

UPGRADING OF UNSEALED RURAL ROADS TO SEALED STANDARD PROCEDURE

1. Scope:

This procedure applies to unsealed rural roads within Rockhampton Regional Council excluding:

- Driveway accesses from the road to the property boundary;
- New road reserves created by the re-configuration of a lot;
- The sealing of an existing unsealed road, required as a result of an application under the *Sustainable Planning Act 2009*; and
- Intermittent seals adjacent to habitable dwellings, generally less than 200metres in length.

2. Purpose:

To provide the processes to be followed to implement the Upgrading of Unsealed Rural Roads to Sealed Standard Policy, and to establish guidelines and scoring criteria for assessing the upgrading of unsealed rural roads to sealed status. This procedure deals with evaluating warrants (sealing of unsealed rural roads) based on a scoring criteria to provide a means of ranking the projects in priority order prior to inclusion in the capital works program. Warrants will be assessed by the Engineering section of Regional Services using the scoring criteria to prioritise the projects. This does not guarantee inclusion into a budget.

3. Related Documents:

Primary

Upgrading of Unsealed Rural Roads to Sealed Standard Policy

Secondary

Sustainable Planning Act 2009

Transport Infrastructure Act 1994

Austrroads – AGAM05-09: Guide to Asset Management (Part 5: Pavement Performance)

Austrroads – AGPT02-10: Guide to Pavement Technology (Part 2: Pavement Structural Design)

Capricorn Municipal Development Guidelines

4. Definitions:

To assist in interpretation, the following definitions apply:

AADT	Annual Average Daily Traffic
Council	Rockhampton Regional Council

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Dwelling	A building or structure which has been approved for use as a habitable building or structure.
Rural	Geographic area that is located outside of an urban area being cities and towns.
Rural Road	A road servicing allotments in a rural area, for which the majority of allotments have a frontage of greater than 40metres.
Unsealed Road	A rough road that has no hard surface.

5. Procedure:

The decision of sealing a rural road will be made by Council based on the following factors:

- Safety features of the unsealed road;
- Current and projected traffic volumes (AADT);
- Costs incurred in maintaining the unsealed road;
- Type of traffic that will use the road;
- Road classification (i.e. collector road or access road);
- Geometric standard of the unsealed road;
- Road pavement and drainage system of the unsealed road;
- If the road is a school bus route.

Dependent upon the outcome of the assessment of the above factors, roads deemed suitable for sealing will be upgraded to the relevant standard nominated in section 5.1.

5.1 Design Standards of Upgraded Sealed Road:

5.1.1 Category 1 - Minimum Standard Seals

Roads under this category will receive a layer of CBR 40 compacted gravel (as per Appendix A - – Second Design Standard), and a two coat bitumen seal. Minimum standard seals are generally formed and cross drained to minimum standards, this means significant rain events may cause temporary closure. All roads that qualify for this category have to meet the following evaluation criteria:

5.1.1.1 Traffic volumes – An unsealed rural road must be in the range of 150 - 500 AADT. A road will not be considered for a minimum standard seal if there is less than 150 AADT, unless there are significant issues shown in the assessment score. A road that has an AADT greater than 500 will qualify for a full road design.

5.1.1.2 Minimum width – The proposed road has the ability to be easily upgraded to the appropriate formation and seal width as set out in Table 1 – Minimum Standard Seal Element Widths. The AADT of the proposed road must be known so that the appropriate pavement width in Table 1 can be selected.

5.1.1.3 Solid Base – The proposed 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.

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5.1.1.4 Reasonable alignment – The road must have reasonable gradients, vertical/ horizontal alignment and sight distance that will not compromise safety if sealed. If the road has poor alignment then consideration may be given to an upgrade to full design standard (refer to section 5.1.2).

5.1.1.5 Commercial vehicles – Roads in this category should not carry excessive amounts of heavy traffic. If the road has commercial vehicle counts that are greater than 20% of AADT then the road should be considered for full design (refer to section 5.1.2).

5.1.1.6 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.

Table 1: Minimum Standard Seal Element Widths

Element Width	Design AADT			
	100-150	150-250	251-500	>500
Formation	5.5 m	6.5 m	8.0 m	Refer To Full Design
Traffic Lanes	5.5 m	6.5 m (2 x 3.25)	6.5 m (2 x 3.25)	Refer To Full Design
Total Shoulder	0.0 m	0.0 m	1.5 m	Refer To Full Design
Sealed Shoulders	0.0 m	0.0 m	0.0 m	Refer To Full Design

Once the proposed road has met the criteria identified above then the road is prioritised using the scoring points and weighting method displayed in Table 2 – Scoring and Assessment Method for Category 1 – Minimum Standard Seal.

Table 2: Scoring and Assessment Method for Category 1 – Minimum Standard Seal

Criteria	Points	Weighting
Traffic Volumes	Add 1 point for every vehicle Additional 1 point for every commercial vehicle (max of 20% of AADT) Additional 25 points if road is a school bus route	1
Strategic Significance	Examples: Tourist location/facility, land development (abutting or servicing), industry or mines, etc. Nil 0 – (No Through Road < 10ha – no farms) Low 2 – (No Through Road, some > 10ha – farms, tourist) Medium 4 – (Through Road with 1-2 Tourist facilities) High 6 – (Through Road with 2+ Tourist Facilities or Major Link)	5

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Costs incurred in maintaining unsealed road	Low 1 – (Close to depots, suitable gravel and water) Medium 2 – (2 of the above) High 5 – (None of the above)	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 – Poor horizontal, vertical alignment and width <5m. 1 – Poor width <5m (Good horizontal and/or vertical alignment). 2 – Moderate width 5-6.5m (Poor horizontal and/or vertical alignment). 4 – Good horizontal alignment and minimum 6.5m width. 6 – Good horizontal, vertical alignment and minimum 6.5m width.	10
Pavement subject to inundation and road side drainage	8 Unlikely and good longitudinal drainage 5 Infrequent inundation and/or poor cross drainage 2 Frequent inundation and/or poor cross and longitudinal drainage	5

Scores less than 250 do not justify sealing. Scores in excess of 250 may result in the programming of a minimum standard seal at widths as per Table 1. Scores in excess of 500 should be considered for full construction (refer to section 5.1.2).

5.1.2 Category 2 - Full Road Design

Projects proposed for funding are assessed using benefit analysis as a guide to determine what priority should be allocated to a project. Roads under this category will require formation and pavement widening, full depth pavement and Q2 or Q5 drainage. Roads that qualify for this category do not meet one or all of the evaluation criteria set out in Category 1 – Minimum Standard Seal.

The main criteria for this category are roads that have an AADT greater than 500 or have greater than 20% commercial traffic in the range of 100 – 500 AADT. The AADT of the proposed road must be known so that the appropriate pavement width for full design can be selected from Table 3 – Full Design Element Widths.

Table 3: Full Design Element Widths

Element Width	Design AADT			
	<500	501-1,000	1,001-3,000	3,001-8,000
Formation	8.0 m	8.5 m	10.0 m	10.0 m
Traffic Lanes	6.5 m (2 x 3.25)	7.0 m (2 x 3.5)	7.0 m (2 x 3.5)	7.0 m (2 x 3.5)
Total Shoulder	1.5 m	1.5 m	3.0 m	3.0 m
Sealed Shoulder	0.75 m	0.5 m	1.0 m	1.5 m

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Once the proposed road has met the criteria above then the road is prioritised using the scoring points and weighting method displayed in Table 4 – Scoring and Assessment Method for Category 2 – Full Road Design.

Table 4: Scoring and Assessment Method for Category 2 – Full Road Design

Criteria	Points	Weighting
Traffic Volumes	Add 1 point for every vehicle Additional 1 point for every commercial vehicle Additional 25 points if road is a school bus route	1
Strategic Significance	Examples: Tourist location/facility, land development (abutting or servicing), industry or mines, etc. Nil 0 – (No Through Road < 10ha – no farms) Low 2 – (No Through Road, some > 10ha – farms, tourist) Medium 4 – (Through Road with 1-2 Tourist facilities) High 6 – (Through Road with 2+ Tourist Facilities or Major Link)	8
Costs incurred in maintaining unsealed road	Low 1 – (Close to depots, suitable gravel and water) Medium 2 – (2 of the above) High 5 – (None of the above)	5
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 – Poor horizontal, vertical alignment and width <5m 1 – Poor width <5m (Good horizontal and/or vertical alignment) 2 – Moderate width 5-6.5m (Poor horizontal and/or vertical alignment) 4 – Good horizontal alignment and minimum 6.5m width 6 – Good horizontal, vertical alignment and minimum 6.5m width	10
Pavement subject to inundation and roadside drainage	8 Unlikely and good longitudinal drainage 5 Infrequent inundation and/or poor cross drainage 2 Frequent inundation and/or poor cross and longitudinal drainage	10

5.2 Privately Funded Upgrades

Requests to upgrade an unsealed rural road to a sealed standard that does not meet the requirements of sections 5.1.1 and 5.1.2 may be considered for upgrading if the requestor provides all funds required to upgrade the road to the relevant standard. Council may also require the requestor to contribute to the ongoing maintenance/ depreciation of the road, above and beyond funds required to maintain the road prior to it being sealed.

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6. Review Timelines:

This procedure will be reviewed when any of the following occur:

- 6.1. The related or reference material is amended or replaced; or
- 6.2. Other circumstances as determined from time to time by the General Manager.

7. Responsibilities:

Sponsor	Chief Executive Officer
Business Owner	General Manager Regional Services
Policy Owner	Manager Civil Operations
Policy Quality Control	Corporate Improvement and Strategy

**ROBERT HOLMES
GENERAL MANAGER REGIONAL SERVICES**

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APPENDIX A

SECOND DESIGN STANDARD

FULL DEPTH GRANULAR - Second Design Standard
Base CBR 40

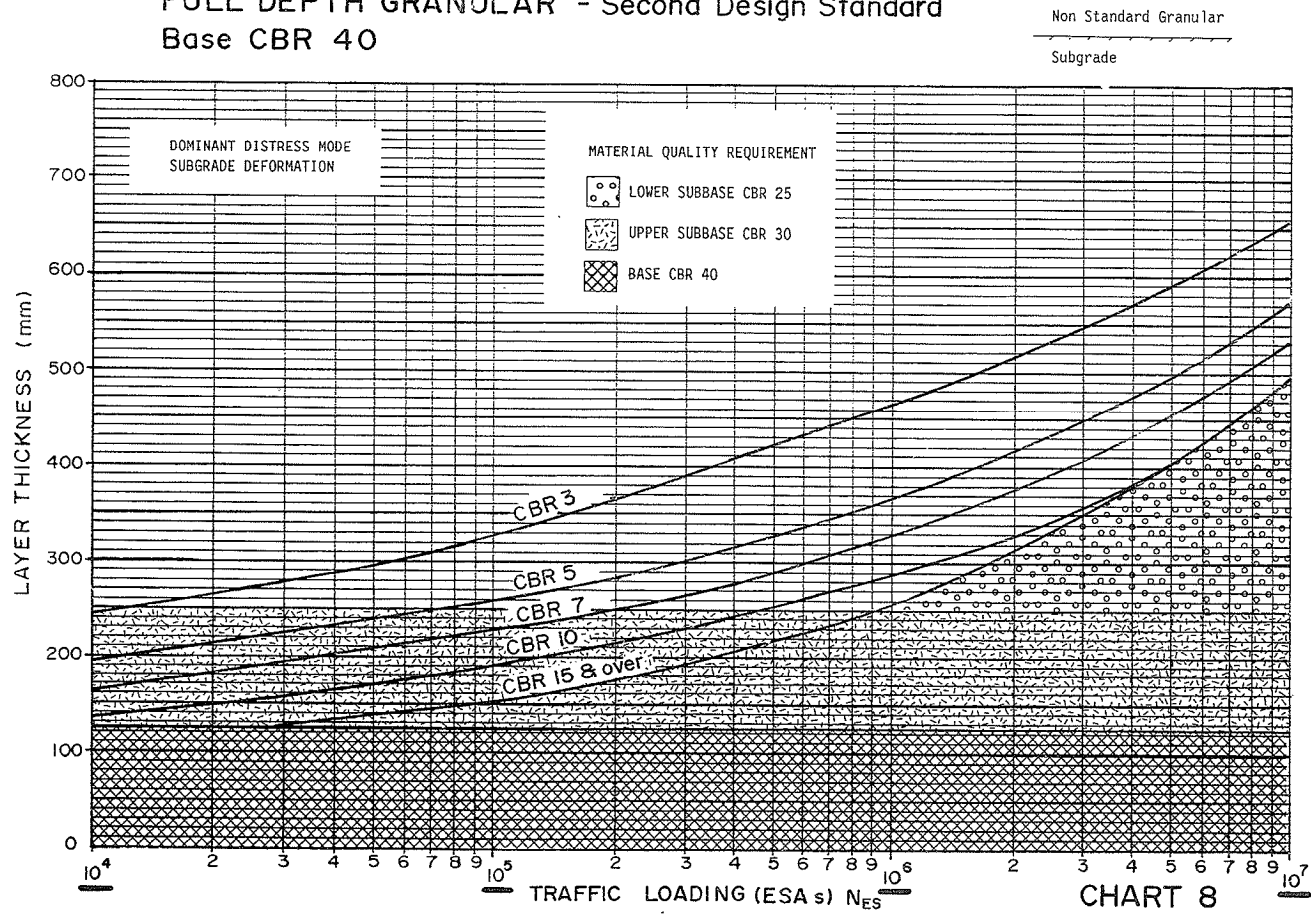


CHART 8

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