This design standard was adopted by the Minister for Planning under section 73(10) of the *Planning, Development and Infrastructure Act 2016* on [day] [month] [20XX].

Introduction

Section 69 of the *Planning, Development, and Infrastructure Act 2016* (the Act) allows the State Planning Commission to prepare design standards that relate to the public realm or infrastructure. Design standards form part of the Planning Rules and may supplement the Planning and Design Code by:

(a) specifying design principles; and

(b) specifying design standards for the public realm or infrastructure; and

(c) providing design guidance with respect to any relevant matter.

A design standard may:

(a) be linked to any spatial layer in the Planning and Design Code; and

(b) apply to any location specified in the Planning and Design Code, an infrastructure delivery scheme under Part 13 Division 1, or a scheme established under Part 15 Division 2.

For the purposes of this design standard, section 102(1)(c)(ii) of the Act also provides that the division of land (other than under the *Community Titles Act 1996* or the *Strata Titles Act 1988*) must satisfy any relevant requirements set out in a design standard.

Design Standard 1 – Engineering Requirements for Land Divisions

Part 1 – Preliminary

1 – Citation

This design standard may be cited as Design Standard 1 – Engineering Requirements for Land Divisions.

2 – Commencement of design standard

This design standard will come into operation on the day on which it is published on the SA planning portal.

3 – Object of design standard

(1) This design standard is prepared for the purposes of section 102(1)(c)(ii) of the Act.

(2) This design standard prescribes the standard requirements for land division with respect to:

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(a) road and pavement design; and

(b) stormwater design; and

(c) stormwater quality; and

(d) earthworks; and

(e) service infrastructure; and

(f) street landscaping including trees.

4 – Interpretation

In this design standard, unless the contrary intention appears –

Act means the *Planning, Development and Infrastructure Act 2016.*

Activity Centre has the same meaning as in the Code.

Annual Exceedance Probability (AEP) means the probability that a particular storm or flood event will be equalled or exceeded in any year. It is the complement of the return period or the average recurrence interval.

Code means the Planning and Design Code.

Council means the council constituted under the *Local Government Act 1999,* where the relevant development is being undertaken.

Design Requirement (DR) is the assessment criteria listed in clause 7.

Intersection includes a cross intersection where two roads cross at or near right angles, a 'T' intersection where one road terminates into another, a multi-leg intersection where there are more than four road approaches, and a roundabout where the intersection is designed for circulating traffic.

Major/Minor Approach means a methodology for the management of stormwater, in which the minor system manages 18% AEP storm events (1-in-5 ARI) through underground pipes and pits, and the major system manages 1% AEP storm events through overland flow paths to minimise flood risk to people, property and infrastructure.

Regulations means the *Planning, Development and Infrastructure (General) Regulations 2017.*

Note: Section 12 of the Legislation Interpretation Act 2021 provides that an expression used in an instrument made under an Act has, unless the contrary intention appears, the same meaning as in the Act under which the instrument was made.

Part 2 – Administration

5 – Application of this design standard

(1) This design standard applies to all applications for a consent under section 102(1)(c) of the Act where:

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(a) the development involves division of land for residential purposes, or primarily for residential purposes; and

(b) the development requires the construction of a public road that is to be vested in council and/or other infrastructure that falls within any of the items referred to in clause 3(2); and

(c) the land to be divided is located within the following zones in the Code:

(i) Master Planned Neighbourhood Zone

(ii) Master Planned Renewal Zone

(iii) Master Planned Township Zone.

(2) This design standard is not intended to have application under section 102(1)(a) of the Act as part of the Planning Rules.

(3) The application of this design standard to an application is in addition to other instruments relevant to the assessment of a development application under section 102(1) of the Act.

6 – Satisfaction of requirements

(1) The requirements of this design standard are satisfied if the development meets all of the design requirements in clause 7 associated with each item listed in clause 3(2) that are relevant to the proposed development.

(2) For the avoidance of doubt:

(a) the relevant authority may determine that one or more of the design requirements are not relevant due to the specific site conditions of the proposed land division; and

(b) design requirements may be satisfied through the imposition of conditions attached to the development authorisation in accordance with section 127 of the Act; and

(c) any matters not specified in this design standard may be subject to further requirements determined by the relevant authority, insofar as they are relevant to the particular development, and in accordance with section 102 of the Act.

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Part 3 – Engineering requirements for land divisions

7 – Assessment Provisions

1. ROAD AND PAVEMENT DESIGN
Design Requirements
DR 1.1 – Kerb and Channel Kerb and channel will be provided on both sides of all residential roads, and edge strips or spoon drains may be used in rear access lanes.
DR 1.2 – Road Accessibility All roads will demonstrate a footpath network that complies with the *Disability Discrimination Act 1992* (DDA) and provide for the following footpath widths: (a) 3 metres for shared paths, where adjacent bus stop areas and in front of commercial buildings/activity centres; and (b) 1.5 metres for all other footpaths. Where a footpath connects into an existing network, the width at the connection must match that of the existing width and either continue to match the existing width if it meets the minimum width, or taper to the minimum width within the balance of the division.
DR 1.3 – Residential Driveway Crossovers Driveway crossovers to residential allotments will comply with the following requirements: (a) at least one, and no more than two vehicle crossovers will be provided to a residential allotment; (b) where a single crossover is provided to an allotment: (i) the minimum width of a single vehicle crossover is not less than 3 metres; (ii) the maximum width of a single vehicle crossover does not exceed 5 metres; (c) where two vehicle crossovers are provided to an allotment: (iii) the minimum width of each crossover is not less than 3 metres; (iv) the maximum width of each crossover must not exceed 4 metres; (v) a minimum separation of 9 metres must be is maintained between the crossovers; (d) vehicle crossovers to adjacent properties must either: (vi) be fully combined, with a maximum combined width of 6 metres; or (vii) be separated by a minimum distance of 6 metres to allow for on-street parking between the crossovers. (e) vehicle crossovers to corner allotments must be located: (i) a minimum of 6 metres from the tangent point of the kerb return at intersection of roads; and (ii) at least 1 metre clear of pedestrian kerb crossings, street trees, signs, bollards and other street furniture in accordance with *AS 2890.1: 2004 Parking Facilities Part 1: Off-street car parking.*

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DR 1.4 – Design Vehicle

Where an intersection or cul-de-sac is proposed, the design vehicle(s) to be adopted for roads within a land division will be selected in accordance with the current *Austroads Design Vehicles and Turning Path Templates*.

Where a larger design vehicle is identified as being required to meet the specification of the refuse collection or emergency service provider for the land, a larger design vehicle must be adopted.

DR 1.5 – Access to allotments

All-weather vehicular access is to be provided to all residential allotments.

DR 1.6 – Intersecting roads

Intersections are to be designed to function in a safe, convenient and appropriate manner for the type of road and in accordance with *Austroads Guide to Road Design* and *Australian Standard AS1742 – Manual of Uniform Traffic Control Devices* and designed to ensure adequate sight lines are maintained through the intersection.

DR 1.7 – Road type widths

The design of roads, road reserve widths and road carriageway widths are to be in accordance with the following:

Road Type	Maximum Traffic Volume (vehicles per day)	Minimum Carriageway Width	Minimum Reserve Width
Rear Access Lane (secondary road abutting rear of residential allotments that is no more than 100m in length)	N/A	5.5m	8m
Residential Road (footpaths on one sides)	1500	7.2m	15m
Level 1 Collector/Connector Road (footpaths on both sides)	3000	11m	18m
Residential Cul-de-sac	1500	12.5m radius	18m

DR 1.8 – Cul-de-sac

Where a residential road proposes a cul-de-sac or a court, provision must be made for a standard 12.5 metre service vehicle (fire truck) to undertake a three-point turn manoeuvre on the pavement area.

Such turn around area and swept path detail must account for any potential on-street parking or identify where parking restrictions would be required to facilitate the turning.

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2. STORMWATER DESIGN

Design Requirements

DR 2.1 – Stormwater Management Plan

The Stormwater Management Plan (SMP) will adopt the Major/Minor Approach to stormwater drainage systems. Post-development stormwater flow from the site is to be managed so that discharge to the downstream stormwater system does not exceed pre-development flow rate at the connection point.

DR 2.2 – Management of Stormwater

The design of both stormwater management and drainage infrastructure must comply with any current stormwater management strategies in place through a deed of agreement, infrastructure scheme or regional stormwater management plan.

The management of stormwater must ensure that existing and future buildings and essential infrastructure are protected in a 1% AEP storm event through the construction of a major stormwater system located in accordance with DR 2.3 – Location of Stormwater Drainage Infrastructure.

DR 2.3 – Location of Stormwater Drainage Infrastructure

Stormwater drainage infrastructure is to be sited within a road reserve, drainage reserve or easement, and must be sited to ensure unrestricted access to the council to manage and maintain the asset.

DR 2.4 – Stormwater Drainage Easements

All stormwater infrastructure that is not to be located within a public road or public reserve must be shown within an easement on the proposed plan of division.

DR 2.5 – Stormwater Basin Design

Where on-site detention is required prior to discharge into an existing stormwater drainage network, the rate of discharge and volume of on-site detention must be designed so that either pre-development flows are maintained or flows do not adversely impact downstream stormwater infrastructure.

DR 2.6 – Basin Access Requirements

Basin design will provide an access point or access points that meet the following access requirements:

(a) maximum batter slope for basins will not exceed 1:5 where public access is to be provided;

(b) basin to be provided with all-weather access, with appropriate turn-around points and any associated structures, outlets, or pumps for maintenance; and

(c) enables operational maintenance for the entire basin

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3. STORMWATER QUALITY

DR 3.1 – Pollutant Load Reductions

The water quality of the stormwater runoff from the site must be in accordance with the *Environmental Protection (Water Quality) Policy 2015.*

Stormwater systems will achieve the following mean annual pollutant loads, when compared to the unmitigated stormwater runoff:

(a) 80% for Total Suspended Solids (TSS)
(b) 60% for Total Phosphorus (TP)
(c) 45% for Total Nitrogen (TN)
(d) 90% for Gross Pollutants (GP).

DR 3.2 – Integrated Water Management

Where the use and application of Water Sensitive Urban Design (WSUD) in stormwater treatment is proposed as part of a land division, it must achieve the following objectives:

(a) achieve the pollutant load reductions outlined in DR 3.1 – Pollutant Load Reductions;
(b) integrate water elements into the urban landscape to preserve natural topography within the subdivision layout;
(c) be engineered to control erosion and limit sediment movement into natural watercourses;
(d) located in a road reserve, reserve, or drainage reserve to enable ongoing maintenance by the relevant authority; and
(e) achieve water retention functionality where proposed as part of a stormwater management strategy.

4. EARTHWORKS DESIGN

Design Requirements

DR 4.1– Site Levels

Where a site is located within a flood hazards overlay or contains an identified watercourse, site levels will ensure that a future dwelling or structure is able to achieve a finished floor level of buildings at a minimum of 300mm above the 1% AEP flood level.

DR 4.2 – Flow Paths

No water is to be directed to flow into adjoining properties unless one or more of the following are met:

(a) the water flow is part of an existing watercourse and pre-existing stormwater conditions are maintained; and/or
(b) an easement for stormwater purposes is in place on the adjoining land and pre-existing stormwater conditions are maintained; and/or
(c) connection into existing infrastructure is provided and pre-existing stormwater conditions are maintained.

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5. SERVICE INFRASTRUCTURE

Design Requirements

DR 5.1 – Service Location

Provision must be made for the creation of easements and reserves for the purposes of drainage, electricity supply, telecommunications, gas supply, water supply and wastewater services.

Any service which is located within the balance of land to which the approval applies and is yet to be developed is to be shown in an easement in favour of the asset owner on the relevant plan of division.

DR 5.2 – Location of Services

Pad-mounted transformers, switching cabinets and pump stations are to be accessible from a public road and provided with easements as required. This infrastructure must be situated:

(a) in an area with reduced visibility;
(b) away from locations near play equipment, BBQ or picnic areas or active recreation furniture; and
(c) with landscape screening to obscure structures associated with the services and infrastructure.

6. STREET LANDSCAPING INCLUDING TREES

Design Requirements

DR 6.1 – Street Tree Planting

Street trees will be provided within the road reserve adjacent residential allotments at the following minimum rates:

(a) 1 tree per single frontage allotment with a frontage of 10 metres or less;
(b) 1 tree every 7 metres for single frontage allotments greater than 10 metres;
(c) 3 street trees to be provided to corner allotments;
(d) 1 tree every 7 metres where not located adjacent residential allotments.

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