Findings section (Section 3) have been fully evaluated;
3. The findings in this programmatic evaluation (Section 3) conclude that there is no feasible and prudent avoidance alternative and that the recommended alternative results in a clear net benefit to the Section 4(f) property;
4. The project complies with the Mitigation and Measures to Minimize Harm section of the programmatic Section 4(f) Evaluation (Section 4);
5. The coordination and public involvement efforts required by this programmatic evaluation (Sections 5 and 6) have been successfully completed and necessary written agreements have been obtained; and
6. This document clearly identifies the basis for the above determinations and assurances.

FHWA, Western Federal Lands Highway Division
 Scott Smithline
 Environmental Manager

Date

Alaska Division. of Parks & Outdoor Recreation
 Ricky Gease
 Director

Date

Attachment D

DRAFT

Section 6(f) Conversion

The proposed realignment of the Glenn Highway will require conversion of approximately 102.2 acres of parkland within the Long Lake State Recreation Site (SRS) to transportation uses. Long Lake SRS was previously improved under provisions of the Land and Water Conservation Fund (LWCF) Act. The designation of LWCF-assisted properties for public outdoor recreation is perpetual, and the entire recreation site is encumbered under Section 6(f) of the LWCF Act. When there is conversion of land from public outdoor recreation use to other uses, Section 6(f) mandates land replacement. The replacement land must be of equal value, location, and usefulness.

The Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA), in coordination with the Alaska Department of Natural Resources (ADNR) Division of Parks and Outdoor Recreation (DPOR), has identified nine parcels within Nancy Lake State Recreation Area (SRA) and Denali State Park as potential replacement properties. These properties are of reasonably equivalent usefulness and location, and, combined, are of greater or equal value as the area to be converted. Some or all of these properties will be acquired and incorporated into Nancy Lake SRA or Denali State Park. This would add a total of up to 86 acres of new 6(f)-protected land designated for public outdoor recreation.

DPOR will submit a formal conversion request to the National Park Service (NPS) for approval prior to acquisition of any replacement property, because NPS has oversight authority for LWCF Act conversions.

A. Long Lake SRS

Long Lake SRS is located approximately 38 miles northeast of Palmer (Figure 1). The 480-acre recreation site was established in 1972 on either side of the existing Glenn Highway right-of-way (ROW) under management of DPOR. The SRS encompasses Long Lake, which is approximately one mile long and one-quarter mile wide. Long Lake is the central feature of the SRS, providing recreation opportunities including boating, bird and wildlife viewing, and fishing. The Alaska Department of Fish and Game began stocking Long Lake in 1955 and has stocked the lake with rainbow trout, lake trout, Arctic grayling, and Arctic char.⁶ The use of aircraft (except for practice landings) and power boats is allowed on Long Lake.^{7,8} Additional recreation activities within the SRS include picnicking, berry picking, mountain biking, hiking, and hunting (where permissible by law). There is a powerline that runs south of the lake, and the powerline cut is used as an informal trail by all-terrain vehicle (ATV) and snowmachine users. There is also an informal trail that parallels the powerline that was likely established by ATV use but that has largely overgrown in most areas. Camping is not prohibited within the SRS, but there are no established camp sites.

The SRS is under what DPOR calls “passive management,” and limited wayside facilities are available. A parking area for 12 cars with an undeveloped boat launch is located at the west end of the lake, adjacent to the highway at milepost 85.3. DPOR considers the existing condition of the SRS to be poor, and the SRS was given a quality condition rating of Fair (equivalent to a score of 2 out of 4) in the

⁶ ADF&G. 2016. Alaska Lake Database: Long Lake (Glenn Highway), Site Code K0221. Accessed at <http://www.adfg.alaska.gov/index.cfm?ADFG=fishingSportStockingHatcheries.lakesdatabase> on January 11, 2019.

⁷ 11 Alaska Administrative Code [AAC] 20.929

⁸ 11 AAC 20.930

Matanuska River Watershed Recreation and Trails Plan.⁹ Despite the lack of amenities, the SRS receives high use due to its accessibility from the Glenn Highway and its scenic beauty.

B. Conversion Area Description

The proposed project will result in realignment of approximately 1.6 miles of the Glenn Highway through Long Lake SRS and necessitate acquisition of ROW through the recreation site. The ROW (typically 300 feet wide) will cut through the southern third of the SRS and will leave a long, narrow segment of the site disconnected from the remainder of the SRS. This small area will have little to no recreational value after being cut off from the SRS, and during consultation WFLHD and DPOR agreed that this area will be included in the impacted 6(f) area.¹⁰ The area of 6(f) land that will be converted by the project encompasses the area from the northern limit of the ROW required to the southern edge of the recreation site, and totals 102.2 acres (Figure 2).

The conversion area consists primarily of steep, south-facing slopes dominated by quaking aspen. The area includes 4.3 acres of wetland, including portions of a wetland complex dominated by willow and black spruce along a valley bottom, and includes crossings of two perennial streams. The west end of the conversion area includes the powerline south of Long Lake. The informal ATV trail passes through two parts of the conversion area.

C. Project Impacts to Long Lake SRS

The proposed project will convert 102.2 acres of Long Lake SRS to transportation ROW and general State land. Long Lake will not be impacted. The existing wayside will not be impacted and will remain in use.

When preliminary coordination with DPOR was initiated for a Glenn Highway Environmental Assessment approved in 1993, DPOR indicated that even though the SRS was established after the highway, the existing highway alignment at Long Lake affects the quality of the recreational experience at the SRS. The highway separates Long Lake and the large steep cliff to the north, creating a visual detraction from the natural scenery and producing traffic noise particularly on the west end of the lake where the wayside is located. A traffic noise analysis was completed for the 1993 EA. In 1989, the existing hourly average noise level at the boat launch, 150 feet from the highway centerline, was 60 A-weighted decibels (dBA).¹¹ An updated traffic noise analysis was performed in summer 2017.¹² The hourly equivalent noise level measured at the boat launch in 2017 was 56 dBA. The 2017 analysis modeled traffic noise under design year 2040 for the proposed realignment using the FHWA Traffic Noise Model. The analysis projected that following the realignment of the Glenn Highway the hourly equivalent noise level that would be experienced at the boat launch would be 48 dBA.

The 1993 EA determined that relocating the highway south of Long Lake would reduce traffic noise, particularly from heavy trucks, at the wayside and on Long Lake for three primary reasons: 1) the wayside and the lake would be separated from the new highway alignment more than they are from the existing highway; 2) noise would be absorbed in the lower elevation valley corridors by vegetation and no longer reflected off steep cliff walls onto the lake; and 3) the reduced grades would reduce the need for the heavy laboring of motor vehicle engines or the use of air compression brakes (“jake brakes”) by

⁹ Chickaloon Village Tribal Council. 2014. Matanuska River Watershed Recreation and Trails Plan.

¹⁰ Following the conversion, this area will remain in ADNR ownership and will not be included in the ROW.

¹¹ ADOT&PF and FHWA. 1993. Environmental Assessment and Final Section 4(f) Evaluation for Glenn Highway Parks (MP 35) to MP 109, Project No. F-042-2(11).

¹² HDR, Inc. 2018. Traffic Noise Analysis Report. Glenn Highway Rehabilitation MP 66.5-92. Prepared for Federal Highway Administration Western Federal Lands Highway Division.

heavy trucks. The current proposed realignment follows the same path in the area south of Long Lake as the 1993 preferred alignment and is expected to provide the same traffic noise reduction at the wayside.

Following completion of the project, the remaining land at Long Lake SRS will remain recreationally viable, and recreational experience on the lake will be improved after realignment of the Glenn Highway farther away from Long Lake. At its closest point, the centerline of the realignment is approximately 300 feet away from the shores of the lake (presently, the shoulders of the existing highway are immediately adjacent to the lake at its western end). Traffic noise experienced on Long Lake will be reduced by the increased distance between the highway and the lake, and because the reduced grades of the proposed realignment will reduce noise caused by motor vehicle engines during climbing and brakes used while descending steep grades. Highway traffic will also no longer pose a visual detraction between the lake and the cliffs above Long Lake Hill.

Except for several hundred feet of ROW at the extreme western end of the SRS, the existing highway ROW between MP 84.5 and approximately MP 87.3 will no longer be used for highway purposes following realignment of the highway. ADOT&PF will transfer ownership of the ROW, totaling approximately 70 acres, to DPOR and this area will be incorporated into the SRS. This will extend the boundary of the SRS to the northeast for approximately one mile along the decommissioned highway alignment, which will be converted to a hiking trail. However, this area is not considered to be of equivalent value to the conversion area, and during consultation WFLHD and DPOR determined it would not satisfy the requirements to be considered replacement 6(f) property. Consequently WFLHD, in coordination with DPOR, identified nine parcels as potential replacement land per the requirements of Section 6(f).

D. Potential Replacement Properties

An appraisal of the 102.2 acres of Long Lake SRS that will be converted from recreation land to new ROW was conducted in 2015. The appraisal determined that the area of acquisition would be suitable for development of private recreation (cabins) and/or rural residences. Based on comparable sales and listings of large tracts suitable for rural residential/recreational uses with lake frontage in the Matanuska-Susitna Borough (MSB), the appraisal determined the value of the area of acquisition at \$347,500 (\$3,400 per acre).

WFLHD, in coordination with DPOR, conducted a search for potential replacement properties that met the criteria for 6(f) replacement properties established in applicable federal regulations.^{13,14} Based on direction from DPOR, WFLHD focused the search on inholdings within Nancy Lake SRA and Denali State Park that would maintain or expand recreation access and opportunities in accordance with the management plans for the parks. DPOR selected nine parcels as potential replacement land. The combined assessed value of these properties exceeds the appraised value of the conversion property. All potential replacement properties are known or assumed to have willing sellers. WFLHD and DPOR have agreed that properties will be acquired in a prioritized order until the value of the conversion property is met or exceeded.

E. Replacement Recreation Values

Section 6(f) requires that replacement land be of reasonably equivalent usefulness and location as the property being converted. Determining whether replacement properties are of reasonably equivalent

¹³ 54 U.S. Code §200305

¹⁴ 36 Code of Federal Regulations [CFR] §59.3(b)

usefulness as the conversion property requires evaluation of “what recreational needs are being fulfilled by the facilities which exist and the types of outdoor recreation resources and opportunities available” at the conversion property.¹⁵ Nancy Lake SRA and Denali State Park provide similar recreation values and opportunities as Long Lake SRS, including boating, hiking, bird and wildlife viewing, and fishing. Because of their larger size, Nancy Lake SRA and Denali State Park provide increased opportunities for these and other recreation activities than are available at Long Lake SRS.

Determining whether replacement properties are of reasonably equivalent location as the conversion property requires evaluation of whether the replacement property will “meet recreation needs which are at least like in magnitude and impact to the user community” as the conversion property.¹⁶ The replacement property generally should be administered by the same political jurisdiction as the conversion property. Long Lake SRS, Denali State Park, and Nancy Lake SRA are all within the Matanuska-Susitna Borough (MSB; Figure 3), and all are managed by the Matanuska-Susitna/Copper Basin Region of DPOR. They are all accessible by the road system and are most used by MSB and Anchorage residents. Based on available data and planning and management documents, Denali State Park and Nancy Lake SRA are of reasonably equivalent location as Long Lake SRS and provide recreation opportunities that exceed the magnitude of those at Long Lake SRS.

The acquisition of replacement properties will add a total of up to 86 acres of land to Nancy Lake SRA and Denali State Park. Acquisition of inholdings will preclude private development on these parcels, maintaining the natural character of and public access to the parks. In the future DPOR may develop additional recreation facilities at some of the replacement properties, such as trails, campsites, or boat launches, which would further increase the recreation opportunities in the MSB and greater Southcentral Alaska region.

¹⁵ 36 CFR 59.3(b)(3)(i)

¹⁶ 36 CFR §59.3(b)(3)(i)

Attachment E

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