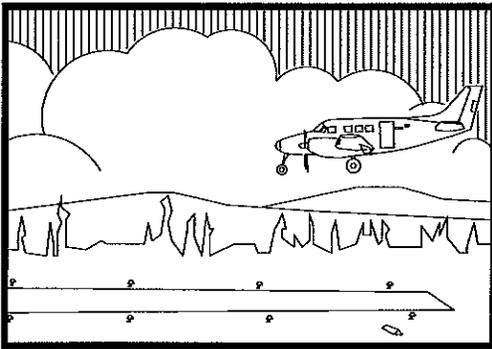


DESIGN STUDY REPORT

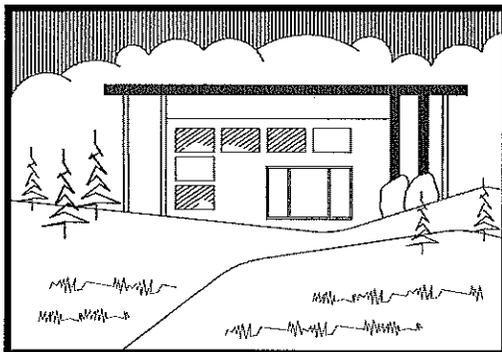
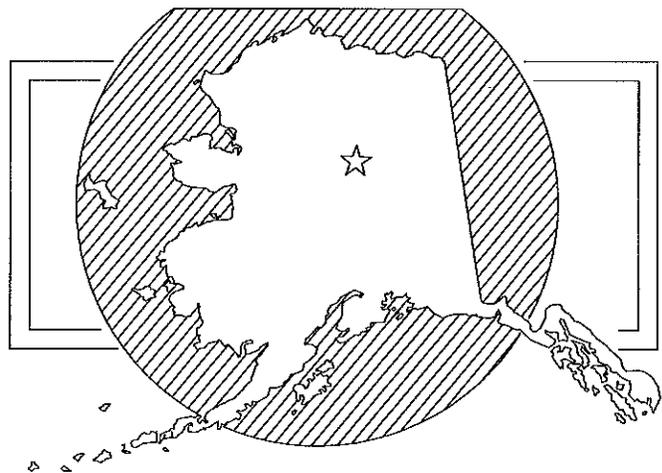
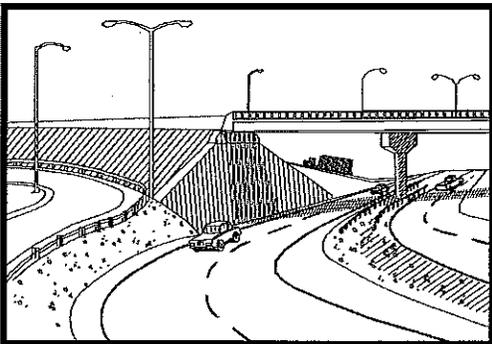
EDGERTON HIGHWAY LAKINA RIVER BRIDGE REPLACEMENT

FEDERAL PROJECT NO. BR-0859(26) / STATE PROJECT NO. 63905



STATE OF ALASKA

Department of Transportation
and Public Facilities



NORTHERN REGION

MAY 2013

DESIGN STUDY REPORT
EDGERTON HIGHWAY LAKINA RIVER BRIDGE
REPLACEMENT

FEDERAL AID NO. BR-0859(26)
STATE PROJECT NO. 63905

PREPARED BY: ERIK BRUNNER

UNDER THE SUPERVISION OF: SARAH SCHACHER, P.E.



ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
NORTHERN REGION, DIVISION OF DESIGN AND ENGINEERING SERVICES
MAY, 2013

DESIGN APPROVAL

PROJECT NO. 63905

EDGERTON HIGHWAY LAKINA RIVER BRIDGE REPLACEMENT

Requested by:

 5/30/2013
Sarah Schacher, P.E. Date
Engineering Manager
Northern Region

Design Approval Granted:

 5/31/2013
Longin Krol, P.E. Date
Preconstruction Engineer
Northern Region

cc: Preconstruction Engineer
Design Group Chief
Engineering Manager
Right of Way Chief
Regional Utilities Engineer
Project Control Chief (approval sheet only)
PD&E Chief
Contracts Engineer (original)
Environmental Coordinator
Materials Engineer
Regional Geologist
Regional Hydraulics Engineer
Traffic & Safety Chief
QA Engineer
FHWA
Chief Engineer
Chief Bridge Engineer
Regional Director
M&O Maintenance Engineer
M&O Regional Maintenance Manager
The Honorable Donald Olson, Alaska State Senator
The Honorable Neal Foster, Alaska State Representative

DESIGN STUDY REPORT
EDGERTON HIGHWAY LAKINA RIVER BRIDGE REPLACEMENT

Federal Aid No. BR-0850(26)
State Project No. 63905

TABLE OF CONTENTS

INTRODUCTION/HISTORY.....	1
PROJECT DESCRIPTION.....	1
DESIGN ALTERNATIVES.....	1
PREFERRED ALTERNATIVES.....	2
DESIGN STANDARDS.....	2
VALUE ENGINEERING.....	2
TYPICAL SECTION(S).....	2
HORIZONTAL / VERTICAL ALIGNMENT.....	3
DRAINAGE.....	3
SOIL CONDITIONS.....	3
EROSION AND SEDIMENT CONTROL.....	4
TRAFFIC ANALYSIS.....	4
SAFETY IMPROVEMENTS.....	4
ACCESS CONTROL FEATURES.....	4
PEDESTRIAN / BICYCLE (ADA) PROVISIONS.....	4
INTELLIGENT TRANSPORTATION SYSTEM (ITS) REQUIREMENTS.....	4
RIGHT-OF-WAY REQUIREMENTS.....	5
UTILITY RELOCATION AND COORDINATION.....	5
PAVEMENT DESIGN.....	5
BRIDGE IMPROVEMENTS.....	5
MAINTENANCE CONSIDERATIONS.....	5
MATERIAL SOURCES.....	6
ENVIRONMENTAL COMMITMENTS.....	6
DESIGN EXCEPTIONS.....	8
COST ESTIMATE.....	8

APPENDIX A.....	FIGURES
APPENDIX B.....	PRELIMINARY COST ESTIMATE
APPENDIX C.....	DESIGN CRITERIA AND DESIGNATION
APPENDIX D.....	ENVIRONMENTAL DOCUMENT
APPENDIX E.....	PLAN AND PROFILE SHEETS
APPENDIX F.....	TYPICAL SECTIONS
APPENDIX G.....	PRELIMINARY BRIDGE PLANS

INTRODUCTION / HISTORY

The Alaska Department of Transportation and Public Facilities (ADOT&PF), in cooperation with the Federal Highway Administration, proposes to replace Lakina River Bridge (#1195) at mile point 77.5 of the Edgerton Highway. The section of the Edgerton Highway east of Chitina is commonly referred to as the McCarthy Road. However, ADOT&PF's highway inventory does not differentiate the Edgerton Highway from the McCarthy Road so the two are treated as one continuous route. The Lakina River crossing is approximately 44 miles east of Chitina (historic MP 44 McCarthy Road) and 15 miles west of McCarthy. See Figure 1, Appendix A for vicinity map.

The existing bridge is a piece of a larger structure that had been in place in at least two crossings prior and was moved to the Lakina River in 1981. Significant structural damage has occurred multiple times throughout the years, most recently in 2010. There are currently load limits in place for the existing bridge as a result of recent damage the existing structure cannot be economically rehabilitated.

PROJECT DESCRIPTION

The Edgerton Highway is the only overland connection between the McCarthy and the rest of the state. The highway at this location is unpaved and classified as a Rural Major Collector. Construction of the new bridge over the Lakina River will require minor horizontal and vertical realignment of the McCarthy Road at the bridge approaches. These roadway geometry changes will lessen the severity of the curves leading up to the bridge and will allow sufficient clearance above design high water elevation. The proposed bridge will be significantly longer than the existing bridge, which will increase hydraulic conveyance through the expanded channel at the crossing. A temporary detour bridge will be constructed upstream of the existing structure as well as a partial-width gravel causeway downstream to facilitate bridge construction.

DESIGN ALTERNATIVES

ADOT&PF Bridge section provided two initial bridge design alternatives:

- Three-span decked concrete bulb-tee girder
- Two-span steel girder with a cast-in-place concrete deck

Additionally, U.S. Bridge submitted an unsolicited proposal for a pre-fabricated steel-truss type structure. This option was dismissed for further consideration due to higher material costs, construction costs, and because it was found overall to be a less robust structure compared to the above alternatives.

No design alternatives were considered for the roadway alignment approaching the bridge as the geometry is constrained by avoiding cut into unstable material (to the north) and minimizing fill impacts to the river (to the south).

PREFERRED ALTERNATIVE

The preferred alternative is a three-span decked concrete bulb-tee girder bridge with spill through abutments. This is a common structure type used extensively throughout the state. The concrete bulb-tee bridge has design advantages including: durability, cost, ease of maintenance compared to steel and in-state manufacture of girders.

DESIGN STANDARDS

The design of this project is based on:

- ADOT&PF *Highway Preconstruction Manual*, (PCM)
- ADOT&PF *Alaska Traffic Manual*, 2012
- AASHTO's *A Policy on Geometric Design of Highways and Streets*, 2001
- AASHTO's *Roadside Design Guide*, 2006
- AASHTO's *Guidelines for Geometric Design of Very Low-Volume Local Roads*, 2001

A design speed of 35 mph was selected based on analysis of existing corridor roadside geometry, compliance with AASHTO minimum design speed recommendations for rural collectors in rolling terrain, and recommendations found in the *McCarthy Road Scenic Corridor Plan* (1997).

VALUE ENGINEERING

The new federal highway program reauthorization "Moving Ahead for Progress in the 21st Century" (MAP-21) became effective July 6, 2012. MAP-21 does not require bridges off of the National Highway System (NHS) be evaluated for Value Engineering and therefore VE was not considered on this project.

3R ANALYSIS

Not Applicable

TYPICAL SECTION(S)

The proposed typical section for the approach to the bridge is an unpaved, two-lane roadway:

- 24-ft total top width
- 3% crowned cross slope
- 2:1 (H:V) side slopes
- Ditches will be developed where feasible and sloped to drain.

A cost-effective analysis using the Roadside Safety Analysis Program was performed on several different slope scenarios. The 2:1 side slopes were determined to be the most cost-effective typical section compared to two separate barn roof typical sections and compared to using barrier. The proposed typical is shown in Appendix F.

HORIZONTAL / VERTICAL ALIGNMENT

A grade raise of approximately 3.75 feet will be implemented, creating sufficient vertical clearance for the deeper girders from the design high water elevation. The centerline will shift approximately 15 feet downstream, which will improve the existing substandard horizontal geometry, move the road away from a cut slope in unstable material and allow for ditch construction. See Appendix E for preliminary plan and profile sheets.

DRAINAGE

The primary drainage in the project vicinity is the Lakina River. The bridge approach alignment is perched on a hillside and drains to the river. The 3% crowned cross slope will help shed water to ditches and down the embankment. Drainage improvements include the following:

- Ditch construction
- Clearing embankment slopes
- New culvert installation at driveway approach
- Minimum .5% slope on bridge to avoid collection on bridge deck

Post construction, “Best Management Practices” (BMPs) will be implemented to reduce the potential for erosion of soil and other contaminants from storm water from entering a water of the United States. BMPs will consist of:

- Permanent seeding on embankment slopes
- Riprap as embankment armor

SOIL CONDITIONS

The Lakina River is located in the Wrangell Mountains physiographic section of Alaska, specifically in the Chitina Valley. Glaciers and glacier related erosion have shaped the contours of the land and the soils are generally glacial in origin.

The Lakina River Bridge is located in the Continental Climatic Zone of Alaska. The climate is characterized by large daily and annual temperature variations, in addition to low precipitation, cloudiness, and humidity.

The bridge approach on the west side of the river is a side hill cut in glacial sediments. The soils consist of sandy gravelly silts with high frost susceptibility. The *Centerline Soils and Materials Site Investigation Lakina River to McCarthy Project S-0850(10)* (May 1972) specifically recommends against any additional cut into the 1.5:1 existing slope of the hillside as there are indicators of unstable conditions.

Bridge foundation investigative drilling will occur in the 2013 season.

EROSION AND SEDIMENT CONTROL

The project will include an Erosion and Sediment Control Plan (ESCP). This plan will describe BMPs that may be used during construction and serve as a guide for SWPPP development.

In order to avoid steepening an existing side hill cut through glacial sediments, a relatively high fill will be constructed through the road realignment, which is where the highest potential for erosion will likely be. Embankment slopes will not be constructed steeper than 2:1, however, temporary diversion detour slopes will be constructed as steep as 1.5:1 to limit impacts to wetlands and waters. Slopes will be seeded to provide temporary and permanent erosion protection. Perimeter control, inlet/outlet control at culverts, soil stabilization, construction sequencing and other measures as described in the ESCP will be used as appropriate to prevent or retain storm water runoff.

TRAFFIC ANALYSIS

A traffic analysis was not performed. The functional classification for the Edgerton Highway is rural major collector, and traffic is anticipated to increase at a rate of 1.5% per year. See Appendix C for complete Design Designation.

SAFETY IMPROVEMENTS

Safety improvements include:

- Removal of the existing damaged bridge and replacement with bulb-tee girder bridge with no overhead component.
- Addition of roadway shoulders (2') through project limits
- Horizontal alignment curve radius increased to meet design speed criteria and removal of one existing angle point
- Crashworthy end treatments at the bridge rail ends
- NCHRP Test Level 4 rail along the bridge

ACCESS CONTROL FEATURES

The Edgerton Highway does not have controlled access facilities. However, common access to adjacent property is controlled by the driveway permit process.

PEDESTRIAN / BICYCLE (ADA) PROVISIONS

Pedestrians and bicyclists will be accommodated with roadway shoulders.

INTELLIGENT TRANSPORTATION SYSTEM REQUIREMENTS

No Intelligent Transportation System elements exist or will be constructed.

RIGHT-OF-WAY REQUIREMENTS

An additional 50 feet of Right Of Way (ROW) will need to be acquired for a portion of the project on the south side of the road. Temporary construction easements will be necessary on portions on the north side of the road to accommodate the detour bridge and construction activities.

UTILITY RELOCATION AND COORDINATION

No above or below ground utilities exist within project limits. Utility relocations are not required.

PAVEMENT DESIGN

The Edgerton Highway at the Lakina River crossing is a gravel road and the project proposes to maintain the gravel surface.

In accordance with the PCM (Section 1180.7) and in consultation with the Regional Materials Engineer, the gravel surface and structure will be replaced with a gravel structure similar to the existing surface and will be described in the plans as the following (from top down):

- 6" crushed aggregate surface course, type E-1
- Selected material, type A for where fill is required above the existing roadway structure and for embankment fill
- the existing roadway structure and material

See Appendix F for typical section.

BRIDGE IMPROVEMENTS

The existing single lane, timber decked, steel truss bridge will be replaced with a longer, wider decked bulb-tee bridge with no overhead component. The existing bridge has an approximately 13 foot top width and the new bridge will have a 24 foot traveled way width.

See Appendix G for preliminary bridge layouts.

MAINTENANCE CONSIDERATIONS

The Edgerton Highway/ McCarthy Road is maintained by ADOT&PF. Maintenance & Operations will be affected by the following:

- Drainage improvements will help protect the embankment from water damage, thereby reducing maintenance efforts.

- Existing bridge is timber decked, new bridge will be concrete and require less maintenance
- New bridge will be appropriately sized for the crossing, reducing scour and erosion problems
- Removal of overhead component and widening the bridge should reduce the incidence of vehicular bridge strikes and associated costly repairs.

MATERIAL SOURCES

Material sources for this project will be contractor furnished; sufficient materials in quantity and quality are available from private sources in the area.

ENVIRONMENTAL COMMITMENTS

1. WATER QUALITY - Best management practices will be implemented during construction to minimized detachment and transport of sediment beyond the construction site. Due to the presence of downstream waters with the Wrangell St. Elias National Preserve the Alaska Department of Environmental Conservation (DEC) requires that a visual monitoring plan (Part 7.4 of the Alaska Construction General Permit) be included in the Storm Water Pollution Prevention Plan (SWPPP). The results of visual monitoring would be included in the on-site SWPPP. The SWPPP does not need to be submitted to DEC unless the total disturbance exceeds 5 acres.
2. MATERIAL SITES - SECTION 4(f) LANDS
Material sources for this project would be contractor furnished. The contractor would be required to identify all material sites proposed for use on this project within 30 days of contract award and provide written certification that all permits and clearances required to use material from the source have been obtained prior to any clearing or ground disturbance in the material source. Should the contractor receive written permission from the National Park Service (NPS) to utilize any NPS managed lands as a material source for this project, the contractor must provide that documentation to the Department at least 90 days prior to the date they expect to begin work in that material source. This window of time would allow the Department sufficient time to ensure the appropriate steps are taken to address any Section 4(f) requirements in the event that a Section 4(f) use would occur.
3. TRAFFIC
Short term road closures would be limited to one hour blocks of time. Four full 12-hour closures would be permitted with ample advanced public notice (7 days minimum). Emergency vehicles would be accommodated through the project at all times. No full road closures are permitted during the July 4th week/weekend and lane restrictions would be limited to 30 minutes or less. The contractor must participate in a public meeting in the McCarthy community prior to project start to discuss their schedule and operations. They would also be required to provide public information updates to the community and interested stakeholders on at least a biweekly basis so that area travelers are aware of days or timeframes in which they may encounter a closure or delay and can plan accordingly.

4. PERMITS - All state, federal and local permits shall be acquired, as needed, prior to construction. Prior to the use of any area not previously permitted by the Contract, the Contractor shall obtain all permits or clearances necessary to use the site for its intended purpose(s). All permit stipulations and conditions shall be followed including those in the Corps of Engineers Section 404 Permit or in any extensions or revisions of permits.
5. MIGRATORY BIRD TREATY ACT – All construction activity shall comply with the Migratory Bird Treaty Act to prevent the killing or taking of migratory birds, or any part, nest, or egg of such birds.
6. EAGLES – If an eagle nest is discovered within one-eighth mile of the project during the project, the USFWS should be contacted for A) a recommendation on whether the project related activities are likely to cause disturbance to eagles, B) a recommendation on disturbance-avoiding measures, and C) a recommendation on the need for a Bald and Golden Eagle Protection Act Permit. The U.S. Fish and Wildlife Service (USFWS) permit office can be contacted at: permitsR7MB@fws.gov or 907-786-3685. The website [/permit.htm](#) can be referenced for additional guidance.
7. CULTURAL RESOURCES - If archaeological or other cultural resources are unexpectedly discovered during construction, the contractor shall cease work immediately and notify the Project Engineer of the discovery. The Project Engineer shall contact the DOT&PF Regional Environmental Manager, who would turn notify other appropriate agencies.
8. FUEL HANDLING AND STORAGE OF PETROLEUM PRODUCTS - The contractor is required to develop a Hazardous Materials Control Plan to address containment, cleanup, and disposal of all construction related discharges of petroleum fuels, oils, and/or other hazardous substances. Wastes generated during construction would be properly handled, contained, and disposed of at an appropriately permitted disposal facility, in accordance with State and Federal laws.
9. AIR QUALITY – Watering of dust prone areas during construction will be implemented as needed to minimize air quality impacts.
10. INVASIVE SPECIES –
 - A. The use of listed noxious species for landscaping and erosion control purposes will be avoided.
 - B. Construction activities will be sequenced to minimize disturbed areas.
 - C. Project-disturbed areas will be seeded in a timely manner with non-invasive species providing adequate cover.

NOISE – The project will comply with any local noise ordinance or variance obtained

PERMITS – The following permits will be required:

- United States Army Corps of Engineers (Corps), Section 404

- Alaska Department of Fish and Game (ADF&G): Office of Habitat Management and Permitting, Title 41 Fish Habitat
- Alaska Department of Environmental Conservation (DEC): Wastewater Discharge Permit
- Alaska DEC 401 Water Quality Certification

WATERS – BMPs will be used to minimize sediment entering the Lakina River

WETLANDS – Mitigation for temporary and permanent impacts will be accomplished by in lieu fee payments to The Conservation Fund.

CLEARING – Equipment used for excavation will be washed prior to leaving the project site to reduce transport of invasive plant species.

See Appendix D for the Environmental Document.

DESIGN EXCEPTIONS

There are no design exceptions for this project.

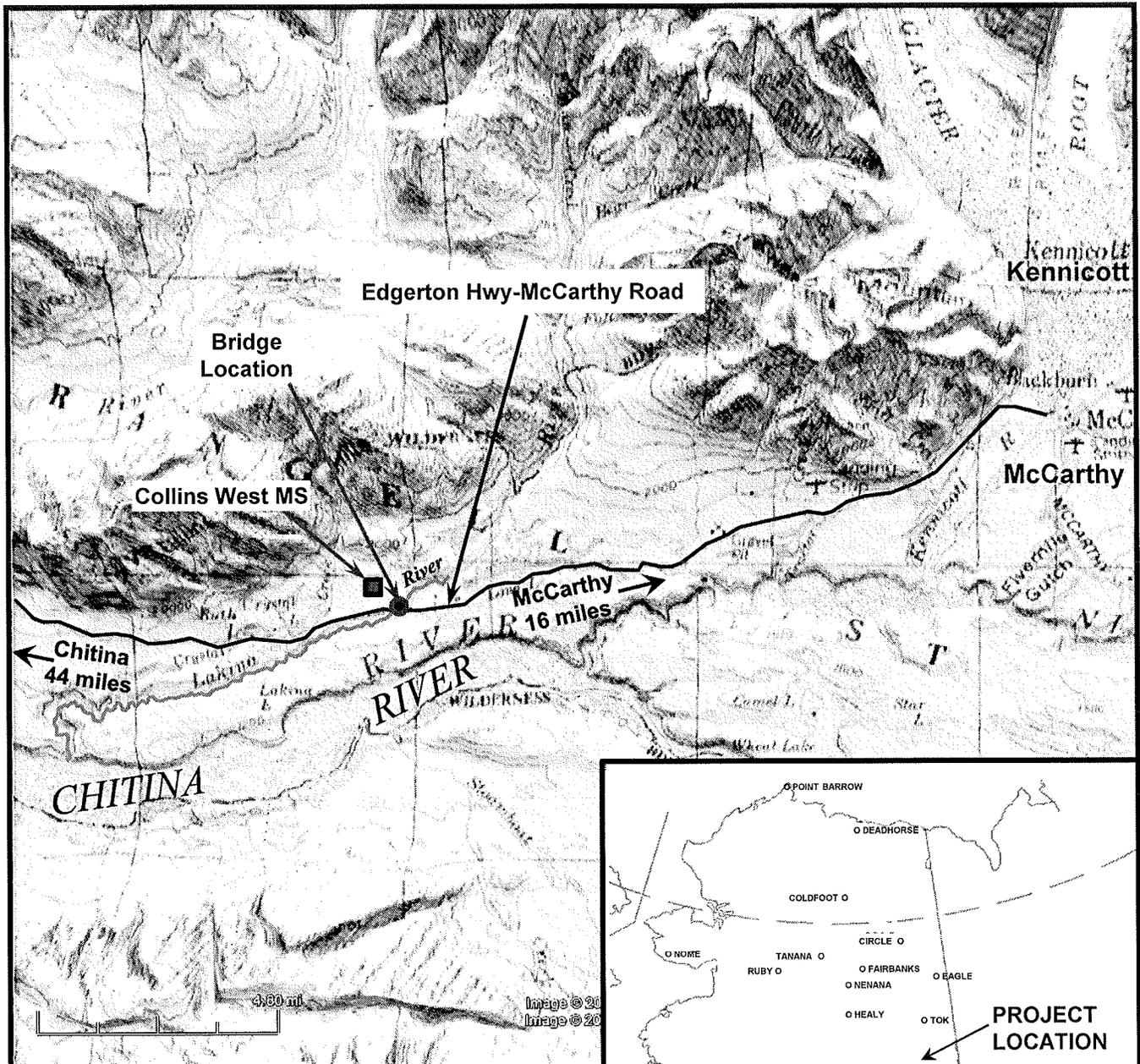
COST ESTIMATE

The estimated cost for this project is as follows:

Phase 2: Design	\$ 921,000.00
Phase 3: Right of Way	\$ 200,000.00
Phase 4: Construction	\$ 6,153,260.00
TOTAL COST OF PROJECT:	\$ 7,274,260.00

See Appendix B for the detailed preliminary construction cost estimate.

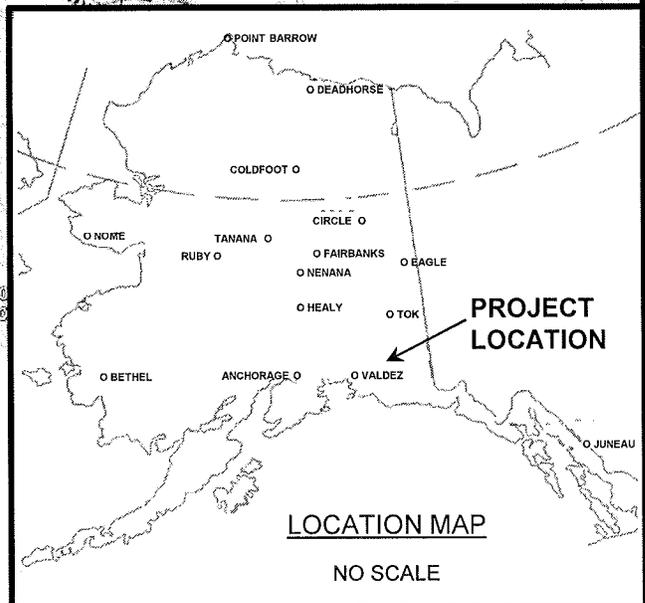
APPENDIX A
FIGURES



1 inch ~ 2900 feet

Project Location and Vicinity

T6S, R11E; Sections 2 & 3
 USGS McCarthy B7
 Copper River Meridian



LOCATION MAP

NO SCALE

STATE OF ALASKA Department of Transportation and Public Facilities Northern Region	
Edgerton Highway Lakina River Bridge Replacement BR-0850(26)/63905	
McCarthy, Alaska	
DATE: 3/20/13	Figure 1

APPENDIX B
PRELIMINARY COST ESTIMATE

ENGINEER'S ESTIMATE State of Alaska Department of Transportation & Public Facilities Northern Region	Lakina River Bridge Replacement, Preliminary Preliminary Estimate AKSAS No.: 63905 Federal No.: BR-0850(26) Version ID: 39291 Printed: 5/17/2013 9:23:39 AM
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Basic Bid

<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Amount</i>
201(1A)	Clearing	1	Acre	10,000.00	10,000.00
202(1)	Removal Of Structures And Obstructions	All required	Lump Sum	97,920.00	97,920.00
203(3)	Unclassified Excavation	800	Cubic Yard	18.00	14,400.00
203(5)	Borrow	10,000	Cubic Yard	19.00	190,000.00
205(1)	Excavation For Structures	500	Cubic Yard	30.00	15,000.00
205(3)	Foundation Fill	800	Cubic Yard	50.00	40,000.00
301(4)	Aggregate Surface Course, Grading E-1	666	Cubic Yard	60.00	39,960.00
501(1)	Class A Concrete	All required	Lump Sum	675,000.00	675,000.00
501(7)	Precast Concrete Member (110.25' Decked Bulb-Tee)	12	Each	72,500.00	870,000.00
503(1)	Reinforcing Steel	All required	Lump Sum	110,250.00	110,250.00
503(2)	Epoxy-Coated Reinforcing Steel	All required	Lump Sum	62,500.00	62,500.00
505(5)	Furnish Structural Steel Piles (HP14X117)	800	Linear Foot	125.00	100,000.00
505(5B)	Furnish Structural Steel Piles (3'-0" DIA. PIPE)	840	Linear Foot	500.00	420,000.00
505(6)	Drive Structural Steel Piles (HP14X117)	8	Each	7,500.00	60,000.00
505(6B)	Drive Structural Steel Piles (3'-0" DIA. PIPE)	6	Each	30,000.00	180,000.00
507(1)	Steel Bridge Railing	752	Linear Foot	225.00	169,200.00
520(1)	Temporary Crossings	All required	Lump Sum	800,000.00	800,000.00
603(1-24)	24 Inch CSP	25	Linear Foot	150.00	3,750.00
606(12)	Guardrail/bridge Rail Connection	4	Each	3,000.00	12,000.00
606(13)	Parallel Guardrail Terminal	4	Each	4,000.00	16,000.00
611(1)	Riprap, Class II	3,050	Cubic Yard	150.00	457,500.00
615(1)	Standard Sign	10	Square Foot	150.00	1,500.00
618(1)	Seeding	1	Acre	5,000.00	5,000.00

ENGINEER'S ESTIMATE State of Alaska Department of Transportation & Public Facilities Northern Region	Lakina River Bridge Replacement, Preliminary Preliminary Estimate AKSAS No.: 63905 Federal No.: BR-0850(26) Version ID: 39291 Printed: 5/17/2013 9:23:39 AM
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Basic Bid

<i>Item Number</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Amount</i>
639(1)	Residence Driveway	3	Each	1,500.00	4,500.00
640(1)	Mobilization And Demobilization	All required	Lump Sum	435,000.00	435,000.00
640(4)	Worker Meals and Lodging, or Per Diem	All required	Lump Sum	50,000.00	50,000.00
641(1)	Erosion, Sediment and Pollution Control Administration	All required	Lump Sum	30,000.00	30,000.00
641(2)	Temporary Erosion , Sediment and Pollution Control	All required	Contingent Sum	10,000.00	10,000.00
641(3)	Temporary Erosion , Sediment and Pollution Control	All required	Lump Sum	25,000.00	25,000.00
641(4)	Temporary Erosion , Sediment and Pollution Control Additives	All required	Contingent Sum	6,600.00	6,600.00
641(7)	SWPPP Manager	All required	Lump Sum	40,000.00	40,000.00
642(1)	Construction Surveying	All required	Lump Sum	40,000.00	40,000.00
642(3A)	Three Person Survey Party	All required	Contingent Sum	15,000.00	15,000.00
643(2)	Traffic Maintenance	All required	Lump Sum	100,000.00	100,000.00
644(1)	Field Office	All required	Lump Sum	25,000.00	25,000.00 (CF-CENG)
644(3)	Curing Shed	All required	Lump Sum	10,000.00	10,000.00 (CF-CENG)
644(6)	Vehicles	All required	Lump Sum	40,000.00	40,000.00 (CF-CENG)
PROJECT Summary	Pay Items:	37 Items		Subtotal:	5,181,080.00
	Minus Contractor Furnished CENG Items			Exc Subtotal	-75,000.00 5,106,080.00
	Construction Engineering (Percentage)	15%		CENG Subtotal	765,912.00 5,871,992.00
	Indirect Cost Allocation Plan (ICAP)	4.79%			281,268.42
	TOTAL PARTICIPATING				6,153,260.42
	ADDED COSTS (Not part of the Contract)				
	PROJECT TOTAL				6,153,260.42

APPENDIX C
DESIGN CRITERIA AND DESIGNATION

ALASKA DOT&PF PRECONSTRUCTION MANUAL
Chapter 11 - Design
PROJECT DESIGN CRITERIA

Project Name: Edgerton Highway Lakina River Bridge Replacement

<input checked="" type="checkbox"/> New Construction/Reconstruction	<input type="checkbox"/> Rehabilitation	<input checked="" type="checkbox"/> Other: Bridge Replacement
Project Number:	BR-0859(26)/63905	
Functional Classification:	Rural Major Collector/ Recreational and Scenic Road	Terrain: Rolling
Design Year:	2035	
Present ADT:	100	
Design Year ADT:	145	
Mid Design Period ADT:	125	
DHV:	17.70%	20 (2025) 25(2035)
Direction Split:	60/40	
Trucks:	5%	
Equivalent Axle Loading:	759 (Construction Year) 17,551 (20 Year Projection)	
Pavement Design Year:	N/A	
Design Vehicle:	WB50	
Design Speed:	35 MPH	
Stopping Sight Distance:	250 FT	
Passing Sight Distance:	1280 FT	
Maximum Allowable Grade:	9%	
Minimum Allowable Grade:	0.5% (Bridge Deck, for drainage)	
Maximum Degree of Curvature:	15.00 (380' Radius)	
Minimum K-Value for Vertical Curve:	Sag: 49	Crest: 29
Number of Roadways:	1	
Width of Traveled Way:	20FT (two 10 foot lanes)	
Width of Shoulders:	Outside: 2 FT	Inside: 0
Surface Treatment:	T/W: Aggregate Surface Course (E-1)	Shoulders: Aggregate Surface Course (E-1)
Side Slope Ratios:	Foreslopes: 2:1	Backslopes: 2:1
Degree of Access Control:	Driveway Permit Process	
Median Treatment:	N/A	
Illumination:	None	
Curb Usage and Type:	None	
Bicycle Provisions:	Travelled Way / Shoulder	
Pedestrian Provisions:	Travelled Way / Shoulder	
Misc. Criteria:	N/A	

Proposed - Designer/Consultant:

Date: 5/30/13

Endorsed - Engineering Manager:

Date: 5/30/2013

Approved - Preconstruction Engineer:

Date: 5/13/2013

MEMORANDUM

State of Alaska

Department of Transportation & Public Facilities

TO: Janet Brown, P.E.,
Preconstruction Engineer
Design/Engineering

DATE: February 22, 2012

FILE NO: I:\Traffic Data\DESIGN\2012\Edgerton_63905.doc

TELEPHONE NO: 451-5150

W
FROM: Ethan Birkholz
Chief, Planning and Support
Northern Region

SUBJECT: Edgerton Highway Lakina River Bridge
Replacement Project No. BR-0850(26)/63905
Design Designation

Please approve the attached design designation by signing the endorsement below which enables your staff to proceed.

Any questions should be directed to Jennifer Eason at 451-2257.

Janet Brown

Janet Brown, P.E., Preconstruction Engineer

3/5/12

Date

JCE/sgv

cc: Sarah Schacher, P.E., Engineering Manager, Northern Region
Jennifer Eason, Traffic Data Manager, Northern Region

Attachment

Please circulate and return to Traffic Data & Forecasting Manager	
Planning Manager	<i>sgv</i>
Planning Chief	<i>Janet</i>
FMATS urban only	
Traffic & Safety	<i>PKG</i>
Any changes, additions, or questions, Please write on this sheet	

DESIGN DESIGNATION
Northern Region Planning
Traffic Data & Forecasting

ROUTE NAME: Edgerton Highway
STATE ROUTE NO: 198000
CDS MILEAGE: 77.455
FUNCTIONAL CLASS: Rural Major Collector

	YEAR	ADT	%	
ADT	2010	100		
	2025	125		
	2035	145		
DHV	2025	20	17.7%	
	2035	25		
DS				40-60
T			5%	Total
			3	Class 5
			2	Class 6
ESAL'S (Design Lane)	To Be Provided by Design			

MEMORANDUM

State of Alaska

Department of Transportation & Public Facilities
Northern Region Preconstruction

EB **TO:** Ethan Birkholz
Planning Chief
Northern Region

DATE: January 30, 2012

FILE NO: V:\Hwy\63905 Lakina Bridge\08 -
Support\01 - Planning\ Design
Designation Memo.docx

THRU: Janet Brown, P.E. *JB*
Preconstruction Engineer
Northern Region

TELEPHONE NO: 451-5361

FAX NUMBER: 451-5126

FROM: Sarah Schacher, P.E. *SS*
Engineering Manager
Northern Region

SUBJECT: Edgerton Highway Lakina River
Bridge Replacement
Project No.: BR-0850(26)/63905
Design Designation

Please provide a Design Designation for the Edgerton Highway Lakina River Bridge Replacement.

- Present AADT
- Design Year AADT (2035)
- Mid-Design Period AADT (2020)
- Design Hourly Volume
- Directional Split
- Percent Trucks
- Design Functional Classification
- Intersection Turning Movement Counts at
- Other (Specify)

This project will replace the Lakina River Bridge and adjust the roadway approach grades as necessary. The project is scheduled for construction in FY2015.

Please complete the attached Traffic Date Request Form.

ESB/smb *ESB*

Attachment: As stated

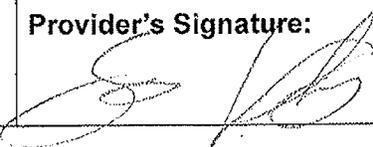
Traffic Data Request Form			TDR Form-1-10/20/03																		
Alaska Department of Transportation & Public Facilities																					
Requested By: Sarah E. Schacher, P.E.	Design Project Number: 63905	Date Requested: 1/30/12																			
Base Year: 2010 Base Year Total AADT: 100 AADT Growth Rate Forward (%/yr): 15 End Year: 2035 Back Cast (%/yr): Begin Year: 2010	Common Route Name: Edgerton Highway Functional Class: Urban/Rural <i>Major Collector</i> Historic M.P. Interval:	CDS Route Name: Route 198000 Edgerton Hwy/McCarthy Rd CDS M.P. Interval: 77-78																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Truck Category</th> <th style="width: 25%;">Load Factor (ESALs per Truck)</th> <th style="width: 25%;">% of Total AADT in Truck Category</th> </tr> </thead> <tbody> <tr><td>2-axle</td><td></td><td></td></tr> <tr><td>3-axle</td><td><i>See</i></td><td></td></tr> <tr><td>4-axle</td><td><i>attached</i></td><td></td></tr> <tr><td>5-axle</td><td></td><td></td></tr> <tr><td>≥ 6-axle</td><td></td><td></td></tr> </tbody> </table>	Truck Category	Load Factor (ESALs per Truck)	% of Total AADT in Truck Category	2-axle			3-axle	<i>See</i>		4-axle	<i>attached</i>		5-axle			≥ 6-axle			Lane Configuration Sketch: (Designer: Provide sketch of lane layout. Number each lane and show directions.) Indicate North <div style="text-align: right; margin-top: 10px;">  </div> <div style="margin-top: 20px;"> <p style="text-align: center;">Edgerton Highway</p> <hr style="border: 1px solid black;"/> <div style="display: flex; justify-content: center; align-items: center; gap: 20px;"> <div style="text-align: center;">#2 ←</div> <div style="text-align: center;">→ #1</div> </div> <hr style="border: 1px solid black;"/> </div>		
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5-axle																					
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Percent of Base Year Total AADT for Each Numbered Lane in Configuration Sketch: <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tbody> <tr><td style="width: 20%;">Lane #</td><td style="width: 80%;">% <i>60</i></td></tr> <tr><td>Lane #</td><td>% <i>40</i></td></tr> <tr><td>Lane #</td><td>%</td></tr> <tr><td>Lane #</td><td>%</td></tr> <tr><td>Lane #</td><td>%</td></tr> <tr><td>Lane #</td><td>%</td></tr> </tbody> </table>	Lane #	% <i>60</i>	Lane #	% <i>40</i>	Lane #	%	Lane #	%	Lane #	%	Lane #	%	Comments:								
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Lane #	%																				
Data Provided By: <i>Scott Voelkerdt</i>	Provider's Signature: 		Date Provided: <i>2/21/12</i>																		

Figure 6-1. Traffic Data Request (TDR) Form

Highway Log Report

CDS Route: 198000 Edgerton Hwy/Mccarthy Rd (Internal Dup # 0)

Milepoint: 60.000 to 92.616

General Direction: Southeast

Features Selected:

 Cross Streets
  Mileposts
  Bridges/Culverts
  Railroads Crossings
  Buildings/Landmarks

Attributes Selected

Functional Classification: Rural Major Collector

Milepoint	Side	Feature CDS	Feature
60.262	Ahead	-	 Chokosna River Br# 1193 Begin Deck
60.281	Behind	-	 Chokosna River 1193 End Deck
62.416	Ahead	-	 Gilahina River Br# 1194 Begin Deck
62.423	Behind	-	 Gilahina River 1194 End Deck
74.868	Right	-	 Crystal Lake
74.876	Left	-	 Crystal Creek Campground
77.455	Ahead	-	 Lakina River Br# 1195 Begin Deck
77.629	Behind	-	 Lakina River 1195 End Deck
78.563	Left	-	 Longlake Wildlife Refuge
78.601	Under	-	 Salmon Creek Culvert Br# 1347
89.500	Under	-	 Swift Creek Culvert
89.730	Right	-	 Willow Herb Mountn Depot
91.982	Left	-	 National Park Info
92.044	Right	-	 Northern Trails B&B
92.102	Right	-	 Glacier View Campground
92.476	Left	-	 Kennicott River Lodge
92.565	Left	-	 Copper Ore Rafting
92.616	Left	198030	 Kennicott Road
92.616	Left	-	 Parking
92.616	Ahead	-	 Kennicott River Tram

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
 02/15/12 SUMMARY DATA - ADT

TWVRM13
 15:03:21.7

STATION ID 32352000 EAST-WEST ROUTE 198000 MILEPOINT 60.362
 EDGERTON HIGHWAY AT CHOKOSNA RIVER BRIDGE

YEAR	AADT	PERCENT OF ANNUAL AVERAGE DAILY TRAFFIC						
		MON	TUE	WED	THR	FRI	SAT	SUN
1991	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1993	57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	104	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PF1 - INQUIRY PF2 - HELP PF3 - QUIT PF4 - TDS MENU
 PF5 - SELECTION PF10-NEXT STATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

Item No. _____

DATE 2/6/12

Project No. 63905

Project Name Lakina Bridge

Calc. by Scott V.

Checked by _____

Computations

For Lakina River Bridge Replacement Design Designation

<u>Year</u>	<u>ADT</u>
2010	100
2025	125
2035	145

ADT obtained from coverage count @ Chokona
Bridge, MP 60

1.5% growth rate used

15 yr factor: 1.25
25 yr factor: 1.45

DIV: 17.7%
2025: 20
2035: 25

Directional Spft: 40-60

% Trucks: 5% Per previous design designations

<u>Class</u>	<u>"Axles"</u>	<u>Le</u>	<u>Load Factor</u>
5	2	3	0.50
6	3	2	0.85

APPENDIX D
ENVIRONMENTAL DOCUMENT

State of Alaska
Department of Transportation & Public Facilities



CATEGORICAL EXCLUSION DOCUMENTATION FORM
FOR FEDERAL HIGHWAY ADMINISTRATION PROJECTS

Project Name: Edgerton Highway Lakina River Bridge Replacement

Project Number (state/federal):63905/BR-0850(26)

Date: 3/20/2013

CE Designation: 23 CFR 771.117(d)(3)

23 CFR 771.117() ()

List of Attachments:

Figure 1 Project Location and Vicinity Map, Figure 2 Aerial Map, Figure 3 Preliminary Plan;
Appendices: Class of Action Determination, Section 106 Consultation, ADEC Antidegradation
Coordination, Section 4(f) Consultation, Public Involvement, Scoping Documentation

I. Project Purpose and Need

The purpose of the project is to provide a safe and continuous roadway crossing of the Lakina River on McCarthy Road (Edgerton Highway). A new bridge is needed to address structural deficiencies of the bridge. High water events have resulted in repeated scour and maintenance repairs at the bridge abutments. In addition overhead members of the current bridge have been hit numerous times causing extensive damage that has compromised the load bearing capacity of the bridge and has required repairs. The most current incident occurred in 2009. This road serves as the only road access for residents traveling to and from the community of McCarthy and is used by fuel and service trucks that supply the community. The bridge provides passage on McCarthy Road for tourists on their route to the McCarthy area. This tourist transportation connection is an important contribution to the local economy.

II. Project Description

Lakina River Bridge near MP 44 of McCarthy Road is approximately 16 miles west of McCarthy, Alaska. The project is located within T6S, R11E, Sections 2 & 3; Copper River Meridian; USGS Quad Map McCarthy B7. The bridge coordinates are Latitude 61°22'28.57"N, Longitude - 143°20'56.60"W (WGS 84). See Figure 1 for a project location and vicinity map.

This proposed project includes the following work items: 1) replace the Lakina River Bridge (Bridge #1195) near the existing bridge alignment, 2) alter bridge hydraulic features as needed including the bridge grade, bridge span, abutments, stream bank, and stream channel 3) modify the highway approaches as needed to accommodate the new bridge, 4) relocate existing utilities present in the project area as needed.

Temporary construction work may include temporary bypass roads and stream diversions at stream crossings, temporary fills to isolate work areas from surrounding waters, a temporary work bridge or causeway to facilitate bridge construction, and/or temporary erosion control measures.

An existing material site is located in the northwest quadrant of the bridge. The contractor may elect to utilize this site or other contractor-furnished material sites.

III. Environmental Consequences

- For each yes, summarize the activity evaluated and the magnitude of the impact.
- For any consequence category with an asterisk (*), additional information must be attached such as an alternatives analysis, agency coordination or consultation, avoidance measures, public notices, or mitigation statement.
- Include direct and indirect impacts in each analysis.

A. <u>Right-of-Way Impacts</u>	<u>N/A</u>	<u>YES</u>	<u>NO</u>
1. Additional right-of-way required.		<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Permanent easements required.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Estimated number of parcels: <u>0</u>			
• Full or partial property acquisition required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Estimated number of full parcels: <u>0</u>			
• Estimated number of partial parcels: <u>1</u>			
• Property transfer from state or federal agency required. <i>If yes, list agency in No. 4 below.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Business or residential relocations required. <i>If yes, summarize the findings of the conceptual stage relocation study in No. 4 below and attach the conceptual stage relocation study.</i>	<input type="checkbox"/>	<input type="checkbox"/> *	<input checked="" type="checkbox"/>
• Number of relocations: <u>0</u>			
• Type of relocation: Residential: <input type="checkbox"/> Business: <input type="checkbox"/> Residential (Indicate number: <u>Not Applicable</u>) Business (Indicate number: <u>Not Applicable</u>)			
• Last-resort housing required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Will the project or activity have disproportionately high and adverse human health or environmental effects on minority populations and 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 will involve use of ANILCA land that requires an ANILCA Title XI approval. <i>If yes, the project is not assigned to the State per the 6004 MOU and the CE must be processed by FHWA.</i>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Summarize the right-of-way impacts, if any: An estimated 1.5 acres of permanent right-of-way and 0.28 acres of temporary easement would be needed for the project.			
B. <u>Social and Cultural Impacts</u>	<u>N/A</u>	<u>YES</u>	<u>NO</u>
1. The project will affect neighborhoods or community cohesion.		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. The project will affect travel patterns and accessibility (e.g. vehicular, commuter, bicycle, or pedestrian).		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. The project will affect school boundaries, recreation areas, churches, businesses, police and fire protection, etc.		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. The project will affect the elderly, handicapped, nondrivers, transit-dependent, minority and ethnic groups, or the economically disadvantaged.		<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. There are unresolved project issues or concerns of a federally-recognized Indian Tribe [as defined in 36 CFR 800.16(m)]. <i>If yes, the project is not assigned to the State per the 6004 MOU and the CE must be processed by FHWA.</i>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

6. Summarize the social and cultural impacts, if any:

In the short-term, temporary traffic delays and road closures would occur during construction. The roadway is officially open from May 15 to October 15. During this season the following measures would be implemented:

- Short term road closures would be limited to one hour blocks of time.
- Four full 12-hour closures would be permitted with ample advanced public notice (7 days minimum).
- Emergency vehicles would be accommodated through the project at all times.
- No full road closures are permitted during the July 4th week/weekend and lane restrictions would be limited to 30 minutes or less.
- The contractor must participate in a public meeting in the McCarthy community prior to project start to discuss their schedule and operations. They would also be required to provide public information updates to the community and interested stakeholders on at least a biweekly basis so that area travelers are aware of days or timeframes in which they may encounter a closure or delay and can plan accordingly.

Long term accessibility is expected to be improved providing a net benefit to the community and its visitors by reducing the incidents of high water bridge scour damage and overhead bridge member hits that cause traffic interruptions needed to complete maintenance repairs. The new bridge's improved load bearing capacity would also improve long term access to and from communities for heavy trucks.

C. Economic Impacts

N/A YES NO

- | | | |
|--|--------------------------|-------------------------------------|
| 1. The project will have adverse economic impacts on the regional and/or local economy, such as effects on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The project will adversely affect established businesses or business districts. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Summarize the economic impacts, if any: | | |

In the short-term, temporary traffic delays and road closures would occur during construction. The roadway is officially open from May 15 to October 15. During this season the following measures would be implemented.

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- D. Land Use and Transportation Plans** N/A YES NO
1. Project is consistent with land use plan(s).
 - a. Identify the land use plan(s) and date Copper Valley Regional Plan (2003)
 2. Project is consistent with transportation plan(s).
 - a. Identify the transportation plan(s) and date. Interior Alaska Transportation Plan, November 2010
 3. Project would induce adverse indirect and cumulative effects on land use or transportation. *If yes, attach analysis.*
 4. Summarize how the project is consistent or inconsistent with the land use plan(s) and transportation plan(s):

The project is consistent with the Copper Valley Regional Plan. Two of its transportation objectives (page 75) are to:

- 1) "Maintain and improve safety of existing roadways, trails, paths, and facilities. Support the Department of Transportation in their efforts to maintain and improve Copper Valley Roadways."
- 2) "Make McCarthy Road a priority in the DOT budget and construction plans. Support the Department of Transportation in their efforts to maintain and improve the McCarthy Road."

The project is consistent with the current Interior Alaska Transportation Plan's goal to preserve the existing transportation facilities and extending the life of these facilities.

The project does not change land use or induce land use change but corrects bridge deficiencies in order to preserve the function and safety of the existing roadway such that it continues to serve the existing land uses.

- E. Impacts to Historic Properties** N/A YES NO
1. Does the project involve a road that is included on the "List of Roads Treated as Eligible" in the Alaska Historic Roads PA? *If yes, follow the Interim Guidance for Addressing Alaska Historic Roads.*
 2. Does the project qualify as a listed activity that has no potential to cause effects to historic properties? *If yes, attach concurrence from the FHWA Area Engineer (non-assigned projects) or Statewide NEPA Manager for 6004-assigned projects.* *
 - a. Indicate the appropriate policy directive or memo that identifies the project as an action with no potential to cause effects to historic properties:
Not Applicable
 3. Is a National Register of Historic Places listed or eligible property in the Area of Potential Effect?
 4. Date Consultation/Initiation Letters sent 2/15/2012 *Attach copies to this form.*
 - a. List consulting parties National Park Service, Ahtna Incorporated, Chitina Native Corporation, Native Village of Chitina
 - b. If no letters were sent, explain why not. *Attach "Section 106 Proceed Directly to Findings Worksheet", if applicable* Not Applicable
 5. Date "Finding of Effect" Letters sent 11/27/12 *Attach copies to this form*

E. Impacts to Historic Properties

N/A YES NO

a. State any changes to consulting parties The McCarthy Area Council was added to the list of consulting parties.

6. List responding consulting parties, comment date, and summarize:

In a 3/11/2012 letter responding to FHWA's 2/15/2012 initiation letters, the National Park Service (NPS), regarding the only previously identified and evaluated site in the project APE (XMC-218), expressed their agreement with the "not eligible" determination and a finding of no historic properties affected. The NPS also encouraged DOT& PF to assess project impacts on the treated-as-eligible McCarthy Road. In a follow up 6/19/12 phone conversation, DOT&PF shared the requested assessment. In response the NPS cultural resources specialist, Greg Biddle, expressed agreement with a finding of no adverse effect both for the project and for the treated-as-eligible McCarthy Road.

In a 3/9/2012 email response to the 2/15/2012 initiation letters, the State Historic Preservation Officer (SHPO) noted the close proximity of potential human remains at site XMC-256 near to Collins Material Site East. SHPO recommended investigating potential disturbance of human remains. In the 11/27/2012 findings letter FHWA replied that the Collins Material Site West has been removed from the APE leaving the human remains concern area distant and unaffected by the project. SHPO also wrote in their 3/9/2012 email that they looked forward to forthcoming documentation regarding effect to the road and eligibility of the bridge. This documentation was sent to SHPO by FHWA in a 11/27/2012 findings letter. In response SHPO concurred in a 12/6/2012 letter that the Lakina River Bridge is not eligible and that the project would result in no adverse effect to historic properties, including the treated-as-eligible McCarthy Road.

In a 3/22/2012 Consultation Options Form Chitina Native Corporation (CNC) indicated that there may be places of traditional religious and cultural importance present or within the vicinity of the proposed project and that further consultation is requested. In a follow up 6/2/2012 phone conversation, CNC communicated that they have no specific resource concerns or information but that their concern is limited to being updated and advised of the project.

No other consulting party responses were received.

7. Are there any unresolved issues with consulting parties?

a. If yes, list Not Applicable

8. Date SHPO concurred with "Finding of Effect" 12/6/2012 *Attach copy to this form.*

9. Will there be an adverse effect on a historic property? *If yes, attach correspondence (including response from ACHP) and signed MOA. If yes, Programmatic Agreements (PCEs) do not apply.*

10. Summarize any effects to historic properties. *List affected sites (by AHRS number only) and any commitments or mitigative measures. Include any commitments or mitigative measures in Section VI.*

No project-related adverse effects to historic properties were identified and no

historic-property-related mitigation measures were determined to be necessary.

- | F. <u>Wetland Impacts</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|--------------------------|---------------------------------------|-------------------------------------|
| 1. Project affects wetlands as defined by the U.S. Army Corps of Engineers (USACE). <i>If yes, document public and agency coordination required per E.O. 11990, Protection of Wetlands.</i> | | <input checked="" type="checkbox"/> * | <input type="checkbox"/> |
| 2. Are the wetlands delineated in accordance with the “Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region (Version 2.0) Sept. 2007”? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Estimated area of wetland involvement (acres): <u>0.05 acre permanent, 0.05 acre temporary</u> | | | |
| 4. Estimated fill quantities (cubic yards): <u>318 cu.yds.</u> | | | |
| 5. Estimated dredge quantities (cubic yards): <u>None</u> | | | |
| 6. Is a USACE authorization anticipated?
<i>If yes, identify type:</i> NWP <input type="checkbox"/> Individual <input checked="" type="checkbox"/> General Permit <input type="checkbox"/> Other <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Wetlands Finding <i>Attach the following supporting documentation as appropriate:</i> | | | |
| • <i>Avoidance and Minimization Checklist, and Mitigation Statement</i> | | | |
| • <i>Wetlands Delineation.</i> | | | |
| • <i>Jurisdictional Determination.</i> | | | |
| • <i>Copies of public and resource agency letters received in response to the request for comments.</i> | | | |
| a. Are there practicable alternatives to the proposed construction in wetlands? <i>If yes, the project cannot be approved as proposed.</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Does the project include all practicable measures to minimize harm to wetlands? <i>If no, the project cannot be approved as proposed.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Only practicable alternative: Based on the evaluation of avoidance and minimization alternatives, there are no practicable alternatives that would avoid the project’s impacts on wetlands. The project includes all practicable measures to minimize harm to the affected wetlands as a result of construction. <i>If no, the project cannot be approved as proposed.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8. Summarize the wetlands impacts and mitigation, if any. <i>Include any commitments or mitigative measures in Section VI.</i> | | | |

A notice of wetland involvement was placed in the Copper River Record on 8/16/12 and 8/23/12 and posted on the State of Alaska public notice website on 8/20/12. A copy of the newspaper advertisement and website public notice are located in the attached Public Involvement appendix.

The estimated project impact on wetlands is 0.05 acre temporary and 0.05 acre permanent for a total of 0.1 acres. Wetlands within the project work area are limited to shrub wetlands located on river gravel bars and at the margins of the Lakina River streambed. See Figures 2 and 3. The project as designed would be self-mitigating by providing a net benefit to the Lakina River and its floodplain wetlands. The bridge is proposed to be lengthened by 136 feet and the bridge approach banks cut back to provide a larger hydraulic opening and reduced channel constriction and flow velocities. A larger opening is expected to benefit the river allowing it to meander over a greater portion of its natural floodplain and supplying greater water flows to its floodplain and wetlands. In addition, scour events around the bridge abutments are expected to occur less frequently and be less severe reducing erosion-generated sediment releases to the river. The two piers to be placed within the river’s meander limits under the bridge would be skewed to closely match the typical direction of stream flow and would be placed at or above the current active channel limits. See Figure 3.

G. Water Body Involvement

- | | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|--------------------------|---------------------------------------|-------------------------------------|
| 1. Project affects a water body. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Project affects a navigable water body as defined by USCG, (i.e. Section 9). | <input type="checkbox"/> | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 3. Project affects Waters of the U.S. as defined by the USACE, Section 404. | <input type="checkbox"/> | <input checked="" type="checkbox"/> * | <input type="checkbox"/> |
| 4. Project affects Navigable Waters of the U.S. as defined by the USACE (Section 10) | <input type="checkbox"/> | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 5. Project affects fish passage across a stream frequented by salmon or other fish(i.e. Title 16.05.841) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Project affects a cataloged anadromous fish stream, river or lake (i.e. Title 16.05.871). | <input type="checkbox"/> | <input checked="" type="checkbox"/> * | <input type="checkbox"/> |
| 7. Project affects a designated Wild and Scenic River or land adjacent to a Wild and Scenic River. <i>If yes, the Regional Environmental Manager should consult with the Statewide NEPA Manager (assigned CEs) or FHWA Area Engineer and FHWA Environmental Program Manager (non-assigned CEs) to determine applicability of Section 4(f).</i> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Proposed water body involvement: Bridge <input checked="" type="checkbox"/> Culvert <input type="checkbox"/> Embankment Fill <input checked="" type="checkbox"/>
Relocation <input type="checkbox"/> Diversion <input checked="" type="checkbox"/> Temporary <input checked="" type="checkbox"/> Permanent <input checked="" type="checkbox"/> Other <input type="checkbox"/> | <input type="checkbox"/> | | |
| 9. Type of stream or river habitat impacted: Spawning <input type="checkbox"/> Rearing <input checked="" type="checkbox"/> Pool <input type="checkbox"/>
Riffle <input checked="" type="checkbox"/> Undercut bank <input type="checkbox"/> Other <input type="checkbox"/> | <input type="checkbox"/> | | |
| 10. Amount of fill below (cubic yards): OHW <u>3604 cy</u> MHW <u>Not Applicable</u> HTL <u>Not Applicable</u> | | | |
| 11. Summarize the water body impacts and mitigation, if any. <i>Include any commitments or mitigative measures in Section VI.</i> | | | |

The estimated project impact on the Lakina River is 0.23 acre temporary and 0.4 acre permanent for a total of 0.63 acres. The project as designed would be self-mitigating by providing a net benefit to the Lakina River and its floodplain wetlands. The bridge is proposed to be lengthened by 136 feet and the bridge approach banks cut back to provide a larger hydraulic opening and reduced channel constriction and flow velocities. A larger opening is expected to benefit the river allowing it to meander over a greater portion of its natural floodplain and supplying greater water flows to the floodplain and its wetlands. In addition scour events around the bridge abutments are expected to occur less frequently and be less severe reducing erosion-generated sediment releases to the river. The two piers to be placed within the river's meander limits under the bridge would be skewed to closely match the typical direction of stream flow and would be placed at or above the current active channel limits. See Figure 3.

H. Fish and Wildlife

- | | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|--|-------------------------------------|---------------------------------------|-------------------------------------|
| 1. Anadromous and resident fish habitat. <i>Any activity or project that is conducted below the ordinary high water mark of an anadromous stream, river, or lake requires a Fish Habitat Permit.</i> | | | |
| a. Database name(s) and date(s) queried: Alaska DFG Fisheries Database (2/13/13) | | | |
| b. Anadromous fish habitat present in project area. | | <input checked="" type="checkbox"/> * | <input type="checkbox"/> |
| c. Resident fish habitat present in project area | | <input checked="" type="checkbox"/> * | <input type="checkbox"/> |
| d. Adverse effect on spawning habitat. | <input checked="" type="checkbox"/> | <input type="checkbox"/> * | <input type="checkbox"/> |
| e. Adverse effect on rearing habitat. | <input type="checkbox"/> | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| f. Adverse effect on migration corridors. | <input type="checkbox"/> | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| g. Adverse effect on subsistence species. | <input type="checkbox"/> | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |

H. Fish and Wildlife

N/A YES NO

2. Essential Fish Habitat (EFH). *EFH includes any anadromous stream used by any of the five species of Pacific salmon for migration, spawning or rearing, as well as other coastal, nearshore and offshore areas as designated by NMFS.*

- a. Database name(s) and date(s) queried: Alaska Department of Fisheries Database (2/13/13)
- b. EFH present in project area
- c. Project proposes construction in EFH. *If yes, describe EFH impacts in H.6.*
- d. Project may adversely affect EFH. *If yes, attach EFH Assessment.*
- e. Project includes conservation recommendations proposed by NMFS. *If NMFS conservation recommendations are not adopted, formal notification must be made to NMFS. Summarize the final conservation measures in H.6 and list in Section VI.*

*

3. Wildlife Resources:

- a. Project is in area of high wildlife/vehicle accidents.
- b. Project would bisect migration corridors.
- c. Project would segment habitat.

4. Bald and Golden Eagle Protection Act. *If yes to any below, consult with USFWS and attach documentation of consultation.*

- a. Eagle data source(s) and date(s) : USFWS Alaska Bald Eagle Nest Atlas
- b. Project visible from an eagle nesting tree?
- c. Project within 330 feet of an eagle nesting tree?
- d. Project within 660 feet of an eagle nesting tree?
- e. Will the project require blasting or other activities that produce extreme loud noises within 1/2 a mile from an active nest?
- f. Is an eagle permit required?

*
*
*
*
*

5. Is the project consistent with the Migratory Bird Treaty Act?

6. Summarize fish and wildlife impacts and mitigation, including timing windows, if any. *Include any commitments or mitigative measures in Section VI.*

The design of the bridge, including pier placement, would be coordinated with the Alaska Department of Fish and Game (DFG). The bridge design would improve the hydraulic opening by lengthening the bridge by 136 feet and cutting back banks, reduce channel constriction and flow velocities, improve water supply to floodplain and wetlands, and reduce scour events and erosion-generated sediment releases. With implementation of DFG Fish Habitat Permit provisions, no adverse effects to resident or anadromous fish or their habitat are anticipated.

A review of the USFWS Alaska Bald Eagle Nest Atlas found no recorded bald eagle nesting sites within or near the project area. The nearest nest locations are 2 miles south on the Chitina River and approximately 4 miles southeast near the Nizina River.

- | I. <u>Threatened and Endangered Species (T&E)</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|--|------------|-------------------------------------|-------------------------------------|
| 1. Database name(s) and date(s) queried: USFWS E,T,P,C, and D Species in Alaska, Current List | | | |
| 2. Listed threatened or endangered species present in the project area. | | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 3. Threatened or endangered species migrate through the project area. | | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 4. Designated critical habitat in the project area. | | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 5. Proposed species present in project area. | | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 6. Candidate species present in project area. | | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 7. What is the effect determination for the project? <i>Select one.</i> | | | |
| a. Project has no effect on listed or proposed T&E species or designated critical habitat. | | <input checked="" type="checkbox"/> | |
| b. Project is not likely to adversely affect a listed or proposed T&E species or designated critical habitat. <i>Informal Section 7 consultation is required. Attach consultation documentation, including concurrence from the Federal agency, to this form.</i> | | <input type="checkbox"/> | |
| c. Project is likely to adversely affect a listed or proposed T&E species or designated critical habitat. <i>If yes, consult the FHWA Area Engineer (non-assigned projects) or Statewide NEPA Manager for 6004-assigned projects.</i> | | <input type="checkbox"/> | |
| 8. Summarize the findings of the consultation, conferencing, biological evaluation, or biological assessment and the opinion of the agency with jurisdiction, or state why no coordination was conducted. <i>Include any commitments or mitigative measures in Section VI.</i> | | | |

There are no federally listed species or critical habitat at or near this project location.

- | J. <u>Invasive Species</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|--|------------|-------------------------------------|--------------------------|
| 1. Database name(s) and date(s) queried: AKEPIC Database (2/13/13) | | | |
| 2. Does the project include all practicable measures to minimize the introduction or spread invasive species, making the project consistent with E.O. 13112 (Invasive Species)? <i>If yes, list measures in J.3.</i> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Summarize invasive species impacts and minimization measures, if any. <i>Include any commitments or mitigative measures in Section VI.</i> | | | |

A review of the AKEPIC database found five occurrence records of common dandelion (*taraxacum officinale*) in the vicinity of the bridge.

With the implementation of practicable measures to minimize the introduction or spread of invasive species, the project is expected to result in no substantial invasive species impacts. Minimization measures proposed are: 1) Avoid the use of listed noxious species for landscaping and erosion control purposes. 2) Sequence construction activities to minimized disturbed areas. 3) Implement timely seeding of project-disturbed areas with non-invasive species providing adequate cover.

- | K. <u>Hazardous Waste</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|------------|----------------------------|-------------------------------------|
| 1. Database name(s) and date(s) queried: Alaska DEC Contaminated Site Database & Dept. of Interior National Atlas Database (2/13/13) | | | |
| 2. There are potentially contaminated sites within or adjacent to the existing and/or proposed ROW. | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. There are identified contaminated sites within or adjacent to the existing and/or proposed ROW. | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Extensive excavation is proposed adjacent to, or within, a known hazardous waste site, or the potential for encountering hazardous waste during construction is high. <i>If yes, attach the hazardous waste investigation report and approved ADEC Corrective Action Plan.</i> | | <input type="checkbox"/> * | <input checked="" type="checkbox"/> |
| 5. Summarize the hazardous waste impacts and mitigation, if any. <i>Include any commitments or mitigative measures in Section VI.</i> | | | |

A review of the Alaska Department of Environmental Conservation (ADEC) contaminated site databases was completed on 2/13/13. No sites were found to be within the the project area. Review (2/13/13) of the U.S Department of Interior's National Atlas database of potentially contaminated sites revealed no sites of concern for encountering contamination within the project area.

- | L. <u>Air Quality (Conformity)</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|-------------------------------------|----------------------------|-------------------------------------|
| 1. The project is located in an air quality maintenance area or nonattainment area (CO or PM-10 or PM-2.5). <i>If yes, indicate CO <input type="checkbox"/> or PM-10 <input type="checkbox"/> or PM-2.5 <input type="checkbox"/>, and complete the remainder of this section.</i> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The project is included in a conforming Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP).
a. List dates of FHWA/FTA conformity determination: _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The project is exempt from an air quality analysis per 40 CFR 93.126 (Table 2 and Exempt Projects). <i>If no, a project-level air quality conformity determination is required for CO nonattainment and maintenance areas, and a qualitative project-level analysis is required for both PM-2.5 and PM-10 nonattainment and maintenance areas.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Have there been a significant change in the scope or the design concept as described in the most recent conforming TIP and LRTP? <i>If yes, describe changes in L.8. In addition, the project must satisfy the conformity rule's requirements for projects not from a plan and TIP, or the plan and TIP must be modified to incorporate the revised project (including a new conformity analysis).</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. A CO project-level analysis was completed meeting the requirements of Section 93.123 of the conformity rule. The results satisfy the requirements of Section 93.116(a) for all areas or 93.116(b) for nonattainment areas. <i>Attach a copy of the analysis.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> * | <input type="checkbox"/> |
| 6. A PM-2.5 project-level air quality analysis was completed meeting the requirements of Section 93.123 of the conformity rule. The results satisfy the requirements of Section 93.116. <i>Attach a copy of the analysis.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> * | <input type="checkbox"/> |
| 7. A PM-10 project-level air quality analysis was completed meeting the requirements of Section 93.123 of the conformity rule. The results satisfy the requirements of Section 93.116. <i>Attach a copy of the analysis.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> * | <input type="checkbox"/> |

8. Summarize air quality impacts, mitigation, and agency coordination, if any. *Include any commitments or mitigative measures in Section VI.*

The project is not located in an air quality nonattainment or maintenance area.

M. <u>Floodplain Impacts (23 CFR 650, Subpart A)</u>	<u>N/A</u>	<u>YES</u>	<u>NO</u>
1. Project encroaches into the base (100 year) flood plain in fresh or marine waters. Identify floodplain map source and date : <u>FEMA Unmapped Community ID#025058</u> <i>If yes, attach documentation of public involvement conducted per E.O. 11988 and 23 CFR 650.109. Consult with the regional or Statewide Hydraulics/Hydrology expert. Attach the required location hydraulic study developed per 23 CFR 650.111. Answer questions M.1.a through d.</i> <i>If no, skip to M.2.</i>		<input type="checkbox"/> *	<input checked="" type="checkbox"/>
a. Is there a longitudinal encroachment into the 100-year floodplain?	<input checked="" type="checkbox"/>	<input type="checkbox"/> *	<input type="checkbox"/>
b. Is there significant encroachment as defined by 23 CFR 650.105(q)? <i>If yes, the project cannot be approved as proposed without a finding that the proposed action is the "Only Practicable Alternative" as defined in 23 CFR 650.113. Attach the finding for approval.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/> *	<input type="checkbox"/>
c. Project encroaches into a regulatory floodway.	<input checked="" type="checkbox"/>	<input type="checkbox"/> *	<input type="checkbox"/>
d. The proposed action would increase the base flood elevation one-foot or greater.	<input checked="" type="checkbox"/>	<input type="checkbox"/> *	<input type="checkbox"/>
2. Project conforms to local flood hazard requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Project is consistent with E.O. 11988 (Floodplain Protection). <i>If no, the project cannot be approved as proposed.</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Summarize floodplain impacts and mitigation, if any. <i>Include any commitments or mitigative measures in Section VI.</i>			

Not Applicable.

N. Noise Impacts (23 CFR 772)

N/A YES NO

1. Does the project involve any of the following? *If yes, complete N.1.a.*

If no, a noise analysis is not required. Skip to section O.

- Construction of highway on a new location.
- Substantial alteration in vertical or horizontal alignment as defined in 23 CFR 772.5.
- An 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.

a. Identify below which category of land uses are adjacent: *A noise analysis is required if any lands in Categories A through E are identified, and the response to N.1 is 'yes'.*

Category A: Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.

Category B: Residential. *This includes undeveloped lands permitted for this category.*

Category C (exterior): Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. *This includes undeveloped lands permitted for this category.*

Category D (interior): Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

Category E: Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not listed above. *This includes undeveloped lands permitted for this category.*

2. Does the noise analysis identify a noise impact? *If yes, explain in N.3*

3. Summarize the findings of the attached noise analysis and noise abatement worksheet, if applicable:

Not Applicable.

- | O. <u>Water Quality Impacts</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|------------|-------------------------------------|-------------------------------------|
| 1. Project would involve a public or private drinking water source. <i>If yes, explain in O.7</i> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Project would result in a discharge of storm water to a Water of the U.S. (per 40 CFR 230.3(s)) | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Project would discharge storm water into or affect an ADEC designated Impaired Waterbody. <i>If any of the Impaired Waterbodies have an approved or established Total Maximum Daily Load, describe project impacts in O.7</i> | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| a. List name(s), location(s), and pollutant(s) causing impairment:
<u>Not Applicable</u> | | | |
| 4. Estimate the acreage of ground-disturbing activities that will result from the project?
<u>3.8</u> acres | | | |
| 5. Is there a municipal separate storm sewer system (MS4) APDES permit, or will runoff be mixed with discharges from an APDES permitted industrial facility? | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| a. If yes, list APDES permit number and type: <u>Not Applicable</u> | | | |
| 6. Would the project discharge storm water to a water body within a national park or state park; a national or state wildlife refuge? <i>If yes and Alaska Construction General Permit applies to the project, consultation with ADEC is required at least 30 days prior to planned start of construction activities.</i> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Summarize the water quality impacts and mitigation, if any. <i>Include any commitments or mitigative measures in Section VI.</i> | | | |

No discharges of stormwater to Waters of the U.S. are proposed other than the potential for overland runoff. In order to minimize water quality impacts, temporary erosion control and stabilization measures [Best Management Practices (BMPs)] would be used during construction activities to minimize erosion of soils and transportation of sediment beyond the immediate construction site. Water quality is expected to meet state and federal water quality standards. As necessary, in compliance with the APDES General Permit for Construction Activities, the construction contractor would issue a Notice of Intent to the ADEC for storm water discharges associated with construction activities and, before construction, a SWPPP, if needed, would be completed for ADEC review.

Concerning antidegradation consultation, (question #6 above), as requested by the ADEC, a visual monitoring plan (Part 7.4 of the Alaska Construction General Permit) would be included in the Storm Water Pollution Prevention Plan (SWPPP). The results of visual monitoring would be included in the on-site SWPPP. The SWPPP does not need to be submitted to ADEC unless the total disturbance exceeds 5 acres. See the ADEC Antidegradation Coordination appendix attached.

- | P. <u>Construction Impacts</u> | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|------------|-------------------------------------|--------------------------|
| 1. There will be temporary degradation of water quality. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. There will be a temporary stream diversion. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. There will be temporary degradation of air quality. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. There will be temporary delays and detours of traffic. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. There will be temporary impacts on businesses. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. There will be temporary noise impacts. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. There will be other construction impacts. | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

8. *8. Summarize construction impacts and mitigation for each 'yes' above. Include any commitments or mitigative measures in Section VI.*

Water Quality - There would be temporary impacts to water quality during construction. Work within Lakina River is required to replace the bridge, improve the roadway approaches, and install riprap protection.

Mitigation: In order to minimize water quality impacts, temporary erosion control and stabilization measures (BMPs) would be utilized during construction to minimize erosion of soils and transportation of sediment beyond the immediate construction site.

Mitigation: The contractor would be required to develop a Hazardous Materials Control Plan to address containment, cleanup, and disposal of all construction related discharges of petroleum fuels, oils, and/or other hazardous substances. Wastes generated during construction would be properly handled, contained, and disposed of at an appropriately permitted disposal facility, in accordance with State and Federal laws.

Temporary Stream Diversion - Replacing the bridge may require temporary stream diversions during the installation. The contractor may use cofferdams and dewatering systems to accomplish this work.

Mitigation: Permit provisions related to any necessary diversion/dewatering would be followed.

Air Quality - Temporary degradation of air quality may occur from the increased airborne particulate levels and emissions from heavy equipment and dust during construction activities.

Mitigation: Watering of dust prone areas during construction would be implemented as needed to minimize air quality impacts.

Traffic - Temporary traffic delays and road closures would occur during construction.

Mitigation: Short term road closures would be limited to one hour blocks of time. Four full 12-hour closures would be permitted with ample advanced public notice (7 days minimum). Emergency vehicles would be accommodated through the project at all times. No full road closures are permitted during the July 4th week/weekend and lane restrictions would be limited to 30 minutes or less. The contractor must participate in a public meeting in the McCarthy community prior to project start to discuss their schedule and operations. They would also be required to provide public information updates to the community and interested stakeholders on at least a biweekly basis so that area travelers are aware of days or timeframes in which they may encounter a closure or delay and can plan accordingly.

Businesses - Business and customer road users relying on the transportation to and from McCarthy and Kennicott may be temporarily impacted during construction due to temporary traffic delays and road closures.

Mitigation: The mitigation measures discussed above under "traffic" would be implemented.

Noise - There would be a temporary increase in noise during construction due to the use of heavy equipment.

Mitigation: The project would comply with any local noise ordinance or a variance obtained.

Other - Soil disturbance provides opportunity for invasive plants to become established and out-compete native plant growth and to spread invasive plants present in the project area.

Mitigation: Practicable measures would be implemented to minimize the introduction or spread of noxious weeds as described in item J.3.

- | Q. Section 4(f)/6(f) | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Section 4(f) (23 CFR 774) | | | |
| a. Does a Section 4(f) resource exist within the project area; or is the project adjacent to a Section 4(f) resource? <i>If yes, attach consultation with the Statewide NEPA Manager (assigned CEs) or FHWA Environmental Program Manager (non-assigned CEs) to determine applicability of Section 4(f)</i> | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Does an exception listed in 23 CFR 774.13 apply to this project? <i>If yes, attach consultation with the Statewide NEPA Manager (assigned CEs) or FHWA Environmental Program Manager (non-assigned CEs), and documentation from the official with jurisdiction, if required.</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Does the project result in the “use” of a Section 4(f) property? “Use” includes a permanent incorporation of land, adverse temporary occupancy, or constructive use. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Has a <i>de minimis</i> impact finding been prepared for the project? <i>If yes, attach the finding.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Has a Programmatic Section 4(f) Evaluation been prepared for the project? <i>If yes, attach the evaluation.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Does the project require an Individual Section 4(f) Evaluation? <i>If yes, the project is not assigned to the State per the 6004 MOU and the CE must be processed by FHWA. Attach the evaluation.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Section 6(f) (36 CFR 59) | | | |
| a. Were funds from the Land and Water Conservation Fund Act (LWCFA) used for improvement to a property that will be affected by this project? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Is the use of the property receiving LWCFA funds a “conversion of use” per Section 6(f) of the LWCFA? <i>Attach the correspondence received from the ADNR 6(f) Grants Administrator.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3. Summarize Section 4(f)/6(f) involvement, if any:

The Wrangell St. Elias National Park and Preserve (WSNPP) surrounds the project. However, the project is located adjacent to private land in-holdings within the WSNPP and does not propose to permanently incorporate or temporarily occupy WSNPP lands for use by the transportation facility. In the vicinity of the WSNPP work on the transportation facility is proposed to remain within the existing roadway right-of-way.

Section 4(f) consultation has occurred with FHWA. Attached in the Section 4(f) Consultation appendix is documentation of this consultation including the FHWA Environmental Program Manager’s determination that the project would not result in a Section 4(f) use of the WSNPP. As a result of Section 4(f) consultation, the following environmental commitments apply.

- Material sources for this project would be contractor furnished. The contractor would be required to identify all material sites proposed for use on this project within 30 days of contract award and provide written certification that all permits and clearances required to use material from the source have been obtained prior to any clearing or ground disturbance in the material source. Should the contractor receive written permission from the NPS to utilize any NPS managed lands as a material source for this project, the contractor must provide that documentation to the Department at least 90 days prior to the date they expect to begin work in that material source. This window of time would allow the Department sufficient time to ensure the appropriate steps are taken to address any Section 4(f) requirements in the event that a Section 4(f) use would occur.

- Short term road closures would be limited to one hour blocks of time.
- Four full 12-hour closures would be permitted with ample advanced public notice (7 days minimum).
- Emergency vehicles would be accommodated through the project at all times.
- No full road closures are permitted during the July 4th week/weekend and lane restrictions would be limited to 30 minutes or less.
- The contractor must participate in a public meeting in the McCarthy community prior to project start to discuss their schedule and operations. They would also be required to provide public information updates to the community and interested stakeholders on at least a biweekly basis so that area travelers are aware of days or timeframes in which they may encounter a closure or delay and can plan accordingly.

IV. Permits and Authorizations

	<u>N/A</u>	<u>YES</u>	<u>NO</u>
1. USACE, Section 404/10 <i>Includes Abbreviated Permit Process, Nationwide Permit, and General Permit</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Coast Guard, Section 9		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. ADF&G Fish Habitat Permit (Title 16.05.871 and Title 16.05.841)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Flood Hazard		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. ADEC Non-domestic Wastewater Plan Approval		<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. ADEC 401		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. ADEC APDES		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Noise		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Eagle Permit		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Other. <i>If yes, list below.</i>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. Comments and Coordination

	<u>N/A</u>	<u>YES</u>	<u>NO</u>
1. Public/agency involvement for project. <i>Required if protected resources are involved.</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Public Meetings. Date(s): <u>August 27 & 28, 2012</u>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Newspaper ads. <i>Attach certified affidavit of publication as an appendix.</i> Name of newspaper and date: <u>August 16 & 23, 2012</u>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Agency scoping letters. Date sent: <u>August 17, 2012</u>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Agency scoping meeting. Date of meeting: <u>NA</u>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Field review. Date: <u>NA</u>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Summarize comments and coordination efforts for this project. Discuss pertinent issues raised. *Attach correspondence that demonstrates coordination and that there are no unresolved issues.*

Agency scoping letters were sent out on 8/17/12. A copy of the letter and the agency reply received are attached in the Scoping Documentation appendix.

A public advertisement of the public meetings and a notice of potentially affected resources (including historic properties, wetlands, and floodplains) was placed in the Copper River Record on 8/16/12 and 8/23/12 and posted on the State of Alaska public notice website on 8/20/12. A copy of the newspaper advertisement and website public notice are attached in the attached Public Involvement appendix.

The majority of comments and questions dealt with traffic delays during construction and potential impacts to the community and tourist businesses. Commenters requested that DOT&PF work to provide consistent road closure times with adequate advanced notification, utilize night-time hours and low-tourist months when possible, and make any necessary daytime closures brief in duration. Other comments and questions received dealt with the following subjects: the need for bridge replacement, bridge load limits, right-of-way needs, funding for the project, the width of the proposed bridge, changes to the river channel, salvaging a piece of the bridge for the local community, and plans for transporting new bridge girders to the construction site. Overall the community was grateful for the opportunity to provide input and the tone of the meeting was not controversial. Copies of comments received can be found in the attached Public Involvement appendix.

VI. Environmental Commitments and Mitigation Measures

List all environmental commitments and mitigation measures included in the project.

1. The project would comply with all water-related and fisheries-related permit conditions such that substantial adverse effects to fisheries and waters would not occur.
2. The design of the bridge would be coordinated with the DFG so that it would adequately accommodate fish passage, as needed.
3. Practicable measures would be implemented to minimize the introduction or spread of noxious weeds as described in item J.3.
4. Best management practices would be implemented during construction to minimized detachment and transport of sediment beyond the construction site. As necessary, in compliance with the APDES General Permit for Construction Activities, the construction contractor would issue a Notice of Intent to the ADEC for storm water discharges associated with construction activities and, before construction, a SWPPP, if needed, would be completed for ADEC review.
5. As requested by the ADEC, a visual monitoring plan (Part 7.4 of the Alaska Construction General Permit) would be included in the Storm Water Pollution Prevention Plan (SWPPP). The results of visual monitoring would be included in the on-site SWPPP. The SWPPP does not need to be submitted to DEC unless the total disturbance exceeds 5 acres.
6. Material sources for this project would be contractor furnished. The contractor would be required to identify all material sites proposed for use on this project within 30 days of contract award and provide written certification that all permits and clearances required to use material from the source have been obtained prior to any clearing or ground disturbance in the material source. Should the contractor receive written permission from the NPS to utilize any NPS managed lands as a material source for this project, the contractor must provide that documentation to the Department at least 90 days prior to the date they expect to begin work in that material source. This window of time would allow the Department sufficient time to ensure the appropriate steps are taken to address any Section 4(f) requirements in the event that a Section 4(f) use would occur.

7. Short term road closures would be limited to one hour blocks of time. Four full 12-hour closures would be permitted with ample advanced public notice (7 days minimum). Emergency vehicles would be accommodated through the project at all times. No full road closures are permitted during the July 4th week/weekend and lane restrictions would be limited to 30 minutes or less. The contractor must participate in a public meeting in the McCarthy community prior to project start to discuss their schedule and operations. They would also be required to provide public information updates to the community and interested stakeholders on at least a biweekly basis so that area travelers are aware of days or timeframes in which they may encounter a closure or delay and can plan accordingly.

8. Watering of dust prone areas during construction would be implemented as needed to minimize air quality impacts.

9. The contractor would be required to develop a Hazardous Materials Control Plan to address containment, cleanup, and disposal of all construction related discharges of petroleum fuels, oils, and/or other hazardous substances. Wastes generated during construction would be properly handled, contained, and disposed of at an appropriately permitted disposal facility, in accordance with State and Federal laws.

10. If applicable, the project would comply with any local noise ordinance or a variance obtained.

11. Permit provisions related to any necessary diversion/dewatering would be followed.

VII. Environmental Documentation Approval

N/A YES NO

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Do any unusual circumstances exist, as described in 23 C.F.R. 771.117 (b)? <i>If yes, the CE Documentation form cannot be approved.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Does this 6004 Program approval statement apply?
"The State has determined that this project has no significant impact(s) on the environment and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to Chapter 3 of title 23, United States Code, Section 326 and a Memorandum of Understanding dated September 20, 2012, executed between the FHWA and the State." <i>If no, the CE must be approved by FHWA.</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. For 6004 projects: The project meets the criteria of the DOT&PF Programmatic Approval 2 authorized in the November 6, 2012 "CE Directive – Delegation of Approval Authority for Certain CEs under 6004 MOU". <i>If yes, the CE may be approved by the Regional Environmental Manager. If no, the CE may be approved by a Statewide NEPA Manager.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. For non-assigned projects: The project meets the criteria of the April 13, 2012 "Programmatic Categorical Exclusion for Use on Federal-Aid Highway Projects in Alaska" between FHWA and DOT&PF. <i>If yes, the CE may be approved by the Regional Environmental Manager. If no, the CE may be approved by FHWA Area Engineer.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

VIII. Environmental Documentation Approval Signatures

Prepared by: Robert A. Effinger
[Sign] Environmental Impact Analyst

Date: 3/21/13

Robert A. Effinger
[Print Name] Environmental Impact Analyst

Reviewed by: Sarah E. Schacher
[Sign] Engineering Manager

Date: 3/21/2013

Sarah E. Schacher
[Print Name] Engineering Manager

Approved by: Brett D. Nelson
[Sign] Regional Environmental Manager

Date: 3-26-13

Brett D. Nelson
[Print Name] Regional Environmental Manager

Assigned CE

Approved by: _____
[Sign] DOT&PF Statewide NEPA Manager

Date: _____

[Print Name] DOT&PF Statewide NEPA Manager

Non-Assigned CE

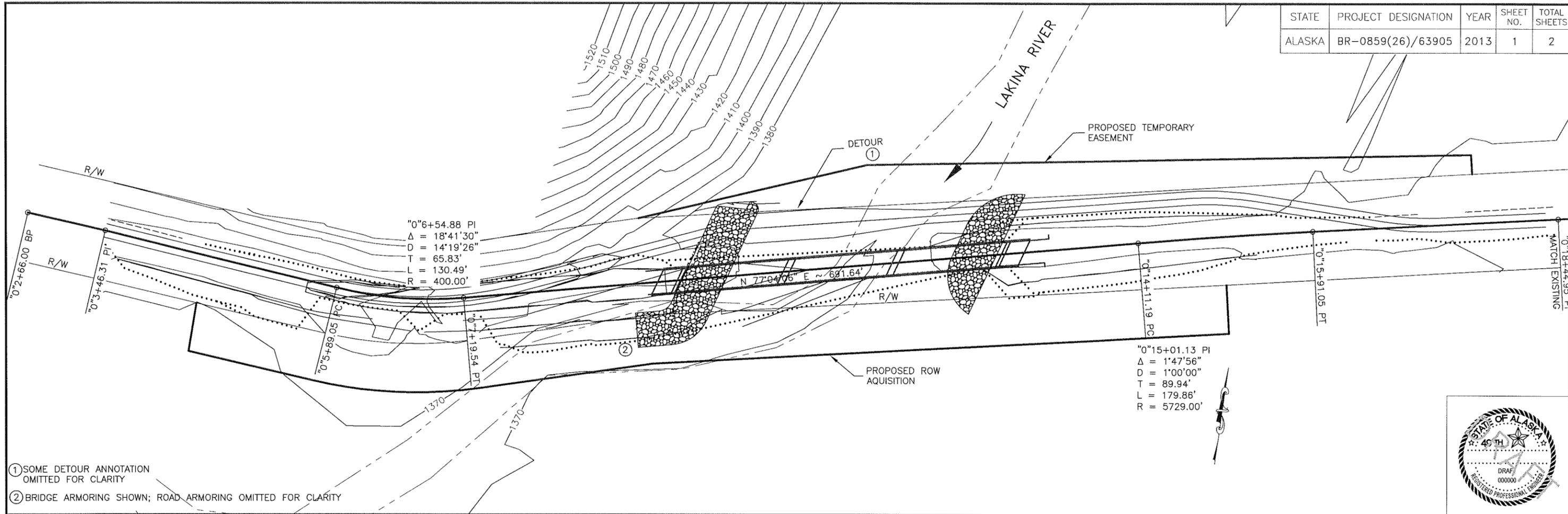
Approved by: _____
[Sign] FHWA Area Engineer

Date: _____

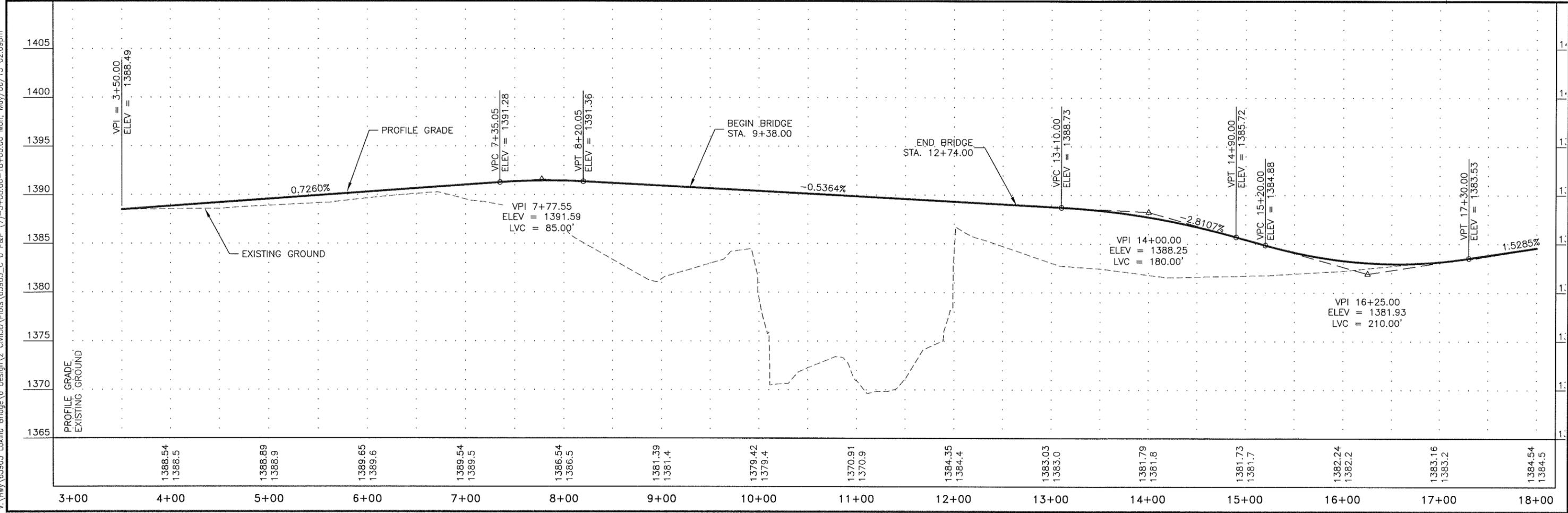
[Print Name] FHWA Area Engineer

APPENDIX E
PLAN AND PROFILE SHEETS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	BR-0859(26)/63905	2013	1	2



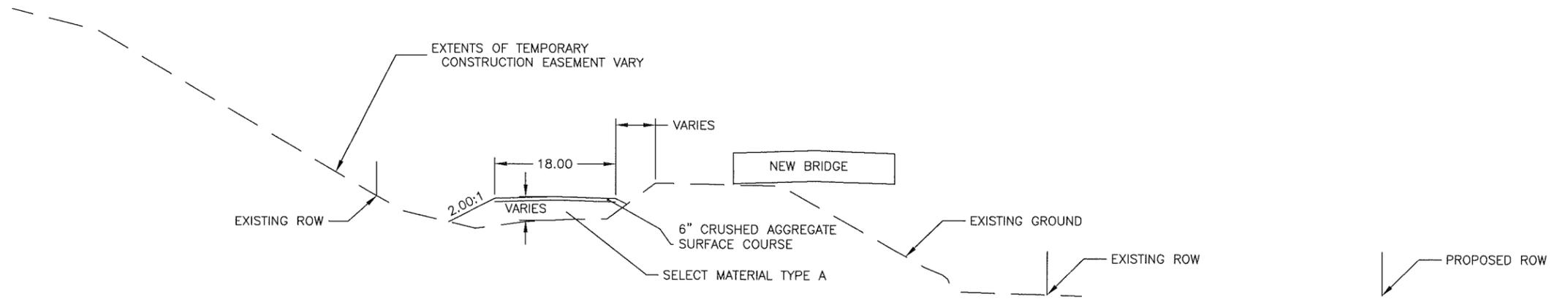
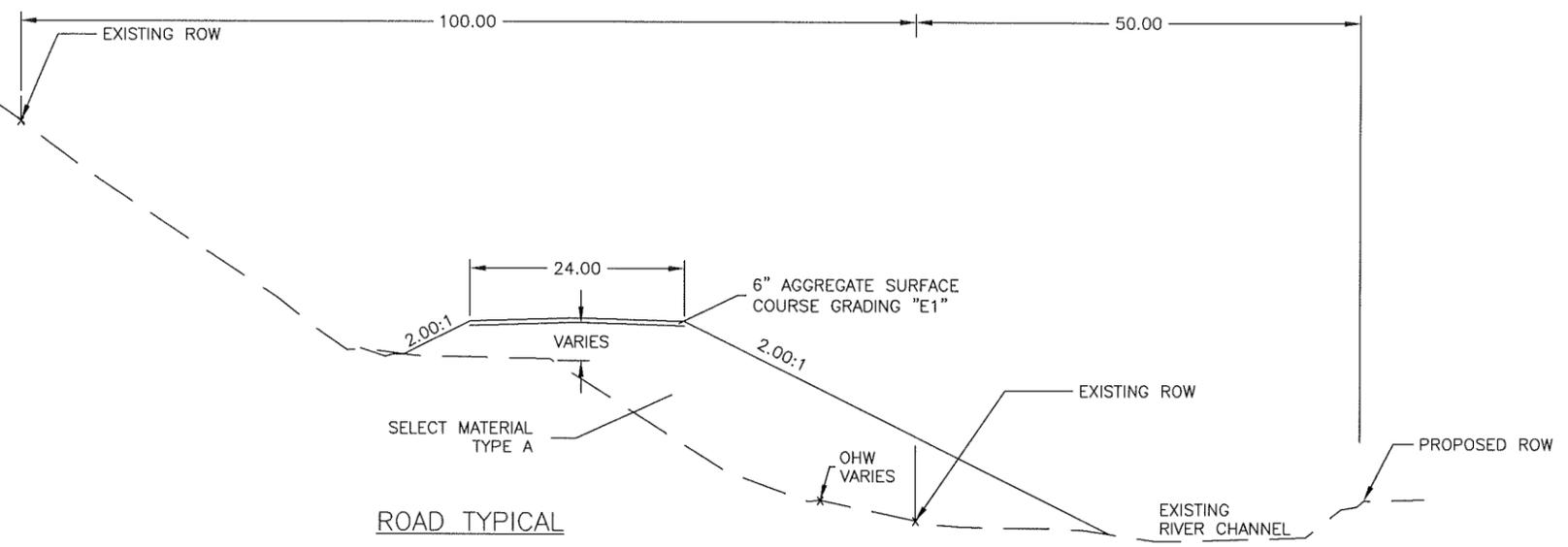
- ① SOME DETOUR ANNOTATION OMITTED FOR CLARITY
- ② BRIDGE ARMORING SHOWN; ROAD ARMORING OMITTED FOR CLARITY



V:\Hwy\63905_Lakina_Bridge\6 Design\2_Civil3D\Plots\63905_C 0 P&P (7)-3+00.00-18+00.00 Mon, May/06/13 02:09pm

APPENDIX F
TYPICAL SECTIONS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	BR-0859(26)/63905	2013	2	2



- NOTES
- ① DETOUR BRIDGE TO BE SIZED IN ACCORDANCE WITH SECTION 520. MINIMUM BRIDGE TO BRIDGE CLEARANCE WILL BE SPECIFIED.
 - ② RIPRAP ARMORING NOT SHOWN, ANTICIPATED FROM STA. 7+20 TO 9+38 RT.

TYPICAL SECTIONS



V:\Hwy\63905 Lakina Bridge\6 Design\2 Civil\3D\Plots\TYPICAL-TYPICALS Mon, May 06/13 02:08pm

APPENDIX G
PRELIMINARY BRIDGE PLANS

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA		2013		

GENERAL NOTES

DESIGN:AASHTO LRFD Bridge Design Specifications, 2012 edition, with latest interim specifications.
 Seismic design per AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2011

LIVE LOAD:.....HL-93

DEAD LOAD:.....Includes 50 psf for all wearing surfaces.

SEISMIC PARAMETERS:.....PGA = 0.34
 S_s = 0.77
 S₁ = 0.35
 Site Class = D
 Liquefaction Potential = Low
 AASHTO 7% probability of exceedance in 75 years.

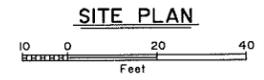
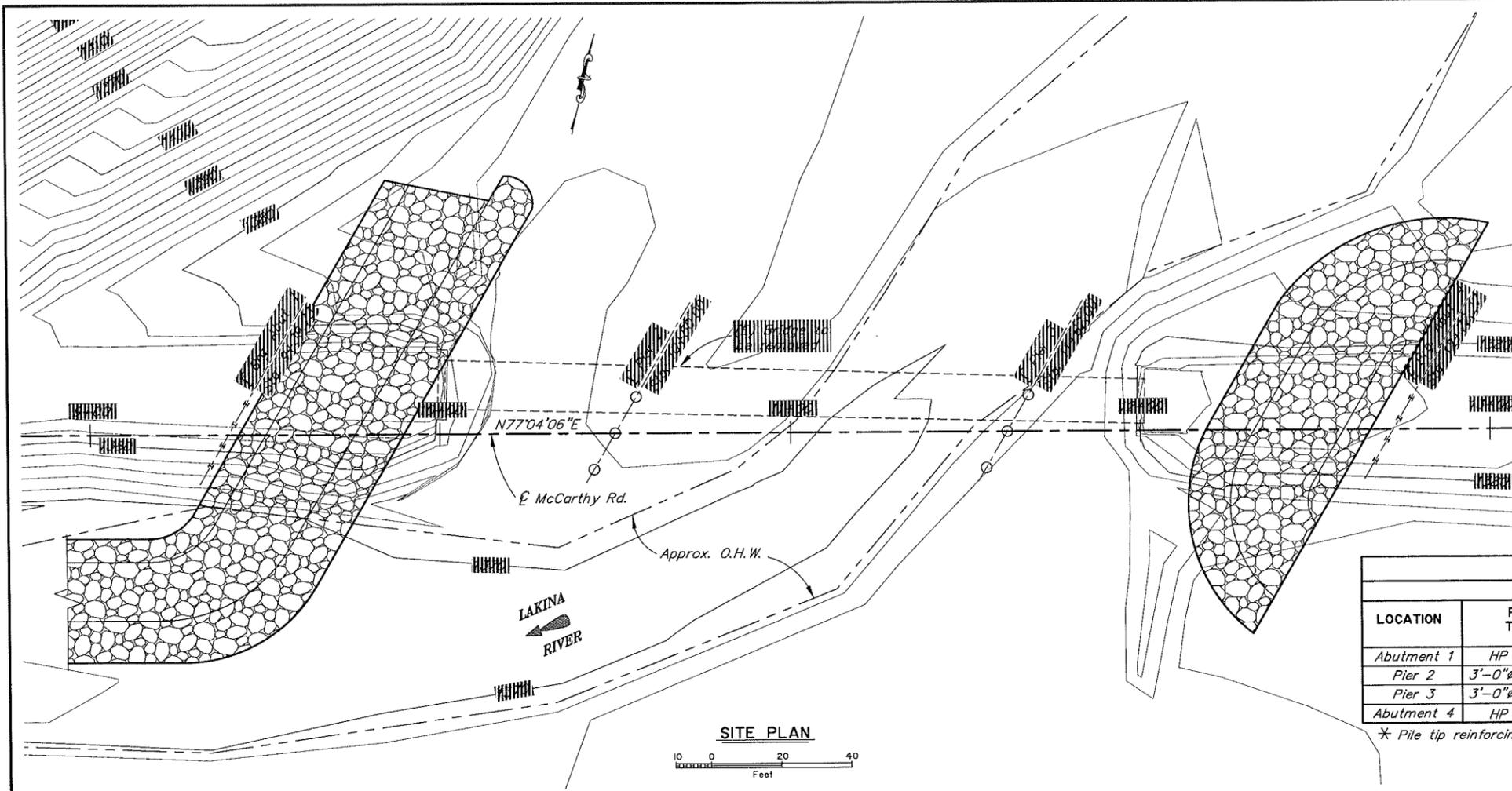
REINFORCEMENT:.....ASTM A706, Grade 60, F_y = 60,000 psi
 Space reinforcement evenly unless otherwise noted.

PRESTRESSED CONCRETE:.....See Girder Dwg.

CONCRETE:.....Class A Concrete unless otherwise noted, f'_c = 4000 psi.

STRUCTURAL STEEL:.....ASTM A709, Grade 36T3, F_y = 36,000 psi.
 Unless otherwise noted.

STRUCTURAL STEEL PILING:.....API 5LX52 PSL2, F_y = 52,000 psi for Pipe Piles.
 ASTM A709, Grade 50T3, F_y = 50,000 psi for H-Piles.



PILE DATA TABLE							
LOCATION	PILE TYPE *	DRIVING CRITERIA			DESIGN DATA		
		MINIMUM PENETRATION (ft)	ESTIMATED PILE TIP ELEVATION (ft)	DRIVING RESISTANCE (K)	STRENGTH FACTORED LOAD (K)	NOMINAL RESISTANCE (K)	RESISTANCE FACTOR, φ
Abutment 1	HP 14x117						
Pier 2	3'-0"Øx1/2" Pipe						
Pier 3	3'-0"Øx1/2" Pipe						
Abutment 4	HP 14x117						

* Pile tip reinforcing is required.

BRIDGE BASIS OF ESTIMATE

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL
202(13)	Removal of Existing Bridge (Bridge No. 1195)	LS	SF			
205(1)	Excavation for Structures	CY	CY			
205(3)	Structural Fill	CY	CY			
501(1)	Class A Concrete	LS	CY			
501(7)	Precast Concrete Member (110.25' Decked Bulb-Tee)	CY	CY			
503(1)	Reinforcing Steel	LS	LBS			
503(2)	Epoxy-Coated Reinforcing Steel	LS	LBS			
505(5A)	Furnish Structural Steel Piles (HP14x117)	LF	LF			
505(5B)	Furnish Structural Steel Piles (3'-0" Dia. Pipe)	LF	LF			
505(6A)	Drive Structural Steel Piles (HP14x117)	EA	EA			
505(6B)	Drive Structural Steel Piles (3'-0" Dia. Pipe)	EA	EA			
507(1)	Steel Bridge Railing	LF	LF			
520(1)	Temporary Detour Structure (Work Trestle)	LS	LS			
606(12)	Guardrail/Bridge Rail Connection	EA	EA			
611(1)	Riprap, Class II	CY	CY			
631(2)	Geotextile, Erosion Control, Class 1	SY	SY			

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item.

ABBREVIATIONS:

- C = Centerline
- P = Plate
- & = and
- @ = at
- Ø = diameter
- Approx. = approximate
- Abut. = Abutment
- bot. = bottom
- Br. = bridge
- Brg. = Bearings
- btwn. = between
- cfs = cubic feet per second
- C.I.P. = cast in place
- Clr. = clear, clearance
- Col. = column
- CY = cubic yard
- dia. = diameter
- D.H.W. = Design High Water
- Dwg. = drawing
- (E) = existing
- EA = each
- Elev. = elevation
- e.f. = each face
- e.w. = each way
- f.f. = far face
- Hwy. = highway
- LB = pound
- LF = linear foot
- LS = lump sum
- Lt. = left
- max. = maximum
- min. = minimum
- MSE = mechanically stabilized earth
- n.a. = not applicable
- n.c. = not calculated
- n.f. = near face
- No. = number
- O.H.W. = ordinary high water
- PT = Post Tensioned
- VPC = vertical point of curvature
- VPI = vertical point of intersection
- VPT = point of tangency
- Rd. = road
- R.O.W. = right of way
- Rt. = right
- spc. = space, spaces
- Sta. = station
- SY = square yard
- Symm. = symmetric
- Typ. = typical

PRELIMINARY PLAN

OPTION A

DESIGNED BY: Elmer Marx	CHECKED: Engineer	HYDRAULICS BY: Engineer	CHECKED BY: Engineer
DRAWN BY: Sam Solie	CHECKED: Elmer Marx	FOUNDATIONS REVIEWED BY: Engineer	
QUANTITIES BY: Elmer Marx	CHECKED: Engineer		

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 BRIDGE SECTION

LAKINA RIVER BRIDGE
 EDGERTON/MCCARTHY ROAD
SITE PLAN



BRIDGE NO. 1195
 DWG. NO. 2