

ROADS – INTERMITTENT SEALING OF UNSEALED RURAL ROADS PROCEDURE

1. Scope

The Intermittent Sealing of Unsealed Rural Roads Procedure (this 'Procedure') applies to all unsealed rural roads under Council's jurisdiction, but is not applicable to the sealing of an unsealed rural road required as a result of an application under the *Sustainable Planning Act 2009*.

2. Purpose

The purpose of this Procedure is to establish guidelines and scoring criteria for assessing the approval of intermittent seals to unsealed rural roads. This Procedure deals with evaluating applications based on a scoring criteria to determine if an intermittent seal should be approved. Applications will be assessed by Infrastructure Services using the scoring criteria to determine if an intermittent seal is warranted.

3. Related Documents

Primary

Roads - Intermittent Sealing of Unsealed Rural Roads Policy

Legislative reference

Local Government Act 2009 (s 60(1))

Related documents

ARRB

Unsealed roads manual – Guidelines to good practice (3rd ed March 2009)

AUSTROADS

Guide to Road Design Part 3: Geometric Design

4. Definitions

To assist in interpretation, the following definitions shall apply:

AADT	Annual Average Daily Traffic.
Dwelling	A building or structure which has been approved for use as a habitable building or structure.
Gravel paved road	A road that has been formed and surfaced with imported gravel paving material.
Road	Has the same meaning as road in the <i>Local Government Act 2009</i> .
Rural Road	A road servicing allotments in a rural area, for which the majority of allotments have a road frontage in excess of 40m.

5. Procedure

The decision to approve the sealing of a short section of gravel paved road for the purpose of dust suppression will be assessed by the Manager Construction & Maintenance against the following factors:

- 1) Current and projected traffic volumes (AADT);
- 2) Costs incurred in maintaining the sealed road;
- 3) Type of traffic that uses the road;
- 4) Speed environment of the road;
- 5) Proximity of a dwelling to the road frontage;
- 6) Geometric standard of the unsealed road; and
- 7) Road pavement and drainage system of the unsealed road.

If the assessment determines that a section of a gravel paved road is suitable for an intermittent seal the applicant will be:

- a) Provided with a quote from Council to undertake the works and informed that Council is prepared to undertake the works subject to payment at least four weeks prior to commencement of the works; or
- b) Informed that they may lodge an Application for Operational Works if they wish to engage a contractor to undertake the works.

5.1 Design Standards of Intermittent Seal of an Unsealed Road

Seal Standard and Cost

Roads which are deemed suitable for the application of an intermittent seal as a dust suppressant are to receive a two coat bitumen seal for a maximum length of 200m, adjacent to the affected property.

The applicant is responsible for meeting the cost of any required formation widening, supply and installation of gravel to ensure a minimum 150mm thick layer of minimum CBR 40 pavement layer, sealing the road and the installation of any required road furniture.

To qualify for an intermittent seal, the road must meet the following evaluation criteria:

- 1) Traffic volumes – a road will not be considered for an intermittent seal if there is less than 30 AADT unless there are significant issues shown in the assessment score. A road that has an AADT greater than 150 may require a minimum standard seal along its entire length;
- 2) Proximity of a dwelling – the dwelling must be within 100m of the road frontage;
- 3) Minimum width – the proposed road has the ability to be easily upgraded to the appropriate formation and seal width of six metres.
- 4) Reasonable alignment – the road must have reasonable vertical and horizontal alignment and sight distance that will not compromise safety if sealed;
- 5) Solid base – the road must have a solid, well compacted road base that is able to support the proposed overlay for the expected traffic loads. Having a solid road base will minimise future pavement failures if the road is sealed; and
- 6) Drainage system – if the unsealed road has a poor longitudinal drainage system then every effort should be made to provide adequate longitudinal drainage to minimise future pavement failures.

If a road meets the criteria identified above, it is then evaluated using the scoring points and weighting method displayed in Table 1.

Table 1: Scoring and Assessment Method

Criteria	Points	Weighting
Traffic volumes	0 – AADT 0-30. 20 – AADT 31-49. 40 – AADT 50-74. 70 – AADT 75-99. AADT ≥100, 1 point for every vehicle. Additional 1 point for every commercial vehicle (max of 20% of AADT).	1
Proximity of a dwelling to the road and prevailing winds	10 – Dwelling 0-15m from road frontage. 9 – Dwelling 16-30m from road frontage. 6 – Dwelling 31-50m from road frontage. 3 – Dwelling 51-69m from road frontage. 1 – Dwelling 70-100m from road frontage. 0 – Dwelling >100m from road frontage. Additional 5 points if dwelling is downwind of prevailing breezes.	10
Geometric design and safety features of unsealed road	Take into account the standard of the current geometric design of the unsealed road. This includes vertical/horizontal alignment, sight distance, etc. Safety features of the unsealed road include actual/potential accidents. 0 – Width <6.0m. 6 – Poor horizontal, vertical alignment and width ≥6.0m. 8 – Good horizontal, vertical alignment and width ≥6.0m.	5
Speed environment	4 – Operating speed ≥100km/h. 3 – Operating speed 51-99km/h. 1 – Operating speed ≤50km/h.	10

Scores less than 150 do not justify approval of an intermittent seal.

6. Changes to this Procedure

This Procedure is to remain in force until otherwise amended/replaced by the Director Infrastructure Services.

7. Repeals/Amendments

This Procedure repeals the former Livingstone Shire Council Procedure titled 'Intermittent Sealing of Unsealed Rural Roads Procedure v1.

Version	Date	Action
1	22/04/2014	Approved
2	08/11/2016	Amended Procedure Approved

2.1	04/12/2018	Administrative Amendments – reflect organisational restructure
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DAN TOON
EXECUTIVE DIRECTOR INFRASTRUCTURE

APPENDIX 1

Main geometric design standards for unsealed roads																				
Road Classification (Operational Class)	150			125			100			75			30			10			Comments	
Typical Traffic Counts	125-150			100-125			75-100			30-75			10-30			<10				
Terrain type ¹	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain		
Main geometric characteristic																				
based on safety, cost and environmental considerations																				
Operating speed value km/h	80	70	50	70	50	30	70	50	30	60	40	20	60	40	20	n/a	n/a	n/a	based on 85th percentile speed	
Cross-section elements																				
number of traffic lanes	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	unsealed lanes
minimum cross fall unsealed road	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	min of 4% to drain rainfall off tracks
Maximum superelevation % ²	6	8	10	6	8	10	6	8	10	6	8	10	6	8	10	n/a	n/a	n/a	n/a	
minimum traffic lane width m ³	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
minimum shoulder width m	0.25	0	0	0	0	1	1.25	1	0.75	1	0.75	0.5	0.5	0.25	0	0	0	0	0	
minimum carriageway width (lanes + shoulder) m	6.5	6	6	6	6	5	5.5	5	4.5	5	4.5	4	4	3.5	3	3	3	3	3	
Horizontal geometry																				
minimum radius curve m ⁴	320	250	140	250	100	35	250	100	35	170	60	15	170	60	15	n/a	n/a	n/a	n/a	
minimum stopping sight distance m ⁵	150	120	70	120	70	30	120	70	30	90	50	30	90	50	30	n/a	n/a	n/a	n/a	
minimum meeting sights distance m ⁷	290	230	130	230	130	60	230	130	60	180	100	60	180	100	60	n/a	n/a	n/a	n/a	
Vertical geometry																				
maximum vertical grade % ⁸	6	8	12	6	8	12	6	8	12	6	8	12	6	8	12	n/a	n/a	n/a	n/a	for tracks avoid steep grades to reduce soil erosion
minimum crest vertical curve K values ⁹	50	30	10	30	10	5	30	10	5	19	8	2	19	8	2	n/a	n/a	n/a	n/a	
Minimum sag vertical curve K values ¹⁰	11	8	4	8	4	3	8	4	3	6	3	2	6	3	2	n/a	n/a	n/a	n/a	
Drainage																				
Cross Road Drainage Immunity -11	Q1	Q1	Q1	Q1	Q1	Q1	Q1	Q1	Q1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Longitudinal Drainage Immunity - 12	Q1	Q1	Q1	Q1	Q1	Q1	Q1	Q1	Q1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
RCP & RCBC desirable length	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	4.8	4.8	4.8	4.8	4.8	4.8	4.8	can be longer at curve widenings, intersections, etc
Floodway desirable width	6.5	6.5	6.5	6.5	6.5	6.5	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	can be wider at curve widenings, intersections, etc
Gravel Pavement																				
% of road length covered with imported gravel meeting unsealed road guidelines	75%	75%	75%	70%	70%	70%	60%	60%	60%	65%	65%	65%	25%	25%	25%	10%	10%	10%	10%	

- 1 Flat, rolling or mountainous terrain
- 2 The maximum superelevation values will need to take into account the use of the road by high loaded heavy vehicles, speed and curve radii
- 3 In cases where there are a high percentage of heavy vehicles (>20%) minimum lane widths can be increased by 0.5m
- 5 Values rounded up. For minimum radius curves widening on the inside of a curve may be necessary to accommodate longer vehicles.
- 6 Based on a reaction time of 2 seconds and surface coefficients relating to unsealed surfaces and values rounded up. Values based on flat grades and allowances will need to be made for up and down grades.
- 7 This is mainly a requirement of single lane two-way roads. Values rounded up.
- 8 In some cases higher grades of up to 20% can be allowed for short sections (about 150m). Keep grades on unsealed roads lower due to ravelling and scouring of surface.
- 9 Calculation of these values is to be based on information contained in Austroads (2003). The length of the vertical curve (L) is based on the production of K multiplied by the algebraic difference in grades percentage A (i.e. L = K x A).
- 10 Sag values are based on comfort or control criteria.
11. Class 10, 30 & 75 roads will require suitable gravel or hard surface treatments at gullies and creek crossing
12. Class 10, 30 & 75 roads shall have formation 300mm above natural surface or 300mm deep table drains

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Adopted/Approved: Draft
Version: 2.1

Portfolio: Infrastructure
Business Unit: Construction and Maintenance