ACT Government

Environment and Sustainable Development

Estate Development Code

Contents

Figures and tables

Appendix A – Block compliance

Introduction

Name

The name of this code is **Estate Development Code**.

Application

This code applies to all proposals in the ACT for the subdivision of land requiring the preparation of an estate development plan.

National Capital Plan

Where a development is subject to special requirements under the National Capital Plan, or any relevant development control plan prepared under the National Capital Plan, the development must not be inconsistent with the special requirements or development control plan. Where any provision of this code is inconsistent with special requirements under the National Capital Plan, or any relevant development control plan prepared under the National Capital Plan, that provision has no effect.

Purpose

This code provides additional planning, design and environmental controls to support the objectives of the relevant zone.

It will be used by the ACT Planning and Land Authority (ACTPLA) to assess development applications for estate development plans. It also offers guidance to applicants preparing estate development plans.

Objective

To facilitate sustainable, safe, convenient and attractive neighbourhoods that meet the diverse and changing needs of the community. This encompasses offering a wide choice in good quality housing and associated community and commercial facilities, providing for local employment opportunities, encouraging walking and cycling, minimising energy consumption, and promoting a sense of place through neighbourhood focal points and the creation of a distinctive identity which recognises and, where relevant, preserves the natural environment. (after AMCORD 1995)

Structure

This code has four parts:

Part A – Estate planning in all zones

Part B – Estate planning in residential zones and CZ5

Part C – Estate planning in industrial zones

Part D – Endorsement by government agencies

Each part is divided into one or more elements. Each element has rules and associated criteria (unless a rule is mandatory). Rules provide quantitative or definitive controls, while criteria are chiefly qualitative in nature.

Where rules are mandatory they are accompanied by the words “This is a mandatory requirement. There is no applicable criterion”. Non-compliance with a mandatory rule will result in the refusal of the development application. Conversely, the words “There is no applicable rule” is found where a criterion only applies.

Assessment tracks

Assessment tracks for particular developments are specified in the relevant zone development table.

Proposals in the **code track** must comply with all rules relevant to the development.

Proposals in the **merit track** and **impact track** must comply with a rule or its associated criterion, unless the rule is mandatory (i.e. it has no related criterion). When a rule is fully met, no reference to the related criterion needs to be made. Where there is a departure from a rule, or where a criterion only applies, the onus is on the applicant to demonstrate, through supporting drawings and/or documentation, that the relevant criterion is satisfied. In addition, the applicant for proposals in the impact track must justify any non-compliance by reference to the Statement of Strategic Directions.

Estate development plans are ordinarily assessed under the **merit track**.

Code hierarchy

Under the *Planning and Development Act 2007,* where more than one type of code applies to a development and there is inconsistency between provisions, the order of precedence is: precinct code, development code, and general code.

Precinct codes and concept plans

Precinct codes and concept plans may apply to certain areas. These documents contain more detailed or site-specific provisions. Where there is an inconsistency between one of these documents and this code, the precinct code (which may be a concept plan) will prevail to the extent of that inconsistency.

General codes

The following general codes may be relevant to estate development plans.

Crime Prevention through Environmental Design General Code

Planning for Bushfire Risk Mitigation General Code

Waterways: Water Sensitive Urban Design General Code

Estate development plans

Estate development plans (EDPs) set out the proposed subdivision pattern and infrastructure works for an estate. EDPs must be submitted as development applications for approval by ACTPLA. Development approval of the EDP is required before design acceptance can be obtained from TAMS, works can commence and leases issued for the subdivided blocks. The EDP is assessed against the relevant parts of this code and any applicable structure plan or precinct code.

An EDP that relates to a future urban area must comply with section 94 of the *Planning and Development Act 2007.* For land that is not future urban area, or subject to a precinct code, an EDP will be assessed primarily against this code.

Future urban areas

An estate development plan may introduce additional ongoing provisions relating to particular blocks or areas within a future urban area, providing such provisions are not inconsistent with the objectives of the applicable zone and to any concept plan applying to the area. At the discretion of ACTPLA these provisions may be incorporated into the Territory Plan under s96(2) of the *Planning and Development Act 2007*, typically in a precinct code. Section 115 of the *Planning and Development Act 2007* would apply where there is any inconsistency between a provision in a precinct code and this code.

Endorsement by government agencies

ACTPLA co-ordinates pre-application referrals of EDPs to "entities", as government agencies are known under the *Planning and Development Act 2007.* Many of the relevant entities' requirements are codified in part D of this code. The applicant can expect entity endorsement of a particular aspect if it is compliant with the relevant provisions specified in the note to the respective rule. For example, if carriageway widths fully comply with the relevant table found in the code, the entity's endorsement (in this case TAMS) will be given. Many provisions also allow the entity to endorse aspects of the proposal that do not fully comply with its standards. In these cases, the onus is on the proponent to negotiate with the entity and justify any departure.

Entity endorsement is not necessarily required when a development application is lodged. It is possible for at least some entity endorsements to be obtained before the application is determined or, in some instances, after approval through a condition of development approval.

In addition to infrastructure in the public realm, which ordinarily requires asset acceptance (approval) from TAMS, infrastructure within common property under a proposed community title scheme (*Community Titles Act 2001*) must also be endorsed by the relevant entity under part D.

Definitions

Defined terms, references to legislation and documents are italicised.

Definitions of terms used in this code are listed in part 13 of the Territory Plan or, for terms applicable only to this code, associated with the respective rule.

Acronyms

ACTPLA	ACT Planning and Land Authority
EPA	ACT Environment Protection Authority
ESA	Emergency Services Authority
ESDD	ACT Environment and Sustainable Development Directorate
EDD	ACT Economic Development Directorate
EDP	estate development plan
LDA	ACT Land Development Agency
NCA	National Capital Authority
NCC	National Construction Code
P&D Act	Planning and Development Act 2007
TAMS	ACT Territory and Municipal Services Directorate

Part A – Estate planning in all zones

Refer to part D for related entity endorsement provisions.

Element 1: Layout

Rules	Criteria
1.1 Estate layout	
There is no applicable rule.	C1 The subdivision layout and movement networks achieve all of the following: a) blocks that are suited to their intended use and are consistent with the *desired character* of the relevant land use zone. b) a high level of internal accessibility c) effective external connections for local vehicle, pedestrian and cycle movements d) effective traffic management to restrain vehicle speed, deter through-traffic and create safe conditions for other road users e) retention of significant vegetation and habitat areas including consideration of ecological connectivity f) incorporation of natural and cultural features g) minimal risk of soil erosion including the risk of soil erosion from cut and fill h) enhanced personal safety and perceptions of safety including way finding, passive surveillance and avoidance of entrapment points. i) minimised potential for crime and vandalism and through estate design and surveillance by drivers of passing vehicles and pedestrians j) integration with the surrounding urban environment, existing attractive streetscapes and landscapes, and provision for shared use of public facilities by adjoining communities k) a reasonable level of protection for residents from known sources of noise, odour and light pollution through measures including earth mounds, sound walls, landscaping or separation.

Element 2: Walking, cycling and public transport

Rules	Criteria
2.1 Bus routes	
There is no applicable rule	C2 Convenient access is provided to bus routes and bus stops by residents of the *estate*.
R3 Schools are adjacent to at least one bus stop on a nominated bus route.	C3 Convenient access is provided to bus routes and bus stops for students of existing or proposed schools.
2.2 Bus stops	
R4 At least 90 per cent of dwellings proposed for the estate comply with at least one of the following: a) are within 500m of a bus stop on an existing or proposed coverage route with well-lit and connected walking access b) are within 800m of a bus stop on an existing or proposed frequent network.	C4 The location of bus stops achieves all of the following: a) a reasonable distance from all dwellings in the *estate* b) reasonable way-finding c) convenient access for users.
There is no applicable rule.	C5 Bus stops are provided in locations that achieve all of the following: a) passive surveillance from adjoining areas b) minimal impacts on adjoining land uses c) links with the path network d) passenger convenience
R6 Bus stops on coverage routes and frequent local service routes are located not less than 400m apart.	C6 Bus stops are located to achieve legibility and convenience for passengers.
R7 No bus stop is more than 100m from another bus stop serving buses travelling in the opposite direction on the same bus route.	C7 Bus stops are located to achieve legibility and convenience for passengers.
2.3 Pedestrian and cyclist facilities	
2.3.1 On-road cycling	
R8 Major collectors are provided with a 1.5m wide on-road cycling lane on each side. Major collectors are defined in table 1A.	C8 On road cycling lanes achieve all of the following: a) opportunities for high speed commuter cycling b) safe and convenient use by cyclists.

Rules	Criteria
R9 Designated on-road cycle lanes connect with the existing or proposed shared path network.	C9 On road cycling lanes are integrated with the existing or proposed shared path network.
2.3.2 Shared path design	
R10 Shared paths are provided in the following locations: a) the entire frontage of any block used or proposed to be used for one or more of the following: i) schools ii) shops iii) community facilities b) the entire frontage of any block adjacent to an existing or proposed bus stop c) the entire frontage of any block used or proposed to be used for multi unit housing containing 10 or more dwellings: d) on both sides of endorsed bus routes.	C10 Shared paths achieve all of the following: a) physical and visual connections to the wider shared path network that promote way finding and avoid entrapment points b) accommodation of all likely users (eg. school children, parents with prams, the aged, people with disabilities, commuter and recreational cyclists).
2.3.3 Shared path network	
R11 Shared paths are connected to one or more of the following: a) any existing or proposed shared path networks, including any nearby Main Routes (as defined in TAMS *Design Standards for Urban Infrastructure DS13-Pedestrian and Cycle Facilities* or its successor) b) open space networks c) community facilities such as educational establishments and local activity centres d) public transport routes and bus stops.	C11 Shared paths achieve all of the following: a) physical and visual connections to the wider shared path network that promote way finding and avoid entrapment points b) accommodation of all likely users (e.g. school children, parents with prams, the aged, people with disabilities, commuter and recreational cyclists)
There is no applicable rule.	C12 Shared path networks achieve a reasonable level of passive surveillance from public streets, existing or future leased land, community facilities, commercial areas or other public spaces.

Element 3: Street network

Rules	Criteria
3.1 Street layout	
There is no applicable rule.	C13 The street layout achieves all of the following: a) distribution of traffic flows to reflect the function and type of the streets proposed b) legibility, convenience and safety c) avoidance of through traffic from external areas (other than for pedestrians, cyclists and public transport) and 'rat runs' d) opportunities for permeable and direct bus routes that i) minimise bus travel time ii) are not circuitous iii) avoid back tracking.
There is no applicable rule	C14 Vehicle entry and egress points to the *estate* achieve all of the following: a) reasonable distribution of traffic flows in consideration of all of the following – i) road hierarchy ii) forecast traffic volumes b) safe and convenient vehicular ingress and egress c) integration with the street network within the *estate*.
There is no applicable rule	C15 Street verge widths provide reasonable levels of amenity for all likely users appropriate to the expected use of adjoining land.
3.2 Rear lanes	
There is no applicable rule.	C16 *Rear lanes* do not contribute to a more desirable alternative to the higher level street network (i.e. do not contribute to 'rat running')
R17 *Rear lanes* comply with all of the following: a) do not directly align with *rear lanes* across higher order streets b) include threshold or other treatments to differentiate the *rear lane* from other streets c) do not terminate in a *cul-de-sac*.	C17 R*ear lanes* achieve all of the following: a) do not contribute to a pattern of long, continuous straight lengths of *rear lanes* b) differentiation of the *rear lane* from other streets c) convenient access d) accommodation of service vehicles.

Rules	Criteria
3.3 Culs-de-sac	
R18 No more than 15 per cent of blocks in an *estate* have vehicular access to culs-de-sac.	C18 Culs-de-sac achieve all of the following: a) legibility b) reasonable neighbourhood connectivity c) access to blocks where alternate access is not feasible.
R19 This rule applies to culs-de-sac that are greater than 50m in length. A shared path at least 1.2m wide is provided within an access way from the head of the cul-de-sac to one or more of the following: a) another local street b) existing or proposed shared path network.	C19 Culs-de-sac are provided with convenient and legible pedestrian and cyclist access with connections to a local street or the shared path network.
3.4 On-street car parking	
R20 The dimensions of designated on-street car spaces comply with Australian Standard *AS 2890.5 Parking – on street*.	This is a mandatory requirement. There is no applicable criterion.
3.5 Design of streets in bushfire prone areas	
R21 Edge streets are provided within or adjacent to a *bushfire prone area* on the long-term urban edge or conservation area.	C21 Edge treatments on the long term urban edge provide all of the following: a) reasonable protection to people and property from bush fire b) reasonable access for emergency vehicles.
R22 Street trees and vegetation within the verge of edge streets referred to in the previous rule comply with the asset protection zone requirements in the Planning for Bushfire Risk Mitigation General Code. **Note:** Fire hydrants are required in accordance with the requirements of ESA – see part D.	This is a mandatory requirement. There is no applicable criterion.

Element 4: Public realm

The public realm consists of different types of unleased open spaces such as:

- street verges and planted medians
- parks and urban open space of all sizes
- walkways and linear spaces
- open hill or bushland reserves and conservation areas
- unenclosed sports or playing fields.

Rules	Criteria
4.1 Networks	
There is no applicable rule	C23 Public realm spaces achieve all of the following: a) consistency with the *desired character* b) accommodation of a range of uses, users and activities (such as those listed in table 4) c) contribute to providing an attractive streetscape and public places d) links between existing or proposed areas of open space e) opportunities for recreational facilities, including facilities for pedestrians and cyclists f) opportunities for wildlife corridors between natural areas g) stormwater management.
4.2 Street trees	
R24 Street trees are provided in the street types identified in the following: a) for *estates* in other than industrial zones – table 2A b) for *estates* in industrial zones – table 2B.	C24 Street tree plantings achieve an attractive *streetscape*.
R25 Street trees will, at maturity, shade not less than 30% of footpaths and shared paths in the estate at noon on the summer solstice. **Note**: Maturity is the estimated canopy size at 20 years of age.	C25 Street trees at maturity achieve reasonable summer shade to foot paths and shared paths with regard to heat gain and user comfort.
4.3 Safety	
R26 This rule applies to public realm spaces with all of the following characteristics: a) adjoin watercourses, drainage swales or stormwater detention basins b) contain or are likely to contain shared	C26 The nature and location of services and facilities in public realm spaces that adjoin watercourses, drainage swales or stormwater detention basins achieve reasonable levels of public safety in relation to their actual or intended use.

Rules	Criteria
paths, formalised meeting places (such as picnic and barbeque areas), playgrounds or play spaces. that adjoin watercourses, drainage swales and stormwater detention basins are Inundation only occurs in storm events greater than the two year average recurrence interval (ARI). **Note:** Compliance with this rule is demonstrated by a stormwater master plan prepared by a suitably qualified person.	**Note:** Compliance with this criterion is demonstrated by a stormwater master plan prepared by a suitably qualified person.
R27 This rule applies to all public realm spaces except for the following: i) street verges ii) street medians iii) access ways (as defined in table 4) iv) pedestrian lanes (as defined in table 4) A minimum of 75% of the perimeter of public realm spaces is bordered by one or more of the following: a) edge roads with kerbside parking b) public car parking areas c) trunk shared paths d) blocks with a commercial or community facility zoning.	C27 Public realm spaces (excluding street verges and medians, access ways and pedestrian lanes) are bounded by uses that provide all of the following: a) reasonable levels of surveillance, through the use of such measures as edge roads, address frontages and lighting b) reasonable public access including links from footpaths to the existing or proposed shared path network and the provision of public car parking in convenient locations.
R28 The minimum width of pedestrian parkland and access ways, as defined in table 4, is as follows: a) where the pedestrian parkland or access way is 60m or longer - 6m b) where the pedestrian parkland or access way is less than 60m in length - 4m.	This is a mandatory requirement. There is no applicable criterion.
There is no applicable rule.	C29 Reasonable levels of public safety are achieved in pedestrian parkland and access ways (as defined in table 4). This may be achieved by all of the following: a) reasonable legibility b) reasonable sightlines c) avoidance of potential entrapment spots or hiding places. **Note:** The proposal must also comply with the Crime Prevention through Environmental Design General Code.

Element 5: Environment protection

Rules	Criteria
5.2 Sediment and erosion control	
R34 This rule applies to *estates* greater than 3000m^2. Development complies with a sediment and erosion control concept plan endorsed by the Environment Protection Authority. **Supporting document:** A sediment and erosion control concept plan is prepared in accordance with the ACT EPA Environmental Protection Guidelines for Construction and Land Development in the ACT 2011. **Note:** A condition of development approval may be imposed to ensure compliance with this rule.	This is a mandatory requirement. There is no applicable criterion.
5.3 Earthworks	
There is no applicable rule.	C35 The extent of earthworks is minimised. The proposed street and block layout minimises the extent of earthworks.
R36 Earthworks are managed in accordance with an Environmental Management Concept Plan endorsed by Environment Protection Authority. **Supporting document:** Environmental Management Concept Plan endorsed by Environment Protection Authority. **Note**: A condition of development approval may be imposed to ensure compliance with this rule.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
5.4 Tree protection	
R37 This rule applies to a development that has one or more of the following characteristics: a) requires groundwork within the tree protection zone of a *protected tree* b) is likely to cause damage to or removal of any *protected trees* c) is a *declared site.* The authority shall refer the development application to the Conservator or Flora and Fauna. **Note 1:** The authority will consider any advice from the Conservator or Flora and Fauna before determining the application. **Note 2:** *Protected tree* and *declared site* are defined under the *Tree Protection Act 2005.*	This is a mandatory requirement. There is no applicable criterion.
5.5 Heritage	
R38 This rule applies to *estates* where sites within the development area are either listed or nominated to the Heritage Register. Development complies with the mitigation measures recommended in a heritage statement endorsed by the Heritage Council. **Supporting document:** Heritage statement including mitigation measures (see *Heritage Act, 2004*) **Note:** A condition of development approval may be imposed to ensure compliance with the endorsed measures.	This is a mandatory requirement. There is no applicable criterion.
R39 This rule applies to an *estate* unless the Heritage Council has provided written confirmation that there are no Aboriginal sites and/or objects are located within the development area, Development complies with the relevant cultural heritage assessment and conservation management plan endorsed by the ACT Heritage Council. **Supporting document:** Cultural heritage assessment and conservation management plan endorsed by the Heritage Council. **Note:** A condition of development approval may be imposed to ensure compliance with the endorsed cultural heritage assessment and conservation management plan.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
5.6 Contamination	
R40 This rule applies to an *estate* unless the EPA has provided written confirmation that there are no contaminated sites within or adjacent to the development area. Development complies with the relevant environmental site assessment report endorsed by EPA. **Supporting document:** Environmental site assessment report endorsed by EPA **Note:** A condition of development approval may be imposed to ensure compliance with the endorsed environmental site assessment report.	This is a mandatory requirement. There is no applicable criterion
5.7 Matters of national environmental significance	
R41 This rule applies to land affected by a plan for the protection of matters of national environmental significance (NES plan) approved under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). Development is not inconsistent with the relevant NES plan.	This is a mandatory requirement. There is no applicable criterion

Element 6: Services and infrastructure

Rules	Criteria
6.1 Buffer zones to utility services	
There is no applicable rule.	C42 Buffer zones or suitable barriers are provided between blocks proposed for residential, commercial or community facility use and utility service equipment, such as sewer vents, sewer pump stations and water pump stations, to reduce the impacts of noise and odour in accordance with the requirements of the relevant utility service provider. Utility service equipment must also be adequately screened from public view.

Rules	Criteria
6.2 Utility services	
R43 Utility services, including water, sewer, stormwater, electricity, gas and telecommunications are provided to each block. **Note**: A condition of development approval may be imposed to ensure compliance with this rule.	This is a mandatory requirement. There is no applicable criterion.
R44 Utility services are located within road verges or other territory land.	C44 Utility services may be located within leased blocks where all of the following are achieved: a) located within service easements and accessed by means of emergency or maintenance access routes in accordance with the requirements of utility service providers b) located on blocks that are of sufficient size to accommodate the required service easements and access routes whilst providing comparable building footprint area to that of unencumbered blocks.
There is no applicable rule.	C45 Above ground utility services that are located in pedestrian parkland or access ways avoid potential entrapment spots or hiding places.

Part B – Estate planning in residential zones and CZ5

This part applies to estates in residential and CZ5 zones. These provisions are additional to the general provision of the previous part.

Element 7: Block diversity

Rules	Criteria
7.1 Block diversity and distribution	
There is no applicable rule.	C46 In RZ1, a range of block sizes are provided and distributed to promote housing diversity and choice, and to meet a range of housing needs. For the purposes of this criterion, *standard blocks* (whether indicated or projected) within an *integrated housing development* parcel are to be considered.

Element 8: Block layout and orientation

Rules	Criteria
8.1 Block size, slope and orientation	
R47 This rule applies to *standard blocks.* *Standard blocks* comply with all of the following: a) block compliance tables in appendix A. b) minimum block depth – i) for *compact blocks* – 17m ii) for *mid-sized blocks* – 25m iii) for *large blocks* – 28m c) minimum block width – i) for *compact blocks* – 6m ii) for *mid-sized blocks* – 10m iii) for *large blocks* – 14m. This rule does not apply to *standard blocks* within an *integrated housing development parcel.* **Note 1:** Block width and block depth are defined in appendix A. **Note 2:** The process for determining compliance is set out in appendix A.	C47 *Standard blocks* are sized and oriented to allow all of the following: a) the erection of a house that complies with the rules of the Single Dwelling Housing Development Code b) the erection of a house with a reasonable *gross floor area* c) the erection of a house with a reasonable access to sunlight. **Note:** Compliance with this criterion will be established though an assessment of development intentions plans submitted with the estate development plan.

Rules	Criteria
R48 Not less than 95% of *standard blocks* contained in an estate development plan comply with R47 or are contained within an *integrated housing development parcel* (refer C50).	This is a mandatory requirement. There is no applicable criterion.
R49 *Standard blocks* that do not comply with R47 and are not contained in an *integrated housing development parcel* (refer C50) the previous rule are identified in the estate development plan as 'limited development potential blocks'.	This is a mandatory requirement. There is no applicable criterion.
There is no applicable rule.	C50 In an estate, the proportion of standard blocks that comply with R47is maximised.
There is no applicable rule.	C51 Each *standard block* within an *integrated housing development parcel* enables a house to be designed which achieves all of the following: a) consistency with the *desired character* b) solar access to nominated *principal private open space* comparable with the relevant provisions of the Single Dwelling Housing Development Code c) reasonable levels of privacy for other *dwellings* and their associated *principal private open space* within the *integrated housing development parcel* comparable with the relevant provisions of the Single Dwelling Housing Development Code d) where the proposed house is part of a building containing two or more houses, the outlook from an unscreened element is not unreasonably impeded by external walls on the same or adjoining blocks **Note 1:** Compliance with this criterion will be established though an assessment of an integrated housing development plan submitted with the estate development plan for each integrated housing development parcel. **Note 2:** The location, type and profile of mandatory boundary walls identified in the relevant integrated housing development plan and approved as part of the estate development plan will be incorporated into the Territory Plan under section 96(2) of the *Planning and Development Act 2007*. **Note 3:** *Integrated housing development parcels* must comply with the boundary setback and building envelope provisions under the Single Dwelling Housing Development Code.

Rules	Criteria
There is no applicable rule.	C52 Blocks nominated for multi unit housing are sized and oriented to allow housing development to achieve all of the following: a) compliance with the principal private open space rules for solar access in the relevant housing development code b) consistency with the *desired character* c) reasonable levels of privacy for *dwellings* on adjoining *residential blocks* and their associated *private open space.* **Note**: Compliance with this criterion will be established though an assessment of a development intentions plan submitted with the estate development plan.
8.2 Compact blocks – slope	
R53 This rule applies to *compact blocks*. *Slope* is no greater than 10%. For this rule - **Slope** means the slope of land, expressed as a percentage, calculated using the difference in *datum ground level* from the highest to lowest points on the proposed block boundary and the horizontal distance between those points.	C53 Block size and dimensions take into account the slope of the land and minimise the need for earthworks and retaining walls associated with dwelling construction.
8.3 Battle-axe blocks	
R54 Battle-axe *blocks* for residential purposes comply with all of the following: a) have a frontage (that does not allow vehicular access) to at least one of the following: i) public open space ii) main road carrying more than 3000vpd b) are not designated for multi unit housing with more than 3 *dwellings*	This is a mandatory requirement. There is no applicable criterion.
There is no applicable rule	C54A The size and layout of battle axe *blocks* can effectively accommodate all of the following: a) the provision of safe vehicle access and egress for all *blocks* on the street providing access b) the predicted vehicle movements for the street and any traffic control measures proposed

Rules	Criteria
	c) impacts of waste collection, public transport and parking within the street that provides access to the *blocks* d) the visual amenity of the street providing access as well as the open space or street the *block* is fronting e) suitable vehicular access and manoeuvring areas
R55 A access handle serving a battle-axe *block* residential purposes has a minimum width of: a) where it is adjacent to an access handle serving another *block*, and both access handles have a legal right of access over the other - 3m b) in all other cases: i) for single *dwelling* housing – 4m ii) for multi unit housing – 5.5m	C55 The access handle serving a battle-axe block achieves all of the following: a) safe vehicular and pedestrian access of residents and visitors of the *block* from the access street to the *block* b) ample egress from both sides of a vehicle c) appropriate access by emergency vehicles to the *dwelling* d) any required utility services and infrastructure e) opportunity for landscaping
8.4 Multi unit blocks	
R56 Multi-unit blocks enable all dwellings to front a public road or public open space. **Note:** Compliance with this rule is demonstrated by reference to a development intentions plan lodged with an estate development plan.	C56 The size and shape of multi unit blocks will enable those dwellings in a multi unit housing development that cannot front a public road or public open space, to front an internal road. **Note:** Compliance with this criterion is demonstrated by reference to a development intentions plan lodged with an estate development plan.
R57 No more than 50 per cent of the boundary of a multi unit block is common with standard blocks.	C57 Multi unit housing does not unreasonably diminish the residential amenity of adjacent standard blocks.

Element 9: Street network

Rules	Criteria
9.1 Street network	
R58 Maximum driving distance between any dwelling and specified roads complies with the following: a) minor or major collector street or higher order road – 700m b) *arterial road* – 1200m.	C58 The street layout achieves convenient movement of vehicles between dwellings and collector streets and *arterial roads.*

Rules	Criteria
R59 No more than three turning movements at intersections are required in order to travel from any dwelling to the nearest collector street or *arterial road*.	C59 The street layout achieves convenient movement of vehicles between dwellings and collector streets and *arterial roads*.
9.2 Street verge	
R60 No more than 50% of the finished street verge surface is impervious.	C60 The finished surface treatment of street verges achieves all of the following: a) reasonable opportunities for stormwater infiltration and landscaping, including the use of such measures as overland flow paths, castellated kerbing, and infiltration pits around street trees b) reasonable maintenance access to utility services in accordance with the standards of the relevant utility provider c) suitability for uses generating high levels of pedestrian traffic such as retail centres, schools and community facilities d) enables street trees to mature fully without suffering undue compaction of the root system.
9.3 Vehicular access – blocks less than 8m wide	
R61 This rule applies to *standard blocks* where the width of the block at the minimum allowable front boundary setback is less than 8m. No direct vehicular access is provided to either of the following: a) a *major collector* road b) any *minor collector* road or *access street* that is adjacent to an address street boundary with a bearing between 70º and 120º **Note:** Item b) refers to narrow blocks oriented north-south, with the access street to the north. Refer to appendix A for an explanation of how a street boundary bearing is defined. Item b) does not apply where the access is from a rear lane irrespective of boundary orientation.	This is a mandatory requirement. There is no applicable criterion.
9.4 Rear lanes	
R62 Residential blocks with frontage to rear lanes are to incorporate habitable rooms above garages at spacing of not less than 50m along the rear lane. **Note:** Blocks incorporating habitable rooms above garages must be nominated on planning control plans submitted with the estate development plan and, if approved, will be	C62 Reasonable passive surveillance is provided to rear lanes through the use of measures such as dwellings located in adjoining sections.

Rules	Criteria
nominated in the relevant precinct code.	
9.5 On-street car parking	
R63 For standard blocks with a frontage to the street of less than 12.5m, undesignated on-street visitor car parking is available at a rate of one car parking space for every two blocks. The on-street visitor car parking spaces are provided within 60m from the frontage of the blocks being served. **Note:** The next rule provides controls in relation to undesignated (unmarked) on-street car parking spaces.	C63 A reasonable level of on street or other public car parking for visitors is available at a reasonable distance from each dwelling.
R64 Undesignated on-street car parking complies with the following: a) where the carriageway width is less than 5.5m, on-street car parking is not permitted b) where the carriageway width is 5.5m or greater and less than 6m, on-street car parking can only be permitted on one side of the street c) where the carriageway width is greater than 6m and 7.5m or less, on-street car parking is allowed on both sides of the street where car parking spaces are staggered down the street d) where the carriageway width is greater than 7.5m, on-street car parking spaces can be provided on both sides of the street. **Note:** Refer to note to table 2A for the calculation of carriageway widths.	This is a mandatory requirement. There is no applicable criterion.
There is no applicable rule.	C65 Where on-street car parking is provided as indented car parking spaces, the resulting verge is able to effectively accommodate all of the following: a) any required utility services and infrastructure b) the required street tree plantings c) pervious surfaces for natural stormwater infiltration and healthy tree growth d) the required shared paths e) a reasonable level of amenity for the adjoining land use f) compliance with the *desired character*.

Element 10: Public realm

Rules	Criteria
10.1 Size and location	
R66 Local neighbourhood parks have an area not less than 0.5ha. Central neighbourhood parks have an area of between 1ha and 2ha.	This is a mandatory requirement. There is no applicable criterion.
R67 Blocks for *residential use* comply with at least one of the following: a) not more than 300m from at least one of the following: i) a local neighbourhood park ii) town park or a pedestrian parkland containing recreational facilities such as picnic and barbeque areas and playgrounds b) not more than 500m from at least one of the following: i) a central neighbourhood park ii) neighbourhood oval iii) district park iv) district sportsground.	C67 Public realm spaces containing recreational facilities or space are provided at accessible walking distances from all blocks for *residential use*.

Element 11: Blocks with special characteristics

Rules	Criteria
11.1 Blocks possibly affected by external noise	
R68 In all residential zones, blocks possibly affected by external noise (including, but not restricted to traffic noise) are nominated in an *estate development plan*.	This is a mandatory requirement. There is no applicable criterion.
11.2 Universal housing blocks	
R69 *Standard blocks* that are identified to provide universal housing are nominated in the *estate development plan*.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
11.3 Alternative setbacks	
R70 Blocks to which alternative setbacks under the Single Dwelling Housing Development Code apply, are nominated on a planning control plan as part of an *estate development plan*.	This is a mandatory requirement. There is no applicable criterion.
11.4 Bushfire prone blocks	
R71 Blocks assessed as requiring buildings to be constructed to a specified bushfire construction level in accordance with Australian Standards *AS3959- Construction of buildings in bushfire prone areas* are to be nominated on a planning control plan as part of the *estate development plan.*	This is a mandatory requirement. There is no applicable criterion.

Part C – Estate planning in industrial zones

This part applies to estates in industrial zones. These provisions are additional to the general provisions of part A.

Element 12: Block Layout

Rules	Criteria
12.1 Block size – IZ1	
R72 In IZ1 the minimum block size resulting from a subdivision of an industrial lease is 5000m^2.	This is a mandatory requirement. There is no applicable criterion.
There is no applicable rule	C73 All industrial blocks contain sufficient area to allow for the development of buildings for a permissible use within the zone. For the purposes of this criterion the battle-axe block access handle is not to be included in the area calculation.
12.2 Block frontage and slope	
There is no applicable rule.	C74 Each industrial block achieves all of the following: a) adequate access for heavy vehicles b) access and egress of heavy vehicles in a forward direction. **Note:** Compliance with this criterion is demonstrated by the application of vehicle turning templates.
R75 The slope across the frontage or length of the block is not to exceed 10 per cent. **Note:** Slope is to be calculated from the proposed finished ground levels.	C75 The finished gradient of a block is suitable for industrial development. **Note:** Compliance with this criterion is demonstrated by a geotechnical assessment prepared by a suitably qualified person.
12.3 Block access	
R76 Access to an industrial estate area through existing or future residential areas is not permitted.	This is a mandatory requirement. There is no applicable criterion.
12.4 Battle-axe blocks	
R77 Battle-axe blocks allow for all of the following: a) heavy vehicular access and egress in a forward direction b) the passing of heavy vehicles on the access handle by applying AUSTROADS Design Vehicles and	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
Turning Templates.	

Part D – Endorsement by government agencies (entities)

In addition to infrastructure in the public realm this part also applies to infrastructure within common property under a proposed community title scheme (Community Titles Act 2001).

Element 13: Public transport, walking and cycling

Rules	Criteria
13.1 Public transport	
R78 Bus routes are to be endorsed by TAMS **Note:** In making its assessment TAMS will consider all of the following: a) Strategic Public Transport Network, including the Frequent Network structure and service characteristics b) TAMS *Design Standards for Urban Infrastructure DS02-Road Planning* or its successor c) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor d) whether the configuration of the bus route meets all of the following - i) allows for the movement of buses unimpeded by parked cars ii) safely accommodates on-road cycling iii) avoids the need for cars to overtake parked buses iv) ensures that buses maintain priority en route and from departing bus stops e) whether the nominated bus routes are consistent with - i) for estates in other than industrial zones – table 2A ii) for estates in industrial zones – table 2B. f) whether the any of the following features on the proposed route will adversely affect its function as a bus route – i) local area traffic management ii) traffic calming g) whether bus priority is facilitated through one or more of the following – i) queue jump lanes ii) local signal priority iii) local traffic/parking controls iv) bus only lanes v) bus only streets vi) no turning exemptions.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
R79 Bus stop locations are to be endorsed by TAMS. **Note:** In making its assessment TAMS will consider all of the following: a) TAMS *Design Standards for Urban Infrastructure DS02-Road Planning* or its successor b) whether bus stops on coverage routes and frequent local service routes are located not less than 400m apart c) whether bus stops on the same route but serving opposite directions of bus travel are located not less than 100m apart d) whether bus stops are located to achieve legibility and convenience for passengers.	This is a mandatory requirement. There is no applicable criterion
R80 Bus routes that cross busy roads are to be endorsed by TAMS. **Note:** TAMS will endorse the intersection of a bus route with a road that carries or is forecast to carry in excess of 6000 vehicles per day (*arterial road*) if one or more of the following are provided: a) a left turn onto the *arterial road* and right turn from the *arterial road* into the adjoining area b) a signalised intersection. TAMS may consider departures. In making its assessment TAMS will consider all of the following: i) whether the intersection will allow buses to safely gain access to adjoining neighbourhoods without the need for complicated turning manoeuvres ii) whether the intersection will unreasonably add to bus travel times iii) TAMS *Design Standards for Urban Infrastructure DS02-Road Planning* or its successor. iv) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor.	This is a mandatory requirement. There is no applicable criterion.
13.2 Pedestrian and cycling facilities	
R81 On-road cycling is to be endorsed by TAMS. **Note:** TAMS will endorse on-road cycling lanes if they comply with all of the following: a) 1.5m wide *b) AUSTROADS Guidelines* c) TAMS *Design Standards for Urban Infrastructure DS13-Pedestrian and Cycle Facilities* or its successor.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
R82 Shared paths are to be endorsed by TAMS. **Note:** TAMS will endorse shared paths if they comply with all of the following: a) for *estates* in other than industrial zones – table 2A b) for *estates* in industrial zones – table 2B c) table 5 d) TAMS *Design Standards for Urban Infrastructure DS13- Pedestrian and Cycle Facilities* or its successor e) pram crossings are provided for all shared paths at street intersections. Driveway verge crossings cannot be substituted for pram crossings. f) lighting is provided to shared paths in accordance with Australian Standards *AS115.3.1- Lighting for roads and public spaces*. TAMS may endorse departures. In making its assessment TAMS will consider the following; i) TAMS *Design Standards for Urban Infrastructure DS12-Public Lighting* or its successor. ii) TAMS *Design Standards for Urban Infrastructure DS13- Pedestrian and Cycle Facilities* or its successor.	This is a mandatory requirement. There is no applicable criterion.
R83 Shared path crossings of streets where the actual or forecast traffic volumes exceed 3000 vehicles per day are to be endorsed by TAMS. **Note:** TAMS will endorse shared path crossings if one or more of the following are provided: a) signals b) pedestrian refuges c) slow points TAMS may consider the following: *i) TAMS Design Standards for Urban Infrastructure DS12-Public Lighting or its successor.* *ii) TAMS Design Standards for Urban Infrastructure DS13-Pedestrian and Cycle Facilities or its successor.*	This is a mandatory requirement. There is no applicable criterion.
R84 Sight distances at shared path street crossings are to be endorsed by TAMS. **Note:** In making its assessment TAMS will consider all of the following - *a) AUSTROADS Guidelines* b) Australian Standard *AS1742.10 – Pedestrian control and protection* c) TAMS *Design Standards for Urban Infrastructure DS 03 Road Design* or its successor. d) TAMS *Design Standards for Urban Infrastructure DS13 Pedestrian and Cycle Facilities* or its successor.	This is a mandatory requirement. There is no applicable criterion.

Element 14: Street networks

Rules	Criteria
14.1 Street function	
R85 Street types are to be endorsed by TAMS. **Note:** TAMS will endorse street types if they comply with the design speed and traffic volume provisions in the following: a) for *estates* in other than industrial zones – table 2A b) for *estates* in industrial zones – table 2B. TAMS may endorse the upgrading of a street (from the level complying with the relevant table specified in this rule) to the next highest level in the hierarchy of roads. In making its assessment TAMS will consider whether the street in question performs the function of the specified street type.	This is a mandatory requirement. There is no applicable criterion.
R86 Connections between streets with different hierarchies are to be endorsed by TAMS. **Note:** TAMS will endorse connections between streets with different hierarchies where there are no more than two levels of separation in the hierarchy. For the purposes of this rule the street hierarchy is: i) rear lane or shared access street ii) access street A iii) access street B iv) minor collector v) major collector vi) arterial road These street types are defined in tables 1A, 1B and 1C. For the purposes of this note an *arterial road* is one level higher than a major collector.	This is a mandatory requirement. There is no applicable criterion.
R87 Intersection designs are to be endorsed by TAMS. **Note:** TAMS may endorse intersection designs where left-in and left-out intersections supplement crossroads or staggered intersections. In making its assessment TAMS will consider the following: *i)* *AUSTROADS Guidelines* ii) TAMS *Design Standards for Urban Infrastructure DS02-Road Planning* or its successor iii) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor iv) TAMS *Design Standards for Urban Infrastructure DS13-Pedestrian and Cycle Facilities* or its successor	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
R88 This rule applies to residential zones and CZ5. Spacing of intersections is to be endorsed by TAMS. **Note:** TAMS will endorse the spacing of intersections if they comply with table 6. TAMS may consider departures. In making its assessment TAMS will consider whether the proposed spacing of intersections will allow for safe and convenient vehicle movements.	This is a mandatory requirement. There is no applicable criterion.
R89 This rule applies to zones other than residential zones and CZ5. Spacing of intersections is to be endorsed by TAMS. **Note:** In making its assessment TAMS will consider whether the proposed spacing of intersections will allow for safe and convenient vehicle movements.	This is a mandatory requirement. There is no applicable criterion.
R90 Four-way intersections are to be endorsed by TAMS. **Note:** TAMS will endorse four-way intersections where they are controlled by traffic signals or a roundabout. TAMS may consider departures, except in the circumstances listed below. In making its assessment TAMS will consider whether a) the intersection design and forecast traffic volumes meet the recommended limits as specified in *AUSTROADS Guidelines* b) whether physical measures are correctly designed to define priorities and enhance safety. c) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor TAMS will not consider departures in the case of the following intersections: i) minor collector with minor collector ii) major collector with major collector.	This is a mandatory requirement. There is no applicable criterion.
R91 Vehicle entry and egress points are endorsed by the Emergency Services Authority (ESA). **Note:** ESA will endorse vehicle entry and egress points where they allow access by a 12.5m single unit truck (Hazmat vehicle). ESA may consider departures.	This is a mandatory requirement. There is no applicable criterion

Rules	Criteria
14.2 Street geometry	
R92 Street verge widths are to be endorsed by TAMS. **Note:** TAMS will endorse street verge widths where they comply with the following: a) for *estates* in other than industrial zones – table 2A b) for *estates* in industrial zones – table 2B. TAMS may consider departures. In making its assessment TAMS will consider whether street verge widths achieve all of the following: i) all relevant utility providers comply with *TAMS Design Standards for Urban Infrastructure DS02-Road Planning* or its successor ii) all relevant utility providers comply with TAMS *Design Standards for Urban Infrastructure DS04-Verge Design* or its successor iii) are capable of accommodating the required utility services, street tree planting, shared paths, and street lighting iv) reasonable maintenance costs v) will encourage traffic speeds consistent with the street design speed and function when all relevant utility providers agree vi) compliance with the requirements of relevant utility providers vii) sufficient clearance to paths, trees and utilities according to *AUSTROADS Guidelines* viii) agreement on shared trench usage.	This is a mandatory requirement. There is no applicable criterion.
R93 Street carriageway widths are to be endorsed by TAMS. **Note 1:** TAMS will endorse street carriageway widths where they comply with the following: a) for estates in other than industrial zones – table 2A b) for estates in industrial zones – table 2B. TAMS may consider departures. In making its assessment TAMS will consider whether proposed carriageway widths achieves all of the following: i) compliance with *TAMS Design Standards for Urban Infrastructure DS02-Road Planning* or its successor ii) compliance with TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor iii) safe and efficient movement of all road users. **Note 2:** Streets proposed as bus routes have additional requirements in table 3. **Note 3:** Refer to the notes supporting tables 2A, 2B and 2C for how to measure the carriageway width.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
R94 Street pavement cross-falls are to be endorsed by TAMS. **Note:** TAMS will endorse street pavement cross-falls where they are 3%. TAMS may consider departures. In making its assessment TAMS will consider the following: a) whether proposed pavement cross-falls reflect the physical land characteristics and major drainage functions b) safety criteria for vehicle movement c) overland flow paths d) TAMS *Design Standards for Urban Infrastructure DS01-Stormwater* or its successor. e) TAMS *Design Standards for Urban Infrastructure DS-03-Road Design* or its successor.	This is a mandatory requirement. There is no applicable criterion.
R95 Street longitudinal gradients are to be endorsed by TAMS. **Note 1:** TAMS will endorse street longitudinal gradients where they comply with the following: a) for estates in other than industrial zones – table 2A b) for estates in industrial zones – table 2B. TAMS may consider departures. In making its assessment TAMS will consider the following: i) reasonable access for pedestrian, cyclists and waste collection vehicles ii) adequate stormwater management iii) reasonable levels of public safety iv) TAMS *Design Standards for Urban Infrastructure DS01-Stormwater* or its successor. v) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor. **Note 2:** Streets proposed as bus routes have additional requirements in table 3.	This is a mandatory requirement. There is no applicable criterion.
R96 Geometric design for intersections, roundabouts and slow points are to be endorsed by TAMS. **Note:** In making its assessment TAMS will consider all of the following: *a) AUSTROADS Guidelines* b) Australian Road Rules for the relevant vehicle speed c) TAMS *Design Standards for Urban Infrastructure DS02-Road Planning* or its successor. d) TAMS *Design Standards for Urban Infrastructure DS13-Pedestrian and Cycle Facilities* or its successor.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
R97 Intersection turning path designs are to be endorsed by TAMS. **Note:** TAMS will endorse intersection turning path designs where vehicle turning movements (using AUSTROADS Design Vehicles and Turning Templates) enable turns in a single forward movement to comply with the following: a) for turns between a major collector and a minor collector or access street, the 'design articulated vehicle' provides a turning path radius of at least 15m in accordance with the Australian Road Rules b) for turns between a minor collector street and access streets, the 'design heavy rigid vehicle' provides a turning path radius of at least 12.5m, using any part of the pavement, in accordance with the Australian Road Rules c) for turns between access streets, the B99 'design car' provides a turning path radius of at least 8m using the correct side of the pavement only d) TAMS Design Standards for Urban Infrastructure *DS03-Road Design* or its successor e) for intersections on bus routes – i) table 3 ii) turning templates for buses. TAMS will not consider departures.	This is a mandatory requirement. There is no applicable criterion.
R98 Kerb types are to be endorsed by TAMS. **Note:** TAMS will endorse kerb types where they comply with the following: a) for estates in other than industrial zones – table 2A b) for estates in industrial zones – table 2B. c) in all zones, all bus routes have upright kerbs. TAMS may consider departures. In making its assessment TAMS will consider: i) public safety ii) maintenance costs iii) whether water sensitive urban design outcomes are achieved iv) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor. v) Streets designed to service buses.	This is a mandatory requirement. There is no applicable criterion.
R99 Kerb radii are to be endorsed by TAMS. **Note:** TAMS will endorse kerb radii where they comply with the following: a) for residential zones and CZ5 – minimum 8m b) for commercial zones (excluding CZ5) – minimum 10m c) for industrial zones – minimum 10m.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
TAMS may consider departures. In making its assessment TAMS will consider: i) *AUSTROADS Guidelines* ii) TAMS *Design Standards for Urban Infrastructure DS03-Road Design* or its successor.	
14.3 Traffic control and management	
R100 *Street leg lengths* are to be endorsed by TAMS. **Note:** For streets other than major collector streets TAMS will endorse *street leg lengths* that do not exceed the relevant length given in table 8. TAMS may consider departures. In making its assessment TAMS will consider whether the proposed traffic speed reduction measures will achieve all of the following: a) traffic speeds no greater than the design speeds of the street b) minimal noise c) convenience and safety for cyclists and public transport. *Street leg lengths* are defined by figure 1.	This is a mandatory requirement. There is no applicable criterion.
R101 Bends introduced to control speed are to be endorsed by TAMS. **Note:** TAMS will endorse slow points that are created through the introduction of bends if they comply with tables 7 and 8. TAMS may consider departures.	This is a mandatory requirement. There is no applicable criterion.
14.4 Shared zones	
R102 Shared use zones are to be endorsed by TAMS. **Note:** TAMS may endorse *shared use zone*s after consideration of all of the following: a) pedestrian priority b) *AUSTROADS Guidelines* c) TAMS *Design Standards for Urban Infrastructure*.	This is a mandatory requirement. There is no applicable criterion.
14.5 Rear lanes	
R103 The configuration of *rear lanes* is to be endorsed by TAMS. **Note 1:** TAMS will endorse the configuration of a *rear lane* if it complies with all of the following: a) the relevant provisions of tables 1A, 1B, 2A and 2B b) the number of *dwellings* accessed from it is not more than 40 (see Note 1) c) maximum *leg length* is 120m (figure 1)	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
d) maximum peak hour traffic volume at any intersection with a higher order street is 160 vehicles per day e) the relevant Australian Standard for sight lines (particularly at bends and intersections) f) a suitable median is provided in a higher order street where rear lanes directly align across that street g) there are no dead ends h) TAMS *Design Standard for Urban Infrastructure DS12-Public Lighting* or its successor i) if waste collection from a *rear lane* is proposed, turning circles at the intersection of the *rear lane* and higher order streets and/or intersections between different legs of *rear lane*, accommodate 12.5m single unit truck (refuse vehicles) and comply with *TAMS Design Standard for Urban Infrastructure DS02-Road Planning* or its successor j) incorporates fire hydrants located not less than 60m from any location within the *rear lane*. *k)* TAMS *Design Standards for Urban Infrastructure DS01-Stormwater* l) Crime Prevention through Environmental Design General Code. TAMS may consider departures. **Note 2:** For the purposes of this rule, a *rear lane* comprises all interconnecting sections of a lane within an area bounded by higher order streets.	
R104 The configuration of *rear lanes* is endorsed by ESA. **Note:** ESA will endorse the configuration of a *rear lane* if it complies with one of the following: a) caters for access by a 12.5m single unit truck (Hazmat vehicle). b) no part of the *rear lane* is more than 100m from where a 12.5m single unit truck (Hazmat vehicle) can park. ESA may consider departures.	This is a mandatory requirement. There is no applicable criterion.
R105 The location of fire hydrants in *rear lanes* is endorsed by ESA. **Note:** ESA will endorse the configuration of a *rear lane* if it incorporates fire hydrants located not less than 60m from any location within the *rear lane*. ESA may consider departures.	This is a mandatory requirement. There is no applicable criterion.
R106 The length of *rear lanes* is to be endorsed by TAMS. **Note:** Where street lights are provided only at the entry and exit points of the *rear lane* TAMS will endorse the length of the *rear lane* provided that it does not exceed 60m.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
TAMS may consider departures. In making its assessment TAMS will consider all of the following: a) the adequacy of proposed street lighting b) TAMS *Design Standard for Urban Infrastructure DS12-Public Lighting* or its successor c) principles of *Crime Prevention through Environmental Design* General Code	
R107 The location of street lighting in *rear lanes* is to be endorsed by TAMS. **Note:** TAMS will endorse street lighting in *rear lanes* , if it complies with all of the following: a) minimum clearance to back of kerb – 1.7m b) minimum clearance to any boundary or indented boundary of block that is leased (or intended to be leased) – 0.5m c) upright kerb along the side where street lighting is located TAMS may consider departures. In making its assessment TAMS will consider all of the following: i) the design and location of proposed street lighting ii) maintenance access to proposed street lighting iii) TAMS *Design Standard for Urban Infrastructure DS12-Public Lighting* or its successor. iv) principles of *Crime Prevention through Environmental Design* General Code.	This is a mandatory requirement. There is no applicable criterion.
R108 Reticulation of utility services for blocks with frontage to a *rear lane* is to be endorsed by TAMS. **Note:** TAMS will endorse local stormwater drainage located within a *rear lane*, where it is located along the centreline of the *rear lane* and include grated sumps designed for zero capacity.	This is a mandatory requirement. There is no applicable criterion.
14.6 Culs-de-sac	
R109 Culs-de-sac lengths are to be endorsed by TAMS **Note:** TAMS will endorse the length of a cul-de-sac if it is no longer than 100m. TAMS may consider departures. In making its assessment TAMS will consider TAMS *Design Standard for Urban Infrastructure DS03-Road Design* or its successor.	This is a mandatory requirement. There is no applicable criterion.
R110 Culs-de-sac lengths are endorsed by ESA **Note:** ESA will endorse the length of a cul-de-sac if it is no longer than 100m. ESA may consider departures. In making its assessment ESA will consider the availability of alternative emergency access.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
R111 Culs-de-sac head diameters are to be endorsed by TAMS **Note:** TAMS will endorse the diameter of the head of a cul-de-sac if it is not less than 17m. TAMS may consider departures. In making its assessment TAMS will consider whether the head of culs-de-sac head will accommodate a three point turn by a 'design refuse vehicle'.	This is a mandatory requirement. There is no applicable criterion.
14.7 Edge treatments in bushfire prone areas	
R112 Edge streets within or adjacent to a *bushfire prone area* on the long-term urban edge or conservation areas are to be endorsed by TAMS. **Note:** TAMS will endorse such edge streets if they have a 7.5m wide carriageway. TAMS may consider departures. In making its assessment TAMS will consider whether other treatments, including fire trails will offer suitable protection.	This is a mandatory requirement. There is no applicable criterion.
R113 Edge streets within or adjacent to a *bushfire prone area* on the long-term urban edge or conservation areas are to be endorsed by ESA. **Note:** ESA may endorse an edge street of this sort after considering all of the following: a) the provision of fire hydrants b) whether intersection and kerb returns are sufficient to accommodate emergency services vehicles c) whether roadside embankments allow vehicular access to surrounding areas (maximum embankment gradients are 1 vertical to 4 horizontal).	This is a mandatory requirement. There is no applicable criterion.
14.8 Driveway verge crossings	
R114 This rule applies to driveway verge crossings that are not within 40m of a roundabout or signalised intersection. Driveway verge crossings are to be endorsed by TAMS. **Note:** TAMS will endorse driveway verge crossings where they comply with all of the following: a) 6m horizontally clear of the tangent point of the radius of the curve on a corner block., *b) AS2890.1 – The Australian Standard for Off Street Parking* as amended from time to time, in relation to sightlines and cross fall of the site c) *clear* of any existing or proposed indented on-street car parking bays, valves, fire hydrants and electricity equipment	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
d) TAMS *Design Standard for Urban Infrastructure DS05-Driveways* or its successor e) standard drawing *DS5-02 Heavy Duty Driveways*. TAMS may consider departures.	
R115 This rule applies to driveway verge crossings that are within 40m of a roundabout or signalised intersection. Driveway verge crossings are to be endorsed by TAMS. **Note:** TAMS may endorse driveway verge crossings after considering all of the following: a) horizontal clearance from tangent point of the radius of the curve on a corner block b) *AS2890.1 – The Australian Standard for Off Street Parking* as amended from time to time, in relation to sightlines and cross fall of the site c) the location of any existing or proposed indented on-street car parking bays, valves, fire hydrants and electricity equipment d) TAMS *Design Standard for Urban Infrastructure DS05-Driveways* or its successor e) standard drawing *DS5-02- Heavy Duty Driveways*.	This is a mandatory requirement. There is no applicable criterion.

Element 15: Public realm

The public realm consists of different types of unleased open spaces such as:

- street verges and planted medians
- parks of all sizes
- walkways and linear spaces
- open hill or bushland reserves and conservation areas
- unenclosed sports or playing fields.

Rules	Criteria
15.1 Street trees	
R116 The selection and location of street trees is to be endorsed by TAMS. **Note:** TAMS will endorse the selection and location of street trees if they comply with TAMS *Design Standards for Urban Infrastructure DS23-Plant Species for Urban Landscape Projects* or its successor TAMS may consider departures.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
15.2 Neighbourhood ovals	
R117 The configuration of neighbourhood ovals is to be endorsed by EDD. **Note:** EDD may endorse the configuration of neighbourhood ovals. In making its assessment EDD will consider all of the following: a) whether it is has a minimum area of 3.8ha b) TAMS *Design Standards for Urban Infrastructure DS24 -Sportsgrounds Design* or its successor c) the specific needs of the neighbourhood d) the provision of site access, car parking, amenities and required engineering treatments e) the cost of maintenance.	This is a mandatory requirement. There is no applicable criterion
15.3 Bushfire	
R118 The selection and location of vegetation in public realm spaces within bushfire prone areas is to be endorsed by TAMS. **Note:** In making its assessment TAMS will consider all of the following: a) TAMS *Design Standards for Urban Infrastructure DS20-Urban Edge Management Zone* or its successor b) TAMS (Parks Conservation and Lands) *Roading Manual version 1.1*, January 2006 or its successor.	This is a mandatory requirement. There is no applicable criterion.
R119 Provision for access by emergency vehicles to public realm spaces within bushfire prone areas is endorsed by ESA.	This is a mandatory requirement. There is no applicable criterion.

Element 16: Environment protection

Rules	Criteria
16.1 Waste management	
R120 Waste management facilities are to be endorsed by TAMS. **Note:** TAMS will endorse waste management facilities that comply with one of the following: a) on-street collection points for standard blocks and multi-unit blocks of up to 10 dwellings b) internal collection points for the following – i) multi-unit blocks greater than 10 dwellings ii) commercial blocks iii) industrial blocks.	This is a mandatory requirement. There is no applicable criterion.

Rules	Criteria
TAMS may consider departures. In making its assessment TAMS will consider *Development Control Code for Best Practice Waste Management in the ACT* or its successor.	
R121 Waste management plans are to be endorsed by TAMS. **Note:** In making its assessments TAMS will consider *Development Control Code for Best Practice Waste Management in the ACT* or its successor.	This is a mandatory requirement. There is no applicable criterion.

Element 17: Services and infrastructure

Rules	Criteria
17.1 Utility services	
R122 The reticulation of water, sewer, electricity and gas is endorsed by ActewAGL.	This is a mandatory requirement. There is no applicable criterion.
R123 The reticulation of stormwater is endorsed by TAMS.	This is a mandatory requirement. There is no applicable criterion.
R124 The provision of telecommunications infrastructure including reticulation is endorsed by the relevant service providers.	This is a mandatory requirement. There is no applicable criterion.
R125 The placement of utility service reticulation in shared trenching in the street verge is endorsed by the relevant utility service providers.	This is a mandatory requirement. There is no applicable criterion.

Table 1A: Street hierarchy for estates in residential zones and CZ5		
Street type and function	**Design speed (km/h)**	**Traffic volume (vehicles per day)** [(1)]
REAR LANE	30	0-160[(2)]
Rear lanes are narrow and short streets which have the primary function of providing rear vehicular access to blocks.		
ACCESS STREETS		
Access Street A	60	0–300
Access Street B	60	301–1000
Access streets are used where the residential environment is dominant, traffic is subservient, speed and traffic volumes are low and pedestrian and cycle movements are facilitated. Access streets are categorised as Access Street A or Access Street B according to traffic volumes. Access Street A generally collects traffic from rear lanes and connects to collector roads; they do not normally accommodate traffic from other streets.		
COLLECTOR ROADS		
Minor collector	60	1001–3000
A minor collector road collects and distributes traffic from access streets to major collector roads or direct to the external arterial road network. A reasonable level of residential amenity and safety is maintained by restricting vehicle speeds by means of street alignment, intersection design or by speed-control measures. Direct property access is allowed**.**		
Major collector	70	3001–6000
Major Collector Roads collect and distribute traffic within residential, industrial and commercial areas. They form the link between the primary network and the roads within local areas and should carry only traffic originating or terminating in the area. The volume of traffic carried is constrained by environmental objectives – safety and traffic noise – and reflects the limited area that they serve. Direct property access is still permissible but the access and egress arrangements should be such that vehicles can exit properties in a forward direction.		

Notes supporting table 1A

1	To calculate the traffic volume apply a traffic generation rate of 8 vehicle movements per day per dwelling for single dwellings, a rate of 6 vehicles per day per dwelling for multi unit developments, and a rate of 7 vehicles per day for blocks 360m^2 or smaller.
2	160 vpd maximum at the intersection of rear lanes with access streets.

Table 1B: Street hierarchy for estates commercial zones (excluding CZ5)		
Street type and function	**Design speed (km/h)**	**Traffic volume (vehicles per day)**
REAR LANE	30	0-100
Rear lanes are narrow and short streets which have the primary function of providing rear vehicular access to blocks.		
ACCESS STREET	60	0–1000
Access streets are used where the residential environment is dominant, traffic is subservient, speed and traffic volumes are low and pedestrian and cycle movements are facilitated. Access Streets generally collect traffic from rear lanes and connect to collector roads; they do not normally accommodate traffic from other streets.		
COLLECTOR ROADS		
Minor collector	60	1001–3000
A minor collector road collects and distributes traffic from access streets to major collector roads or direct to the external arterial road network. A reasonable level of residential amenity and safety is maintained by restricting vehicle speeds by means of street alignment, intersection design or by speed-control measures. Direct property access is allowed**.**		
Major collector	70	3001–6000
Major Collector Roads collect and distribute traffic within residential, industrial and commercial areas. They form the link between the primary network and the roads within local areas and should carry only traffic originating or terminating in the area. The volume of traffic carried is constrained by environmental objectives – safety and traffic noise – and reflects the limited area that they serve. Direct property access is still permissible but the access and egress arrangements should be such that vehicles can exit properties in a forward direction.		

Table 1C: Street hierarchy for estates in industrial zones		
Street type and function	**Design speed (km/h)**	**Traffic volume (vehicles per day)**
ACCESS STREET	60	0–1000
Access streets are used where the residential environment is dominant, traffic is subservient, speed and traffic volumes are low and pedestrian and cycle movements are facilitated. Access Streets generally collect traffic from rear lanes and connect to collector roads; they do not normally accommodate traffic from other streets.		
COLLECTOR ROADS		
Minor collector	60	1001–3000
A minor collector road collects and distributes traffic from access streets to major collector roads or direct to the external arterial road network. A reasonable level of residential amenity and safety is maintained by restricting vehicle speeds by means of street alignment, intersection design or by speed-control measures. Direct property access is allowed**.**		
Major collector	70	3001–6000
Major Collector Roads collect and distribute traffic within residential, industrial and commercial areas. They form the link between the primary network and the roads within local areas and should carry only traffic originating or terminating in the area.		
The volume of traffic carried is constrained by environmental objectives – safety and traffic noise – and reflects the limited area that they serve. Direct property access is still permissible but the access and egress arrangements should be such that vehicles can exit properties in a forward direction.		

Table 2A: Street network requirements – all estates except in industrial zones

Facility Type	Rear lane[2]	Shared use access street 'Woonerf' style	Access street A	Access street B	Minor collector	Major collector
Traffic volume range (vpd) [1]	0-160[3]	0–40	0–300	301 –1000	1001–3000	3001–6000
Design speed (km/h)	20	20	50	60	60	70
Minimum carriageway width (m) [2]	5.5 (5.0 where the lane is less than 60m in length)	3.5–3.7 (single lane)	5.5	7	10	10
Verge width (m)	minimum 1.5m	5.0	5.5	6.25	6.25	6.25
Minimum horizontal radius (to accommodate)	12.5m single unit truck					
On-street car parking	Prohibited	Permitted only as indented spaces	Assumed on one side of the carriageway only	Assumed staggered on both side of the carriageway only	Assumed on both side of the carriageway only	Assumed on one side of the carriageway only
Kerb type	Flush or layback upright kerb adjacent to street lighting	Flush or layback	Layback or upright	Layback or upright	upright	upright
Maximum street longitudinal gradient	12.5%	12.5%	12.5%	12%	12%	12%
Minimum shared path requirement	No shared path required	No shared path required	1.5 wide shared path on one side only	2.0m wide on one side only	2.5m wide shared path on both sides and aligned at least 1.5m away from the kerb	2.5m wide shared path on both sides and aligned at least 1.5m away from the kerb
Bus route requirement	Not to be used as bus route	Not to be used as bus route	Not to be used as bus route	Not to be used as bus route	can be used as a bus route where in accordance with table 3	can be used as a bus route where in accordance with table 3
Street tree requirement	No trees required and not to be planted unless sufficient space is provided	Street trees to be provided	Street trees to be provided	Street trees to be provided	street trees to be provided	street trees to be provided

Intermittent street lighting	Must be provided when length exceeds 60m					

Notes supporting table 2A

1	For residential and CZ5 zones - to calculate the traffic volume for streets apply a traffic generation rate of: 8 vehicle movements per day for standard blocks larger than 360m^2 7 vehicles per day for standard blocks 360m^2 or smaller 6 vehicles per day per dwelling for multi unit developments.
2	The carriageway width is measured from kerb invert to kerb invert. The carriageway width measurement does not include any designated on-road car parking spaces, on-road cycle lanes, indented car parking bays or medians.
3	Measured at the intersection of each leg with a higher order street.

Table 2B: Street network requirements - estates in industrial zones

Facility type	Access street	Minor collector	Major collector
Traffic volume range (vpd)	0–1000	1001–3000	3001–6000
Design speed (km/h)	60	60	70
Minimum carriageway width (m) (1)	10	10	10
Minimum verge width each side (m)	6.25	6.25	6.25
Undesignated on-street car parking	Assumed on one side of the carriage way only	Assumed on one side of the carriage way only	Assumed on one side of the carriage way only
Kerb type	Layback or upright	Upright	Upright
Maximum street longitudinal gradient	12%	12%	12%
Minimum shared path requirement	1.5m wide shared path on both sides	1.5m wide shared path on both sides and aligned at least 1.5m away from the kerb	1.5m wide shared path on both sides and aligned at least 1.5m away from the kerb
Bus route requirement	Can be used as a bus route where in accordance with table 3	Can be used as a bus route where in accordance with table 3	Can be used as a bus route where in accordance with table 3
Street tree requirement	Street trees to be provided	Street trees to be provided	Street trees to be provided

Note supporting Table 2C

1	The carriageway width nominated is a minimum dimension measured from kerb invert to kerb invert and does not include any designated on-road car parking spaces, on-road cycle lanes, indented car parking bays or medians.

Table 3: Bus route requirements

Street carriageway widths[(1)] One-way: 4 m Two-way: 8.0 m
Minimum geometric layout Curve radius for turns on a bus route between a minor collector street and a major collector street Radius = 15m for single bus units, 14.5m long rigid buses and articulated buses Note: some routes may require geometry to suit 14.5m long rigid buses and articulated buses. **Roundabouts** Maximum desirable pavement crossfall: to comply with AUSTROADS Guidelines Absolute maximum gradient: to comply with AUSTROADS Guidelines

Note supporting table 3

1	The carriageway width nominated is a minimum dimension measured from kerb invert to kerb invert and does not include any designated on-road car parking spaces, on-road cycle lanes, indented car parking bays or medians.

Table 4: Types and purposes of public realm spaces

PUBLIC REALM TYPE	PRIMARY FUNCTIONS	MANAGEMENT INTENTIONS	STAGE IDENTIFIED
Town park	***Located in a town centre*** A meeting place park, formal in character. With irrigated grass, paving, art, and street furniture. May have shrub or flower beds, pavilions and water features. May be associated with play facilities, lakes or ponds.	Managed to a high standard for intensive use with capacity to host special events.	Structure Plans/Concept Plans
District parks	***Recreational facilities*** Extensive, informal park or series of spaces, 4 -10 Ha Serving population catchment area of 25 - 50,000 minimum people. With grass and trees and a diversity of recreation facilities to cater for informal recreation for all age groups such as picnics, barbecues, adventure playgrounds and skateboard parks. May have natural or cultural heritage conservation or habitat creation purposes. May be associated with waterways, wetlands, lakes and ponds.	Managed to a high standard for intensive use with capacity to hold large gatherings.	Structure Plans/Concept Plans
District sportsgrounds	***Sportsground complex*** Training and competition venue for organised nominated sports at all levels, 8 ha minimum. Serving population catchment area of 25 - 50,000 minimum people. May be associated with high schools. With irrigated grass, public parking, training lights and a pavilion that includes change rooms, toilets and kiosk.	Managed to a high standard for intensive sports training and events. May be enclosed and leased.	Structure Plans/Concept Plans
***Neighbourhood ovals**	***Recreational or sporting activities*** (Not applicable to commercial and industrial *estates*) Ovals used for sporting purposes and recreational space for local residents. Generally located adjacent to primary schools and/or local shopping centres with shared or separate parking. Neighbourhood ovals are an integral part of surrounding parkland when not in use for sporting purposes. The area is irrigated and will require sufficient space for related amenities (small pavilion/toilet block and training lights).	Moderate intensity management with seasonal variability.	Estate Development Plans

Neighbourhood parks	***Recreational or sporting activities*** Neighbourhood parks are classified as Local neighbourhood parks (0.5ha-1ha) or Central neighbourhood parks (1ha-2ha). Focal point park of all neighbourhood open spaces and off road movement networks to be an outdoor meeting place. To accommodate opportunities for informal free and innovative play as well as a range of unstructured recreation activities for a range of ages. The play space may include standardised playground equipment. Parks are linked or adjacent to other public realm spaces and may be located adjacent to a neighbourhood sportsground. Neighbourhood parks can also accommodate remnant native vegetation and other natural features. Provided with shade and shelter and drinking water.	Moderate intensity management with seasonal variability.	Estate Development Plans
Heritage parks	***Special purpose park*** Open space area created to conserve heritage character and elements. May have heritage conservation and monitoring activities.	Moderate intensity management with seasonal variability. Can be enclosed.	Estate Development Plans
Lakes and ponds	***For control of stormwater quality and quantity including flood mitigation from the urban catchments*** Designed waterscape for aesthetics and water storage for irrigation and other second class water needs. Water uses may include conservation and or active recreation (e.g. fishing, swimming, boating) and passive recreation around lakes and ponds.	Low intensity management with seasonal variability with a range of human uses that are nominated/ controlled for each site.	Structure Plans/Concept Plans/Estate Development Plans
Broad scale open space	***The bushland setting for Canberra*** Areas of remnant and planted native vegetation, hills and ridges, waterway corridors and buffer areas between suburbs. To provide visual and landscape amenity, informal recreation and wildlife habitat. May contain sites for biological diversity or connectivity, cultural heritage conservation and or for community activities (e.g. Landcare, Parkcare, Community Garden groups).	Low intensity management with seasonal variability plus a range of human uses that are nominated/ controlled for each site. May be agisted with grazing sock.	Structure Plans/Concept Plans/Estate Development Plans

Habitat sites	***The bushland setting for Canberra*** Remnant grassland or woodland sites important for nature conservation purposes. May form part of a regional ecosystem, provide the food source for migratory species or contain endangered plant or animal species or be used for connectivity and be subject to conservation activities and monitoring in accord with Action Plans for their conservation prepared under provisions of the *Nature Conservation Act 1980*.	Low intensity management with seasonal variability.	Structure Plans/Concept Plans/Estate Development Plans
Pedestrian parkland	***Movement network*** Corridors providing for pedestrian and cyclist routes within and between suburbs and linkages with parks, schools and workplaces. May include playgrounds and fitness stations in suitable locations. Often co-located with waterways for urban stormwater management and treatment and may contain small ponds and wetlands. Often includes remnant vegetation and other natural features, may provide wildlife habitat conservation and/or connectivity. Generally, the dominant surface treatment is dryland grass as dominant ground surface unless otherwise specified for the conservation of habitat, with planted vegetation to enhance shade, shelter, character, seasonal diversity or wildlife movement.	Moderate intensity management with seasonal variability.	Concept Plans/estate Development Plans
Access ways	***Movement network*** Linear spaces for pedestrians and cyclists between residential properties providing direct access between streets and other public realm spaces.	Low intensity management with seasonal variability.	Estate Development Plans
Pedestrian lanes	***Movement network*** Routes for pedestrians between buildings and /or properties providing direct access between shops and or streets.	Low intensity management with seasonal variability.	Estate Development Plans
Equestrian trails	***Movement Network*** Whilst open space corridors serve a range of functions and users, opportunities should also be explored to provide for equestrian usage in the context of an equestrian trail plan, providing that conflicts with other user groups can be minimised.	Equestrian trails require no specific management, as the use/activity is ancillary to the space's primary public realm function.	Structure plans / concept plans / estate development plans

Street verges and medians	***Movement network*** An interconnected network of spaces, not necessarily symmetrical, for off road movement networks, and to incorporate trees, shrubs and ground cover plantings. To provide for aesthetic purposes and microclimate control as well as driving experience, character of place and environmental services. May contain underground services and street /traffic furniture. Surface treatments designed to maximise capture of rainfall for ground water recharge and vegetation health.	Low intensity management with seasonal variability.	Estate Development Plans

*****EDD is currently proposing a new Sportsground Provision Model, replacing the Neighbourhood Oval concept with School Ovals and Community Recreation Irrigated Parks (CRIPs). If and when this model is adopted by the ACT Government, the reference to Neighbourhood Oval will be changed.

Table 5: Shared path requirements

Path type	Function	Minimum width (m)	Maximum longitudinal gradient
Minor Path	Local access path with low traffic volumes; Pedestrian and low speed cyclist use.	1.5	In accordance with AUSTROADS Guide to Traffic Engineering Practice Part 13
Intermediate Path	Commuting and local access path with low traffic volumes; Pedestrian and cyclist use where cyclists passing in opposite directions is rare.	2.0	In accordance with AUSTROADS Guide to Traffic Engineering Practice Part 14
Trunk Path	Commuting and local access path required to accommodate cyclist speeds of up to 20km/h; Pedestrian and cyclist use where two way cyclist movements are common.	2.5	In accordance with AUSTROADS Guide to Traffic Engineering Practice Part 14
Trunk Path (high use)	Commuting path required to accommodate cyclist speeds of up to 30km/h; High levels of pedestrian and cyclist use in both directions.	3.0	In accordance with AUSTROADS Guide to Traffic Engineering Practice Part 14

Table 6: Spacing of intersections along traffic routes – estates in residential zones and CZ5

Road type		Minimum spacing of staggered intersections	
		Left – right stagger	Right – left stagger
Local access street		40	20
Collector (minor)		40	20
Collector (major)		40	20
2-lane sub-arterial		60	30
3-lane sub-arterial		100	30
Divided sub-arterial		150	50
Divided arterial		150	50
Divided major arterial		150	50
***** Each crossroad counts as one intersection. A right–left stagger on a three-lane sub-arterial of higher road also counts as one intersection. Other intersections may form T-intersections or allow only restricted vehicle movements.			

Table 7 - Minimum deflection angle for speed control to 20km/hr slow points (refer to Figure 1)

Street Pavement Width (m)			
Bend Type	**3.5m-5.5m**	**6.5m-7m**	**>7m**
Single Bend	60 º	70 º	90 º
Chicane*	30 º-30 º	45 º -45 º	60 º -60 º

*Chicane - Reverse Curve ('s' curve)

Table 8 - Maximum leg lengths between 20km/hr slow points (refer to Figure 1)

Target design speed (km/hr)	Maximum leg length between 20km/hr slow points (m)
30	75-100
40	100-160
50	120-155
60	180-200

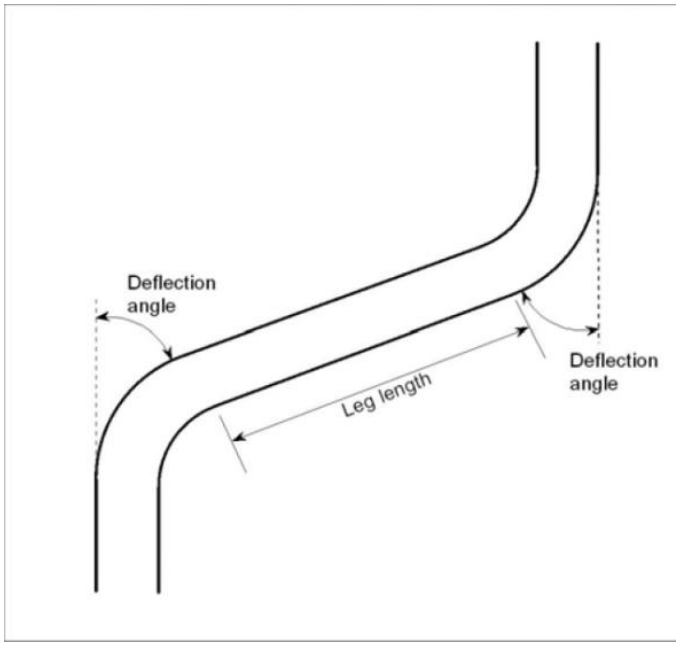


Figure 1: Measuring deflection angles for speed control to 20km/h slow points (refer table 7)

Appendix A – Block compliance tables

Using the block compliance tables

The block compliance tables schedule a range of block sizes, slope and orientation to ensure adequate solar access. Only one *test block* is applicable to each proposed block. For each proposed block the same *test block* is to be used to determine block width, block depth, bearing of street address, slope and compliance with the block compliance tables below.

Calculating variables:

For this appendix a *test block* means a rectangular block that fits entirely within the boundaries of a proposed block of the same type, as shown in table A1. See also figure A2.

Table A1 – minimum dimensions of test block

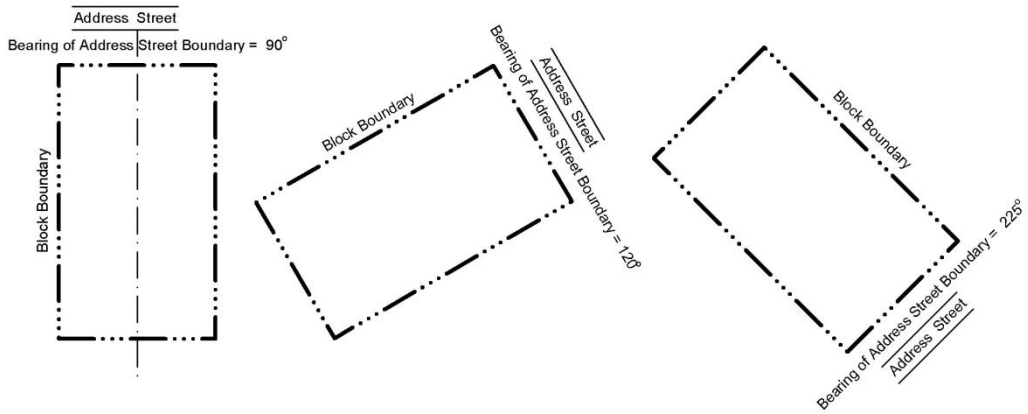
block type	compact block	mid size block	large block
minimum area	n/a	250m^2	500m^2
minimum width	6m	10m	14m
minimum depth	17m	25m	28m

^ Block width
Is the width of a *test block*.

^^ Block depth
Is the depth of a *test block*.

^^^ Bearing of address street boundary

The 'bearing of address street boundary' is the bearing of a line perpendicular to the primary axis of a *test block,* starting at 0° for a west loading *test block* (i.e. boundary running north-south) and increasing clockwise, as shown in the examples below:



(s) Slope

Slope (s) is an average of two slope measurements with reference to a relevant *test block*:
1. extending from the northern most point of the relevant *test block* due south along the boundary to the termination of that boundary or, where the boundary is not aligned north-south, to any other boundary of the *test block*.
2. extending from the southern most point of the relevant *test block* due north along the boundary to the termination of that boundary or, where the boundary is not aligned north-south, to any other boundary of the *test block*. (see **figure A1**).

North-facing slopes (slopes falling to the north) have a positive value, south-facing slopes (slopes falling to the south) have a negative value. Slope is represented as a percentage slope (e.g.+12%, -6%, 0). Note that these calculations yield a slope in relation to the north south axis, not necessarily the actual slope of the land. For example, a block oriented north south on land sloping to the west will have a zero slope.

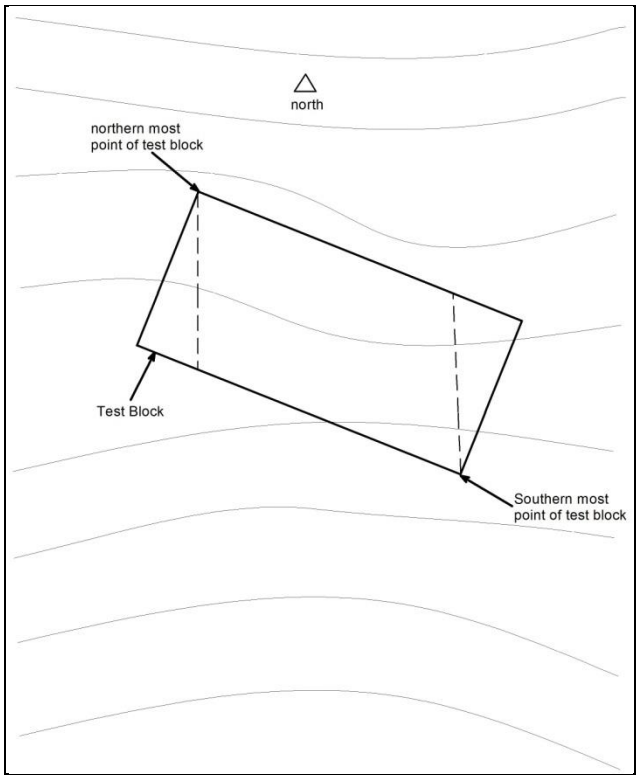


Figure A1

Slope may be demonstrated by using a geographic information system and/or digital terrain model.

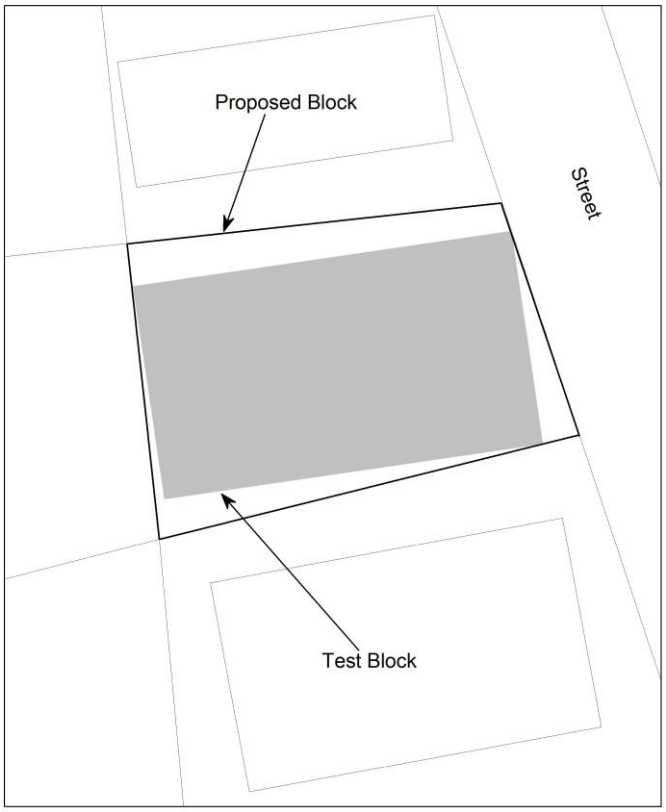


Figure A2: Test block

Table A1.1 **Block compliance** large blocks (>500m^2) block width ^ **<16m** minimum block width^ **14m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✗	✓	✓	✓	✓
	street to east	160° - <180°	✓	✓	✓	✓	✓	✓	✓
		180° - <210°	✓	✓	✓	✓	✓	✓	✓
		210° - <250°	✗	✗	✗	✓	✓	✓	✓
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✗	✓	✓	✓	✓
	street to west	340° - <360°	✓	✓	✓	✓	✓	✓	✓
		0° - <30°	✓	✓	✓	✓	✓	✓	✓
		30° - <70°	✗	✗	✗	✓	✓	✓	✓

Table A1.2 **Block compliance** large blocks (>500m^2) block width ^ **16m - < 18m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✓	✓	✓	✓	✓
	street to east	160° - <180°	✓	✓	✓	✓	✓	✓	✓
		180° - <210°	✓	✓	✓	✓	✓	✓	✓
		210° - <250°	✗	✗	✓	✓	✓	✓	✓
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✓	✓	✓	✓	✓
	street to west	340° - <360°	✓	✓	✓	✓	✓	✓	✓
		0° - <30°	✓	✓	✓	✓	✓	✓	✓
		30° - <70°	✗	✗	✓	✓	✓	✓	✓

Table A1.3 **Block compliance** large blocks (>500m²) block width ^ **≥18m** minimum block depth^^ **28m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✘	✓	✓	✓	✓	✓	✓
	street to east	160° - <180°	✓	✓	✓	✓	✓	✓	✓
		180° - <210°	✓	✓	✓	✓	✓	✓	✓
		210° - <250°	✘	✓	✓	✓	✓	✓	✓
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✘	✓	✓	✓	✓	✓	✓
	street to west	340° - <360°	✓	✓	✓	✓	✓	✓	✓
		0° - <30°	✓	✓	✓	✓	✓	✓	✓
		30° - <70°	✘	✓	✓	✓	✓	✓	✓

Table A2.1 **Block compliance** mid sized blocks (<250 - ≤ 500m²) block width ^ **< 12m** minimum block width^ **10m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✘	✘	✘	✘	✘	✘	✘
	street to east	160° - <180°	✘	✘	✘	✘	✘	✘	✘
		180° - <210°	✘	✘	✘	✘	✘	✘	✘
		210° - <250°	✘	✘	✘	✘	✘	✘	✘
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✘	✘	✘	✘	✘	✘	✘
	street to west	340° - <360°	✘	✘	✘	✘	✘	✘	✘
		0° - <30°	✘	✘	✘	✘	✘	✘	✘
		30° - <70°	✘	✘	✘	✘	✘	✘	✘

Table A2.2 **Block compliance** mid sized blocks (<250 - ≤ 500m^2) block width ^ **12m - < 14m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✗	✗	✗	✗	✓
	street to east	160° - <180°	✗	✗	✗	✗	✓	✓	✓
		180° - <210°	✗	✗	✗	✗	✓	✓	✓
		210° - <250°	✗	✗	✗	✗	✗	✗	✗
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✗	✗	✗	✗	✓
	street to west	340° - <360°	✗	✗	✗	✗	✓	✓	✓
		0° - <30°	✗	✗	✗	✗	✓	✓	✓
		30° - <70°	✗	✗	✗	✗	✗	✗	✓

Table A2.3 **Block compliance** mid sized blocks (<250 - ≤ 500m^2) block width ^ **14m - < 16m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✗	✗	✗	✓	✓
	street to east	160° - <180°	✗	✗	✓	✓	✓	✓	✓
		180° - <210°	✗	✗	✓	✓	✓	✓	✓
		210° - <250°	✗	✗	✗	✗	✗	✗	✓
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✗	✗	✗	✓	✓
	street to west	340° - <360°	✗	✗	✓	✓	✓	✓	✓
		0° - <30°	✗	✗	✓	✓	✓	✓	✓
		30° - <70°	✗	✗	✗	✗	✗	✓	✓

Table A2.4 **Block compliance** mid sized blocks (<250 - ≤ 500m²) block width ^ **≥16m** minimum block depth^^ **25m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✗	✗	✓	✓	✓
	street to east	160° - <180°	✗	✓	✓	✓	✓	✓	✓
		180° - <210°	✗	✓	✓	✓	✓	✓	✓
		210° - <250°	✗	✗	✗	✗	✗	✓	✓
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✗	✗	✓	✓	✓
	street to west	340° - <360°	✗	✓	✓	✓	✓	✓	✓
		0° - <30°	✗	✓	✓	✓	✓	✓	✓
		30° - <70°	✗	✗	✗	✗	✓	✓	✓

Table A3.1 **Block compliance** compact blocks (≤250m²) block width ^ **< 12m** minimum block width^ **6m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✗	✗	✗	✗	✗
	street to east	160° - <180°	✗	✗	✗	✗	✗	✗	✗
		180° - <210°	✗	✗	✗	✗	✗	✗	✗
		210° - <250°	✗	✗	✗	✗	✗	✗	✗
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✗	✗	✗	✗	✗
	street to west	340° - <360°	✗	✗	✗	✗	✗	✗	✗
		0° - <30°	✗	✗	✗	✗	✗	✗	✗
		30° - <70°	✗	✗	✗	✗	✗	✗	✗

Table A3.2 **Block compliance** compact blocks (≤250m^2) block width ^ **≥12m** minimum block depth^^ **17m**			**slope (s)**						
			fall to south			flat	fall to north		
			> -15%	-15% to < -10%	-10% to < -5%	-5% to < +5%	+5% to < +10%	+10% to < 15%	> +15%
bearing of address street boundary ^^^	street to north	70° - <90°	✓	✓	✓	✓	✓	✓	✓
		90° - <120°	✓	✓	✓	✓	✓	✓	✓
		120° - <160°	✗	✗	✗	✗	✗	✗	✗
	street to east	160° - <180°	✗	✗	✗	✗	✗	✓	✓
		180° - <210°	✗	✗	✗	✗	✗	✓	✓
		210° - <250°	✗	✗	✗	✗	✗	✗	✗
	street to south	250° - <270°	✓	✓	✓	✓	✓	✓	✓
		270° - <300°	✓	✓	✓	✓	✓	✓	✓
		300° - <340°	✗	✗	✗	✗	✗	✗	✗
	street to west	340° - <360°	✗	✗	✗	✗	✗	✓	✓
		0° - <30°	✗	✗	✗	✗	✗	✓	✓
		30° - <70°	✗	✗	✗	✗	✗	✗	✗