

<b>Policy Manual</b>	Authority: Approved by Council	Type: Transportation
	Effective date: September 9, 2013	Revised date: February 11, 2021
	Policy No. 400-4 - Minimum Construction Standard For Local Gravel Roads	

**R.M. of Browning No. 34**

**Policy No. 400-4**

**Minimum Construction Standards For Local Gravel Roads**

**February 11, 2021**

**Policy for Minimum Construction  
Standards For Local Gravel Roads**

A Policy of the Rural Municipality of Browning No. 34 regarding minimum construction standards for local gravel roads as follows:

Minimum right-of-way width 30 meters purchase.

Full width of right-of-way to be cleared.

The standard basic top width for local gravel roads is eight (8) meters. On all curves and on fills over two (2) meters in height, the top width is to be a minimum of 0.6 meters wider than the basic top width.

Top widths should be widened as follows:

- Fills 2 meters to 3 meters - 8 meters top width
- Fills over 3 meters - 8.6 meters top width
- These widths are to be used even if guard rails are not required.

Sideslopes:

- 3:1 up to 2 meters
- Variable 2 meters to 3 meters (toe of slope to be 6 meters from shoulder)
- 2:1 over 3 meters

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-Sideslopes can be flattened above 3:1 where this will aid in disposing of objectionable material.

**Backslopes:**

- 5:1, with a maximum of 2:1
- 5:1 backslope is to be maintained until top of backslope reaches the edge of the right-of-way.

**Snow Clearance** - When shoulder grade elevation is 0.3 meters or less above natural surface at 15.0 meters - 20.0 meters from centre line then the backslope must be flattened using a variable slope of 5:1 to 2:1 maximum to 20 meters from centre line.

**Minimum radius of curvature** - 250 meters. Curves must be constructed with the proper super-elevation using design speed of 80 km/hr. and  $e_{max} = 0.08$ .

**Maximum gradient** - 9%. In unusual circumstances - 11%.

**Stopping sight distance** - 85 minimum.

Clear vision at road intersection - minimum of 85 meters from the point of intersection on municipal roads and grid intersections to a maximum of 85 meters on local gravel roads using 60 km/h design speed.

Installation of all necessary drainage structures and construction of drainage ditches. Culverts should be designed for at least a  $Q^{15}$  flow, with a minimum culvert size of 500 mm diameter and 400 mm diameter culverts may be used for approaches. Riprap only where necessary to avoid undue erosion.

Construction of all road connections and approaches.

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The average shoulder elevation of the road surface to be approximately 0.7 meters above the adjacent ground surface at point and ten (10) meters off right-of-way.

Objectionable organic material shall be subcut where the fill is less than 0.3 meters in depth.

Road surface shall not be less than one (1) meter above high water level on the ground water table. (ie., level to which free water would rise in a hole sunk in the ground).

Road surface, sideslopes, ditches and backslopes shall be bladed smooth to conform to the standard cross-section.

Where necessary to provide a smooth, stable driving surface, the road top shall be capped with a layer of suitable clay material. The minimum depth of claycapping shall be 0.15 meters and the maximum 0.30 meters.

Gravel surfacing required at the rate of 175 m/km (R.M.).

Road shall be engineered by a R.M. contracted engineer (R.M.).

Alignment - T-intersections at road intersections and a preferred minimum radius of 300 meter curves for all necessary road diversions with an absolute minimum radius of 250 meters.

This Policy may not apply to any roads constructed by the Rural Municipality of Browning No. 34 as a seasonal road.

Any variance to the Policy shall be upon resolution of Council and followed by a signed Agreement.

**NOTE: SEE ATTACHED Typical Cross Sections for Local Gravel Roads**

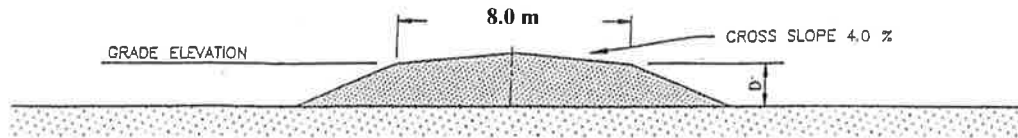
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<b>Document Title</b>	<b>Revision Date</b>	<b>Approved By</b>
Policy No 400-4 Minimum Construction Standard For Local Gravel Roads	September 9, 2013	Council
Policy No 400-4 Minimum Construction Standard For Local Gravel Roads	July 5, 2017	Council
Policy No 400-4 Minimum Construction Standard For Local Gravel Roads	March 5, 2020	Council
Policy No 400-4 Minimum Construction Standard For Local Gravel Roads	February 11, 2021	Council

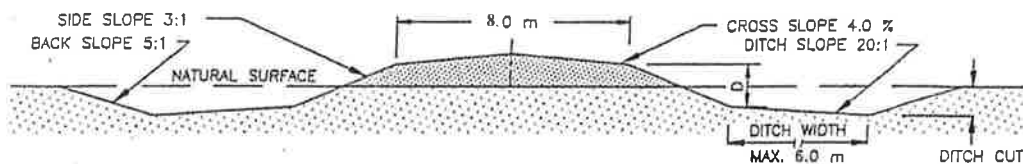
# Minimum Construction Standards for Local Gravel Roads

## CROSS SECTION OF EMBANKMENT

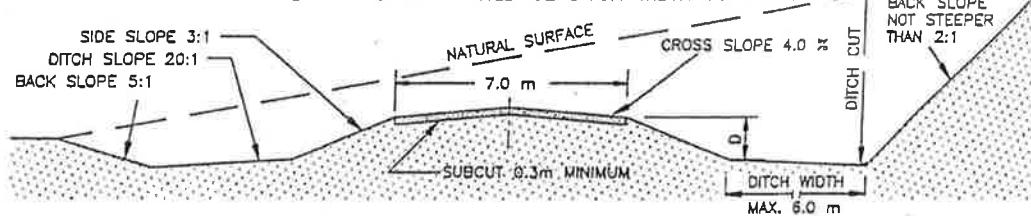
- D LESS THAN 2.0 m – SIDE SLOPES 3:1
- D FROM 2.0 m to 3.0 m – TOE OF SLOPES 6.0 m FROM SHOULDER
- D EXCEEDS 3.0 m – SIDE SLOPES 2:1
- FILLS 2.0 m TO 3.0 m – 7.6 m TOP WIDTH
- FILLS OVER 3.0 m – 8.0 m TOP WIDTH
- (ON CURVES – WIDEN ABOVE BY 1.0 m)



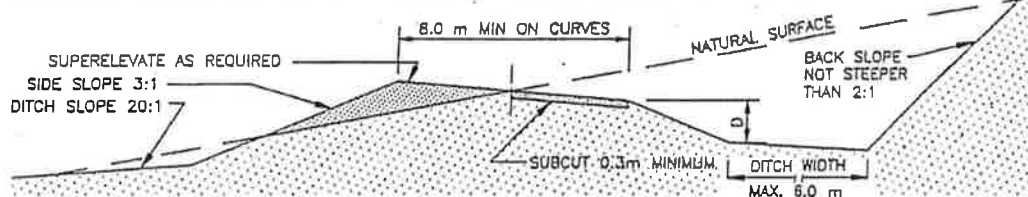
## CROSS SECTION OF EMBANKMENT AND SIDE DITCH D = 0.9 m D CAN BE REDUCED TO 0.8 m WHEN NOT REQUIRED FOR DRAINAGE OR SNOW CLEARANCE.



## CROSS SECTION OF CUT D = 0.9 m MINIMUM 0.5 m D IN TOTAL CUT SECTION & REDUCE DITCH WIDTH TO 3.0 m.



## CROSS SECTION OF SIDEHILL ROADWAY ON A CURVE D = 0.9 M



- Note:
1. Basic top width: 7.0 m
  2. Right-of-way: purchased minimum – 30.0 m.  
or easement minimum – 46.0 m.
  3. Design speed: 60 km/h vertical, 80 km/h horizontal.
  4. Snow clearance: when shoulder grade elevation is 0.3 m or less above natural surface at 15.0 m to 20.0 m from centerline then backslope must be flattened out to 20.0 m from centerline.

## TYPICAL CROSS SECTIONS Local Gravel Roads R.M. OF BROWNING NO. 34 7000 30 m ± RIGHT-OF-WAY