

**Title: Bridge Replacement/Widening, Intersectional Treatments, Climbing Lanes**

Memorandum Date: June 15, 2011  
 Design Exception Request Date: June 3, 2011  
 Region: Southern  
 Approval Status: Approved

Project Location					
Highway	Control Section	At km	From km	To km	Existing AADT
22	14		0.55	3.50	5350

Project Type (Mark all that apply with an X)				
Functional Planning:	New Construction:	Reconstruction:	<b>X</b>	Paving/Surfacing:
Bridge:	<b>X</b>	Operations:	Geotechnical:	Environmental:
Other:				

**Summary**

A request that 3R/4R design guidelines be applied for bridge replacement (BF 2047), new climbing lane construction and intersection improvements at Hwy 22:14 from km 0.55 to km 3.50, instead of the normal new construction standards based on Alberta Transportation's Design Guide.

**Rationale for Approval/Rejection**

- It was found that by applying 3R/4R guides, the cost would be around \$7 million, compared to the \$11 million for the new construction standards design cost. A savings of more than \$4 million dollars.
- Applying new construction standards will have negative impacts on: adjacent private forested lands, the Fish Creek river valley environment, access roads due to corresponding grade raise requirements to Priddis Valley Road and the private accesses onto Priddis Valley Road.
- The intent is to provide street lighting at the Hwy22 and Priddis Valley Road intersection. This intersection is being upgraded to Type IV based on Alberta Transportation's standards. By adding a 1.2km long EB climbing lane and a 1.3km long WB climbing lane at this section, road safety should be significantly improved.
- The proposed eastbound climbing lane will start just east of the intersection. The construction of this EB climbing lane will require widening of the existing structure over Fish Creek. By using 3R/4R standards and the existing sag K value, the salvage value of the existing bridge structure is significant.
- According to the collision history, in the past 5 years there have been no sight distance related collisions on this sag curve.

**Additional Mitigation Required**

No mitigation is required.

**Key Words**

3R/4R, Bridge replacement, Climbing lane, Intersection improvement, Sight distance, Sag curve

Photograph/Diagram (If Available)

