

MEMORANDUM

State of Alaska
Department of Transportation & Public Facilities
Northern Region Design and Engineering Services

TO: Charles G. Deininger
 Chief Contracting Officer
 Headquarters

DATE: October 6, 2015

FILE NO: H:\Projects\Regionnl\62491 Avalanche Gates\6 Design\7 PIF\PIF - Breakaway Avalanche Gates.docx

THRU: David J. Miller
 Regional Director
 Northern Region

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FROM: Barry L. Hooper, P.E. *BH*
 PD&E Group Chief
 Northern Region

SUBJECT: Approval Request for Purchase
 of B&B Roadway Vertical
 Warning Gate Assembly and
 Equipment
 Northern Region Avalanche
 Gates – HSIP 0002287 /
 Z624910000
Public Interest Finding

Introduction

The Alaska Department of Transportation and Public Facilities (ADOT&PF) is seeking a Public Interest Finding (PIF) to allow the purchase of B&B Roadway Vertical Warning Gate assemblies and equipment.

Justification for Public Interest Finding

Northern Region desires to move from the practice of using rigid non-crashworthy avalanche gates to a breakaway crashworthy gate. Current practice is to use the avalanche gates in conjunction with guardrail. The guardrail serves to protect motorists from the non-crashworthy avalanche gate.

The B&B Roadway vertical warning gate assembly is the only variation of a crashworthy assembly that has been tested. This gate assembly has an established performance history in Wisconsin, Wyoming and Nebraska.

The cost savings by not installing 887.5 linear feet of guardrail and corresponding parallel guardrail terminals for the Avalanche Gates project is equal to \$120,000. Table 1 shows the cost breakdown for this savings. The avalanche gate and foundation between a crashworthy and non-crashworthy system is equivalent and therefore not included in Table 1. Cost efficiencies for Maintenance and Operations (M&O) are also obtained.

Item	Quantity	Unit	Unit Price	Total
W-Beam Guardrail	887.5	Linear Foot	\$ 34	\$ 30,175
Parallel Guardrail Terminal	22	Each	\$ 4,100	\$ 90,200
				\$ 120,375

Table 1 – New Construction Costs of Guardrail

Table 2 shows the Maintenance and Operations costs to replace various guardrail pieces during winter and summer conditions in the event the guardrail is damaged. Comparing terminal end replacement costs to the B&B Roadway Vertical Warning Gate assemblies in Table 3 are anywhere between 31%-74% of each other. Within Northern Region on the Richardson and Copper River Highways in 2014, six terminal ends and zero avalanche gates were struck. None of these strikes are in the vicinity of avalanche gates.

Item	Unit	Unit Price	Remark
Guardrail Post (Wood/Metal)	Each	\$ 117.0	Summer installation
Guardrail Post (Wood/Metal)	Each	\$ 177.0	Winter Installation
Terminal End Base Assembly	Each	\$ 1,505.0	Summer installation
Terminal End Base Assembly	Each	\$ 2,678.5	Winter Installation
Terminal End ET2000 or SRT 350	Each	\$ 2,197.0	Summer installation
Terminal End ET2000 or SRT 350	Each	\$ 3,200.0	Winter Installation

Table 2 - Northern Region M&O Replacement Costs

Description	Unit Price
Model 605 Drop Gate Assembly w/ 21.5 gate arm	\$ 4,300.00
Model 605 Drop Gate Assembly w/ 22.5 gate arm	\$ 4,300.00
Model 605 Drop Gate Assembly w/ 27 gate arm	\$ 4,500.00
Model 605 Drop Gate Assembly w/ 35 gate arm	\$ 4,780.00

Table 3 - New B&B Roadway Vertical Warning Gate

The B&B Roadway Vertical Warning Gate Assembly has been accepted for its crashworthiness, demonstrating improved driver safety. Additionally as denoted by the analysis above it is shown to be cost effective.

Finding of Public Interest

Please indicate your concurrence below that the above recommendation is in the public interest and consistent with Title 23, Section 635.411 of the Code of Federal Regulations and the Department of Transportation & Public Facilities policy DPDR 10.02.013, Public Interest Finding, to specify the above listed proprietary item for this project.

Submitted by: 
Ryan F. Anderson, P.E.
Preconstruction Engineer

10/6/2015
Date

Recommended by: 
David J. Miller
Regional Director

10-7-2015
Date

Approved by: 
Charles G. Deininger
Chief Contracts Officer

10-7-15
Date

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