

R 1 – Provision of Roads and Associated Civil Works for Subdivisions and Developments

1 Policy

1.1 Preliminary

- 1.1.1 It is the responsibility of subdividers who have received conditional approval which includes the provision of roads and associated civil works to deliver to the Shire's Chief Executive Officer (CEO) full drawings designs and information which would enable the CEO to make a decision on approving this work.
- 1.1.2 A qualified Consulting Engineer or Clerk of Works (a person of relevant experience or qualification) approved by the CEO must be engaged to prepare detailed design drawings and specifications sufficient to show exact details of materials, locations (both horizontal and vertical) and construction methods of all physical features such as, but not limited to, roads, drainage, sewage, earthworks, landscaping, signage (regulatory and directional), guideposts and all necessary works.
- 1.1.3 Plans need to be submitted to the CEO for approval following amendment and revision (if required).
- 1.1.4 If the subdivider does not accept the Shire's requirements the subdivider may appeal to the Minister for Planning and Infrastructure within 30 days. The State Administrative Appeals Tribunal is the sole arbiter on the matter as per the Local Government Miscellaneous Provisions Act, Clause 2.95.
- 1.1.5 When an approved plan is available the subdivider may call tenders or engage a contractor of their choice.
- 1.1.6 A defects liability bond to the value of 5% of the total cost of the work shall be paid to the Shire to cover any defects which may arise in the first 12 months after clearance of the relevant Planning Commission condition(s) relating to roads and/or drainage, landscaping or any other details included within the Council or CEO approved plans or specifications. The bond is to be paid upon practical completion of works and prior to clearance of civil works being issued. The bond may take the form of a payment to the Shire or alternatively an irrevocable Bank Guarantee. Unused portions of the bond are refundable.
- 1.1.7 It is the subdividers responsibility to ensure that the contractor engaged has the capacity to fully complete the work in accordance with the approved plans and to the applied standards.
- 1.1.8 If day to day site supervision is to be provided by the Consulting Engineer or Clerk of Works, the subdivider must pay to the Shire an amount of 1½% of the total cost of construction as estimated by the Shire, to cover the costs incurred by the Shire through activities such as officer attendance at site meetings/inspections etc.
- If day to day site supervision is not provided by the Consulting Engineer or Clerk of Works then the amount required is 3%. Should there be any discrepancy between the above and the Planning and Development Act 2005 then the Act will apply.

1.1.9 Public access to all or part of the roads as applicable within the subdivision will not be allowed until a certificate of completion from the Consulting Engineer is given and accepted by the CEO.

1.1.10 Clearance of the subdivision by the CEO shall be granted at such time as the subdivisional civil works are fully completed, all other relevant conditions set by the Planning Commission are satisfied, supervision fee (1.5% or 3%) paid, and the 5.0% defect liability bond is in place.

Clearance may also be granted to an uncompleted subdivision whereby bonds will be negotiated to cover the cost of the incomplete works or relevant conditions. This will be decided, at the discretion of the CEO, on a case by case basis however generally bonds will only be permitted where the majority of the work or the majority of the relevant conditions set by the Planning Commission have been satisfied. Bonds will be held until such time as the outstanding issues are completed to the satisfaction of the CEO.

The amount of the bond will be determined based on the value of the work subject to the bond plus 20%.

1.2 Contributions to Upgrading Adjoining and Feeder Roads

1.2.1 Subdivisions which increases the volume of traffic on Shire controlled roads may attract a contribution from the subdivider for the upgrading of the affected Shire roads.

1.2.2 In instances where a subdivision attracts a road upgrading condition, the CEO shall specify and justify the work in the response to the Planning Commission. Depending upon the size and scale of the proposed subdivision the CEO is to either stipulate the specific road upgrading requirements (eg; upgrade 'x' road to 6m seal from intersection with 'y' road to entrance of proposed internal access road of subdivision) or a financial contribution towards the future upgrading of the subject road.

In some instances the size of the subdivision will generate such a significant increase in traffic volume on an existing road that a total (100%) contribution towards the upgrading of the road will be required.

1.2.3 All financial contributions received from subdividers not expended in the same year as receipt are to be placed in reserve and quarantined for use on the nominated road.

1.3 Outline Specification for Bitumen Construction

1.3.1 General

All work should be carried out to the complete satisfaction of the Shire and in accordance with best accepted engineering practice. As a guide, developers should refer to the text "Local Government Guidelines for Subdivisional Development" published by the Institute of Public Works Engineering Australia (WA Division), ISBN 0-646-36284-4.

1.3.2 Design

A preliminary design for the work must be prepared by a qualified practicing Civil Engineer or suitably qualified or experienced person (as approved by the CEO. The design should show longitudinal plans and cross sections of the proposed road(s), general specifications, levels, drainage, nature of soil and other such information to enable the CEO to make a decision on approving the work.

It is important that subdividers establish road standards with the Shire before commencing design.

1.3.3 Design Drawings

Design drawings and specifications should be to the extent and in accordance with that recommended at Section 3 of the text “Local Government Guidelines for Subdivisional Development”. However, as a minimum design drawings shall include plans and longitudinal sections generally at the scale of 1 in 1000. Levels should be reduced to AHD where possible.

Cross sections shall be included for all roads.

The design shall be forwarded to the CEO for approval in two hard copies minimum drawing size A1 and/or as electronic pdf vector format. The design will be reviewed, after which either approval or changes will be suggested. Any changes or amendments will need to be reflected in revised drawings prior to approval being issued.

All geometric design to be based on a minimum Design Speed of 80km/h unless ground conditions make this impossible. Where this occurs the standard reached shall be clearly indicated and provision for appropriate road signs included in the contract.

1.3.4 Drainage

Drainage detail should be specific and include constructional detail of all structures being utilised.

Storm water should be discharged as soon as possible onto the land surface or to a natural water course.

Where grades exceed 6% or where sub-grade material is particularly subject to erosion, stormwater shall not be carried in unlined water-tables or open drains unless specific approval is given by the CEO.

All storm water drainage is to be designed in accordance with the current Australian Rainfall and Runoff Guidelines and the relevant Austroads Guides. Flow widths along kerb lines are not to exceed 2.0m from the face of kerb and water velocity is not to exceed the scour velocity of the road and kerb surface. Kerbing is to be provided as required in the section of this policy entitled ‘Road Standards’.

All drainage discharge points shall be protected against erosion in a method approved by the CEO.

All drainage lines shall be of a standard recommended by the concrete pipe association (or equivalent design code for other types of pipe such as PVC or polypropylene) for the proposed installation situation. Pipes are to be laid in straight lines between structures, true to grade and line. At all structures, pipes, etc., shall be connected with cement mortar or as specified by the manufacturer to ensure water-tightness and exclusion of ground water, unless otherwise approved in the design.

1.3.5 Earthworks & Formation

Subgrade

Roads shall be formed and compacted true to location, level and grade as shown on the design drawings. All fill areas shall be compacted from the bottom up, with the base dimensions calculated to comply with acceptable angles of repose. All material used in fills

must be capable of compaction as per Main Roads Western Australia specifications. The CEO reserves the right to require compaction testing as per Main Roads Western Australia specifications at the contractors or subdivider's cost.

1.3.6 Pavement Design

Road base material shall be laterite gravel (or other approved material) taken from a pit approved by the CEO. Laboratory tests may be required on representative samples at the contractors or subdivider's expense.

The pavement design shall be carried out as per Main Roads Western Australia specifications. Details submitted in the design shall include the materials and the pavement structure being proposed.

Road base depth shall be not less than 200mm compacted unless approved by the Shire or justified by laboratory test results on the sub-grade and base material.

1.3.7 Surface Treatment

The Consulting Engineer shall submit a seal design to the CEO giving full details of the proposed seal treatment(s). Seals shall conform to Main Roads Western Australia specifications. No seal shall be applied prior to the seal design being approved by the CEO. The approval process will include an inspection of the base course.

1.4 Outline Specification for Unsealed (Gravel) Construction

1.4.1 General

All work should be carried out to the complete satisfaction of the Shire and in accordance with best accepted engineering practice. As a guide, developers should refer to the texts "Local Government Guidelines for Subdivisional Development" published by the Institute of Public Works Engineering Australia (WA Division), ISBN 0-646-36284-4 and ARRB's 'Unsealed Road Manual – Guidelines for Good Practice'.

1.4.2 Design

A preliminary design for the work must be prepared by a qualified practicing Civil Engineer or suitably qualified or experienced person (as approved by the CEO). The design should show longitudinal plans and cross sections of the proposed road(s), general specifications, levels, drainage, nature of soil and other such information to enable the CEO to make a decision on approving the work.

It is important that subdividers establish road standards with the Shire before commencing design.

1.4.3 Design Drawings

Design drawings and specifications should be to the extent and in accordance with that recommended at Section 3 of the text "Local Government Guidelines for Subdivisional Development". However, as a minimum design drawings shall include plans and longitudinal sections generally at the scale of 1 in 1000. Levels should be reduced to AHD where possible.

Cross sections at a scale of 1 in 200/100 (H/V) should be provided where cross falls exceed 10% or cut or fill depths exceed 1 metre.

The design shall be forwarded to the CEO for approval in two hard copies minimum drawing size A1 and/or as electronic pdf vector format. The design will be reviewed after which either

approval or changes will be suggested. Any changes or amendments will need to be reflected in revised drawings prior to approval being issued.

All geometric design to be based on a minimum Design Speed of 80km/h unless ground conditions make this impossible. Where this occurs the standard reached shall be clearly indicated and provision for appropriate road signs included in the contract.

1.4.4 Drainage

Generally drainage on gravel roads will consist of open drains with culverts with headwall structures installed transversely beneath the road surface.

Drainage detail should be specific and include constructional detail of all structures being utilised

Storm water should be discharged as soon as possible onto the land surface or to a natural water course.

Where grades exceed 6% or where sub-grade material is particularly subject to erosion, stormwater shall not be carried in unlined water-tables or open drains unless specific approval is given by the CEO.

All storm water drainage is to be designed in accordance with the current Australian Rainfall and Runoff Guidelines and the relevant Austroads Guides.

All drainage discharge points shall be protected against erosion in a manner approved by the CEO.

All drainage lines shall be of a standard recommended by the concrete pipe association (or equivalent design code for other types of pipe such as PVC or polypropylene) for the proposed installation situation. Pipes are to be laid in straight lines between structures, true to grade and line. At all structures, pipes, etc., shall be connected with cement mortar or as specified by the manufacturer to ensure water-tightness and exclusion of ground water, unless otherwise approved in the design.

1.4.5 Earthworks & Formation

Subgrade

Roads shall be formed and compacted true to location, level and grade as shown on the design drawings. All fill areas shall be compacted from the bottom up, with the base dimensions calculated to comply with acceptable angles of repose. All material used in fills must be capable of compaction as per Main Roads Western Australia specifications. The CEO reserves the right to require compaction testing as per Main Roads Western Australia specifications at the contractors or subdivider's cost.

1.4.6 Pavement Design

Road base material shall be laterite gravel (or other Shire approved material) taken from a pit approved by the Shire. Laboratory tests may be required on representative samples at the contractors or subdivider's expense.

The pavement design shall be carried out as per Main Roads Western Australia specifications. Details submitted in the design shall include the materials and the pavement structure being proposed. Crossfalls shall not be less than 5%.

Road base depth shall be not less than 200mm compacted unless approved by the Shire or justified by laboratory test results on the sub-grade and base material.

1.4.7 Surface Treatment

The surface shall be water bound, compacted and shaped as per the design to give a smooth and solid running course with a minimum of loose material.

1.5 Subdivisional Road Requirements

1.5.1 Internal Roads (Access Roads)

The full cost of all internal roads will be at the cost of the developer.

The standard of road will conform to the Shire's Road Standards, and the level of construction will be as dictated by the number of lots serviced, terrain, number of spur roads, and potential traffic generated.

1.5.2 Servicing by Existing Roads

When subdivisional lots are permitted to be serviced by existing roads a contribution will be required to upgrade the road to an acceptable standard dictated by the number of lots and the volume of potential additional traffic.

1.5.3 Feeder Road Upgrading (District Distributor B Roads)

Where subdivisional roads connect to an existing Shire feeder road which is of a standard inadequate for the potential traffic after the subdivision is fully developed, a contribution sufficient to raise that standard to an acceptable level will be required after taking into consideration future contributions from other adjacent subdividable land.

NOTE: A feeder road standard not less than that required for the internal road provided for the subdivision will be required.

1.5.4 Major Feeder Road Connection (Primary Distributor, District Distributor A or Regional Distributor Roads)

Where subdivisional roads connect to an existing major feeder road (eg. highway or secondary road) already adequate in standard, a contribution will be required for any traffic controlling treatments, containing drainage, entry treatments, and dealing with specific safety problems such as visibility, signage etc. Where the feeder road is a highway or secondary road under the control of Main Roads Western Australia approval from Main Roads Western Australia is required prior to submission of design drawings to the Shire.

1.5.5 Connecting Road Presently Not Existing

Where a subdivision is created which will require connection to a feeder road or highway and no formed road exists then the full cost of this connecting road to a standard dictated by the number of created lots and potential volume of traffic generated will be required.

1.5.6 Additional or Connecting Roads

Where contributions have been assessed in accordance with this Policy, the Shire reserves the right to fully utilise the contribution on the section of adjoining or connecting road with the greatest priority.

1.5.7 Road Standards

- 1.5.7.1 *Minimum Gravel Track* - Farm gate situation servicing 1 - 4 rural properties. Formed road, sheet with suitable pavement material where required. Minimum width 5.0 metres.
- 1.5.7.2 *Standard Gravel Road* - Typical rural road servicing 5 - 10 rural properties. Formed road with a gravel pavement minimum width 6.0 metres.
- 1.5.7.3 *Bitumen - 4 metre* - Acceptable for short internal spur road only when servicing maximum 5 lots in acceptable terrain only.
- 1.5.7.4 *Bitumen - 6 metre without Kerbs* - Minimum main internal road for Special Rural subdivision. Kerbing required for drainage, traffic control and entry only.
- 1.5.7.5 *Bitumen - 6 metre with Kerbs* - Minimum Residential standard. Minimum standard for Special Residential.
- 1.5.7.6 *Bitumen - 7.4 metre without Kerbs* - Main internal Special Rural/Residential road if planned to be extended as a feeder road. Kerbing required for drainage, traffic control and entry only.
- 1.5.7.7 *Bitumen - 7.4 metre with Kerbs* - Main internal distributor in a large Special Rural/Residential subdivision. Residential distributor road.

2 Applicable Legislation and Documents

Statutory Power <i>(Acts, Regulations, Local Laws, TPS)</i>	s.2.7(2)(b) <i>Local Government Act 1995</i> – The council is to determine the local government’s policies
Shire Policies	N/A
Related Documents	Local Government Guidelines for Subdivisional Development Unsealed Road Manual – Guidelines for Good Practice
Related Procedure	N/A

3 Administration

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