
AUTHORISATION	DRAFT
REVIEW	DRAFT

Part 1

POLICY OPERATION

Policy Development

This Policy has been prepared under Part 2, Division 2 of the deemed provisions of the City of Wanneroo District Planning Scheme No. 2 (DPS 2)

Application

The Policy articulates Council's position on the planning, design and development of residential streetscapes and is to be considered by applicants, Administration, and Council in the design, assessment, and determination of:

- Structure plans;
- Subdivision applications;
- Local development plans;
- Detailed engineering drawings; and
- Development applications.

This Policy applies to residential development in Greenfield areas in the City of Wanneroo.

Purpose

The purpose of this Policy is to:

- 1.1 Apply the objectives and requirements of street design contained within Liveable Neighbourhoods to local streets in residential areas in Urban Development zones in the City of Wanneroo.
- 1.2 Provide a framework for the assessment of residential streetscapes at each stage of the planning and development process.

Relationship to Other Policies and Documents

This Policy should be read in conjunction with the following City of Wanneroo policies and guidelines:

- Local Planning Policy 2.1: Residential Development
- Local Planning Policy 4.2: Structure Planning
- Local Planning Policy 4.4: Urban Water Management
- Local Planning Policy 4.8: Tree Preservation
- Streetscapes and Public Access Ways Landscape Design Specification
- Street Tree Species List
- City of Wanneroo Specifications and Standard Drawings
- City of Wanneroo Street Tree Policy

This Policy should also be read in conjunction with the following documents:

- Western Australian Planning Commissions Liveable Neighbourhoods
- State Planning Policy 3.1: Residential Design Codes
- State Government of Western Australia Planning and Designing for Pedestrians: Guidelines
- IPWEA Subdivision of Land Guidelines

In the event of any inconsistencies between the requirements of this policy, and any obligations under the *Environmental Protection and Biodiversity Conservation Act*, the latter shall prevail.

Objectives

The objectives of the Policy are to:

- Mitigate urban heat island effect, support local biodiversity and enhance the character of local streets through the delivery of an urban street tree canopy;
- Encourage attractive streetscapes and enhance neighbourhood amenity by reducing the amount of hardstand and paving that occupies road verges; and
- Create a safe and attractive pedestrian and cycling environment by slowing vehicular traffic and prioritising pedestrians and cyclists within the road reserve.

Structure

This Policy is divided into two parts:

Part 1 Policy Operation

This includes the policy application, purpose, objectives and definitions.

Part 2 Policy Provisions

This contains Table 1 that sets out design principles for each element of the road reserve. Due to the nature of streetscapes, there is some necessary overlap in the design principles for each element.

Part 3 Conditions of Approval

This part includes information requirements and model conditions of approval for structure plans, subdivisions, local development plans and development applications that contain any of the design elements listed below.

1. Operation of Table 1

1.1 Table 1 contains design principles and deemed-to-comply provisions for each of the road reserve elements listed above.

1.1.1 Verge width

- 1.1.2 Landscape design
- 1.1.3 Vehicle access and crossovers
- 1.1.4 Pedestrian and cycling design
- 1.1.5 Laneway design

2 Application of Table 1

- 2.1 The following provisions apply to Table 1.
 - 2.1.1 Applications that meet the deemed-to-comply provisions in Column B are deemed to satisfy the objectives of this Policy and will be supported by the City.
 - 2.1.2 Applications that do not satisfy the deemed-to-comply provisions in Column B of this Policy will be assessed having regard to the corresponding design principle set out in Column A of Table 1. To be assessed under the design principles, sufficient justification shall be provided by the applicant demonstrating compliance with the design principles. This may include, where requested by the City, information pertaining to on-going maintenance requirements and adherence to safety standards. Should the proposal be deemed to satisfy the design principles, it will be deemed the application satisfies the objectives of this Policy and will be supported by the City.
 - 2.1.3 Applications that do not satisfy the deemed-to-comply provisions or the design principles will be deemed not to meet the objectives of this Policy and will not be supported by the City.

Definitions

For the purposes of this Policy, the following definitions apply. For any other definition, the Liveable Neighbourhoods or R-Codes' definitions apply.

Carriageway

The area within the road reserve, measured from kerb face to opposite kerb face that is provided for the movement or parking of vehicles.

Crossover

That part of the verge that is constructed to facilitate vehicle access onto an adjoining lot.

Greenfield Areas

Undeveloped land that has been earmarked for urban development.

Local Street

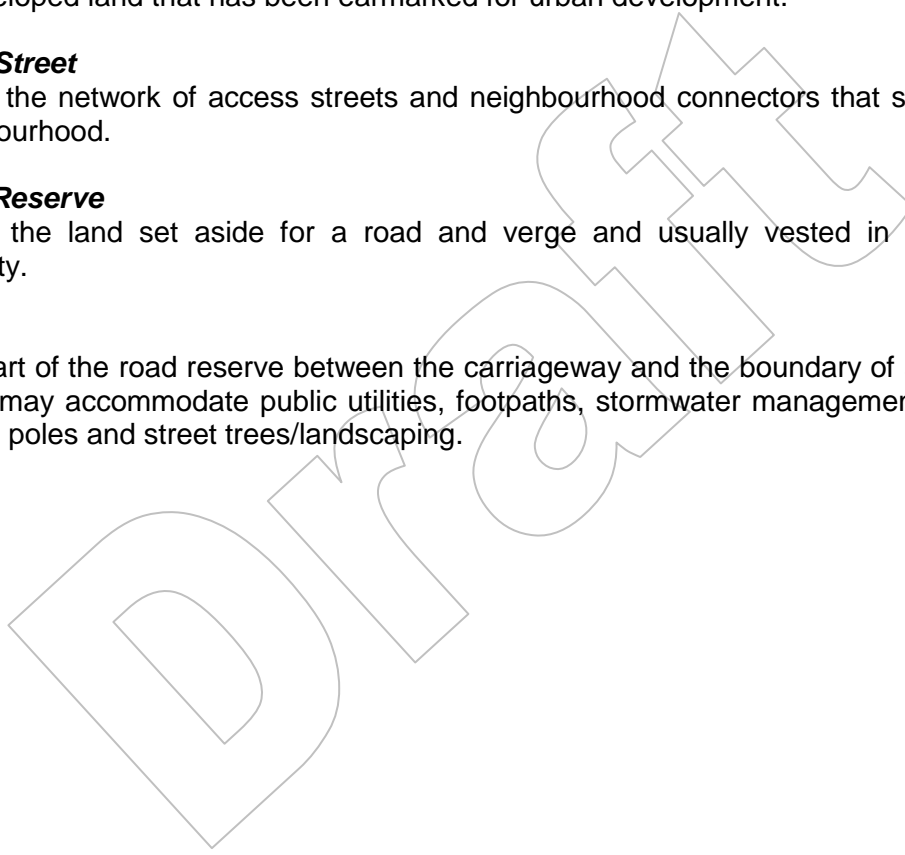
Means the network of access streets and neighbourhood connectors that serve the neighbourhood.

Road Reserve

Means the land set aside for a road and verge and usually vested in a public authority.

Verge

That part of the road reserve between the carriageway and the boundary of adjacent lots. It may accommodate public utilities, footpaths, stormwater management, street lighting poles and street trees/landscaping.



Part 2

TABLE 1 - POLICY REQUIREMENTS

COLUMN A		COLUMN B	
Design Principles		Deemed-to-comply	
<p>The section below applies to the design of elements within the road reserve for Integrator Arterials and roads classified as Local Streets (Neighbourhood Connectors, Access Streets and Laneways) in the Urban Development Zone in Residential areas.</p>			
<p>Verge Width</p>			
P1.1	<p>Street verge is of a sufficient width to accommodate all necessary infrastructure, above and below ground, including but not limited to:</p> <ul style="list-style-type: none"> a) Mature street trees with large diameter canopies; b) Street lighting; c) Footpaths or shared paths as required (refer section below relating to Pedestrians and Cyclists); d) Crossovers; e) Service utilities as required¹; f) Bio-filters, tree pits or swales as required; and g) Retention of significant trees or strands of trees if required by City of Wanneroo Local Planning Policy 2.8 - Tree Preservation. 	D1.1	<p>Street verge is a minimum of 4.5 meters wide, and set out in accordance with Appendices 1 and 2, except:</p> <ul style="list-style-type: none"> a) Where the verge is abutting public open space, verge width may be reduced to 3 metres; and b) Where a shared path is required on a verge that contains the full service corridor, in which case, verge width is a minimum of 6.5 metres wide.
<p>Landscape Design</p>			
<p>Street Trees</p>			
P1.1	Streets are lined with trees at regular spacings to provide a continuous canopy.	D1.1	For single or grouped dwellings (less than 5 dwellings), one street tree is planted (or retained in accordance with Local Planning Policy 2.8: Tree Preservation) in the verge for each proposed lot, except for:
P1.2	Street trees are afforded sufficient space within the verge to reach maturity and not conflict with other infrastructure.		
P1.3	Street tree species are suitable for climatic and soil conditions, are of an appropriate size and scale for the type of road, location of verge infrastructure and adjoining land use, provide shade and canopy cover at maturity and require minimal on-going maintenance.		<ul style="list-style-type: none"> a) Corner lots that will require one tree on the shorter side, and a minimum of two on the longer edge subject to sightline requirements; or b) Where the proposed tree location would conflict with sightlines; or c) Where the proposed tree location would conflict with the offset requirements for street lighting or other infrastructure.
P1.4	Avenues of trees are planted on key linkages and higher order roads to create a sense of place.	D1.2	For all other land uses in the residential zone, one tree per 10 metres of frontage is to be planted in the verge, except:
P1.5	Deciduous trees may be planted, subject to the trees having a permanent source of irrigation.		<ul style="list-style-type: none"> a) Where the proposed tree location would conflict with sightlines; or b) Where the proposed tree location would conflict with offset requirements for street

¹ A proposal to shift services from their alignments designated under the Service Providers Code of Conduct must have the approval of the relevant service provider.

	<p>lighting or other infrastructure.</p> <p>D1.3 Where embayment parking is provided abutting the verge, trees adjacent to the parking in the verge are provided at a rate of one tree per 10 metres of frontage as well as within parking bays at a minimum of one tree per three bays.</p> <p>D1.4 Where embayment parking is provided within the verge, trees shall be planted between parking bays (within tree grates or landscaped nibs) at a rate of one tree per two bays.</p> <p>D1.5 Where a central median forms part of the road design, trees shall be planted at a rate of 1 per 8 metres of road, except where:</p> <ul style="list-style-type: none"> a) The proposed tree location would conflict with sightlines; b) The proposed tree location would conflict with other street infrastructure or drainage infrastructure; c) The median is less than 2 metres in width measured from back of kerb. <p>D1.6 Within the verge, trees are to be located:</p> <ul style="list-style-type: none"> d) Between 2.4 and 3 metres from property boundary (standard alignment as set out in the Utility Providers Code of Practice). Where this cannot be achieved, approval from the relevant service providers is required; e) Minimum 1.5m from the crossover (existing or proposed) in accordance with City of Wanneroo crossover specification; f) Minimum 1m from footpath or dual/use path; and g) Minimum 2.5 metres from proposed/existing street lighting. <p>D1.7 Tree species are a minimum of 70% native.</p> <p>D1.8 Tree species selected in accordance with the City's Street Tree Species List.</p> <p>D1.9 Avenue planting is undertaken for roads classed as neighbourhood connectors and above.</p> <p>D1.10 Deciduous trees may be planted on both sides of east-west streets, to shade north-facing lots in summer and allow sunshine in winter, subject to the trees having a permanent source of irrigation.</p>
<p>Landscaping</p> <p>P1.1 Verges and medians are landscaped using appropriate low maintenance treatments that provide a suitable interface for the adjoining land use, contribute to the amenity of the development area, are appropriate in size and scale at maturity for the street type and verge/median width, do not obstruct sightlines and are environmentally suitable.</p> <p>P1.2 Where appropriate integrate landscape design with water sensitive urban design systems.</p>	<p>D1.1 Landscaping satisfies the requirements of the City of Wanneroo Streetscapes and Public Access Ways Landscape Design Specification.</p>
<p>Vehicle Access and Crossovers</p>	
<p>P1.1 Crossovers are reduced in width and appropriately located to enable on-street parking</p>	<p>D1.1 For all front loaded residential lots ten (10) metres or less in width; the width of the</p>

<p>and verge landscaping.</p> <p>P1.2 The frequency of crossovers in a street are limited to reduce the number of potential vehicle and pedestrian conflict points, to ensure sufficient space within the verge for provision of a street tree, and to enable on-street parking.</p> <p>P1.3 The design of crossovers reinforces pedestrian priority and performs a subservient function to that of the pedestrian movement.</p>	<p>crossover does not exceed three (3) metres at the property boundary. Splays are to be provided in accordance with the City of Wanneroo Standard Drawing, except for:</p> <p>a) Residential lots that are within 10 metres of an intersection (proposed or existing);</p> <p>In which case, the crossover width shall not exceed a total of 6m at the property boundary.</p> <p>D1.2 For all front loaded residential lots ten (10) metres or wider, a single crossover does not exceed four (4) metres in width at the property boundary, unless:</p> <p>a) The lot is required to take vehicle access from a district distributor road; or b) The development proposes a configuration of dwellings within the lot requiring a shared central access way; c) The lot is within 10 metres of an intersection (proposed or existing);</p> <p>In which case, the crossover width shall not exceed a total width of 6m at the property boundary.</p> <p>D1.3 For single or grouped dwellings (five dwellings or less) a maximum of one crossover per lot frontage is permitted.</p> <p>D1.4 Footpath and shared path material continues unimpeded across the crossover to maintain visual continuity of the pedestrian network.</p>
<p>Footpaths</p>	
<p>P1.1 Pedestrian facilities are located to optimise pedestrian safety.</p> <p>P1.2 Pedestrian facilities are of sufficient width for all users, including vulnerable members of the community such as school children, the aged and people with disability.</p> <p>P1.3 Pedestrian facilities are appropriate for the type of road and its expected traffic volumes, the adjoining land use, and expected pedestrian activity.</p> <p>P1.4 Pedestrian facilities are provided to connect key destinations including activity centers, schools and rail stations.</p>	<p>D1.1 For footpath or dual use paths adjoining residential lots, paths are located abutting the property boundary, offset by 0.3m, except:</p> <p>a) Footpaths or dual use paths abutting public open space.</p> <p>D1.2 Footpath is 1.8 metres in width where it abuts a property boundary.</p> <p>D1.3 Shared path is 2.5 metres in width where it abuts a property boundary.</p> <p>D1.4 Footpath or shared path provided in accordance with the City of Wanneroo Pathways Policy, Figure 1 (included as Appendix 3), except:</p> <p>a) Shared path requirements for local access roads connecting activity centers, schools and train stations are calculated on a 400m walking distance in lieu of a 400m walkable catchment.</p>
<p>Cycle Paths</p>	
<p>P1.1 Appropriate cyclist facilities are provided to suit the type of road and its expected traffic volumes, encourage growth in safe cyclist use and connect key destinations.</p> <p>P1.2 Cyclist facilities are located to optimise safety.</p>	<p>D1.1 Cyclist facility is provided in accordance with the City of Wanneroo Pathways Policy, Figure 1 (included as Appendix 3).</p> <p>D1.2 On-road cycle lanes, where required, are 1.5 metres wide, except:</p>

<p>P1.3 Cyclist facilities are of sufficient width to enable safe and comfortable passing of pedestrians and cyclists in either direction.</p>	<p>a) Where embayment parking is required within the road reserve, cycle lanes are 1.8 meters which includes an offset by a 0.3 metre buffer from embayed parking.</p> <p>D1.3 Shared path is 2.5 metres in width where it abuts a property boundary.</p>
<p>On – Street Parking</p>	
<p>P1.1 On streets with low traffic volume, sufficient space for informal on-street parking is provided to encourage slow vehicular movement.</p> <p>P1.2 Where embayment parking is provided, use landscaping to define parking bays where appropriate.</p>	<p>D1.1 The placement of crossovers along access streets provides opportunities for informal on-street parking at a rate of one parking opportunity per residential lot.</p> <p>D1.2 Embayment parking is only provided on roads classified as neighbourhood connectors and above, and those streets designated as bus routes except for:</p> <p>a) Embayment parking required for schools that are located on an access street.</p>
<p>Laneways</p>	
<p>P1.1 Laneways should be clearly distinguished from roads to establish a hierarchy of roads and act as a traffic calming device.</p>	<p>D1.1 Laneways are constructed using surface treatments such as brick paving, raised table crossings or coloured surfacing.</p>

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Part 3

CONDITIONS OF APPROVAL

1. Structure Plans

1.1 The following additional information will be required in support of a Local Structure Plan that proposes to create residential streets:

1.1.1 Cross sections for each type of road in the structure plan area.

1.1.2 Plan view (in addition to cross-section) of a representative length of each road type within the structure plan area to indicatively demonstrate how the following items can be accommodated in the road reserve:

- Services and their alignments;
- Footpaths/Dual Use Paths;
- Crossovers;
- On Street parking or other embayments;
- Street lighting;
- Bio-filters/tree pits or swales; and
- Street trees and their setbacks from crossovers, footpaths, kerbs and buildings/walls.

1.1.3 Street Tree Master Plan depicting tree species and indicative size at maturity for each type of street in the structure plan area

2. Subdivision

Conditional Approval

2.1 For residential subdivision applications that propose to create integrator arterials, local streets or laneways the City will request the applicant to demonstrate how the requirements of this Policy can be met.

2.2 To ensure the requirements of this Policy can be met, residential subdivisions that propose to create integrator arterials, local streets, laneways and/or residential lots with narrow frontages, Council may recommend the following conditions to the Western Australian Planning Commission:

a) *Detailed Area/Local Development [DELETE AS APPROPRIATE] Plan/s being prepared and approved for lots shown on the plan dated [INSERT VALUE] (attached) that address the following:*

- a. Street tree locations;*
- b. Crossover locations;*
- c. On-street parking (embayed or informal) locations; and*
- d. Stormwater treatment bio-filter/tree pit/swale locations.*

*to the satisfaction of the Western Australian Planning Commission.
(Local Government)*

- b) *Suitable arrangements being made with the local government for the provision of vehicular crossover(s) to service the lot(s) shown on the approved plan of subdivision (Local Government)*

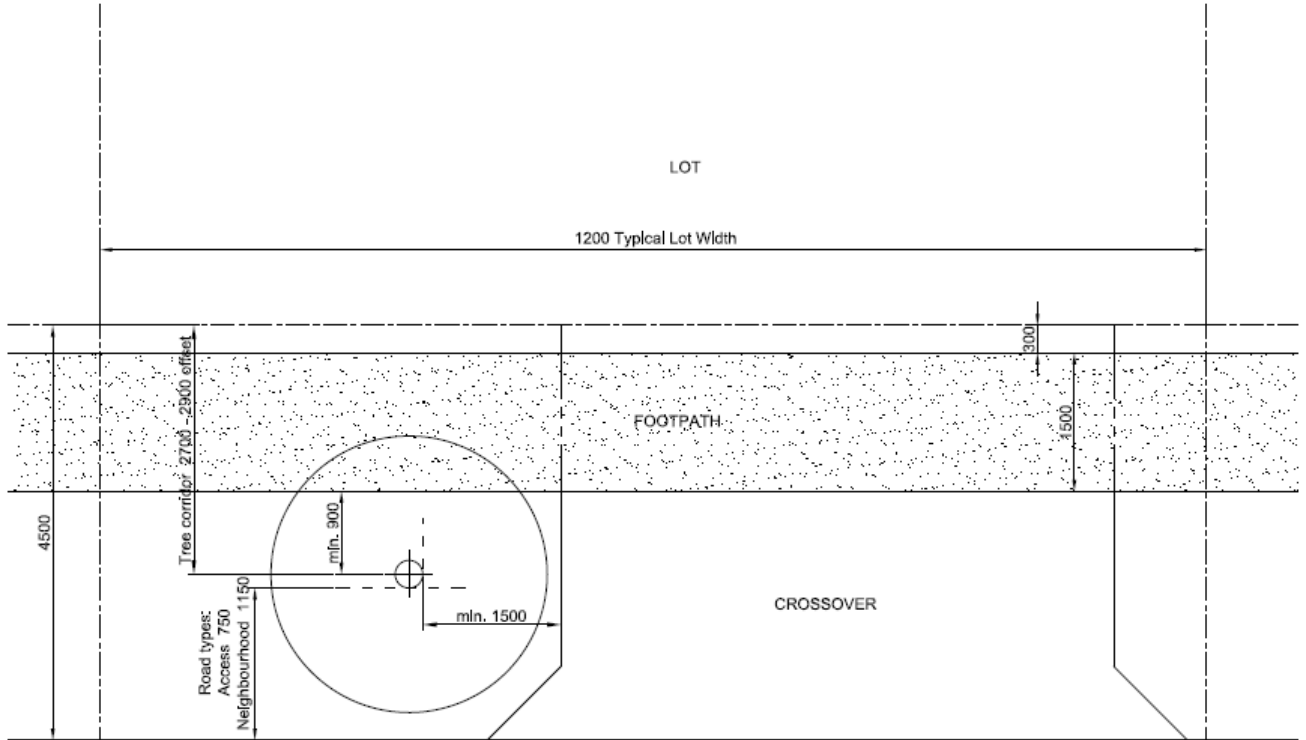
Clearance of Conditions

- 2.3 To satisfy engineering conditions imposed on residential subdivisions that create integrator arterials, neighbourhood connectors and streets with rear loaded lots the following plans and information shall be submitted to the City for its approval:
- 2.3.1 Streetscape engineering plan compliant with City of Wanneroo Specification WD12 that details, in addition to all street furnishings, the location of street trees and crossovers (where the location of crossovers have been fixed);
- 2.3.2 Detailed streetscape landscape and irrigation drawings that depict verge, median and road reserve. Drawings to include plans, sections and details of all hard-landscaping, soft-landscaping, structures, walls, furniture, and other landscape elements including the location, size, and type of street trees to be planted, to the City's satisfaction.
- 2.4 Where the developer arranges for landscaping to take place in accordance with approved engineering/landscaping plans referred to in clause 2.3 above, it shall be supported by a maintenance period of at least two summer periods after planting to ensure the vegetation is properly established.
- 2.5 The developer may opt to arrange for the planting of street trees in verges once residential construction has been completed in which case the City will accept a bond for the landscaping works to be completed at a later date, or will accept a cost contribution for the City to undertake the works at a later date.
- #### Handover
- 2.6 In accordance with the IPWEA subdivision of land guidelines, the developer is required to hand over all infrastructure asset details including as-constructed drawings and asset management data for roads, drains, pathways, signage, streetscape and street furniture as part of handover. At a minimum this information is to include all details of infrastructure assets including construction costs, quantities, estimated life and preventative maintenance programs.
- 2.7 The City will accept handover of streetscapes after two years from practical completion, subject to the following:
- 2.7.1 the City being satisfied that the maturity of vegetation, density of planting, species selection and standard of infrastructure are consistent with that specified in the landscaping plan approved by the City, as being acceptable for handover to the City;

- 2.7.2 for at least 12 consecutive months prior to handover, the developer maintaining the streetscape to the same standard² as it would otherwise be maintained by the City post-handover, including the tapering-off of vegetation from irrigation to ensure long-term survival;
- 2.7.3 the developer providing the City with annual metered bore water usage data for any irrigated streetscape during the term of their maintenance period, to demonstrate compliance with the water licence allocation for that area;
- 2.7.4 The City does not accept handovers from the start of November to the end of March. If necessary, the developer shall extend the maintenance period accordingly at their own cost.
- 2.8 Should the conditions of Clause 2.7 not be met, the maintenance period will be reviewed and an additional period of developer maintenance may be required until such time as the conditions detailed in clause 2.7 have been met to the satisfaction of the City.

² The standard acceptable to the City at handover shall be specified in the landscape plans lodged as a condition of subdivision and subsequently agreed by the City at the time of approving the landscape plans for the streetscapes.

Appendix 1: Verge Layout – 4.5m wide Verge



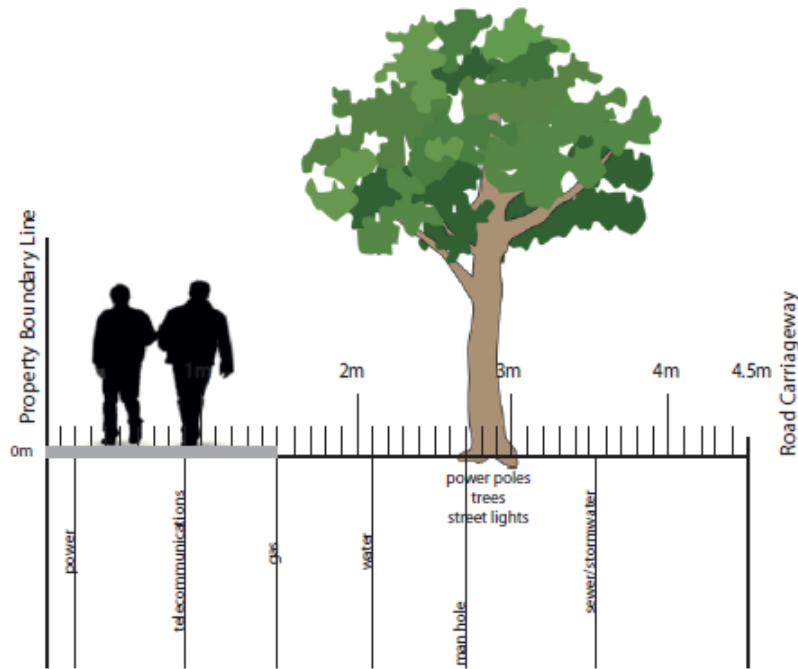
NOTE:
 Where the offset between the centre of the tree and the footpath or kerb is less than 1000mm, root barriers will be required

The kerb and cross-over offset are measured to the external face of the mature trunk size of the proposed tree

ROAD

Not to scale





Appendix 2: Location of underground utilities

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Figure 1 – Pedestrian and Cyclist Facility Provision

Road	Characteristics			Facility required	
	Speed	Volume (VPD)	Attractors	Pedestrian	Cyclist
Cul-de-sac, Laneways <200 m	<30km/h	< 300	Residential properties	No pathway required	No pathway required
Access Street	<30km/h	<3000	Residential properties	1.5m pedestrian path ⁴	Bicycle Boulevard ²
Access Street	<50km/h	<3000	Within 400m of Schools, train stations & activity centres	2.5m shared path minimum ¹	2.5m shared path minimum ¹
Access Street	<50km/h	<3000	Residential properties	1.5m pedestrian path ⁴	No bicycle facilities required
Local Distributor, N/hood connector B	<50km/h	<3000	Residential properties, activity centres, train stations	2.5m shared path	<ul style="list-style-type: none"> 1.5m (1.8m abutting parking) red asphalt cycle lanes;
Local Distributor, N/hood connector A	<50km/h	<7000	Residential properties, activity centres, train stations	2.5m shared path one side and 1.5m pedestrian path ⁴	<ul style="list-style-type: none"> 1.5m kerb separated cycle lanes; or 1.5m red asphalt cycle lanes (1.8m abutting parking); or 3m red asphalt shared path

Figure 1 – Pedestrian and Cyclist Facility Provision

Road	Characteristics			Facility required	
	Speed	Volume (VPD)	Attractors	Pedestrian	Cyclist
District Distributor, Integrator B	50km/h – 60km/h	7,000 - 10,000	Activity Centres, Schools and Train Stations	1.5m pedestrian path ⁴	<ul style="list-style-type: none"> • 3m separated red asphalt Cycle Path³; Or • 1.8m – 2m kerb separated one way cycle lane; Or • Use of parallel local access road/service streets to create a continuous cycle facility
District Distributor, Integrator A	70km/h or greater	10,000 - 35,000	Activity Centres, Schools and Train Stations	1.5m pedestrian path ⁴	<ul style="list-style-type: none"> • 3m separated red asphalt Cycle Path³; or • Minimum 2m kerb separated cycle lane; or • Use of parallel local access road/service streets to create a continuous cycle facility
Primary Distributor	80km/h or greater	>20,000	Inter-and-intra regional centres	2m pedestrian Path	Minimum 3m separated red asphalt Cycle Path

1. In accordance with Liveable Neighbourhoods

2. In Accordance with Bicycle Boulevards – criteria successfully implemented in Portland . Bicycle Boulevards are not required on all access streets

3. In accordance with Cycling Aspects of Austroads Guides

4. 1.8m abutting property boundary or kerb

