

Warrants For Safety Barrier Or Sideslope
Flattening on Existing Embankments

The warrants are not applicable to construction projects.

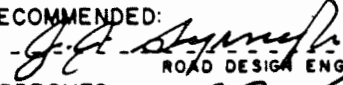
Cable barrier or sideslope flattening is warranted on a particular sideslope when the total number of points is equal to or greater than 95.

Delineators may be installed on curves when the total number of points is greater than 80.

<u>Embankment Feature</u>	<u>Points Assigned</u>	<u>Maximum Points Allowed</u>
1) Horizontal curvature	$\left(\frac{1500}{R}\right)^2$	30
2) Traffic Volume	0.005 (A.A.D.T.)	30
3) Sideslope	22 (4 - S)	
4) Roadway width	12 (6.7 - W)	
5) Height of fill	4 (H-3)	40
6) Length of fill	0.05 (L-100)	
7) Embankment gradient	2.5 (G _E)	
8) Approach gradient	G _A	
9) Permanent water	20	20

Notes

- (1) R = radius of curvature.
- (2) A.A.D.T. = two way traffic volume.
- (3) S = horizontal slope distance for a one metre rise.
- (4) W = width from centreline to break in slope for the sideslope.
- (5) H = Average height of the highest 100 m length of fill.
- (6) L = length of fill where the height exceeds 3.0 m.
- (7) G_E = average absolute percent gradient over the length used as length of fill.
- (8) G_A = the steepest absolute percent gradient on the 300 m of grade in advance of the embankment.
- (9) Permanent water has a DHWL with a depth of at least 2.0 m and the water must be present on a year round basis for 7 out of every 10 years.

RECOMMENDED:

ROAD DESIGN ENGINEER
APPROVED:

ASSOC. DEPUTY MINISTER (ENGINEERING)
DATE: APRIL 22, 1985

SASKATCHEWAN DEPARTMENT OF HIGHWAYS
AND TRANSPORTATION
**WARRANTS FOR SAFETY BARRIER
OR SIDESLOPE FLATTENING
ON EXISTING EMBANKMENTS**

STANDARD
PLAN
No.
20320