

UPGRADING OF UNSEALED RURAL ROADS TO A HIGHER STANDARD POLICY

(COMMUNITY POLICY)

1. Scope

The Upgrading of Unsealed Rural Roads to a Higher Standard Policy (this 'Policy') applies to all unsealed rural roads under the jurisdiction of Livingstone Shire Council.

2. Purpose

Council receives requests to upgrade unsealed rural roads to a higher standard at the applicant's expense. This Policy:

- Provides a consistent assessment of such requests;
- Ensures construction complies with 'Appendix 1 - Main Geometric Standards for Unsealed Roads'; and
- Details the conditions under which Council will undertake works to upgrade these roads.

3. References (legislation/related documents)

Legislative reference

Local Government Act 2009 (Qld) ss 60(1), (2)(b)

Related documents

ARRB Group

Unsealed Roads Manual – Guidelines to Good Practice (3rd ed March 2009)

4. Definitions

To assist in interpretation, the following definitions shall apply:

| | |
|---------|---|
| Council | Livingstone Shire Council. |
| Road | Has the same meaning as road in the <i>Local Government Act 2009</i> (Qld). |

5. Policy Statement

- 1) Council may agree to upgrade an unsealed road to a higher standard subject to the applicant agreeing to the following at their expense:
 - a) Supplying all gravel necessary to surface the road and placing it in a readily accessible stockpile not more than 5km from the road to be upgraded;

- b) Installation of any drainage, drainage structures and roadside furniture which are required to meet the standards of the upgraded road classification; and
 - c) Paying Council for any necessary formation widening that may be required if the existing carriageway width is insufficient for the upgraded road classification.
- 2) If Council agrees to upgrade an unsealed road to a higher standard, it will
 - a) Cart gravel from the stockpile to the road to be upgraded;
 - b) Spread and compact the gravel on the road surface and trim the road surface to meet the requirements set out for cross sectional elements in 'Appendix 1'; and
 - c) Undertake the works at a time which suits Council's overall maintenance program.
 - 3) Following completion of the works to the satisfaction of the Manager Construction and Maintenance, Council will maintain the road to the standard of its original operational classification as detailed in 'Appendix 1'.
 - 4) The applicant must enter into a maintenance agreement with Council if they want the road maintained to its upgraded standard.

6. Changes to this Policy

This Policy is to remain in force until otherwise amended/replaced by resolution of the Council.

7. Repeals/Amendments

This Policy repeals the former Livingstone Shire Council Policy titled 'Upgrading Unsealed Rural Roads to a Higher Standard Policy'.

| Version | Date | Action |
|---------|------------|--|
| 1 | 08/04/2014 | Adopted |
| 2 | 01/08/2017 | Amended Policy Adopted |
| 2.1 | 23/10/2018 | Administrative Amendments – reflect organisational restructure |

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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 | 4 | 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 | | |
| 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 ⁵ | 320 | 250 | 140 | 250 | 100 | 35 | 250 | 100 | 35 | 170 | 60 | 15 | 170 | 60 | 15 | n/a | n/a | n/a | | |
| minimum stopping sight distance m ⁶ | 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 | | |
| 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 | | |
| 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 | | |
| 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 | 7.2 | 7.2 | 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 | 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 | 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% | 55% | 55% | 55% | 25% | 25% | 25% | 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 lengths 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 on 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