

## **APPENDIX A**

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### **ROADWAY DESIGN CRITERIA**

# Project Design Criteria

Project Trunk Road South Extension Project Number 07-016  
 New Construction / Reconstruction  Rehabilitation  Other \_\_\_\_\_  
Design Functional Classification Rural Minor Collector (AASHTO)\*  
Design Year (Usually 5-year increment at least 20 years after construction) 2030  
Present ADT (& year) Fairview Loop > 4500 (ATR 2005) Trunk Road > 2700 (ATR 2005)  
Design Year ADT (& year) >3000 (2030)  
Mid Design Period ADT (& year) > 3000 (2020)  
Pavement Design Year (Construction Year + n\*) 2030  
Design Vehicle S-Bus 40 (possible elementary school)  
Design Speed 45 mph (AASHTO pg 420)  
Stopping Sight Distance 360 feet (AASHTO pg 422)  
Passing Sight Distance 1625 feet (AASHTO pg 423)  
Maximum allowable Grade 8% (AASHTO pg 423)  
Minimum Allowable Grade 0.5% Ditch Slope (AASHTO pg 425)  
Minimum K-value for Vertical Curves: Sag 79 (AASHTO pg 422) Crest 61 (AASHTO pg 422)  
Number of Lanes Two (LRTP pg 4-14)  
Minimum Width of Traveled Way 18 ft min., 24 recommended (AASHTO pg 315)  
Minimum Width of Shoulders: 2ft (AASHTO pg 316), 8 ft recommended (AASHTO pg 425)  
Surface Treatment: T/W paved Shoulders paved  
Side Slope Ratios: Foreslopes 3:1 max Backslopes 2:1 max  
Minimum Allowable Horizontal Curve 643 feet (AASHTO pg 168)  
Cross Slope 1.5% min (AASHTO pg 421)  
Clear Zone 20 feet (PCM 1130-6)  
Maximum Superelevation 6% (PCM 1120-3)  
Minimum Tangent Lengths 44 feet (AASHTO pg 192)

Proposed by Todd Carsten Date 9/5/07  
Project Engineer

Recommended by Tom Adams Date 9/5/07  
Project Manager

Accepted by \_\_\_\_\_ Date \_\_\_\_\_  
Client

ATR Alaska Department of Transportation Traffic Volume Report, 2005  
MSB Matanuska-Susitna Borough Subdivision Construction Manual, 1991  
AASHTO Geometric Design of Highways and Streets, 2004  
ITE Institute of Transportation Engineers Trip Generation 6<sup>th</sup> Edition  
LRTP Long Range Transportation Plan (2/2007)  
PCM Alaska Preconstruction Manual  
\* See MSB pg 9 (over 3000 ADT)