

DESIGN CRITERIA

BTE PROJECT NO:
19-014

ROAD NAME:
Television Road

TYPE OF PROJECT:
EA and Preliminary Design

LOCATION: Television Road, City of Peterborough

LENGTH: 100 m±

General

These Design Criteria have been created using a combination of the Transport Association of Canada (TAC) Geometric Design Guide for Canadian Roads, City of Peterborough Design Standards and the MTO Highway Drainage Design Standards.

Study Area

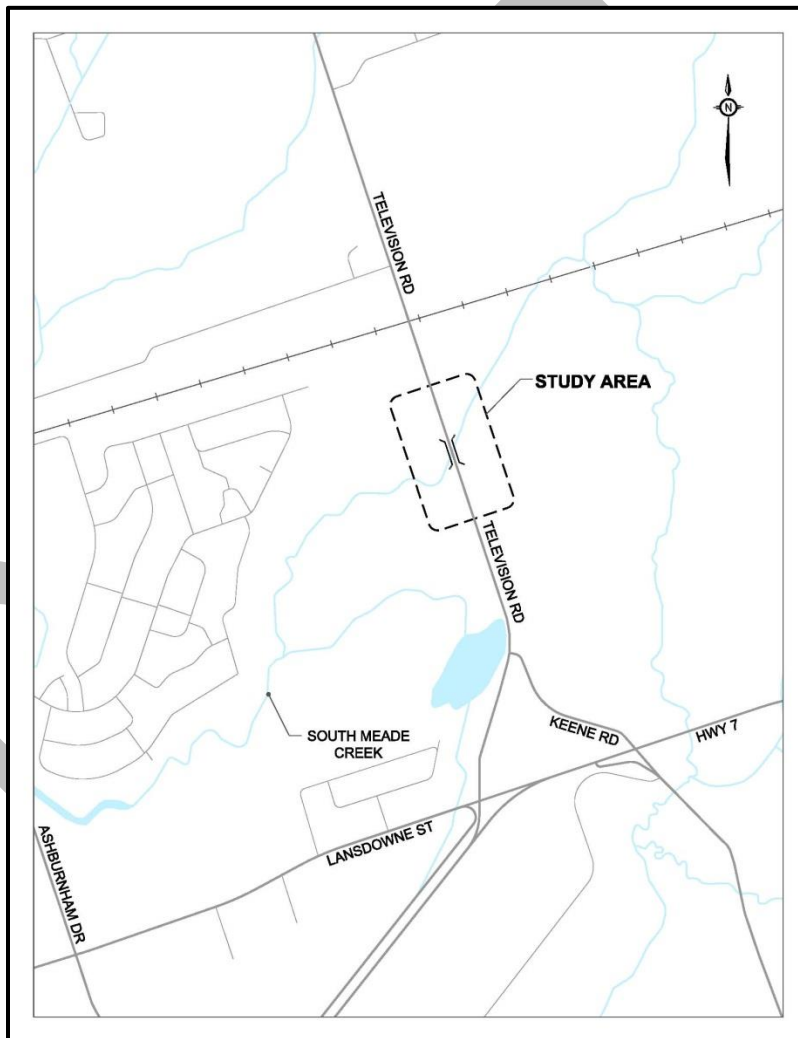


Figure 1: Study Area

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Table 1: Television Road Design Criteria

Design Criteria	Reference	Existing Standard	Design Standard (TAC)	Proposed Standard
Road Class:		Rural Arterial	Urban Arterial (Ultimate)	Urban Arterial (Ultimate)
Design Speed:		100 km/h	80 km/h	80 km/h
Final Posted Speed (4-Lane):		60 km/h	60 km/h	60 km/h
Design Year:		2040	2040	2040
Structure Design Life:		75 years	75 years	75 years
Design AADT:		21,600	21,600	21,600
Design Truck Percentage:		1%	1%	1%
Transit Route:		No	No	No
Minimum Horizontal Curve Radius:	TAC Pg. 3.2.2.7 Table 3.2.5	440 m	280 m	280 m
Stopping Sight Distance:	TAC Pg. 2.5.3 Table 2.5.2	185 m	130 m	130 m
Maximum Superelevation:		4%	4%	4%
Maximum Grade		6%	6%	6%
Minimum 'K' Value -Crest:	TAC Pg. 3.3.3.3 Table 3.3.2	Varies	K=26	K=26
Minimum 'K' Value -Sag:	TAC Pg. 3.3.4 Table 3.3.4	Varies	K=30	K=30
Lane Width:	City of Peterborough	3.2 m - 3.5 m	3.5 m	3.5 m
Other Cross Section Elements:				
Boulevard (rural):		N/A	N/A	N/A
Shoulder Width:		0.5 m - 1.0 m	2.0 m	2.0 – 3.0 m
Shoulder Treatment:		Granular	N/A	Paved
Right-of-way:		20 m	27 m -30 m	30 m ¹
Side Street Sight Distance Triangles:		6 m	6 m	6 m
MUP:		N/A	4.0 m	4.0 m
Sidewalks:		N/A	1.5 m	2.0 m

Note 1: Right-of-way widening for grading required beyond the structure

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Hydraulic Design

The Design Flow Return Period for Bridges and Culverts is shown in **Table 2**.

Table 2: Design Flow Return Period

Functional Road Classification	Return Period of Design Flows (Years) *		Check Flow for Scour
	Total Span less than or equal to 6.0 m	Total Span Greater than 6.0 m	
Freeway, Urban Arterial	50	100	130% of 100 year
Rural Arterial, Collector Road	25	50	115% of 100 year
Local Road	10	25	100% of 100 year

* Note:
The listed design flows apply to roads under the jurisdiction of the MTO.
The existing structure/roadway is currently a partial barrier to the movement of non-aquatic wildlife, and as such, the proposed structure shall include a raised 1 m wide rock shelf along one of the abutments to allow for the passage of wildlife in the dry.
Sometimes referred to as Normal Design Flow.

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Typical Cross Sections

