

Department of Planning and Environment

dpie.nsw.gov.au



Western Sydney Aerotropolis Development Control Plan 2022

November 2022



Acknowledgement of Country

The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Published by NSW Department of Planning and Environment

dpie.nsw.gov.au

Western Sydney Aerotropolis Development Control Plan 2022

First published: November 2022

Copyright and disclaimer

© State of New South Wales through Department of Planning and Environment 2022. Information contained in this publication is based on knowledge and understanding at the time of writing, November 2022, and is subject to change. For more information, please visit dpie.nsw.gov.au/copyright

TMP-MC-R-WC-V1.2

Contents

Acknowledgement of Country	2
1.0 Introduction and Administration	6
1.1 Name of this Development Control Plan	7
1.2 Aims of this DCP	7
1.3 Land where this DCP Applies.....	7
1.4 Using this DCP	9
1.4.1 Performance Based Approach	9
1.4.2 Relationship to Other Documents and Instruments	9
1.5 Adoption and Commencement	10
1.5.1 Commencement of the DCP.....	10
1.5.2 Savings and Transitional Provisions or Arrangements	10
1.6 Review of the DCP	10
2.0 General Controls	11
2.1 Recognise County	11
2.1.1 Starting with Country	11
2.1.2 Engagement requirements	11
2.2 Heritage	14
2.2.1 Aboriginal Cultural Heritage.....	14
2.2.2 Non-Aboriginal and European Heritage	15
2.3 Stormwater, Water Sensitive Urban Design and Integrated Water Management.....	16
2.3.1 Waterway Health and Riparian Corridors.....	16
2.3.2 Stormwater Management and Water Sensitive Urban Design.....	19
2.3.3 Management and access to Regional Stormwater Infrastructure and Waterways	22
2.4 Vegetation and Biodiversity	23
2.4.1 Deep Soil and Tree Canopy	23
2.4.2 Protection of Biodiversity	24
2.4.3 Protection of Trees and Vegetation.....	27
2.4.4 On Lot and Streetscape Landscaping and Preferred Plant Species.....	28
2.4.5 Street Tree Planting Requirements	29
2.5 Flooding and Environmental Resilience Management.....	32
2.5.1 Flood Management.....	32
2.5.2 Mitigating Urban Heat Island Effect.....	36
2.5.3 Salinity	36
2.5.4 Acid Sulfate Soils.....	37
2.5.5 Erosion and Sediment Control.....	38
2.6 Road design for Arterial and Sub-Arterial Roads	39
2.7 Parking design and access.....	43
2.8 Travel Demand Management.....	45
2.9 Service and loading design	46
2.10 Airport Safeguarding.....	47
2.10.1 Protection of Operation Airspace	47
2.10.2 Noise.....	48
2.10.3 Wildlife Hazards.....	49

2.11	Services and Utilities	51
2.12	Sustainability	53
2.13	Smart Places	53
2.14	Design for Safe Places	54
2.15	Universal Design and Access.....	56
2.16	Waste Management and Circular Economy.....	57
2.17	Subdivision design.....	59
2.18	Earthworks and retaining walls.....	59
2.19	Public Art	60
3.0	Development for Enterprise and Industry, and Agribusiness.....	61
3.1	Local road network and design	61
3.1.1	Street design	61
3.2	Parking and travel management	63
3.3	Built form.....	65
3.3.1	Building siting and design.....	65
3.3.2	Building setbacks.....	65
3.3.3	Landscape setbacks.....	66
3.3.4	Building and architectural design	67
3.3.5	Communal outdoor areas.....	68
3.4	Signage.....	68
3.5	Lighting	69
3.6	Fencing.....	69
3.7	Noise and amenity.....	69
4.0	Non-Residential development in Centres.....	70
4.1	Road network and design.....	70
4.1.1	Street design	70
4.2	Built form.....	73
4.2.1	Relationship to the public domain	73
4.2.2	Amenity and sustainability	74
4.2.3	Building setbacks and separation.....	74
4.2.4	Built form.....	75
4.2.5	Shelter and shade	75
4.2.6	Development in walking catchment of mass transit	75
4.3	Parking and travel management	76
4.3.1	Car parking	76
4.3.2	Bicycle parking	77
4.3.3	End of trip facilities	78
4.4	Signage in Centres	79
5.0	Residential Development	81
5.1	Road network and design.....	81
5.1.1	Street design	81
5.2	Built form.....	84
5.2.1	Relationship to the public domain	84
5.2.2	Amenity and sustainability	84
5.2.3	Building setbacks.....	85
5.2.4	Diversity and accessibility.....	86
5.2.5	Sydney Science Park	86

5.3	Parking and travel management	88
5.3.1	Car parking	88
6.0	Certain Land Uses	89
6.1	Social and cultural infrastructure	89
6.2	Night time economy uses	89
6.3	Animal boarding or training establishments	90
6.4	Tourist and visitor accommodation.....	91
6.5	Telecommunication facilities.....	91
6.6	Additional land uses	92

Table of Figures

Figure 1	Land to which this DCP applies.....	8
Figure 2	Riparian street indicative cross section - Mixed Use Zone (centres and residential)	18
Figure 3	Riparian street indicative cross section – Enterprise Zone	19
Figure 4	Calculating the average height in storeys on a site.....	22
Figure 5	Indicative stormwater management for Aerotropolis	23
Figure 6	Primary Arterial Road – Typical arrangement	41
Figure 7	Primary Arterial Road (Rapid Bus) – Typical arrangement.....	42
Figure 8	Sub-Arterial Road – Typical arrangement	43
Figure 9	Western Parkland City Vision – Government Commitment Areas map.....	51
Figure 10	Interface to Main Streets within Centres	56
Figure 11	Interface to Main Streets Containing Commercial Activity	56
Figure 12	Typical Local Industrial Road	62
Figure 13	Typical Collector Road	62
Figure 14	Typical Open Space Edge Road	63
Figure 15	Local street (high street - commercial centre).....	71
Figure 16	Local street (high street with cycle paths - commercial centre)	72
Figure 17	25 metre local street (high street - commercial centre) Bus lane.....	72
Figure 18	Local street (high street - commercial centre) Rapid bus and active transport only	73
Figure 19	Signage types.....	80
Figure 20	Typical collector road.....	82
Figure 21	Collector Road LATM, Tree Pit, Bus Stop or Kerb Extension Details.....	82
Figure 22	Typical local street.....	83
Figure 23	Typical laneway	83

Table of Tables

Table 1:	DCP Structure.....	9
Table 2	Tree Canopy, Deep Soil and Tree Planting Requirements	24
Table 3	Residential Acoustic Treatments Required to Ensure Compliance with Indoor Design Sound Levels in AS2021:2015.....	48
Table 3	Car and bicycle parking rates	64
Table 4	Minimum design vehicle requirements for Enterprise and Industrial, Industrial and Agribusiness developments	64
Table 5	Building and landscape setbacks	66
Table 6	Car parking in Centres.....	76
Table 7	Minimum bicycle parking rates in Centres.....	78
Table 8	Signage in Centres Placement Design and Dimensions.....	80
Table 9	Car and bicycle parking for residential development.....	88
Table 10	Controls for additional land uses	92

Appendices

Appendix A: Dictionary.....	4
Appendix B: Western Sydney Aerotropolis Landscape Species List.....	24
Appendix C: Riparian Streets.....	36
Appendix D: Supporting Documentation for Development Application.....	38
Appendix E: Reference Documents & Further Reading.....	53

1.0 Introduction and Administration

1.1 Name of this Development Control Plan

This Development Control Plan (**DCP**) is the *Western Sydney Aerotropolis Development Control Plan 2022*. It has been prepared in accordance with Part 3, Division 3.6 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) and the Environmental Planning and Assessment Regulation 2021 (**The Regulations**).

1.2 Aims of this DCP

This DCP provides the planning, design and environmental objectives and controls which will inform the preparation and assessment of Development Applications (**DA's**) and Masterplans.

These objectives and controls supplement those in Chapter 4 of the State Environmental Planning Policy (Precincts—Western Parkland City) 2021 (**Parkland City SEPP**) and the Western Sydney Aerotropolis Precinct Plan (**Aerotropolis Precinct Plan**).

The objectives and controls in this DCP aim to:

1. Facilitate development which is appropriate to the unique natural characteristics and desired future outcomes for each precinct of the Aerotropolis;
2. Safeguard the airport operations of the Western Sydney International (Nancy-Bird Walton) Airport (the Airport);
3. Support high levels of local accessibility, quality place and amenity outcomes to drive business relocation and economic growth;
4. Encourage design that maintains and enhances the character and heritage significance of Aboriginal and European heritage items and heritage conservation areas;
5. Encourage ecologically sustainable development and reduce the impacts of development on the environment; and
6. Deliver development in accordance with the principles of Water Sensitive Urban Design (WSUD).

1.3 Land where this DCP Applies

This DCP applies to land identified in **Figure 1**. The DCP does not apply to the Western Sydney (Nancy Bird Walton) Airport and other areas outside of the land application boundary, shown white in **Figure 1**.

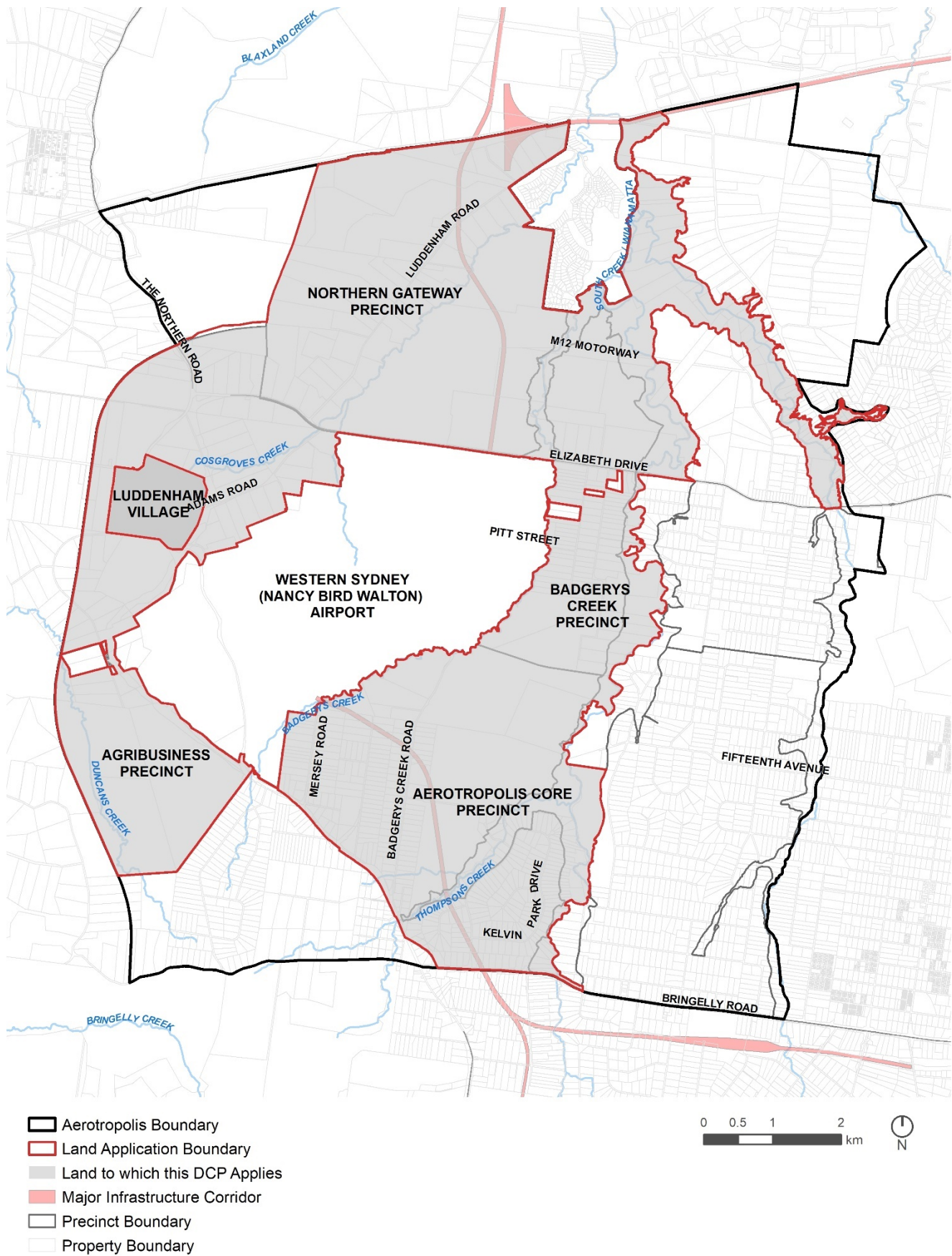


Figure 1 Land to which this DCP applies

1.4 Using this DCP

This DCP is structured into six chapters. Chapter 1-2 apply to all developments while chapters 3-6 contain controls tailored to specific land uses. Table 1 sets out the application of each of the DCP chapters and a summary of the content of each chapter.

Table 1: DCP Structure

DCP Section	Contents
Chapter 1 – Introduction and Administration	This chapter provides information about the administrative provisions of the DCP, such as the name and aims of the DCP, adoption and commencement information, where each section of the DCP applies and how to use the DCP.
Chapter 2 – General Controls	This chapter contains objectives and controls which need to be considered for all development on land where this DCP applies. The objectives and controls are designed to manage the natural and built environment across the Aerotropolis.
Chapter 3 – Development for Enterprise and Industry, and Agribusiness	This chapter contains specific objectives and controls for enterprise and industrial development forms on land identified for Enterprise and Industry, and Agribusiness within the Aerotropolis Precinct Plan.
Chapter 4 – Non-Residential Development in Centres	This chapter contains specific objectives and controls for non-residential development on land in the identified centres of the Aerotropolis Precinct Plan, including. <ul style="list-style-type: none"> • Commercial Centre – Mixed Use; • Specialised Centre – Mixed Use; • Business and Enterprise; and • Local/Neighbourhood Centre.
Chapter 5 – Residential	This chapter contains specific objectives and controls on land where residential development is identified in the Aerotropolis Precinct Plan, including development for: <ul style="list-style-type: none"> • Residential development in Mixed Use areas; • Subdivision and associated residential development in the Specialised Centre and Commercial Centre - Mixed Use areas.
Chapter 6 – Certain Land Uses	This chapter contains and refers to specific objectives and controls for certain additional land uses proposed within the Aerotropolis not identified in Chapters 3 to 5. Note: development within Luddenham Village is also covered by this chapter.

1.4.1 Performance Based Approach

This DCP uses a flexible performance-based approach, by providing objectives, performance outcomes and benchmark solutions. Any variations to DCP benchmark solutions must ensure consistency with the intent of the objectives and performance outcomes. Where alternative solutions are proposed, the applicant must justify how the development is meeting the intent of both the objectives and performance outcomes listed in this DCP. While a performance based approach is generally encouraged, where impacts relate to aviation safeguarding these controls need to be adhered to and there is limited flexibility in their application.

1.4.2 Relationship to Other Documents and Instruments

Western Sydney Aerotropolis Development Control Plan – Phase 1

The *Western Sydney Aerotropolis Development Control Plan – Phase 1 (Phase 1 DCP)* was published on 13 September 2020 and came into effect on 1 October 2020. The Phase 1 DCP identified the precinct planning principles, objectives, and performance outcomes to allow precinct planning to progress. The Phase 1 DCP is superseded by this DCP.

Liverpool Development Control Plan 2008 and Penrith Development Control Plan 2014

Development Control Plans that previously applied to land to which this DCP applies, no longer apply, unless specific provisions within those DCPs are referenced by this DCP.

This DCP contains references to the application of certain parts of the Liverpool Development Control Plan 2008 (for land in the Liverpool Local Government Area) and the Penrith Development Control Plan 2014 (for land in the Penrith Local Government Area) that apply in certain circumstances for certain land uses. Where specific controls of these DCPs continue to apply, they are specifically referred to in **the relevant sections of this DCP**.

Additional guidelines

This DCP references and should be read in conjunction with:

- Western Sydney Street Design Guidelines and Western Sydney Engineering Design Manual for further guidance on street design and engineering standards;
- Recognising Country: Guidelines for Development in the Aerotropolis; and
- Aviation Safeguarding Guidelines – Western Sydney Aerotropolis and Surrounding Areas.

Western Sydney Aerotropolis Master Plan Guidelines

The Parkland City SEPP requires that this DCP is considered in the preparation of Masterplans, and that Masterplans are consistent with the DCP. Following adoption of a Masterplan, the application of this DCP to development on a Masterplan site will depend on the specific provisions and approval pathways established by the Masterplan. Masterplans are also subject to any Masterplan Guidelines that apply at the time of preparation of the Masterplan.

1.5 Adoption and Commencement

1.5.1 Commencement of the DCP

This DCP was adopted by the Planning Secretary or delegate on **26 October 2022** and came into force on **10 November 2022**.

1.5.2 Savings and Transitional Provisions or Arrangements

This DCP only applies to DA's lodged on or after the date the DCP came into force.

1.6 Review of the DCP

The Planning Secretary can amend the DCP in accordance with the *Environmental Planning and Assessment Regulation 2021*. The Department of Planning and Environment, in consultation with Penrith and Liverpool City Council, will periodically review this DCP.

The review of the DCP is to be undertaken at least once in a five-year period to ensure its continued alignment with Chapter 4 of the Parkland City SEPP and the Aerotropolis Precinct Plan. The objectives and controls of the DCP are to be updated as required to better achieve the objectives of the DCP and or respond to changes in circumstances and land use. Any review of the DCP will include consultation with relevant State Government agencies, the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications and the Arts and Western Sydney Airport as required.

2.0 General Controls

2.1 Recognise Country

2.1.1 Starting with Country

Country is central to the identity and wellbeing of Aboriginal people and communities. Country, for First Peoples, relates not only to the cultural group and land to which they belong, it is also their place of origin in cultural, spiritual, and literal terms. The local people with ancestral connection to this Country (Dharug, Dharawal, Gundungara) hold valuable knowledge about caring for the Country.

Starting with Country is mutually beneficial and will provide long term sustainable and enriching outcomes. The planning, design and delivery of places and buildings within the Aerotropolis should reflect and be informed by Aboriginal knowledge and expertise about the local area – both its history and its continuing present-day characteristics and potential. Starting and connecting with Country in planning, design and delivery will fundamentally enhance the identity and placemaking outcomes of developments within the Aerotropolis.

This section applies to State Significant Development (SSD), State Significant Infrastructure (SSI), master plans, development applications (including concept applications) on sites 20 hectares or more in size, development applications progressing under the design excellence process and development located within or that intersects areas of high Aboriginal heritage sensitivity (where deemed appropriate by the responsible planning authority). Other development may choose to opt in and apply the performance outcomes and benchmark solutions outlined in this section.

The performance outcomes and benchmark solutions provided in this section are to be read in conjunction with the *Recognise Country: Guidelines for Development in the Aerotropolis (Recognise Country Guidelines)*, in accordance with clause 4.28B of the Parkland City SEPP. Where the Recognise Country Guidelines apply, applications must be submitted with a completed *Recognise Country Response Template* (see the *Recognise Country Guidelines*).

Note: where a *Recognise Country Strategy* has been endorsed by the Department of Planning and Environment, this section of the DCP and Guidelines still apply. The endorsed strategy may also be used to build upon the outcomes and inform the completion of a new *Recognise Country Response Template*.

2.1.2 Engagement requirements

Where engagement with Aboriginal stakeholders is required (as outlined in the benchmark solutions), proponents must engage with a range of Aboriginal stakeholder types, considering their role and relevance to the project (defined in the table below). Sufficient evidence that genuine engagement has occurred with a variety of Aboriginal stakeholder types to inform a development proposal submission must be provided. Engagement with one Aboriginal stakeholder type will not be accepted, this includes engaging with one Aboriginal stakeholder who may represent different stakeholder types. See the *Recognise Country Guidelines* for further details.

These engagement requirements apply for State Significant Development (SSD), State Significant Infrastructure (SSI), master plans, development applications (including concept applications) on sites 20 hectares or more in size, development applications progressing under the design excellence process and development located within or intersecting areas of high Aboriginal heritage sensitivity (where deemed appropriate by the responsible planning authority). Engagement at the development stage builds upon engagement with Aboriginal groups undertaken in the preparation of the Western Sydney Aerotropolis Plan, Parkland City SEPP and Aerotropolis Precinct Plan.

Aboriginal stakeholder types

Stakeholder type	Role	Relevance to project	Aerotropolis Stakeholders
Dharug Traditional Custodians (Traditional Owners)	Dharug community leaders and Elders that have cultural responsibility and obligations	Technical specialists in Country, Aboriginal heritage, language, song, story, ritual, lore, and customary practices	Dharug Traditional Custodians (this may include individuals and/or representative organisations)

Stakeholder type	Role	Relevance to project	Aerotropolis Stakeholders
	to Country and can help the project team listen to Country		
Other Traditional Custodians (Traditional Owners)	Dharawal and Gandangara community leaders and Elders that have cultural responsibility and neighbour obligations to Country	Technical specialists in Country, Aboriginal heritage, story, ritual, lore, and customary practices	Dharawal and Gundungurra Traditional Custodians (this may include individuals and/or representative organisations)
Knowledge holders	Aboriginal people who are engaged in maintaining and, in some cases, reclaiming cultural practices	Aboriginal Cultural experts of heritage language, song, story, ritual, lore, and customary practices	Community members and local organisations with deep connections to Western Sydney. Other First Nations technical experts
Local Aboriginal Land Councils	Legislative organisations with the purpose to improve, protect and foster the best interests of all Aboriginal persons within the LALC's area	Technical specialists in community development, operations of land acquisition, land use and management, Aboriginal heritage, financial stewardship and management of property	Gandangara and Deerubbin Local Aboriginal Land Councils (depending on location within Aerotropolis)
Broader Aboriginal and Torres Strait Islander community	Aboriginal or Torres Strait Islander people who live in, or have a connection to, an area	May be impacted by or benefit from development outcomes, including both construction and operation	Aboriginal and Torres Strait Islander peoples of Western Parkland City
Aboriginal service providers / businesses	Aboriginal and non-Aboriginal owned and operated businesses and services which offer targeted services and facilitate opportunities for Aboriginal communities	May be impacted by or benefit from development outcomes. May also provide opportunities for partnerships through planning, design, construction and operation	Aboriginal service providers / businesses operating in Western Parkland City
Registered Aboriginal Party (RAP)	Registered individual or organisation involved in undertaking Aboriginal heritage assessments at a development site	Aboriginal Heritage Assessment	Registered Aboriginal Parties (<i>refer to Heritage NSW</i>)

Objectives

- O1.** Establish **cultural safety** by considering Aboriginal peoples perspectives in planning and design decisions.
- O2.** Ensure diverse opportunities for connection to Country are considered and implemented in the design and planning of development, including through **meaningful engagement** with Aboriginal groups building upon engagement undertaken in the preparation of the Western Sydney Aerotropolis Plan, Parkland City SEPP and Aerotropolis Precinct Plan.
- O3.** Create opportunities for **capacity building and economic development** for Aboriginal people and organisations across planning, design, construction and operation.
- O4.** Recognise and reflect Aboriginal **connection to Country** by protecting and enhancing significant natural features, as well as providing access and opportunities to **care for Country**.
- O5.** **Celebrate Aboriginal culture and language** through naming, wayfinding, public art and cultural infrastructure which supports cultural practice.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
<i>Connecting to culture and Country through Subdivision and Civil Works</i>		
PO1	The cultural values and heritage, waterways and landscapes of Country form a key structuring element of development.	1. For development where the Recognise Country Guidelines apply and in conjunction with Aboriginal heritage assessment requirements, cultural values research is to be undertaken by a qualified Aboriginal heritage consultant (with experience in Aboriginal heritage and cultural values research). Cultural values research must be undertaken in consultation with Traditional Custodians

	Development retains and connects and provides access to landscape elements including ridgelines, waterways and native vegetation.	<p>(including through an on-site review). Cultural values research must identify within the proposed development site and any adjoining areas:</p> <ol style="list-style-type: none"> a. cultural values and heritage significance, particularly within moderate to high areas of Aboriginal heritage sensitivity; b. significant cultural landscape elements, as they relate to cultural values; and c. significant waterways or bodies and areas of surrounding riparian vegetation as they relate to cultural values. <ol style="list-style-type: none"> 2. Development proposals must outline how findings of the cultural values research have informed the planning and design, including the spatial layout of the site and the public domain, including areas used for open space, stormwater management and or biodiversity conservation and outline any potential impacts and mitigation measures. 3. Development is to respect and respond to: <ol style="list-style-type: none"> a. Identified significant sites, places, views, traditional movement corridors and narratives of Country; b. The natural landscape, including topography and native vegetation by providing clear and legible links (within the road network and public domain) between ridgetops and creek lines and retaining native vegetation clusters and corridors through the siting of buildings; and c. Natural systems, including significant tributaries and waterways in the Wianamatta-South Creek catchment by avoiding significant impacts to ecological condition and the function of ecosystems as well as protect and restore native riparian vegetation. 4. Development proposal design must ensure water management infrastructure and processes are responsive to Country and prioritise natural solutions that enhance the overall waterway systems condition, function and connections.
PO2	Parks and public open space provide spaces for outdoor cultural practice, learning and play to support connection to culture and Country.	<ol style="list-style-type: none"> 1. The design of the public domain within areas of moderate to high Aboriginal heritage sensitivity identified in the Aerotropolis Precinct Plan is to incorporate spaces for outdoor cultural practice and for learning and cultural play, in accordance with outcomes of cultural values research and engagement with Traditional Custodians and other relevant Aboriginal Stakeholders (Knowledge Holders, LALCs and the local Aboriginal and Torres Strait Islander community).
PO3	Development is guided and informed by Aboriginal people and their cultural knowledge and practice of caring for Country.	<ol style="list-style-type: none"> 1. Where relevant, development is designed to enable Aboriginal people to continue to care for Country through the integration of traditional knowledge into environmental assessments and management plans (e.g. floodplain management and bushfire hazard management). 2. Development proposals must demonstrate that the design has been informed by engagement with Traditional Custodians (and Knowledge Holders where appropriate) and incorporates cultural practice requirements and their aspirations for associated enterprise and economic development. 3. Development proposals must outline how cultural knowledge has been integrated into environmental assessment and management strategies, and should consider opportunities for ongoing land management and enterprise and economic development.
<i>Connecting to culture and Country through the Built Form</i>		
PO4	Aboriginal culture is celebrated and embedded within building design.	<ol style="list-style-type: none"> 1. For development where the Guidelines apply or that is located within or intersects areas identified as having moderate to high Aboriginal heritage sensitivity in the Aerotropolis Precinct Plan, culturally sensitive design must be incorporated. 2. Development proposals must outline how cultural values research and engagement with Traditional Custodians (and Knowledge Holders where appropriate) have informed the design outcomes. Where previous cultural values research (including overarching master plans and neighbouring sites) has been undertaken, the development proposal is to respond to the findings.
PO5	Development enables appropriate provision of built cultural infrastructure including dedicated spaces for cultural practice,	<ol style="list-style-type: none"> 1. Master Plans and sites of 20 hectares or more, within metropolitan, specialised and local centres (see Centres Hierarchy map in the Precinct Plan), should identify appropriate sites (location and size) for the provision of cultural infrastructure based on identified need (see Section 4.3 Aboriginal Culture and Heritage –

	places for sharing culture and specialised infrastructure to meet the needs of the local Aboriginal community	Recognising Country in the Aerotropolis Precinct Plan). This includes specialised stand-alone infrastructure such as education, health and community facilities and services, as well as integrated spaces for gathering (see Section 14.4, 15.5 and 15.6 of the Guideline). 2. When planning for and designing cultural infrastructure the proponent is to engage with relevant Traditional Custodians and other Aboriginal stakeholder types (i.e. Knowledge Holders, LALCs, Service providers and the local Aboriginal and Torres Strait Islander community) where appropriate (Section 2.1.2 of the Guideline).
PO6	Cultural narratives are embedded in public art.	1. Public art should respond to culture and Country, particularly within identified areas of significant Aboriginal heritage and value. 2. Where a development proposal has identified the opportunity to deliver public art that is responsive to culture and Country, an Aboriginal person with a connection to Western Sydney is to be engaged to: a. Provide input into the preparation of the public art brief, and b. Contribute to the design of the public art.
<i>Language and naming</i>		
PO7	Place names incorporate local Aboriginal language to enhance and strengthen the cultural connection to place.	1. Where an existing geographical feature or public place already has a non-Aboriginal name, dual naming with the Aboriginal name, should be assigned where appropriate. More information can be found within the NSW Geographical Names Board's Dual Naming – Supporting Cultural Recognition factsheet. 2. New development including suburbs, public spaces, places, roads or administrative areas should give preference to the use of local Aboriginal language for naming purposes. 3. For Aboriginal naming and dual naming, the proponent is required to consult with the NSW Geographical Names Board, Traditional Custodians, local language subject matter experts (and Knowledge Holders where appropriate) (Section 2.1.2 of the Guideline). 4. The proponent is required to seek a statement from Traditional Custodians (and Knowledge Holders where appropriate) in the selection and use of local traditional language.
PO8	Wayfinding signage incorporates Aboriginal language, knowledge and art to enhance and strengthen the cultural connection to place.	1. Wayfinding signage for development proposals is to be informed by cultural values research and engagement with Traditional Custodians (and Knowledge Holders where appropriate). 2. Wayfinding signage is to consider the inclusion of elements that reflect the history and pronunciation of the associated Aboriginal name(s) in the wayfinding strategy. 3. The proponent is required to seek a statement from Traditional Custodians (and Knowledge Holders where appropriate) in the selection and use of local traditional language.

2.2 Heritage

2.2.1 Aboriginal Cultural Heritage

Objectives

- O1.** Ensure adequate protection and appropriate management of archaeological resources.
- O2.** Ensure long-term heritage conservation outcomes are retained or interpreted to reflect the history of the Aerotropolis area.
- O3.** Preserve the scenic and cultural heritage connections and values of waterways, riparian lands and ridgelines.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	New development adjacent to or within the vicinity of an item or place of Aboriginal heritage significance or cultural value should not impact on that item, or place. Development is to consider visual and physical connections between items and places.	<ol style="list-style-type: none"> 1. New development is appropriately sited to ensure that the curtilage or setting of the Aboriginal item or place of cultural value is retained. 2. The development must consider surrounding landscaping, topography, views and connection with other Aboriginal sites. Possible uses for sites with identified Aboriginal heritage include passive open space, environmental conservation, and riparian corridors.
PO2	Heritage items and landscapes shall provide for long-term conservation outcomes.	<ol style="list-style-type: none"> 1. Development on sites containing heritage is to provide opportunities for people to engage with heritage and culture. This may include heritage or cultural values interpretation, artwork, signage, and or public access. Any interpretation or signage is to be delivered in consultation with relevant Aboriginal stakeholders, considering the sensitivity of Aboriginal cultural heritage, knowledge and values. 2. Development proposals for sites containing Aboriginal cultural heritage and cultural values are to be accompanied by a conservation strategy ensuring long-term conservation and restoration (where relevant) outcomes.
PO3	The archaeological potential of sites is to be determined as part of detailed site investigations. Aboriginal archaeological sites are conserved, and significant archaeological remains are protected and interpreted.	<ol style="list-style-type: none"> 1. Any land with the potential to contain archaeological remains is to be subject to detailed investigations and assessment to determine the level of archaeological intervention required. Intervention may include the following: <ol style="list-style-type: none"> a. Unexpected finds procedure; b. Monitoring during works; or c. Formal salvage excavation.

Notes

Any works, development or other activity that will impact a known site of Aboriginal cultural heritage significance may require approval under the *National Parks and Wildlife Act 1974 (NSW)*, in addition to any approval requirements of the consent authority under the relevant Precinct Plan.

Applicants should consult with Heritage NSW to determine requirements for assessment and approval where developments or other works are to be carried out on or near Aboriginal heritage sites identified on the Aboriginal cultural heritage sites figure, in the relevant Precinct Schedule.

The consent authority or Heritage NSW may require additional investigations to be undertaken as part of a DA to confirm the presence of Aboriginal cultural heritage on the land. Where works uncover items that may be Aboriginal cultural heritage, the proponent is to consult with Heritage NSW and the consent authority to determine an appropriate course of action.

2.2.2 Non-Aboriginal and European Heritage

Objectives

- O1.** Ensure that development in the vicinity of heritage items is designed and sited to protect the heritage significance of the item and its setting.
- O2.** Ensure adequate protection and appropriate management of archaeological resources.
- O3.** Ensure that as much archaeology of Local, State, and potential National heritage significance is retained on site and interpreted within the new developments.
- O4.** Ensure the continued relevance of historic values through long-term heritage conservation outcomes that reflect the history of the Aerotropolis area.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Inappropriate or unsympathetic alterations and additions of heritage items are removed, and significant missing details and building elements are reinstated.	<ol style="list-style-type: none"> 1. Alterations and additions to existing heritage items do not dominate or detract from the original building in terms of scale, materials, siting, landscaping, and views. 2. Any unsympathetic or inappropriate previous alterations or additions are removed.
PO2	The impact of new development adjacent to or within the vicinity of a heritage item is minimised.	<ol style="list-style-type: none"> 1. Development in the vicinity of a heritage item minimises the impact on the setting of the item by: <ol style="list-style-type: none"> a. Providing an adequate area around the building to allow interpretation of the heritage item; b. Retaining original or significant landscaping (including plantings with direct links or association with the heritage item); c. Protecting and allowing the interpretation of archaeological features; and d. Retaining and respecting significant views to and from the heritage item. 2. Any new development in the vicinity of heritage items should be of a contemporary design that incorporates materials that do not overwhelm any adjacent heritage items. 3. Open spaces should be planned around heritage items to ensure it maintains its prominent siting and encourage opportunity for active and passive interaction with the place. 4. Highly activated urban areas in the vicinity of a heritage item must be carefully and respectfully sited, designed and landscaped to ensure that heritage values associated with the heritage item are protected.
PO3	The subdivision of land on which a heritage building is located does not isolate the building from its setting or context, or adversely affect its amenity or privacy.	<ol style="list-style-type: none"> 1. Front and rear setbacks are adequate to ensure the retention of the existing landscape character of the heritage item or conservation area and important landscape features. 2. Any significant historical pattern of subdivision and lot sizes is to be retained. 3. Subdivision or site amalgamation involving heritage items or contributory buildings do not compromise the setting or curtilage of buildings on or adjoining the site.
PO4	Archaeological sites are conserved, and significant archaeological remains are protected and interpreted.	<ol style="list-style-type: none"> 1. Any works that may impact a known, or potential, archaeological site must have an archaeological assessment undertaken to determine the archaeological significance of the site and appropriate management procedures.

Note

- i. Refer to Appendix D25 for guidance on the preparation of Heritage Impact Statements.
- ii. This DCP is also consistent with the Australia International Council on Monuments and Sites (ICOMOS) Charter for Conservation of Places of Cultural Significance (The Burra Charter) 2013 which is widely accepted as an industry standard for heritage conservation in Australia. The provisions in this section of the DCP are based on the underlying principles that:

O2. Change should be based on an understanding of heritage significance; and

O3. The level of change should respect the heritage significance of the item or area.

2.3 Stormwater, Water Sensitive Urban Design and Integrated Water Management

2.3.1 Waterway Health and Riparian Corridors

Freshwater waterways are important features of Western Sydney, and riparian areas are the interface between land-based and waterway ecosystems. Riparian corridors provide a variety of functions within urban landscapes. The Natural Resources Access Regulator defines a riparian corridor as “a transition zone between the land, also known as the terrestrial environment, and the river or watercourse or aquatic environment”. Riparian corridors play a major role in bank stabilisation, reducing erosion scour and sedimentation problems within rivers and creeks. Vegetated areas along the creek lines function as ‘buffer zones’ to surrounding land and help filter nutrients,

pollutants and sediments before they reach the creek itself and degrade the quality of water flowing throughout the Aerotropolis. In the Cumberland landscape these riparian areas are likely to represent the main vegetation community patches left in the landscape, which makes them vital connecting agents for ecosystems.

Objectives

- 01.** Protect and restore native and riparian vegetation to improve the connectivity, ecological condition, and function of ecosystems.
- 02.** Ensure that development does not adversely affect aquatic fauna.
- 03.** Effectively manage indirect and ongoing impacts of development adjacent to waterways to ensure vegetation in the riparian area, aquatic fauna, water quality and quantity is protected and maintained.
- 04.** Reinststate more natural conditions in highly modified waterways and riparian land while not increasing flood risk.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Development retains and restores native vegetation and riparian corridors.	<ol style="list-style-type: none"> 1. Development maintains and protects waterways in accordance with the following guidelines: <ol style="list-style-type: none"> a. Strahler Order 1 watercourses with a catchment area of less than 15 hectares can be re-constructed and /or piped, providing stormwater modelling demonstrates the pipe and street network is capable of accommodating flows up to and including the 100 year AEP storm event. b. Naturalised trunk drainage paths are to be provided when the contributing catchment exceeds 15 hectares or when 1% AEP overland flows cannot be safely conveyed overland as described in Australian Rainfall and Runoff – 2019. c. Waterways of Strahler Order 2 and higher will be maintained in a natural state, including the maintenance and restoration of riparian areas and habitat, such as fallen debris. d. Where a development is associated with, or will affect, a waterway of Strahler Order 2 or higher, rehabilitation will occur to return that waterway to a natural state. 4. Retain areas of the Proteaceae shrubs for the Eastern Pygmy Possum <i>Cercartetus nanus</i> along or adjacent to riparian areas to improve and maintain habitat connectivity. 5. Weeds from creeks, streams and riparian areas are removed and replaced with appropriate native planting. 6. Locate stormwater infrastructure including pipelines and detention basins wholly on certified-urban capable land consistent with the Plan's biodiversity certification approvals. Stormwater infrastructure is not to be located within land identified as avoided or land managed as a reserve.
PO2	Protect key aquatic habitat where it occurs.	<ol style="list-style-type: none"> 1. Where aquatic habitat exists, proposed development responds to <i>Policy and Guidelines for Fish Habitat Conservation and Management</i> by the Department of Primary Industries and other relevant guidelines. 2. Aquatic fauna habitat is rehabilitated in streams of Strahler Order 2 and higher. 3. Existing habitat, such as fallen debris, is retained in streams of Strahler Order 2 and higher.
PO3	Development provides increased connectedness to high quality passive open space and the blue-green grid.	<ol style="list-style-type: none"> 1. Road crossings across a waterway of Strahler Order 2 or higher are to be designed to minimise impacts to vegetated riparian areas and species movements in accordance with NSW Department of Primary Industries' requirements to maintain fish passage.
PO4	Riparian streets shown on the Aerotropolis Precinct Plan are delivered as part of subdivision and civil works and riparian corridors are integrated with the public domain and active transport connections.	<ol style="list-style-type: none"> 1. Riparian streets are to be designed generally in accordance with the indicative cross sections at Figure 2 and Figure 3 and Guidelines for Controlled Activities on Waterfront Land—Riparian Corridors Published by NSW Department of Industry in May 2018. 2. The outer 50% of the riparian zone can accommodate pedestrian and cycle paths (or shared paths) street furniture (including lights and seating), landscaped verges and water sensitive urban design elements that are normally part of the street verge. 3. On the side of the riparian corridor that is not adjacent to a public road, the outer 50% of the riparian corridor can form part of the front setback of development lots, provided

	<p>the part of the setback that is within the riparian corridor is used for landscaped area and paths only (with permeable or semi-permeable surfaces).</p> <ol style="list-style-type: none"> 4. Despite any other provision of this DCP, for lots in the Mixed Use zone with development that includes active ground floor uses: <ol style="list-style-type: none"> a. If fronting a riparian corridor or street, development may have a zero lot setback to the boundary fronting the riparian corridor or street; or b. If there is no street between the riparian corridor, the lot may encroach into the outer 50% of the riparian corridor. Buildings and hard surfaces on the lot must be outside the riparian corridor. 5. Within the Enterprise zone, development that includes office, retail or other active uses that create an active façade with surveillance to the riparian corridor or street may have a zero lot setback to the boundary fronting the street or riparian corridor. Where there is no street between the riparian corridor and the lot boundary, the lot may encroach into the outer 50% of the riparian corridor providing buildings and hard surfaces are set back at least to the outer boundary of the riparian corridor. 6. Vehicular access to lots that directly adjoin the riparian zone, or where there is a zero lot setback to the street is to be from the side or rear property boundary (i.e. opposite to the boundary fronting the riparian corridor). 7. Maintenance access for the stormwater drainage manager must be accommodated in the design of riparian streets. Further details on access requirements for maintenance is provided in Section 2.3.3 of the DCP. <p>Note 1: All street cross-sections show the minimum requirements. In certain circumstances these may need to increase to respond to site specific conditions such as topography and the retention of remnant vegetation.</p> <p>Note 2: Further guidance on the width of the riparian element of riparian streets, including the identification of the Strahler order of all riparian streets, is contained in Appendix C.</p>
--	---

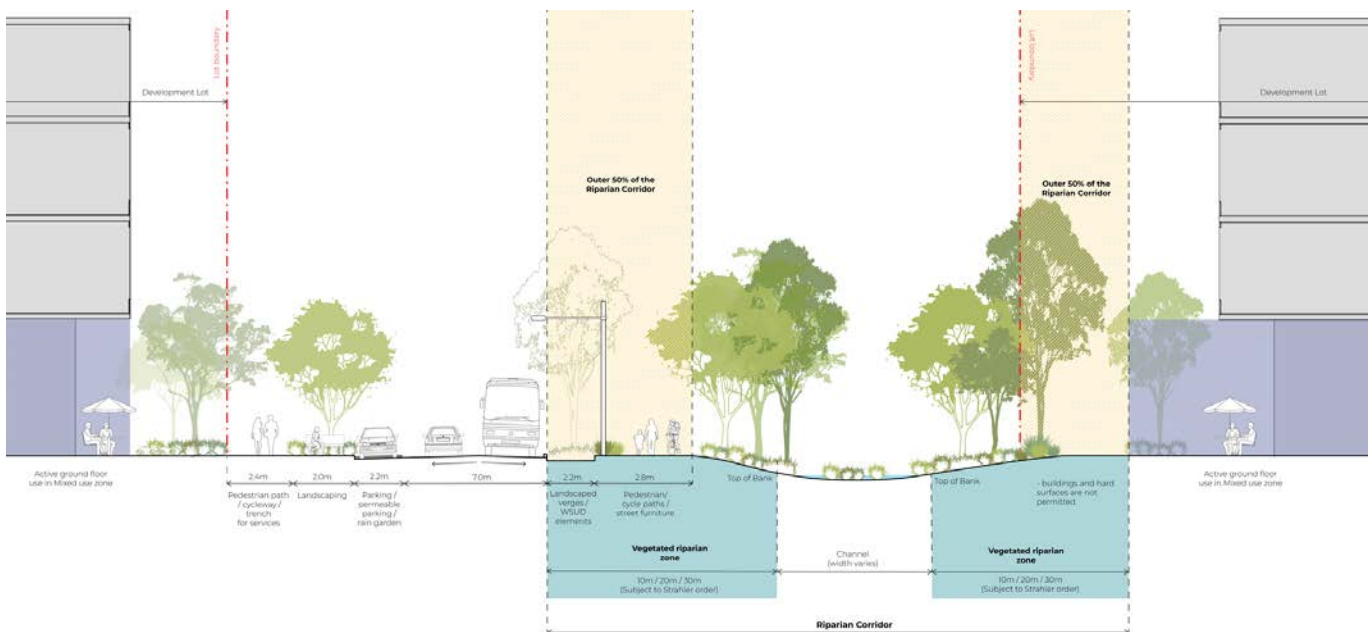


Figure 2 Riparian street indicative cross section - Mixed Use Zone (centres and residential)

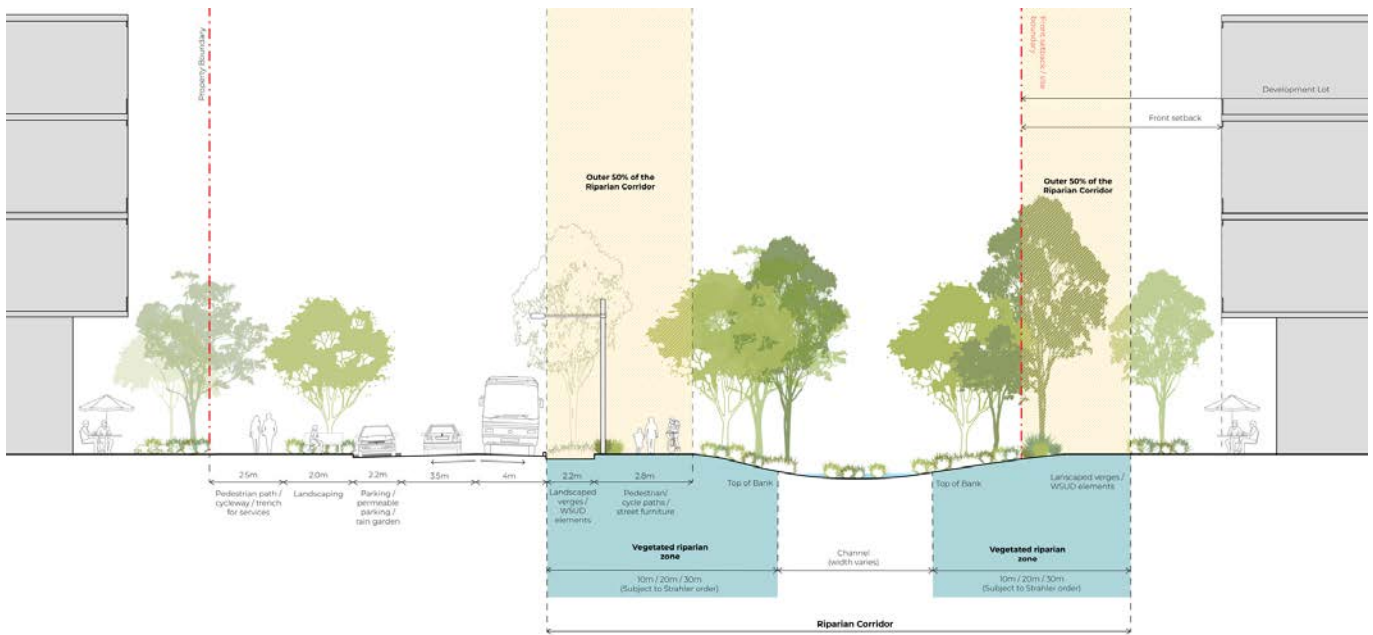


Figure 3 Riparian street indicative cross section – Enterprise Zone

Note: Controlled activities are actions carried out on waterfront land, as defined in the Water Management Act 2000. You must obtain an approval from the Department of Industry to carry out activities on waterfront land unless you have an exemption.

Waterfront land is defined as the bed of any river, lake or estuary, and the land on each side within 40 metres of the river bank, lake shore or estuary's mean high water mark.

2.3.2 Stormwater Management and Water Sensitive Urban Design

The urbanisation of the catchment will increase the flow of stormwater into the waterways of the Aerotropolis. In the long term and without appropriate management, this increase would destabilise the creek lines causing ongoing erosion, loss of riparian corridors and degrading waterway health. Best practice approaches to stormwater management requires a focus on stormwater volume reduction so that the waterways and riparian corridors of the Aerotropolis retain their core ecological and landscape values.

The performance outcomes and benchmark solutions for stormwater management and water sensitive urban design respond to the waterway health objectives and stormwater management targets in the Aerotropolis Precinct Plan.

To support implementation, the NSW Government has released the *Technical guidance for achieving Wianamatta-South Creek stormwater management targets* (DPE, 2022). The guide specifically provides guidance on what modelling to undertake, what assumptions to make and which data to use to demonstrate that the targets are being achieved. It outlines design considerations in context of the vision for the Western Parkland City and landscape constraints and provides calibrated MUSIC modelling. The guide also provides examples of the interim staged measures that can be used until the regional stormwater system is operational.

Objectives

- 01.** Manage indirect and ongoing impacts of development on waterways to ensure that Wianamatta-South Creek Catchment water quality and flow objectives in the Aerotropolis Precinct Plan are achieved and maintained.
- 02.** Ensure development is integrated with water cycle management to meet the Wianamatta-South Creek Catchment stormwater management targets.
- 03.** Utilise stormwater for passive irrigation of street trees to promote healthy trees, optimise canopy cover and contribute to streetscape, urban cooling and amenity.
- 04.** Ensure overland flows are conveyed in a safe manner to the trunk drainage system.
- 05.** Protect, maintain and restore the ecological condition, hydrology and hydrogeology of aquatic ecosystems (including but not limited to wetlands and riparian lands).

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution																						
<p>PO1 Development applications must demonstrate compliance with the stormwater quality targets at all times through interim stormwater management measures incorporated within the development, or by connection to the regional stormwater system once operational.</p>	<p>1. Compliance with the water quality targets below are satisfied where development applications demonstrate:</p> <ul style="list-style-type: none"> a. To the satisfaction of the Stormwater Management Authority and the consent authority that stormwater discharge from the development will flow into the regional stormwater system; and b. The requirements of PO4 in Section 2.3.2 are met. <p>2. Where the Stormwater Management Authority indicates that the regional stormwater system will not be in place to service the development interim measures must be included to achieve the waterway health objectives of the Aerotropolis Precinct Plan. Interim stormwater management measures are to be designed to achieve the stormwater quality targets listed in the table below:</p> <p>Note: A proponent may opt to undertake works-in-kind to deliver the regional stormwater system in accordance with the Stormwater Management Authority’s requirements.</p> <table border="1" data-bbox="563 703 1398 1391"> <thead> <tr> <th>Parameter</th> <th>Stormwater Quality Target – Operational Phase</th> </tr> </thead> <tbody> <tr> <td colspan="2">Option 1: Annual Load Reduction</td> </tr> <tr> <td>Gross Pollutants (anthropogenic litter >5mm and coarse sediment >1mm)</td> <td>90%</td> </tr> <tr> <td>Total Suspended Solids (TSS)</td> <td>90%</td> </tr> <tr> <td>Total Phosphorus (TP)</td> <td>80%</td> </tr> <tr> <td>Total Nitrogen (TN)</td> <td>65%</td> </tr> <tr> <td colspan="2">Option 2: Allowable Loads</td> </tr> <tr> <td>Gross Pollutants (anthropogenic litter >5mm and coarse sediment >1mm)</td> <td>< 16 kg/ha/y</td> </tr> <tr> <td>Total Suspended Solids (TSS)</td> <td>< 80 kg/ha/y</td> </tr> <tr> <td>Text Total Phosphorus (TP)</td> <td>< 0.3 kg/ha/y</td> </tr> <tr> <td>Total Nitrogen (TN)</td> <td>< 3.5 kg/ha/y</td> </tr> </tbody> </table>	Parameter	Stormwater Quality Target – Operational Phase	Option 1: Annual Load Reduction		Gross Pollutants (anthropogenic litter >5mm and coarse sediment >1mm)	90%	Total Suspended Solids (TSS)	90%	Total Phosphorus (TP)	80%	Total Nitrogen (TN)	65%	Option 2: Allowable Loads		Gross Pollutants (anthropogenic litter >5mm and coarse sediment >1mm)	< 16 kg/ha/y	Total Suspended Solids (TSS)	< 80 kg/ha/y	Text Total Phosphorus (TP)	< 0.3 kg/ha/y	Total Nitrogen (TN)	< 3.5 kg/ha/y
Parameter	Stormwater Quality Target – Operational Phase																						
Option 1: Annual Load Reduction																							
Gross Pollutants (anthropogenic litter >5mm and coarse sediment >1mm)	90%																						
Total Suspended Solids (TSS)	90%																						
Total Phosphorus (TP)	80%																						
Total Nitrogen (TN)	65%																						
Option 2: Allowable Loads																							
Gross Pollutants (anthropogenic litter >5mm and coarse sediment >1mm)	< 16 kg/ha/y																						
Total Suspended Solids (TSS)	< 80 kg/ha/y																						
Text Total Phosphorus (TP)	< 0.3 kg/ha/y																						
Total Nitrogen (TN)	< 3.5 kg/ha/y																						
<p>PO2 Development applications must demonstrate compliance with the stormwater flow targets at all times through interim stormwater management measures incorporated within the development, or by connection to the regional stormwater system once operational.</p>	<p>1. Compliance with the stormwater flow targets below are satisfied where development applications demonstrate:</p> <ul style="list-style-type: none"> a. To the satisfaction of the Stormwater Management Authority and the consent authority that stormwater discharge from the development will flow into the regional stormwater system, and b. The requirements of PO4 Section 2.3.2 are met. <p>2. Where the Stormwater Management Authority indicates that the regional stormwater system will not be in place to service the development interim measures must be included to achieve the waterway health objectives of the Aerotropolis Precinct Plan. Interim stormwater management measures to be designed to achieve the following stormwater flow targets:</p> <table border="1" data-bbox="563 1798 1398 2054"> <thead> <tr> <th>Parameter</th> <th>Stormwater Flow Target – Operational Phase</th> </tr> </thead> <tbody> <tr> <td colspan="2">Option 1: Mean Annual Runoff</td> </tr> <tr> <td>Mean Annual Runoff Volume (MARV)</td> <td>≤ 2 ML/ha/year at the point of discharge to the local waterway</td> </tr> <tr> <td>90%ile flow</td> <td>1,000 to 5,000 L/ha/day at the point of discharge to the local waterway</td> </tr> <tr> <td>50%ile flow</td> <td>5 to 100 L/ha/day at the point of discharge to the local waterway</td> </tr> </tbody> </table>	Parameter	Stormwater Flow Target – Operational Phase	Option 1: Mean Annual Runoff		Mean Annual Runoff Volume (MARV)	≤ 2 ML/ha/year at the point of discharge to the local waterway	90%ile flow	1,000 to 5,000 L/ha/day at the point of discharge to the local waterway	50%ile flow	5 to 100 L/ha/day at the point of discharge to the local waterway												
Parameter	Stormwater Flow Target – Operational Phase																						
Option 1: Mean Annual Runoff																							
Mean Annual Runoff Volume (MARV)	≤ 2 ML/ha/year at the point of discharge to the local waterway																						
90%ile flow	1,000 to 5,000 L/ha/day at the point of discharge to the local waterway																						
50%ile flow	5 to 100 L/ha/day at the point of discharge to the local waterway																						

		10%ile flow	0 L/ha/day at the point of discharge to the local waterway
		Option 2: Flow Duration Curve Approach	
		95%ile flow	3,000 to 15,000 L/ha/day at the point of discharge to the local waterway
		90%ile flow	1,000 to 5,000 L/ha/day at the point of discharge to the local waterway
		75%ile flow	100 to 1,000 L/ha/day at the point of discharge to the local waterway
		50%ile flow	5 to 100 L/ha/day at the point of discharge to the local waterway
		Cease to flow	Cease to flow to be between 10% to 30% of the time
PO3	Development applications must include a Water Management Strategy (WMS)	<p>1. The WMS is to provide details of:</p> <p>a. The approach to WSUD (including conceptual design details of the stormwater drainage, WSUD systems and on site detention) and how the approach will be implemented, including detail of ongoing management and maintenance responsibilities. This includes if the system is to be fenced, landscaped and maintained for the entirety of the operation of the system.</p> <p>b. Where required under PO1 and PO2, how the approach to WSUD complies with the water quality and flow objectives and targets consistent with the <i>Technical guidance for achieving Wianamatta-South Creek stormwater management targets</i> (DPE, 2022).</p>	
PO4	The regional stormwater system includes requirements for on lot as well as streetscape measures to ensure the Targets in PO1 and PO2 are met.	<p>1. Development includes the following stormwater management measures within each lot created by the development:</p> <p>a. Minimum pervious areas to meet the requirements of PO8.</p> <p>b. Gross pollutant traps (GPTs) designed in accordance the Regional Stormwater Authority technical guidance.</p> <p>c. Passively irrigated street trees are provided in accordance with the provisions of clause 2.4.5 of this DCP.</p>	
PO6	Development must not increase existing urban salinity or result in increased salt loads in waterways, wetlands, drainage line or soils	<p>1. A salinity and or sodicity hazard assessment is required to ensure no impacts to both the waterways and built infrastructure.</p> <p>2. All WSUD systems must incorporate an impervious liner, unless a detailed Salinity and Sodidity Assessment demonstrates infiltration of stormwater will not adversely impact the water table and soil salinity (or other soil conditions).</p>	
PO7	Drainage is designed to safely convey overland flows	<p>1. Designs shall ensure that flows are safely conveyed to avoid unsafe conditions for pedestrians and vehicles and to meet the requirements of Australian Rainfall & Runoff Guidelines 2019.</p> <p>2. Trunk drainage capable of conveying 1% AEP flow shall be designed as naturalised channels connecting to the existing stream system.</p> <p>3. Trunk drainage is to be located through natural creek lines or constructed natural drainage channels to help detain flows and contribute to biodiversity, public amenity and safety.</p> <p>4. Naturalised trunk drainage channels will commence when 15 ha of catchment contribute runoff flows.</p>	
PO8	Lots achieve minimum perviousness to meet stormwater drainage manager requirements and green and cooling objectives	<p>1. Development is to demonstrate that the perviousness rates identified below are achieved.</p> <p>Development in the Mixed Use Zone:</p> <p>i. Mixed Use Centre (over 2:1 FSR) – 30%</p> <p>ii. Mixed Use Centre (up to 2:1 FSR) – 35%</p> <p>Development in the Enterprise and Agribusiness Zone:</p> <p>iii. Employment – business, commercial, light industrial (three storeys and above) – 30%</p>	

	<p>iv. Employment – Large format industrial and light industrial (up to two storeys) – 15%</p> <p>Note 1: If there is more than 1 building on a lot, the number of storeys for the purposes of this clause must be determined in accordance with the Business Zone Design Guide dated December 2021 and published on the NSW planning portal (see Figure 4).</p> <p>Note 2: Where an application includes the delivery of streets, streets are to be included in the pervious surface area calculations.</p> <p>2. The site area pervious requirement is to be calculated in accordance with the following index:</p> <ul style="list-style-type: none"> • Deep soil (one metre or more in depth, connected subsoil) – 100% • Shallow soil (less than one metre in depth, not connected to subsoil) – 75% • Permeable pavement – 50% Hardstand – 0% <p>Note: as an example of application of the above ratios:</p> <ol style="list-style-type: none"> Site area (comprising development lots and streets) is 1,000 square metres in a large format industrial area (up to 2 storeys) 150 square metres of pervious area would be required if it is 100% deep soil 300 square metres of pervious area would be required if it is 100% permeable pavement areas of deep soil, shallow soil and permeable pavement can be used in combination to achieve the equivalent required pervious area.
--	--

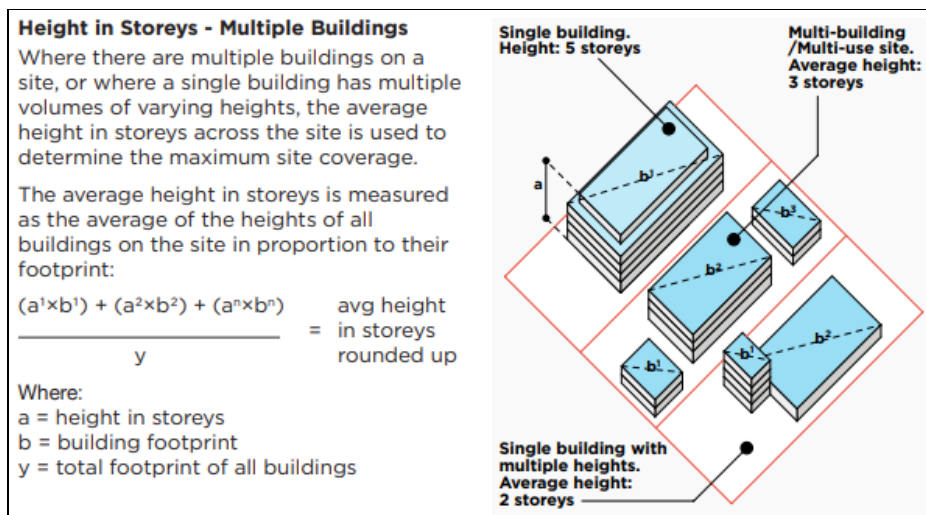


Figure 4 Calculating the average height in storeys on a site

2.3.3 Management and access to Regional Stormwater Infrastructure and Waterways

Access for the regional stormwater authority (Sydney Water) is required for the purpose of carrying out restoration, rehabilitation and revegetation for riparian management, creek hydraulics for stormwater flows, monitoring for water quality conditions and ecological state, necessary to deliver the water quality and flow objectives, drainage conveyance and any other level of service required by government.

Performance Outcomes and Benchmark Solutions

	Performance Outcome	Benchmark Solution
P01	Regional infrastructure Stormwater assets (including land and infrastructure) are managed and maintained	<ol style="list-style-type: none"> Where land for regional infrastructure stormwater assets (including open drainage corridors as a part of riparian streets) are not identified for acquisition on the Land Reservation Acquisition Map in State Environmental Planning Policy (Precincts – Western City) 2021 development is to: <ol style="list-style-type: none"> Provide an allocation of sufficient, suitably located land area to allow for stormwater assets in agreement with the stormwater drainage manager.

	by the stormwater drainage manager.	<p>b. Where stormwater assets are not dedicated to Sydney Water, appropriate legal access rights are required for ongoing management and maintenance. The legal right of access must be undertaken in consultation with the Regional Stormwater Authority, Sydney Water.</p> <p>c. All costs associated with the value of land and easement creation are to be borne by the developer.</p>
P02	Development provides management access to the stormwater drainage manager.	<ol style="list-style-type: none"> 1. The design of development shall ensure where a riparian zone is identified in the Riparian Plan or Drainage Scheme Plan the landowner is to provide a legal right of access for the stormwater drainage manager to undertake required revegetation, management, and maintenance works. 2. The maximum area of land to be designated for access for this purpose is the vegetated riparian zone or the 1% AEP, whichever the greater, for all waterways. All costs associated with the value of land and easement creation are to be borne by the developer. <p><i>Note: The stormwater drainage manager will only be responsible for undertaking defined waterway, stormwater, and riparian zone management activities on this land.</i></p>

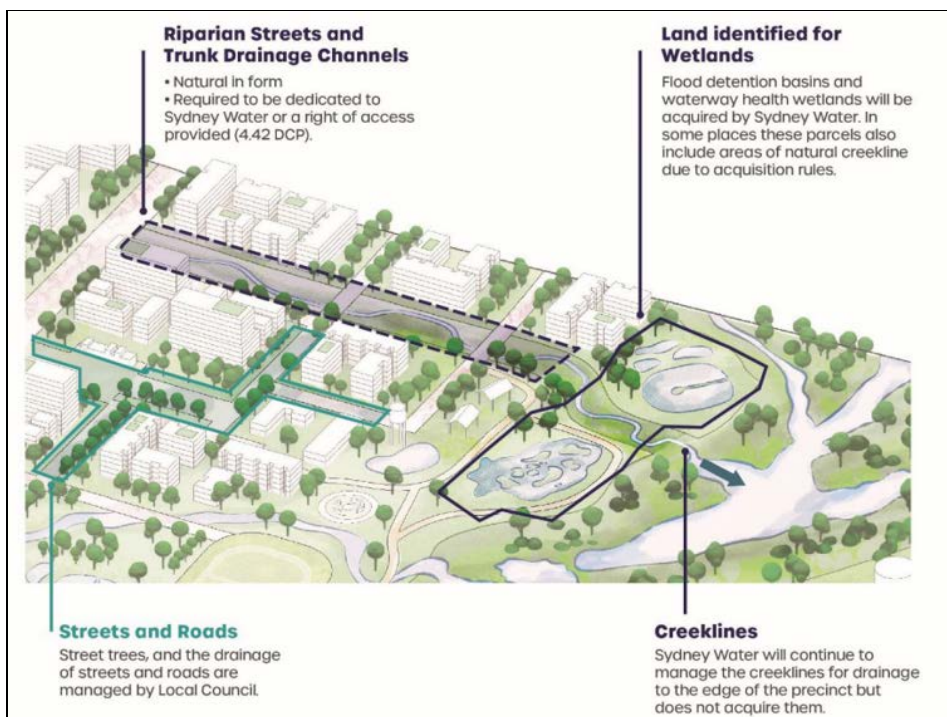


Figure 5 Indicative stormwater management for Aerotropolis

Source: Sydney Water

2.4 Vegetation and Biodiversity

2.4.1 Deep Soil and Tree Canopy

Objectives

- O1.** Provision of de-compacted deep soil zones to provide sufficient space for sustainable tree growth to increase the canopy cover across the Aerotropolis.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
P01 Consolidate areas of deep soil and tree canopy and provide minimum	<ol style="list-style-type: none"> 1. Tree canopy and deep soil is provided in accordance with Table 2. Applicants must also have regard for the site coverage and relevant pervious surface targets outlined in this DCP. 2. Deep soil areas are to be a minimum 3m by 3m in dimension.

dimensions which allow for sufficient tree planting.	<ol style="list-style-type: none"> 3. Consolidate deep soil areas by establishing them right up to abutting boundary walls and fence lines. 4. Consolidate deep soil in setback areas and locate with adjoining deep soil areas in adjoining properties. 5. Other than Urban Parks available under the Aerotropolis Precinct Plan, a minimum tree canopy of 45% for open space is to be achieved. Where open spaces include sports courts or fields, the 45% tree canopy shall be provided outside the spaces identified for the court or field area. 6. Deep soil planting areas are to be de-compacted before planting with no services to be installed within these zones.
--	---

Table 2 Tree Canopy, Deep Soil and Tree Planting Requirements

Recommended Guidance	Minimum tree Canopy Target (% of site area)	Minimum deep soil (% of site area)	Minimum Tree Planting Rates*
Attached dwellings – separate lots (or appearance of), separate driveway/parking, all dwellings face a public road.			
Less than 150m ²	15%	15%	At least one small tree is to be planted in the deep soil area.
150m ² – 300 m ²	20%	20%	For every 200m ² of site area, or part thereof at least one small tree is to be planted in the deep soil area.
Greater than 300m ²	25%	25%	For every 225m ² of site area, or part thereof at least one medium tree is to be planted in the deep soil area.
Multi dwelling housing – strata/community lots, ground floor access, shared driveway parking, not all dwellings face public road.			
Less than 1,000m ²	20%	20%	For every 300m ² of site area, or part thereof at least one medium tree is to be planted in the deep soil area.
1,000m ² – 3,000 m ²	25%	25%	For every 200m ² of site area, or part thereof at least one medium tree is to be planted in the deep soil area.
Greater than 3,000m ²	30%	30%	For every 350m ² of site area, or part thereof at least two medium trees or one large tree is to be planted in the deep soil area.
Apartments – (refer to requirements in the Apartment Design Guide)			
Commercial			
All lots	35%	25%	For every 300m ² of site area, at least two medium trees or one large tree is to be planted in the deep soil area.
Large format industrial and light industrial			
All lots	25%	15%	For every 400m ² of site area or part thereof, at least two medium trees or one large tree is to be planted in the deep soil area.

2.4.2 Protection of Biodiversity

Objectives

- O1.** Ensure consistency with the requirements of the relevant biodiversity certification for the subject land where applicable.
- O2.** Ensure construction and operational works avoid and minimise impacts to native vegetation and ecological communities.
- O3.** Retain and protect native vegetation areas, particularly those with Aboriginal cultural value, and provide for areas with a size and configuration that will allow for the survival and improvement of the native vegetation communities.
- O4.** Implement the Sydney Region Growth Centres Biodiversity Certification Order where applicable.

05. Implement the Cumberland Plain Conservation Plan (CPCP) where applicable.

06. Manage fire risk by regimes that protect biodiversity and habitats in the long term.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO2 Populations of threatened species are retained, and the condition of suitable habitat improves within areas of the Cumberland subregion most likely to support long-term viability.</p>	<ol style="list-style-type: none"> 1. Mitigation to be undertaken in accordance with the following best practice guidelines for threatened ecological communities (TEC): <ol style="list-style-type: none"> a. <i>Best Practice Guidelines: Cooks River/Castlereagh Ironbark Forest</i> (NSW Department of Environment and Climate Change, 2008) within and adjacent to the TEC; and b. <i>Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland</i> (NSW Department of Environment and Climate Change, 2005). 2. Fencing is to be constructed where required to protect threatened species habitat. Site design allows access to fencing for ongoing maintenance. 3. Temporary protective fencing to be erected around areas identified for conservation on or immediately adjoining the site prior to construction commencing. 4. Allow public access to temporary fencing to ensure ongoing maintenance throughout construction. 5. Protect integrity of temporary fencing during construction. 6. Implement open structure design for roads adjacent to known populations of Cumberland Plain Land Snail in accordance with actions under the Save our Species Program (EES, 2020). 7. Locate Asset Protection Zones (APZs) for bushfire protection wholly within certified land. The appropriate APZ distance is determined by Planning for Bush Fire Protection 2019 and Rural Fire Service Standards for Asset Protection based on vegetation type, slope and development type. 8. Contain domestic cats and dogs within certified-urban capable land, consistent with relevant council guidelines as permitted and appropriate. 9. Provide for the reuse of native plants (including but not limited to seed collection) and topsoil from development sites that contain known or potential native seed bank.
<p>PO3 Development facilitates the connected movement of native animals through the landscape.</p>	<ol style="list-style-type: none"> 1. Avoid impacts to habitat features which provide essential habitat for native fauna including ground cover and shrub layers, emerging trees, mature trees, dead trees capable of providing habitat, natural drainage lines and rock outcrops and avoid impacts to soil within the Tree Protection Zone (TPZ) of the retained trees and the subject and neighbouring sites. 2. Movement of fauna is facilitated within and through wildlife corridors by: <ol style="list-style-type: none"> a. Ensuring that development, services and landscaping associated activities do not create barriers to the movement of fauna along and within wildlife corridors. b. Protect fauna from potential construction hazards during pre-construction and construction. c. Prepare a pre-clearance native fauna survey immediately prior to clearing of native vegetation to ensure that arboreal mammals, roosting and hollow-using birds, bats and reptiles are stopped from accessing any vegetation to be cleared and are translocated prior to clearing. Translocation may require a licence from NSW Environment, Energy and Science under the Translocation Operational Policy. d. Adopt and implement open structure design for roads adjacent to known populations of the Cumberland Plain Land Snail in accordance with actions under the NSW Government’s <i>Saving Our Species</i> program.
<p>PO4 Within land subject to the <i>Cumberland Plain Conservation Plan</i> only, development adjoining conservation areas provides ecological setbacks to threatened species.</p>	<ol style="list-style-type: none"> 1. The following threatened species require setbacks: <p>Grey-headed flying fox:</p> <ol style="list-style-type: none"> i. Grey-headed flying fox camp requires 100m setback to any buildings and development; ii. The setback area should be maintained free of flying fox roosting habitat; and

		<p>iii. A flying fox management plan should be provided to demonstrate management and mitigation measures.</p> <p>Raptors:</p> <p>i. Raptor nests require a 500m circular setback from where nests are in extensive undisturbed bushland; and</p> <p>ii. Where nests are located closer to existing developments, a minimum circular setback distance of 250m should be maintained along with an undisturbed corridor at least 100m wide extending from the nest to the nearest foraging grounds.</p>
PO5	Noise and light adjacent, and near, conservation areas does not result in any disturbance to wildlife.	<p>1. High intensity lighting including industrial or commercial lighting, sports field lighting, lighting within carparking areas and associated with any industrial or commercial-scale retail development shall be designed to avoid light spill into adjoining parks and biodiversity areas (AS 4282 Control of the Obtrusive Effects of Outdoor Lighting, or updates to that standard, are to be considered as a minimum).</p> <p>2. Install warm coloured LED street lighting where a development footprint contains or is within 100m of known microbat colonies or habitat likely to support microbat colonies to deter insects.</p> <p>3. Manage light spill and noise producing activities where wildlife impacts are likely to arise from the proposed development and where development is adjacent to avoided land. Measures shall include appropriate noise treatment barriers along major roads and other light and noise attenuation mitigation measures.</p> <p>4. Ensure that any residual noise impacts on wildlife arising from development are appropriately mitigated.</p>
PO6	Bushfire risk is minimised.	<p>1. Ensure appropriate fire management regimes and hazard reduction techniques for native vegetation areas, waterways, and riparian zones.</p>
PO7	Retain and protect koala populations and their habitats through mitigating indirect and ongoing impacts from development.	<p>2. For all certified-urban capable land adjacent to koala habitat, the following controls apply:</p> <p>a. Design subdivision layout, including perimeter roads and asset protection zones to reduce impacts to, and protect areas of, adjacent koala habitat.</p> <p>b. Signpost areas adjoining koala habitat to identify koalas in the area and associated penalties for non-compliance.</p> <p>c. Exclude planting tree species in open space, recreation areas and urban streets that are koala feed tree species set out below by Schedule 2 – Central and Southern Tablelands and Central Coast Koala Use Tree Species of the State Environmental Planning Policy (Koala Habitat Protection) 2021.</p> <p>d. An ecologist shall be present through the duration of any pre-clearance koala surveys and vegetation clearing works to maintain oversight and responsibility of the activities and koala translocation.</p> <p>3. Where a koala exclusion fence is not installed between koala habitat and certified-urban capable land, the following development controls apply:</p> <p>a. Prepare a pre-clearance koala survey immediately prior to the removal of native vegetation to ensure minimal disturbance to koala habitat. Implement a translocation plan if koalas are found. Translocation may require a licence from NSW Environment, Energy and Science (EES) under the Translocation Operational Policy.</p> <p>b. Implement a tree-felling protocol to avoid impacts to koalas in trees to be cleared.</p> <p>c. Enforce vehicle wash-down points for machinery, equipment and tyres prior to entering and leaving the construction site to control the spread of vegetation pathogens known to affect koala feed trees.</p> <p>Pre-construction Temporary Fencing</p> <p>d. Erect temporary protective fencing designed for koala protection to protect adjacent koala habitat on or immediately adjoining the site prior to construction to ensure koala protection.</p> <p>Dog Containment Fencing</p> <p>e. Design and construct public dog recreation areas with secure containment fencing.</p> <p>f. Design residential lots with dog containment fencing in accordance with Council requirements.</p>

		<p>Development Operation</p> <p>g. Manage roadside vegetation to increase the visibility of koalas.</p> <p>Vehicle Strike</p> <p>h. Implement traffic calming measures for all development</p> <ol style="list-style-type: none"> i. Implement 40km/hr speed limit restrictions on local roads adjacent to koala habitat. ii. Install koala information signposts on perimeter roads and roads adjacent to wildlife habitat areas in accordance with Austroads, Roads and Maritime Services (RMS) technical guidelines, Council Guidelines and relevant Australian Standards. iii. Install traffic calming devices such as speed humps and audible surfacing along perimeter roads adjacent to koala habitat. iv. Install koala-friendly road design structures, such as underpasses, fauna bridges and overpasses as required. Reference to the RMS Biodiversity Guidelines is to be made.
--	--	---

2.4.3 Protection of Trees and Vegetation

Objectives

- O1.** Conserve and manage existing vegetation and contribute to the increase of habitat and tree canopy cover within the Aerotropolis.
- O2.** Retain and preserve significant trees and other vegetation to contribute to the Western City Parkland vision, vegetated ridgelines, and urban cooling and to mitigate effects of climate change.
- O3.** Protect and enhance native vegetation communities, threatened ecological communities, significant tree habitat and canopy, while appropriately mitigating risks from natural hazards.
- O4.** Mitigate impacts of development and associated works on threatened ecological communities to improve and enhance ecological condition over the long term.
- O5.** Prioritise development on land clear of vegetation and avoid locating development on steep and densely vegetated land.
- O6.** Where site conditions require it, adopt the use of underground engineered tree pits to harvest rainwater and provide sufficient space for the development of tree roots and avoid conflict with surrounding infrastructure.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Existing trees and vegetation are retained, protected, enhanced, and incorporated into the development, wherever possible.	<ol style="list-style-type: none"> 1. Development is designed to minimise impacts on trees, except for invasive species and/or noxious weeds. 2. Development is designed to minimise removal of trees (includes vehicular access, utility installations and ancillary development). <p>Note: Applications involving the removal of trees must refer to the Liverpool Council Tree Management Policy or the Penrith Council Guidance for Tree Removal and pruning available on the respective Council's website.</p>
PO2	Minimise threats to the long-term survival of existing trees through tree preservation zones and pruning techniques.	<ol style="list-style-type: none"> 1. Works and construction activities are excluded within the Tree Protection Zone (TPZ) of trees unless a qualified arborist has assessed the tree and provided guidelines as to how the work can be carried out with minimal risk to the long-term survival of the tree and this has been included in an approved Tree Protection Plan (Drawing and Specification) 2. Any pruning or tree removal works that may impact threatened ecological communities are to adhere to the following best practice guidelines: <ol style="list-style-type: none"> a. <i>Best Practice Guidelines: Cooks River/Castlereagh Ironbark Forest</i> (Department of Environment and Climate Change NSW, 2008) within and adjacent to the threatened ecological community; and

Performance Outcome		Benchmark Solution
		<p>b. <i>Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland</i> (Department of Environment and Climate Change NSW, 2005).</p> <p>3. Development is designed to avoid impacts on trees, except for priority weeds in accordance with the Council's weed policy.</p> <p>4. Existing trees have appropriate soil volumes and setbacks from buildings, footpath, road/kerb and gutter and services to provide sufficient space for root and canopy development to ensure the tree reaches its identified mature height and spread.</p>
PO3	Where hollow-bearing tree cannot be retained and are removed, they shall be replaced with nesting boxes, as close as possible to where the removed tree was located.	<p>1. The removal of the hollow bearing trees shall be offset by the installation of nesting boxes. The size of the nest box is to reflect the size and dimensions of the hollow removed. Alternatively, the tree hollow could be appropriately mounted on one of the retained trees in a manner where it will not pose a risk to life or property.</p> <p>2. All nesting boxes and hollows shall be mounted at least 5m above the ground.</p> <p>3. Requirement for 60% of nest boxes (replacement habitat) to be in place prior to clearing of hollow-bearing trees.</p>

2.4.4 On Lot and Streetscape Landscaping and Preferred Plant Species

Objectives

- O1. Enhance the streetscape and promote a scale and density of planting that softens the visual impact of buildings.
- O2. Provide a mix of canopy trees, shrubs, and groundcover to manage effects of urban heat and support environmentally sensitive design.
- O3. Landscaping and green (vegetation) assets are effectively managed, maintained and consistent with airport safeguarding requirements.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Plant species are provided in accordance with the preferred species identified for the Aerotropolis.	1. Landscaping in development is to incorporate a diverse range plant species, as per the Aerotropolis DCP preferred Species List provided at Appendix B of this DCP. Prioritise use of Cumberland species, followed by other species that are suitable for the purpose and the microclimatic conditions of the site.
PO2	Landscape design reflects the cultural landscape and is integrated with the design intent of the architecture and built form.	<p>1. Landscaping is to highlight architectural features, define entry points, indicate direction, and frame and filter views into the site along sight lines.</p> <p>2. Size and scale of landscaping is responsive to the bulk and scale of the development.</p>
PO3	Landscaping complements the views to and from the public domain, as well as to and from public and private open spaces within the site.	1. Use appropriate species to screen side (where sufficient width permits) and rear boundaries and enhance visually obtrusive land uses or building elements (e.g. waste enclosures).
PO4	Trees are planted in locations and distances apart to support their ongoing growth without causing conflict, including with the Obstacle Limitation	<p>1. Trees are planted in unobstructed spaces where they have a minimum of 3 x mature trunk diameter space to grow and to limit upheaval of pavements and infrastructure.</p> <p>2. Trees are not to penetrate operational airspace and tree heights should encourage wildlife movements below the OLS, where practical.</p>

	Surface and utility services.	<ol style="list-style-type: none"> 3. Demonstrate that species have been selected to ensure that at maturity, heights and root systems will achieve adequate clearance from streetlights and underground services such as stormwater pits. 4. If required, trees can be planted in underground engineered tree pits to provide sufficient underground space to sustain the tree to maturity and beyond. 5. Trees are planted and spaced to ensure the locations and spacings permit the trees to establish and reach maturity with their canopy and trunk being unimpeded.
PO5	Landscaping design promotes safety and surveillance.	<ol style="list-style-type: none"> 1. Within high use areas (e.g., car parking areas, children’s play areas and walkways), trees at maturity have clean trunks to a height of 1.8m around facilities. 2. Medium height shrubs (0.6m – 1.8m) are avoided along paths and close to windows and doors to maintain sight lines and allow for passive surveillance. 3. Landscaping in the vicinity of a driveway entrance does not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
PO6	Landscaping is integrated with vehicular access and car parking areas on development lots to soften their visual impact, provide protection from glare, and reduce heat island effect.	<ol style="list-style-type: none"> 1. Provide 1 medium tree for every 5 at grade car spaces, and maximise shading (as listed and shown in the image below) by: <ol style="list-style-type: none"> a. Orienting the tree parallel to the parking space; b. Staggering the configuration rather than linear; c. Selecting a tree with a Leaf Area Index of >4; and d. Using structurally engineered pits or vaults and WSUD design principles to provide appropriate space for tree root development. <div data-bbox="549 853 1166 1487" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">PARKING LAYOUT REQUIREMENT</p> </div> <ol style="list-style-type: none"> 2. Landscaping shall not restrict driver sightlines to pedestrians, cyclists, and other vehicles on the frontage road. 3. Where basement car parking extends beyond the building envelope, a minimum soil depth of 1.5m is provided above the basement, measured from the top of the slab, and including the required drainage. This will not be calculated as part of the deep soil zone nor included as part of the urban typology (site coverage) for the site.

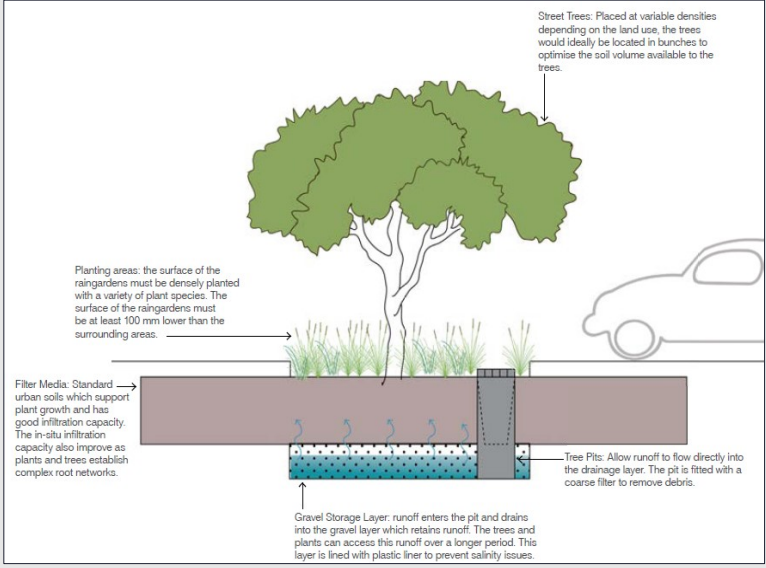


2.4.5 Street Tree Planting Requirements

Objectives

- O1. Utilise stormwater for passive irrigation of street trees to promote healthy trees, optimise canopy cover and contribute to streetscape and amenity.
- O2. Facilitate canopy street tree planting that reaches a mature height that is commensurate with the width of the street and the height of development fronting that street, to enhance the amenity and identity of the street.

O3. In preparation for planting the site is to be de-compacted to ensure that a growing environment capable of supporting the sustainable growth of a tree is provided.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>Development is to incorporate street trees within public road reserves, designed to be passively irrigated through the stormwater drainage system and maximise stormwater losses through evapotranspiration.</p>	<ol style="list-style-type: none"> Street Tree heights and canopy spread are to be commensurate with the road reserve dimension. Street trees are to be planted at a maximum of 10m intervals (trunk to trunk) on all local streets and designed in accordance with specifications below: 
<p>PO2</p> <p>Continuous tree canopy cover is achieved along both sides of the street.</p>	<ol style="list-style-type: none"> Provide verge street trees as indicated below: <div style="display: flex; justify-content: space-around; align-items: flex-start;">   </div> <p style="text-align: center;"><i>Source: Western Sydney Street Design Guidelines</i></p> Provide kerb extension trees as indicated below:



Street tree planting in kerb extension, Nagurra Place, Rozelle.
credit: ASPECT Studios

Source: *Western Sydney Street Design Guidelines*

3. Provide carriageway trees as indicated below:



Street trees in the carriageway on Pennyroyal Boulevard, Denham Court.
credit: ASPECT Studios

Source: *Western Sydney Street Design Guidelines*

4. Provide median street trees as indicated below:



Retrofitting median street trees in Primrose Avenue, Rosebery.
credit: ASPECT Studios

Source: *Western Sydney Street Design Guidelines*

5. Retain and supplement trees along all proposed streets so that they provide green linkages across Aerotropolis.

<p>PO3</p>	<p>Streets trees mitigate urban heat.</p>	<ol style="list-style-type: none"> 1. Provide 50% of north-south oriented streets with shade for active transit users during the hottest times of the day. 2. Provide 80% of east-west oriented streets with shade for active transit users during the hottest times of the day.
-------------------	---	--

		<p>3. Provide for deep soil planting within the streetscape, to enable trees to reach mature heights and contribute to canopy cover.</p> <p>4. Provide landscaping within at grade car parking areas.</p>
--	--	---

2.5 Flooding and Environmental Resilience Management

2.5.1 Flood Management

Objectives

- O1. Ensure development in the floodplain is consistent with the *NSW Flood Prone Land Policy* and the principles of the *NSW Floodplain Development Manual*.
- O2. Embed Aboriginal cultural knowledge and caring for Country practices to minimise the impact of development on flood behaviour and function of the floodplain and avoid adverse impacts to the existing flora, fauna and community.
- O3. Minimise the flood risk to life and property, including to uses downstream, associated with the use of land considering the full range of flooding.
- O4. Enable key community services and infrastructure that respond to flood threats to function during flooding.
- O5. Allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change.
- O6. Consider areas within the floodplain for amenity and recreation use where compatible with flood function and flood risk.
- O7. Development is not intensified in a floodway or flood storage area.
- O8. Avoid adverse or cumulative impacts on flood behaviour and the environment.
- O9. Enable the safe occupation and efficient evacuation of people in the event of a flood.

Performance Outcomes and Benchmark Solutions

Performance Outcome		1% AEP Floodway and Critical flood Storage Areas (defined in Appendix A) <i>Unsuitable for urban land uses</i>	Between 1% AEP Floodway / Critical Flood Storage and Flood Planning Area (defined in Appendix A) <i>Unsuitable for Critical and Sensitive Land Uses</i>	Outside Flood Planning Area to Probable Maximum Flood (defined in Appendix A) <i>Unsuitable for Critical Land Uses</i>
PO1	<p>Conveyance and storage of floodwaters through the floodplain is managed.</p> <p>The siting and layout of development considers flood constraints, including risks to personal safety during the full range of floods.</p> <p>The site layout and built form of the development is compatible with flood constraints and potential risk.</p>	<ol style="list-style-type: none"> 1. Except for concessional development, development is not permissible in this area – refer to clause 4.24 of the Parkland City SEPP. 2. For concessional development, the applicant is to demonstrate that the structure can be undertaken in accordance with a Flood Impact and Risk Assessment (FIRA). 3. The FIRA is undertaken by a suitably qualified professional engineer and considers the impacts of: <ol style="list-style-type: none"> a. Flooding on the development; b. The development on flooding; c. Flooding and the development on property and the existing and future community; and d. Climate change consistent with the objectives of this DCP. 4. The FIRA has considered the impacts on flooding due to encroachment of structures and the associated collection of debris and potential for blockage. 5. The FIRA assesses flood constraints for both pre and post development cases to ensure there are no significant detrimental impacts on flood behaviour or the community within and outside the development site. 	<ol style="list-style-type: none"> 1. Applicant to demonstrate that development as a consequence of a subdivision or development proposal, can be undertaken in accordance with a FIRA. 2. The FIRA is undertaken by a suitably qualified professional engineer and considers the impacts of: <ol style="list-style-type: none"> a. Flooding on the development; b. The development on flooding; c. Flooding and the development on property and the existing and future community; and d. Climate change consistent with the objectives of this DCP. 3. The FIRA assesses flood constraints for both pre and post development cases with and without climate change to ensure there are no significant detrimental impacts on flood behaviour or to the community upstream, downstream, or adjacent to the site. 4. The FIRA considers: <ol style="list-style-type: none"> a. Car parks; b. The type of car park; c. For open car parks, the restraints used to secure and prevent floating vehicles from leaving the car park; and d. For enclosed carparks, how floodwaters will be stopped from entering the enclosed car park. 5. For all zones, any development that includes a residential component has Habitable Floor Levels equal to or greater than the 1% AEP flood level plus 500mm freeboard. 	<ol style="list-style-type: none"> 1. Applicant to demonstrate that development as a consequence of a subdivision or development proposal, can be undertaken in accordance with a FIRA. 2. The FIRA is undertaken by a suitably qualified professional engineer and considers the impacts of: <ol style="list-style-type: none"> a. Flooding on the development; b. The development on flooding; c. Flooding and the development on property and the existing and future community; and d. Climate change consistent with the objectives of this DCP. 3. The FIRA assesses flood constraints for both pre and post development cases with and without climate change to ensure there are no detrimental impacts on flood behaviour or to the community upstream, downstream, or adjacent to the site. 4. Critical and sensitive land uses are to have floor levels equal to or greater than the PMF level, where intended to be utilised during flooding.

			<p>6. Building Floor Levels are equal to or greater than the 1% AEP flood level plus 500mm freeboard in the following areas:</p> <ul style="list-style-type: none"> a. Enterprise Zone; b. Agribusiness Zone; and c. Mixed Use Zone. 	
PO2	Development has minimal impact on flood behaviour.	<ol style="list-style-type: none"> 1. In addition to concessional development, the only structures to be considered in this area are for the purposes of creek crossings (pedestrian bridges and road bridges). 2. The FIRA demonstrates that the structure will not increase flood affectation to existing and proposed development within and outside the development site. 3. The FIRA considers the cumulative impact of potential future development from the upstream hydraulic control to the downstream hydraulic control. 4. The FIRA demonstrates that the peak flow at the downstream hydraulic control is maintained with development and that the shape of the flood hydrograph is generally maintained for events up to and including the 1% AEP flood event. 	<ol style="list-style-type: none"> 1. The FIRA demonstrates that development will not increase flood affectation to existing and proposed development within and outside the development site. 2. The FIRA demonstrates the cumulative impact of potential future development from the upstream hydraulic control to the downstream hydraulic control. 3. The FIRA demonstrates that the peak flow at the downstream hydraulic control is maintained with development and that the shape of the flood hydrograph is generally maintained for events up to and including the 1% AEP flood event. 	<ol style="list-style-type: none"> 1. The FIRA demonstrates that development will not increase flood affectation to existing and proposed development within and outside the development site. 2. Except for single detached dwellings and alterations and additions to existing dwellings, an engineer's report is required to certify that the development will not increase flood affectation to existing and proposed development.
PO3	Structures are designed and constructed so that they remain structurally sound for the life of the development considering flood and debris forces.	<ol style="list-style-type: none"> 1. In addition to concessional development, the only structures to be considered in this area are for the purposes of creek crossings (pedestrian bridges and road bridges). 2. In addition to concessional development, the only structures to be considered in this area are for the purposes of creek crossings (pedestrian bridges and road bridges). 3. All structures are of flood-compatible building components below or at the flood planning level. 4. An engineer's report is submitted to certify that the structure can withstand the forces of floodwater including debris and buoyancy up to and including the 	<ol style="list-style-type: none"> 1. All structures are of flood-compatible building components below or at the flood planning level. 2. An engineer's report is submitted to certify that the structure can withstand the forces of floodwater including debris, immersion, and buoyancy up to and including the flood planning level. 3. The FIRA demonstrates that all new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections can be waterproofed and/or located above the flood planning level. 	<ol style="list-style-type: none"> 1. Critical and sensitive land uses are of flood-compatible building components below or at the PMF level, where intended to be utilised during flooding. 2. An engineer's report is submitted to certify that the structure can withstand the forces of floodwater including debris and buoyancy up to and including the PMF level for sensitive development or essential community facilities intended to be utilised during flooding.

		flood planning level (based on the 1% AEP flood plus 500mm freeboard).		
PO4	All fill ensures the long-term stability of the development site and is not affected by erosion.	1. The FIRA demonstrates that any fill as a result of the development will not be impacted by erosion and will have long term stability.		
PO5	The safety of users of developed areas located on the floodplain for the full range of flooding is ensured.	<ol style="list-style-type: none"> 1. Applicant demonstrates that evacuation of the proposed development can be undertaken in accordance with the Local Flood Plan or SES flood emergency management strategy for the area. 2. The FIRA demonstrates that evacuation can be undertaken consistent with the Local Flood Plan or SES flood emergency strategy for the area. 	<ol style="list-style-type: none"> 1. Vehicular and pedestrian access ensures access /egress is provided to above the predicted peak level of the PMF. 2. The FIRA demonstrates that evacuation can be undertaken consistent with the Local Flood Plan or SES flood emergency strategy for the area. 	<ol style="list-style-type: none"> 1. Vehicular access to precincts is designed to ensure rising road access/egress is provided to above the predicted peak level of the PMF. 2. FIRA for sensitive and critical development demonstrates that evacuation can be undertaken consistent with the Local Flood Plan or SES flood emergency strategy for the area.
PO6	Public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk.	1. No external storage of materials which may cause pollution or be potentially hazardous during any flood.	1. No external storage of materials which may cause pollution or be potentially hazardous during any flood.	1. No external storage of materials which may cause pollution or be potentially hazardous during any flood.
PO7	Fencing is designed and constructed so that it does not impede and/or direct the flow of floodwaters, add debris to floodwaters or increase flood affectation on surrounding land.	<ol style="list-style-type: none"> 1. Use open type fencing. 2. Fencing is not permissible unless it can be shown, through a FIRA, not to impact on flood conveyance or behaviour. 	<ol style="list-style-type: none"> 1. Fencing is constructed in a manner that does not obstruct the flow of floodwaters. 2. Fencing of flow paths is limited to permeable open type fences. 	N/A
PO8	Earthworks including cut and fill do not impact flood storage areas.	<ol style="list-style-type: none"> 1. The FIRA demonstrates earthworks will not affect flood storage capacity or flood behaviour for the full range of flood events. 2. 	<ol style="list-style-type: none"> 1. The FIRA demonstrates that earthworks will not affect flood storage capacity or flood behaviour for the full range of flood events. 2. 	<ol style="list-style-type: none"> 1. The FIRA demonstrates that earthworks will not affect flood storage capacity or flood behaviour for the full range of flood events. 2. Any fill platform associated with development does not create a local site-specific flood island isolating the user from safety during flooding

*Areas identified in *Wianamatta (South) Creek Flood Study – Existing Conditions* prepared by Advisian for Infrastructure NSW in November 2020 or subsequent versions of this report by Advisian for Infrastructure NSW and the Department of Planning and Environment.

Note: Refer to Appendix A of this DCP for a definition of terms referred to in this section, including definitions for critical and sensitive land uses, as well as concessional development.

2.5.2 Mitigating Urban Heat Island Effect

Objectives

- O1.** Design built form, including public and private open spaces with measures that reduce the impact of very strong and extreme heat stress days on residents, workers and visitors.
- O2.** Manage urban heat island effects to ensure a high level of comfort for workers and residents throughout the year, with a focus on hot days and the summer period.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Site layout of development and public domain mitigates urban heat island effect.	<ol style="list-style-type: none"> 1. Evaporative cooling is enabled through implementation of design initiatives and features, including: <ol style="list-style-type: none"> a. Misting infrastructure in public places during high and extreme heat days; and b. Irrigation of private open spaces (using harvested stormwater) with 50% of grassed areas and 100% trees irrigated. 2. Use pavements which are permeable and have high albedo, resulting in less solar absorption. When using permeable pavers, it must be demonstrated that there is no impact on the salinity or sodicity of underlying soils. 3. Public seating has adequate shading.
PO2	Buildings minimise cooling demand indoors and heat absorbance through orientation, the design of roofs and facades and materials.	<ol style="list-style-type: none"> 1. Orientate buildings to take advantage of prevailing winds, natural ventilation, and solar access. 2. Provide western and northern facades with external shading devices to shield the building from hot summer sun, while allowing direct sunlight in winter. 3. Integrate green infrastructure into buildings, including healthy vegetation, green walls, and irrigation in open spaces. 4. A minimum of 50% of non-industrial rooftops are to be either vegetated, light coloured or irrigated using harvested stormwater. 5. Low heat conductive materials, appropriate insulation, wider eaves on northern and western facades reduce passive internal heating of the building. 6. To minimise energy use, buildings can: <ol style="list-style-type: none"> a. apply green roof and green façade/wall elements to reduce heat loads on internal spaces; b. Use external shading on north and north west facades; c. Use sub floor ventilation; and d. Provide outdoor clothes drying facilities.

2.5.3 Salinity

Objectives

- O1.** Manage and mitigate the impacts of development in relation to salinity processes, to prevent any degradation of soils, groundwater or vegetation, where present in the landscape.
- O2.** Minimise salt movement in the landscape to promote landscape-led design approaches and ensure development will not significantly increase the salt load in existing watercourses.
- O3.** Ensure application of water to the landscape and developable areas does not adversely impact the environmental value and the ecological health of waterways, groundwater dependent ecosystems, soil quality, trees, and vegetation.
- O4.** Assist government agencies, land management authorities and landholders in developing appropriate salinity management practices.
- O5.** To avoid or mitigate the impacts of salinity on development, including damage to buildings and infrastructure and the loss of productive agricultural land.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	The extent and location of salinity in the landscape and hydrogeologic regimes are accurately identified.	<ol style="list-style-type: none"> 1. Undertake salinity investigations prior to development and prepare a Salinity Management Plan. 2. Where required, the Salinity Management Plan considers water application rates, size of the block and timing and management of irrigation to ensure overwatering and salt movement is minimised. 3. A detailed salinity analysis, to be prepared by a qualified expert, will be required if: <ol style="list-style-type: none"> a. An initial investigation shows the site as saline or affected by salinity; or b. The site of the proposed development has been identified as being a moderately saline area on the Western Sydney Potential Salinity Map.
PO2	Development avoids disturbing high-risk saline soils to minimise the movement of salt in the landscape, increase soil health and prevent soil structural decline.	<ol style="list-style-type: none"> 1. Demonstrate that disturbance to the natural hydrological system is minimised by: <ol style="list-style-type: none"> a. Maintaining effective drainage, or where modification occurs, the modification provides effective drainage systems; b. Reducing waterlogging on the site and the potential for waterlogging via landscape-led design; c. Having minimal impact on the water table; and d. Having minimal impact on the hydrogeologic regime for sub soils, lateral flows, and deep groundwater systems.
PO3	Salinity management and codes of practise are adhered to and based on NSW and local government guidelines.	<ol style="list-style-type: none"> 1. Implement the following salinity management guidelines and codes of practise (or updates thereto) for land development (not limited to): <ol style="list-style-type: none"> a. Western Sydney Salinity Code of Practice (Western Sydney Regional Organisation of Councils, 2003). b. Western Sydney Hydrogeological Landscapes: May 2011 (First Edition) data package. c. Relevant Australian Standards, including AS 2159, AS 2870, AS 3600, AS 3700 and AS 2870; and d. Local Government salinity initiative documents, including: <ol style="list-style-type: none"> i. Site Investigations for Urban Salinity; ii. Land Use Planning and Urban Salinity; iii. Building in a Saline Environment; and iv. Roads and Salinity. 2. Where soil sampling is required to be undertaken as part of salinity investigations, provide the following details: <ol style="list-style-type: none"> a. Location of investigation soil samples and bores on plan; b. Electrical conductivity (EC) and texture profiling down the soil profile; c. Density of sampling; d. Use of electromagnetic (EM) survey; and e. Preliminary block layout to allow for development plans to address salinity issues.
PO4	Achieve healthy ecosystems by supporting soil ecology and support water retention in the clay landscape of the Cumberland Plain.	<ol style="list-style-type: none"> 1. Retain undisturbed soil networks that occur in riparian corridors, parks, nominated streets and specially designed natural soil corridors.

2.5.4 Acid Sulfate Soils

Objectives

- O1.** Manage and mitigate the impacts of land development in relation to acid sulfate soils, where present in the landscape.
- O2.** Ensure the environmental value and ecological health of waterways, soil, trees, and vegetation are appropriately protected from the release of acid water from disturbed acid sulfate soils.

O3. Manage and mitigate the impacts on infrastructure within acid sulfate soils and waterways where degradation and accelerated corrosion could occur.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Acid sulfate soils are managed during development to ensure reuse of acid sulfate soil (with treatment) is considered and managed with no adverse impact to the environment, waterways, and infrastructure.	<ol style="list-style-type: none"> 1. An Acid Sulphate Soils Assessment is to be provided with all development applications. 2. Disposal of any acid sulfate soil as waste during development is undertaken in accordance with guidelines made and approved by the NSW EPA. 3. Where acid sulfate soils are present, an Acid Sulfate Soils Management Plan is prepared by a suitably qualified person and demonstrates that development will have no impact on environmental values or the current level of the water table.
PO2	Infrastructure and concrete and steel structures placed in acid sulfate soil or within waterways for land development is designed to withstand acid sulfate soil environments.	<ol style="list-style-type: none"> 1. Development is designed in accordance with relevant standards to withstand increased corrosion and durability impacts associated with acid sulfate soil.
PO3	Land development avoids excavation, dewatering and disturbance of acid sulfate soil.	<ol style="list-style-type: none"> 1. Landscape-led design minimises the potential for environmental and waterway impacts from development on acid sulfate soils.

2.5.5 Erosion and Sediment Control

Objectives

- O1.** Protect the health of Wianamatta-South Creek and its tributaries from construction and building runoff and meet the performance criteria for ambient water quality objectives.
- O2.** Encourage vegetation retention, protect vegetation during construction and operation, and facilitate prompt rehabilitation through revegetation strategies.
- O3.** Minimise site disturbance during construction, reduce the amount of erosion, and stabilise construction works as quickly as possible following completion.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution	
PO1	Development is to ensure 80% of all flows leaving the construction site achieves total suspended solids of 50mg/L or less and a pH of 6.5-8.5 during the construction and building phases until the site is stabilised and landscaped	<ol style="list-style-type: none"> 1. An Erosion and Sediment Control Plan (ESCP) must be submitted for sites less than 2,500sqm and a Soil and Water Management Plan must be submitted for sites greater than 2,500sqm. These plans must be prepared in accordance with Appendix D.21. 2. The ESCP or CPESC must demonstrate compliance with the construction phase targets, outlined in the table below throughout the construction and building phases until the site is stabilised and landscaped. 3. The ESCP or CPESC must illustrate that appropriate controls have been planned which will, when implemented, minimise erosion of soil from the site and, accordingly, sedimentation of drainage systems and waterways. 	
		Parameter	Construction Phase Target (reduction in mean annual load from unmitigated development)
		Total suspended solids (TSS) and pH	<p>All exposed areas greater than 2,500m² must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).</p> <p>No release of coarse sediment is permitted for any construction or building site.</p> <p>Sites less than 2,500m² are required to comply with the requirements of the Blue Book.</p>
		Oil, litter and waste contaminants	No release of oil, litter or waste contaminants.
		Stabilisation	<p>Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised including all drainage systems.</p> <p>An effectively stabilised surface is defined as one that does not, or is not likely to result in visible evidence of soil loss caused by sheet, rill or gully erosion or lead to sedimentation and water contamination.</p>

2.6 Road design for Arterial and Sub-Arterial Roads

This section applies to development that includes Arterial Roads, Arterial Road (Bus Route) or Sub-arterial Roads identified in the Street Network and Hierarchy map in the Aerotropolis Precinct Plan.

Further guidance on street design and engineering standards can be found in the *Western Sydney Street Design Guidelines*, *Western Sydney Engineering Design Manual* and the Aerotropolis Precinct Plan. Provisions for other lower-order roads are also found in **Chapter 3** (Enterprise Light Industry and Agribusiness areas), **Chapter 4** (Centres) and **Chapter 5** (Mixed Use – Residential Areas).

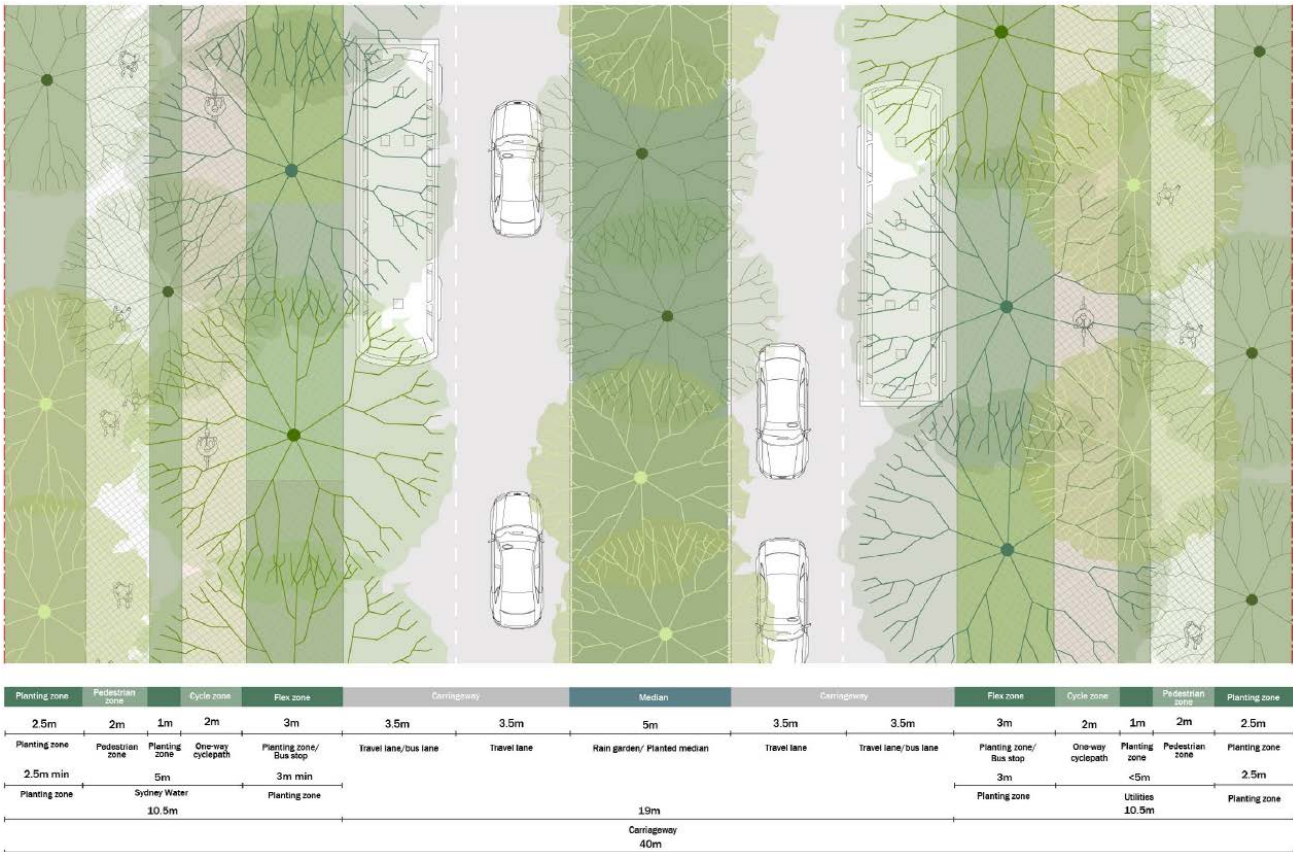


Figure 8 Sub-Arterial Road – Typical arrangement

2.7 Parking design and access

Objectives

- O1. Provide functional, safe, and efficient parking areas.
- O2. Minimise visual and amenity impacts of car parking on the public domain.
- O3. Minimise visual and amenity impacts of loading and servicing on the public domain.
- O4. Ensure adaptability of car parking provision and design where accommodated above ground to accommodate other uses over time.
- O5. Ensure vehicle access arrangements are appropriate and minimise any adverse impact on infrastructure, road networks, safety, adjoining properties, amenity, and street trees.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	The design and layout of car parking and vehicular access is safe and functional.	1. Parking is to meet AS 2890 and AS 1428.
PO2	Prioritise use of basement car parking areas in mixed use areas and Centres.	1. A maximum of one 6m wide basement vehicle entry and one 6m wide basement exit is provided per basement. 2. Basement ceilings are stepped in order to allow for ground floor levels to be provided at natural ground level.
PO3	Where required due to flooding or geological constraints preventing the use of basements, at grade and above ground car parking does not detract	1. Parking areas do not significantly interfere with pedestrian through-site links.

Performance Outcome	Benchmark Solution
	from public domain or amenity.
PO4	<p>Above ground car parking is designed to activate the streetscape and not detract from the public domain.</p> <ol style="list-style-type: none"> 1. Locate vehicle access points on the secondary frontage or via a rear lane. 2. Development which includes ground floor or above ground car parking contains active uses on ground floor street frontages. 3. Car parking levels are appropriately screened from the street and/or public domain and integrated into the design of the building.
PO5	<p>Utilise integrated parking solutions to service multiple development sites.</p> <ol style="list-style-type: none"> 1. Where integrated basement car parking is used, these: <ol style="list-style-type: none"> a. Must provide shared access to the integrated basement car parking area; b. Must demonstrate how shared access for adjoining sites, including circulation paths and breakthrough walls, will function and are to be accommodated; c. Have basement structures at a depth that adequately accommodates services, stormwater drainage and other infrastructure; and d. Ensure that the basement level(s) below the public domain are used for circulation areas, ramps, visitor parking, freight and service vehicle parking, loading areas and waste collection points, not individual strata titled spaces.
PO6	<p>Safe and convenient movement of pedestrians and cyclists is prioritised over vehicle movements.</p> <ol style="list-style-type: none"> 1. Locate vehicular access points away from active pedestrian areas and public open space on secondary streets or lanes. 2. At vehicular access points, seek to minimise voids and areas for concealments to ensure lighting is sufficient to allow facial recognition. 3. Separate pedestrian and bicycle access from vehicular circulation areas. 4. For industrial land uses and warehouse and distribution facilities, heavy vehicles be fully separated from staff and visitor parking and entry/exit points and that safe and separated access from staff and visitor parking be provided to office areas. 5. Change pavement (colour and/or texture) to: <ol style="list-style-type: none"> a. Provide clear demarcation between pedestrian and vehicle spaces; and b. Reduce vehicle speeds at entries or key nodes. c. For the egress points of larger developments, install stop signs and lines for motor vehicles crossing pedestrian and bicycle. d. Provide separate pedestrian access routes to building entries from the public domain and parking areas. e. Pedestrian access routes are direct, with good sightlines, intuitive wayfinding, and easy gradients. f. Design of pedestrian access routes consider pedestrian comfort and amenity by providing shade, shelter, and rest areas.
PO7	<p>Vehicle access arrangements and queuing areas on a site shall minimise any adverse impact on infrastructure, road networks, safety, adjoining properties, amenity, and street trees.</p> <ol style="list-style-type: none"> 1. Locate vehicle access points on the secondary frontage or rear lanes with access and egress points provided in a forward direction. 2. Where a site has frontage to a classified road, provide access to an alternate road. 3. Ensure that all vehicles can enter and exit in a forward direction. 4. Accommodate turning movements of the largest design vehicle to access the site, with consideration to servicing and garbage collection requirements. 5. Where the entry to a parking space is also the entry to a waste collection area, access should be possible via a PIN pad and code, to avoid the need for waste truck drivers to carry keys or access cards/fobs with them.
PO8	<p>Car parking spaces and associated infrastructure are designed with the potential to transition to other uses</p> <ol style="list-style-type: none"> 1. All car parking spaces at grade, or if provided above the ground floor level within a building, shall demonstrate what infrastructure will be incorporated into the carpark areas of the building to allow for the easy transition to habitable land uses in the future. This includes consideration of: <ol style="list-style-type: none"> a. Retrofitting of utilities and services (water, electricity, and internet); b. Building code requirements for a range of uses; c. Removable ramps; d. Greater reinforcement, such as steel (as residential/commercial spaces are heavier than car parks); and e. Flexible approaches for night-time use (see images below).

Performance Outcome		Benchmark Solution
		<ol style="list-style-type: none"> 2. All at grade or above ground car parking spaces within buildings have a floor to ceiling height of 3.0m to 4.5m (clearance free of mechanical servicing) to allow for adaption to other uses.
PO9	Parking layout, surfacing and drainage design responds to Water Sensitive Urban Design.	<ol style="list-style-type: none"> 1. With the exception of heavy vehicle entries, use pervious surfaces for at grade parking and driveway design other than entry for heavy vehicles. 2. Where appropriate, incorporate a permeable surface in car washing spaces. The use of turfed or gravel surfaces is considered acceptable, provided the water is treated to prevent contaminants from entering the stormwater system.
PO10	Utilise tandem, stacked, and mechanical parking where appropriate.	<ol style="list-style-type: none"> 1. Where development includes a mechanical parking installation, such as car stackers, turntables, car lifts or other automated parking systems, a Parking and Access Report is to be provided. 2. Access to mechanical parking installations is to be designed in accordance with AS 2890. 3. Tandem or stack parking will only be permitted where: <ol style="list-style-type: none"> a. Each tandem or stacked parking arrangement is limited to a maximum of two spaces; b. The maximum parking limit for spaces in the development is not exceeded; c. they are used for staff parking only; d. They are not used for service vehicle parking; and e. The manoeuvring of stacked vehicles is able to occur wholly within the premises. 4. Mechanical parking installations will be considered for developments involving the adaptive reuse of existing buildings where site or building constraints prevent standard parking arrangements. 5. Mechanical parking installations, tandem or stacked parking are not to be used for visitor parking or parking for car share schemes. 6. The minimum length of a tandem space is 10.8m.
PO11	Smart technology to be incorporated in large car parks (over 100 spaces) to improve functionality.	<ol style="list-style-type: none"> 1. For development (over 100 spaces), provide technology which tracks real-time car movement such as wireless parking bay sensors and dynamic signage to guide drivers.

2.8 Travel Demand Management

'Travel Demand Management' (TDM) refers to the measures taken to reduce the length of trips (particularly by car), minimise the need to travel, and encourages travel by the most sustainable mode of transport.

Objectives

O1. Implement TDM to align with mode share targets stipulated in the Precinct Plan.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Travel Plans are provided to include measures that reduce car dependency for new developments by encouraging sustainable transport modes.	<ol style="list-style-type: none"> 1. A Travel Plan must be submitted for: <ol style="list-style-type: none"> a. Any residential developments containing more than 50 residential units; and b. Any commercial or industrial developments which accommodates more than 50 employees.
PO2	Where temporary access is required but not currently available, this shall be provided in a way that regards the safety and efficiency of the transport network.	<ol style="list-style-type: none"> 1. To enable the development of land where access across adjoining properties is required but not yet provided, the consent authority may consider temporary access to arterial or sub-arterial roads where: <ol style="list-style-type: none"> a. The development complies with all other development standards; b. Subdivisional roads generally conform with the road pattern shown on the Indicative Layout Plan; and

Performance Outcome		Benchmark Solution
		<p>c. The consent authority is satisfied the carrying out of the development will not compromise road safety.</p> <p>2. Where the consent authority grants such consent, the temporary access must be constructed to the Council's standards except in the case of a State classified road, which must be designed and constructed to TfNSW's standards. Conditions will also be imposed to limit access to the designated road when alternative access becomes available.</p> <p>Note: Approval from TfNSW will be required for any temporary access to a classified road.</p>

2.9 Service and loading design

Objectives

- O1.** To Provide functional, safe, and efficient loading and servicing areas.
- O2.** Minimise visual and amenity impacts of loading and servicing on the public domain.
- O3.** Ensure that adequate off-street loading, delivery, and servicing facilities are provided.
- O4.** Minimise the impacts of loading, deliveries and servicing operations on the safety and efficiency of the surrounding road system and resident/visitor movement.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Provide on-site loading and servicing that meets the demand generated by the development.	<ol style="list-style-type: none"> 1. Where a waste collection point is provided within a basement, head height clearances and aisle widths on Level 1 of the basement are to be sufficient for the largest loading vehicle (minimum 5m high) to enter the site, unload and exit the site in only one (1) reverse vehicle movement. 2. All servicing, including waste and recycling collection, to be carried out wholly within the site with collection points at convenient locations. 3. Where waste and recycling bin rooms and collection points are located within the basement, a floor to ceiling clearance of 6.5m is required to allow for the overhead mechanical loading of bins within the basement by garbage trucks.
PO2	Loading and unloading facilities are adaptable to future technologies.	<ol style="list-style-type: none"> 1. Loading and unloading facilities are adaptable to technology or other services (e.g., food donation operations, or reverse logistics to return items for reuse or repair).
PO3	Service vehicle types are appropriate to the scale and requirements of the proposed development.	<ol style="list-style-type: none"> 1. Residential developments containing more than 30 dwellings, but less than 60 must provide at least 1 service delivery space, capable of accommodating at least 1 Medium Rigid Vehicle. 2. Residential developments containing more than 60 dwellings provide at least 1 service delivery space, capable of accommodating at least a: <ol style="list-style-type: none"> a. Medium Rigid Vehicle (MRV); and b. Heavy Rigid Vehicle (HRV). 3. Swept turning paths provided for HRV and single articulated vehicles (20m). 4. MRVs and HRVs are deemed to be the same as that described in Section 2 of AS 2890.2 – Parking facilities – Part 2: Off-street commercial vehicle facilities. 5. Off-street loading and unloading facilities are provided for all commercial and industrial premises. The number and size of loading bays will be determined by the consent authority having regard to the: <ol style="list-style-type: none"> a. Intended use of the premises; b. Frequency of deliveries/collections; c. Size and bulk of goods to be delivered/collected;

Performance Outcome	Benchmark Solution
	<ul style="list-style-type: none"> d. Size of vehicles to be used; and e. Likely impacts on traffic safety and efficiency on adjoining roads.

2.10 Airport Safeguarding

This section of the DCP is to be read in conjunction with Part 4.3 of the Parkland City SEPP which details airport safeguard development controls in relation to aircraft noise, building wind shear and turbulence, wildlife hazards, wind turbines, lighting, airspace operations and public safety areas.

2.10.1 Protection of Operation Airspace

Objectives

- O1.** Safeguard the future 24-hour operations of the Airport and provide appropriate protections for the surrounding community.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>Development does not generate turbulent emissions into the protected airspace.</p>	<ol style="list-style-type: none"> 1. Any plumes caused by a development do not: <ul style="list-style-type: none"> a. Have peak vertical velocities of more than 4.3m/sec; or b. Incorporate flares, unless an aviation impact assessment is completed and determines flares are acceptable.
<p>PO2</p> <p>Development does not impact on aviation or the operation of the Airport regarding light emission and reflective surfaces.</p>	<ol style="list-style-type: none"> 1. Development must comply with the provisions of the Civil Aviation Regulations 1988 (Cth) and not cause distraction or confusion to pilots due to its configuration, pattern or intensity or prevent clear reception of aerodrome lights or signals. Significant lighting includes: <ul style="list-style-type: none"> a. Motorway and freeway lighting; b. Flare plumes from industrial activities; c. Flood lighting from stadiums or outdoor recreation facilities; and d. Construction lighting. 2. Lighting within the primary light control zones – Zones A, B, C and D: <ul style="list-style-type: none"> a. Must not exceed the following intensity of light above a 3-degree horizontal: <ul style="list-style-type: none"> i. Zone A – 0 candela (cd); ii. Zone B – 50 cd; iii. Zone C – 150 cd; and iv. Zone D – 450 cd. <p>OR</p> <ul style="list-style-type: none"> b. Be fitted with a screen/shroud that prevents the light emission above the horizontal plane. 3. Proposals within 6km of the Airport: <ul style="list-style-type: none"> a. Must not include coloured or flashing lights; or b. Where coloured or flashing lights are to be incorporated, the proposal must be referred to the relevant Commonwealth body. 4. The appearance, material, reflectivity and aesthetics of the roofscapes consider the flight path and flight zone.

Note: The relevant consent authority may request a report prepared by a suitably qualified consultant demonstrating compliance with this section of the DCP in support of any development application.

2.10.2 Noise

Objectives

- O1. Safeguard the future 24-hour operations of the Airport and provide appropriate protections for the surrounding community.
- O2. Development does not introduce or intensify noise sensitive uses.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1 Development within the ANEC 20 and above contours (including extensions to existing development) is constructed to achieve indoor design sound levels as per the Indoor Design Sound Levels for Determination of Aircraft Noise Reduction in AS 2021 – <i>Acoustics Noise Intrusion – Building Siting and Construction</i>.</p>	<ol style="list-style-type: none"> 1. Residential development is constructed in accordance with Table 3. 2. An acoustic report is provided which specifies the construction standards required to achieve the specified indoor design sound levels. <p>Note: Residential development within the ANEC 20 and above contours will only be permitted where provided under clause 4.17(4) of the Parkland City SEPP or existing use rights apply. Development of residential accommodation will have the option of either incorporating the specified construction standards or provide an acoustic report. All other noise sensitive development specified within Table 4 of AS2021 will be required to be accompanied by a report prepared by a suitably qualified and experienced acoustic engineer.</p>

Table 3 Residential Acoustic Treatments Required to Ensure Compliance with Indoor Design Sound Levels in AS2021:2015

Building	Aircraft Noise Level dBA	Space	Indoor Design Sound Level	Aircraft Noise Reduction	Treatment
2-storey pitched roof	60-70	Bedrooms	50	20	6mm openable windows plus air conditioning.
		Living rooms	55	15	Standard openable doors and windows plus air conditioning.
	70-80	Bedrooms	50	30	10mm laminated openable windows, acoustic seals plus 75mm insulation (glass wool 20-30kg/m ³) in ceiling and 16mm fire rated plasterboard ceiling plus air conditioning.
		Living rooms	55	25	8mm laminated doors and windows, acoustic seals plus air conditioning.
	80-90	Bedrooms	50	40	Double window system 12mm laminated windows/ 100mm airspace/6mm windows plus 13mm plasterboard under rafters and 75mm insulation (glass wool 20-30kg/m ³) and two layers 16mm fire rated plasterboard ceiling plus air conditioning.
		Living rooms	55	35	Double window and door systems 12mm laminated windows or doors/100mm airspace/6mm windows or doors plus air conditioning.

Building	Aircraft Noise Level dBA	Space	Indoor Design Sound Level	Aircraft Noise Reduction	Treatment
Single storey pitched room	60-70	Bedrooms	50	20	6mm openable windows plus air conditioning.
		Living rooms	55	15	Standard openable doors and windows plus air conditioning.
			55	25	8mm laminated doors and windows, acoustic seals, 75mm insulation (glass wool 20-30kg/m ³) in ceiling, 13mm plasterboard immediately under roof, three layers 16mm fire rated plasterboard ceiling plus air conditioning
	80-90	Bedrooms	50	40	Double window system 12mm laminated windows/100mm airspace/ 6mm windows, pitched roof with 75mm insulation (glass wool 20-30kg/m ³) in ceiling, 13mm plasterboard immediately under roof, two layers 16mm fire rated plasterboard ceiling plus air conditioning
Living rooms		55	35	Double window and door systems 12mm laminated windows or doors/100mm airspace/6mm windows or doors, pitched roof with 75mm insulation (glass wool 20-30kg/m ³) in ceiling, 13mm plasterboard immediately under roof, two layers 16mm fire rated plasterboard ceiling plus air conditioning	

Notes

Note 1: Standard Construction entails:

- a. The roof as indicated, no insulation in the ceiling space, 13mm plasterboard ceiling;
- b. Sliding windows of 3-6mm glazing; and
- c. Sliding glazed doors of 6-8mm glazing.

Note 2: For external noise levels of 80-90 dBA, a flat roof is not acceptable.

2.10.3 Wildlife Hazards

Objectives

O1. Safeguard the Airport from incompatible development that could compromise safe operations.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
PO1 Development does not attract wildlife which would create a safety hazard to the operations of the Airport.	<ol style="list-style-type: none"> 1. All waste bins are designed and installed with fixed lids. 2. Any bulk waste receptacle or communal waste storage area is contained within enclosures that cannot be accessed by birds or flying foxes. 3. Any stormwater detention within the 3km and 8km wildlife buffer is designed to fully drain within 48 hours after a rainfall event. 4. Buildings and structures are designed to minimise the opportunity for roosting areas.

<p>PO2</p>	<p>Landscaping does not attract wildlife that could create a safety hazard to the operations of the Airport.</p>	<ol style="list-style-type: none"> 1. Refer to Appendix B for a list of suitable landscape species. 2. In areas within the 3km wildlife buffer but outside of the Parkland Priority Areas shown in Figure 8, a report prepared by a suitability qualified and experienced ecologist is to be submitted with any application when the landscaping plan: <ol style="list-style-type: none"> a. Incorporates alternative landscape species not listed within Appendix B; b. Incorporates landscape species denoted within the landscape species list; c. Will result in more than 5 trees being planted in 1 group (group refers to touching mature canopies); and/or d. Provides a spacing between a group of 5 or more trees that is less than 100m. 3. The ecologist report is to consider building, site, and water body design outcomes and/or landscape maintenance measures that will mitigate bird and flying fox attraction and roosting areas.
-------------------	--	---

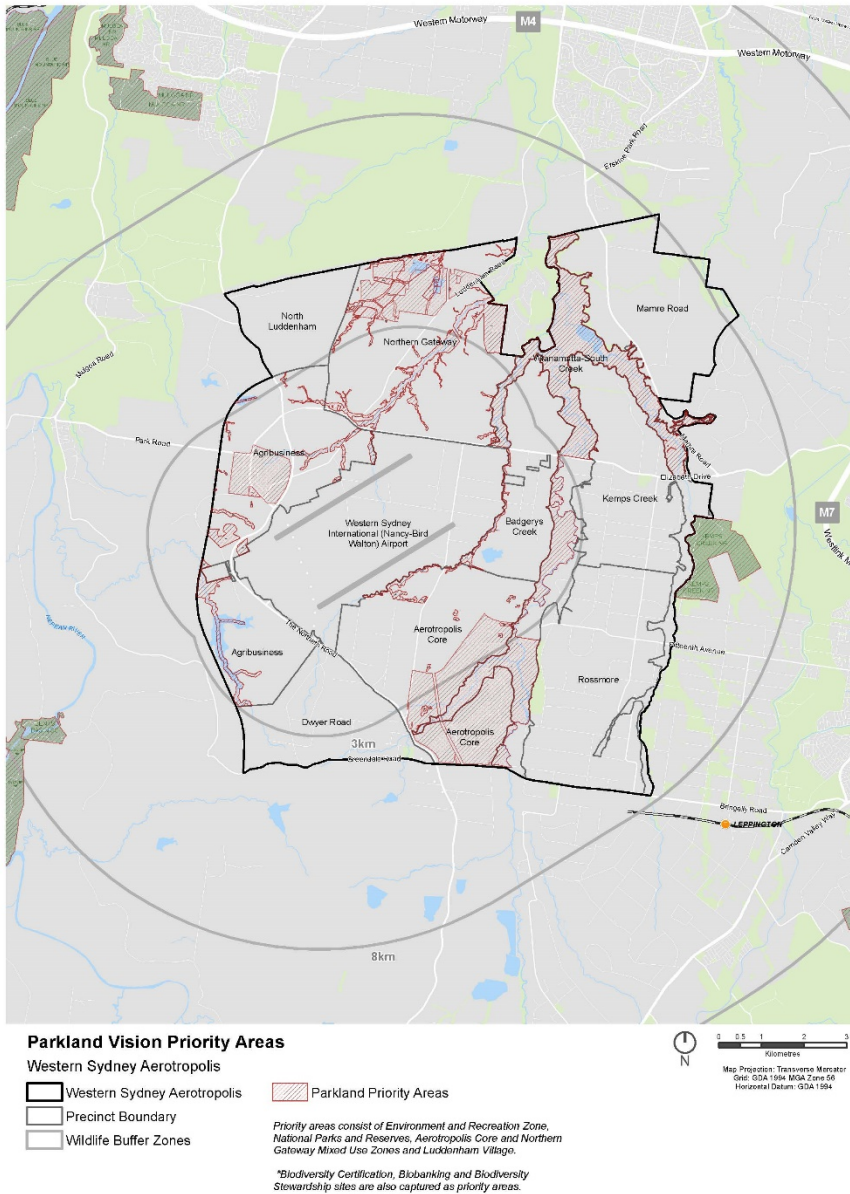


Figure 9 Western Parkland City Vision – Government Commitment Areas map

2.11 Services and Utilities

Objectives

- O1.** Ensure the construction of utility services/infrastructure provision occurs in a logical and staged manner, and in sequence with development.
- O2.** Encourage innovative and sustainable utility and servicing across the Aerotropolis to promote effective and efficient delivery of services. Ensure utilities designs and locations consider space for alternative future services.
- O3.** Design and provide utility infrastructure to integrate with and not negatively impact use of the public realm, liveability, and the environment.
- O4.** Infrastructure (new and existing) is protected from the impacts of urban development.

O5. To ensure land use and development is integrated with water cycle management including service planning for potable water, recycled water and wastewater.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Site is serviced with electricity.	<ol style="list-style-type: none"> 1. Meet the design requirements as per the <i>Western Sydney Street Design Guidelines</i> Section C5.4 Electricity. 2. Locate electricity supplies within verge.
PO2	Services and utilities (hydrants, NBN boxes etc) are designed and located to integrate with building context and the public realm.	<ol style="list-style-type: none"> 1. Infrastructure is designed and located to: <ol style="list-style-type: none"> a. Integrate with building design and the public domain; b. Not be visible from the public domain unless appropriately screened by landscaping; and c. Make a positive contribution to the public domain. 2. New streets integrate utilities within the street reservation, with services located underground and in a manner that facilitates tree planting and consistent with the <i>Western Sydney Street Design Guidelines</i>. 3. Where services must be located on a street, they do not dominate the pedestrian experience and are designed as an integrated component of the facade, as per the <i>Western Sydney Street Design Guidelines</i>.
PO3	Infrastructure is adequately protected from development.	<ol style="list-style-type: none"> 1. Development near a utility service must be in accordance with the relevant service authority's guidelines and requirements and must not adversely affect the function of the service. 2. Where development is proposed on land containing or adjacent to easements, applicants are to consult with the organisation responsible for the maintenance and management of the easement. 3. Development adjacent to any future fuel pipeline is subject to a land use risk safety audit with the relevant buffers provided, subject to the airport authority. 4. Locate infrastructure taking into account any future road widening to minimise relocation of assets.
PO4	Shared utility trenches combine multiple utilities within a compact area of the street verge, and futureproof service location within road cross-sections.	<ol style="list-style-type: none"> 1. Refer to the provisions within the <i>Western Sydney Engineering Design Manual</i> for details on shared utility trenching. 2. Avoid placement of services within the road carriageway. 3. Ensure sufficient width in the utility corridor. 4. Avoid disruptive works across/ under existing carriageways. 5. Adopt a 'dig once' policy where spare conduits and road crossings are installed in strategic locations to avoid disturbing the road in the future.
PO5	Infrastructure allows for co-location of compatible similar uses.	<ol style="list-style-type: none"> 1. Allow for the installation of the following within the utility corridor: <ol style="list-style-type: none"> a. Recycled water purple pipes; b. Vacuum waste collection system; c. Hydrogen district cooling/heating systems; and d. Micro-grids for energy sharing.
PO6	Provide fast, reliable, and high-speed fixed and wireless internet connectivity across the Aerotropolis to the standards listed in the Australia and New Zealand Smart Cities Council's Code for Smart Communities.	<ol style="list-style-type: none"> 1. Demonstrate access to the NBN. Where coverage at time of lot registration is not or will not be above minimum network connectivity speeds, demonstrate how and where allowances for future network augmentation have been made. 2. Follow the design guidance as per the <i>Western Sydney Street Design Guidelines</i> Section C5.6 Telecommunications and Section C6.3 5G Mobile Telecommunications.
PO7	Development is to be serviced by recycled water.	<ol style="list-style-type: none"> 1. Where a recycled water scheme (supplied by stormwater harvesting and/or recycled wastewater) is in place, development shall: <ol style="list-style-type: none"> a. Be designed in a manner that does not compromise waterway objectives, with stormwater harvesting prioritised over reticulated recycled water; b. Bring a purple pipe for recycled water to the boundary of the site; c. Not top up rainwater tanks with recycled water unless approved by Sydney Water; and

Performance Outcome	Benchmark Solution
	d. Design recycled water reticulation to standards required by the operator of the recycled water scheme.

2.12 Sustainability

Objectives

O1. Minimise energy consumption and achieve net zero energy emissions by 2030.

Performance Outcome	Benchmark Solution
PO1	<p>Incorporate renewable energy systems to ensure all buildings can achieve a 100% renewable energy supply by 2030.</p> <ol style="list-style-type: none"> All developments demonstrate how 100% renewable energy supply can be achieved by 2030, whether on or off site. Where the net zero energy target cannot be accommodated on site, the proponent must provide an offset e.g. with a Power Purchase Agreement.

2.13 Smart Places

Objectives

O1. Support the Aerotropolis as a connected, open data digital city and global innovation hub to improve life for individual citizens, future populations, businesses, and communities, in line with the NSW Smart Places Strategy and Smart Western City Program.

O2. Embrace innovative development by installing new and emerging technologies and utility provision.

O3. Support a resilient and sustainable region that uses technology to manage natural resources efficiently and is focused on environmental, air and water quality.

O4. Build on initiatives over time in line with the Australian Digital Inclusion Index.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
PO1	<p>Implement multi-function poles (Smart Poles) where street poles are required that accommodate multiple functions.</p> <ol style="list-style-type: none"> Potential services which could be incorporated into multi-function poles include: <ol style="list-style-type: none"> RMS signals and signage; Street lighting; Telecommunications (such as mobile cellular network providers); Council digital infrastructure requirements (e.g. CCTV, signage, lighting); and Relevant sensing networks, with flexibility to enhance these in the future. Meet the following design requirements: <ol style="list-style-type: none"> Placement is a minimum of 600mm from the face of kerb; Placement avoids impacts on existing and future mature street tree canopies; Co-locate with other street furniture; and Pit and pipe to each light pole is provided to enable the future upgrading to 'intelligent' lights and the installation of 'smart meter' to Council specification at each new lot.
PO2	<ol style="list-style-type: none"> Where developments are providing pit and pipe infrastructure, specifications in the <i>Digital Infrastructure Technical Report: Western Parkland City</i> are met to accommodate future smart city infrastructure.
PO3	<ol style="list-style-type: none"> Where new connections to the water and recycled network are proposed, include smart water meters and fittings to minimise water consumption.

Performance Outcome		Benchmark Solution
	management throughout their operational lives.	<ol style="list-style-type: none"> 2. Use smart technologies to monitor and self-regulate building environment and operations (e.g. lighting, heat, ventilation, and air conditioning). 3. Install smart energy solutions to increase self-sustainability and reduce reliance on the main energy grid. 4. Demonstrate alignment to relevant NSW policy, including but not limited to the <i>NSW Internet of Things (IoT) policy</i>, <i>NSW Cyber Security Policy</i> and <i>NSW Smart Infrastructure Policy</i>.
PO4	Embedding smart technologies enhances experiences in the public domain and creates liveable public open spaces.	<ol style="list-style-type: none"> 1. Install smart monitoring equipment, including for water quality, ambient temperature, tree canopy cover and soil moisture content, cycle, and car movements. Specific monitoring requirements for each development are provided by the consent authority. 2. The following smart solutions meet Council's system interoperability and data source requirements and are to be installed in key locations such as open space and public domain areas: <ol style="list-style-type: none"> a. Dedicated internet/fibre connection points; b. Public Wi-Fi network that provides sufficient coverage to the whole public space; c. Smart lighting where key locations may be used at night-time for active uses, ensuring lighting is adequate for active and passive uses; d. Security cameras at key locations to ensure coverage within the public space; e. 'Smart bins' with capacity rubbish bin sensors; f. 'Smart park furniture' with USB-charging capacity and potentially Wi-Fi connectivity; g. Digital display screen, linked to a Council-accessible network to share key community information, data, and activities; h. Weather monitoring network/devices to monitor temperature and weather within the park and have this accessible to the public; and i. Wireless connectivity (e.g. Bluetooth) with free access within the community's parks, particularly in proximity to the basketball court/youth spaces.

2.14 Design for Safe Places

Objectives

01. Design in accordance with Crime Prevention Through Environmental Design (CPTED) principles.
02. Ensure the development contributes to the activity, vibrancy, diversity and safety of streets and the public domain through the day and night.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Passive surveillance is maximised.	<ol style="list-style-type: none"> 1. Visibility and surveillance are provided in all areas of development. 2. Adjoining buildings overlook public places. 3. Building frontages face streets and transport corridors to provide passive surveillance. 4. Use open grill or transparent security (at least 50% visually transparent) shutters to retail frontages (if proposed) (as indicatively shown in Figure 9).
PO2	Access and sightlines promote safe movement. Ensure pedestrian and cycleways are designed in accordance with CPTED to ensure a safe and secure environment that encourages activity, vitality and visibility, enabling a greater level of security.	<ol style="list-style-type: none"> 1. Building entrances are accessible, clearly visible, legible and allow users to see into or out of the building before entering / exiting. 2. Pedestrian paths have well defined routes, clear sight lines and do not channel users into dead ends that are poorly lit or to areas with opportunities for concealment (as indicatively shown in Figure 8) 3. Minimise corners, poorly lit corridors, laneways with low activity and other kinds of entrapment spots.


Performance Outcome		Benchmark Solution
		<ol style="list-style-type: none"> If entrapment spots are unavoidable, they are to be mitigated using measures such as CCTV surveillance.
PO3	<p>Car parking areas, pathways and other elements of transport network infrastructure are in accordance with Crime Prevention Through Environmental Design (CPTED) principles to enhance public safety by discouraging crime and anti-social behaviour.</p>	<ol style="list-style-type: none"> Car parking areas and structures are designed in accordance with CPTED principles. Car park areas and structures are well maintained and incorporate CCTV as a deterrent to crime and anti-social behaviour. Ground levels of car park structures are sleeved with active uses to support passive surveillance. Ensure passive surveillance to and from the public domain for at grade car parking areas. Pedestrian access points to car parks are clearly delineated and located in areas with good visibility from the public realm. Facade systems (shown below) are designed to integrate safety barriers and systems while also incorporating visual transparency to facilitate passive surveillance from and to the public realm. <p><i>Example of a facade system that facilitates passive surveillance</i></p> 
PO4	<p>Safety is ensured via the use of appropriate lighting.</p>	<ol style="list-style-type: none"> Lighting design should address the principles of CPTED where there is significant pedestrian activity, late night work-shifts or safety and security issues. Use public lighting to connect areas between lights and avoid unnecessary areas of darkness. The areas should be lit to the minimum AS 1158. Illuminate public areas, entrances to buildings and concealed corners. Minimise lighting spillage onto surrounding properties by designing in accordance with AS 4282.
PO5	<p>Public and private spaces are clearly delineated.</p>	<ol style="list-style-type: none"> Clearly demonstrate ownership of private and public space in the design of the public realm and built form. Use landscaping to delineate between public and private spaces rather than building materials (e.g. solid fences).



Figure 10 Interface to Main Streets within Centres



Figure 11 Interface to Main Streets Containing Commercial Activity

2.15 Universal Design and Access

Objectives

- O1. Provide equitable, safe, and legible access to the public realm and built form for all people.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Buildings and public places are designed for equity, accessibility and safety.	<ol style="list-style-type: none"> 1. Paths, ramps, steps, and lifts comply with AS 1428-2009 <i>Design for Access and Mobility</i>. 2. Provide safe, logical, and predicable pathways that consider:

Performance Outcome		Benchmark Solution
		<ol style="list-style-type: none"> a. Sight lines; b. Legibility; c. Weather protection; d. Cultural safety; e. The needs of children, the elderly, and people with disabilities; and f. Access and signage information. <ol style="list-style-type: none"> 3. Built form is stepped with the topography to provide at grade access for all ground floor uses. 4. An access report is required where universal access is a requirement of the <i>Disabilities Discrimination Act 1992</i>.

2.16 Waste Management and Circular Economy

Objectives

- O1.** Incorporate well-designed and innovative waste and recycling facilities in the building design stage.
- O2.** Encourage circular economy infrastructure including but not limited to reuse and repair facilities, sharing and leasing facilities, reverse vending machines and community recycling centres within the Aerotropolis.
- O3.** Minimise the amount of waste generated and going to landfill.
- O4.** Maximise waste separation and resource recovery.
- O5.** Provide innovative and best practice waste management collection systems and technologies for reuse, recycling, organics collection and product stewardship.
- O6.** Provide waste and recycling facilities that do not impact on amenity for residents, neighbours and the public, such as visually unpleasant areas, noise, traffic and odours from waste collection services, while also ensuring facilities are accessible, integrated wholly within the built form and easy to use.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Waste management measures are implemented at lot and neighbourhood scale to support circular economy activities.	<ol style="list-style-type: none"> 1. Submit a waste management plan to support circular economy activities that also details the quantity and type of waste generated and how this will be managed, reused and recycled. Where possible, incorporate technologies such as vacuum extraction or on-site food processing. 2. Co-locate and integrate waste infrastructure on sites with multiple uses by providing a single collection point for waste and recycling. 3. Demonstrate that organic waste can be managed in the building through measures such as: <ol style="list-style-type: none"> a. Multiple options for on-site organic waste to maximise recovery (e.g. communal composting, worm farms, individual composting, dehydrators); b. Organics and recycling service to all households; or c. Energy generation from organic waste (anaerobic digestion) at lot and precinct scale.
PO2	Waste and recycling facilities promote waste separation and reduce contamination. Materials are separated at source to achieve higher value recovery.	<ol style="list-style-type: none"> 1. Collection points (including but not limited to reverse vending machines and e-waste drop-off) must be located with adequate space for servicing, ease of use and to encourage the separation of waste material. Collection points are documented in the waste management plan and are easily accessible. 2. Provide separate and enclosed storage for liquid, chemicals, and hazardous waste. 3. Where general waste chutes are used, provide for the collection of recycling and organic waste at each level within the building.

Performance Outcome		Benchmark Solution
		<p>4. Consolidated organic waste drop off points are designed to minimise any potential odour and vermin risks. This includes the provision of rooms that are temperature controlled and suitably ventilated.</p>
PO3	The location of waste management is clearly indicated for each site and neighbourhood.	<p>1. Provide uniform waste management design and colour coding in accordance with AS 4123 across residential and commercial developments.</p> <p>2. Waste management systems and rooms are located inside buildings to support a heightened amenity and urban design outcome. Waste must not be left outside (excluding during collection) to avoid attracting animals.</p>
PO4	Waste bins are provided to a level commensurate with waste produced for each development as outlined in Council's waste and recycling service.	<p>1. Waste storage areas are designed to:</p> <ul style="list-style-type: none"> a. Accommodate the required number and size of waste bins; b. Provide space for the bins to be accessed, rotated and manoeuvred for emptying; c. Allow for future waste separation practices; and d. Account for different uses in mixed use development through the provision of separate and enclosed collection rooms for both residential and commercial uses. <p>2. Align building design and collection points with Council's waste and recycling services and collection fleets.</p>
PO5	Implement innovative waste management storage systems that are safe, healthy, and efficient.	<p>1. Waste storage areas are to:</p> <ul style="list-style-type: none"> a. Be well-lit and ventilated; b. Include water and drainage facilities for cleaning the bins and bin storage area; c. Be easily and conveniently accessible for all users and collection contractors; d. Be located so that residents do not have to walk more than 30m for access; and e. Comply with Local Council Policy and contractual service provisions. <p>2. Collection and loading points are to be:</p> <ul style="list-style-type: none"> a. Level; b. Free of obstructions; c. Easily accessible from the nominated waste and recycling storage area; d. Be integrated wholly within the built form to support a heightened amenity outcome; e. Be accessible by heavy rigid collection vehicles to permit entry and exit of the site in a forward direction; f. Comply with the Building Code of Australia and Relevant Australian Standards; and g. Comply with Local Council Policy and contractual service provisions. <p>3. Provide safe and easy access to waste and resource recovery areas for residents, building managers and collection contractors.</p> <p>4. Ensure waste and recycling areas flexibly adapt to other types of waste and materials storage over time.</p> <p>5. Design waste and recycling facilities to prevent litter and contamination of the stormwater drainage system.</p>
PO6	Waste management storage systems minimise negative impacts on the streetscape, public domain, building presentation or amenity of pedestrians, occupants, and neighbouring sites.	<p>1. Waste storage and collection areas are to:</p> <ul style="list-style-type: none"> a. Where possible, be integrated wholly within the developments built form; b. Not be visible from the street or public domain; c. Not adjoin private open space, windows, habitable rooms, or clothes drying areas; d. Not be located within front setbacks; and e. Comply with Local Council Policy and contractual service provisions. <p>2. Collection points and systems are designed to minimise noise for occupants and neighbours during operation and collection.</p>

Performance Outcome		Benchmark Solution
PO7	Recognise waste types, generation rates and separation needs may change during the useful life of a building.	<ol style="list-style-type: none"> 1. Waste and resource recovery facilities are sited to enable possible future expanded floor area. 2. Design waste and resource recovery facilities to enable installation of new, potentially larger equipment.

2.17 Subdivision design

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To protect biodiversity values and minimise impacts on remnant native vegetation.	<ol style="list-style-type: none"> 1. Land zoned Environment and Recreation must not be subdivided unless the consent authority is satisfied appropriate arrangements have been made for revegetation and rehabilitation in accordance with a Vegetation Management Plan, including ongoing monitoring and management.
PO2	To respond to the natural topography and physical characteristics of the land and minimise the need to cut and fill.	<ol style="list-style-type: none"> 2. Subdivision design shall balance cut and fill as far as practicable. Development proposals must include an Earthworks Plan, detailing the proposed cut and fill strategy, how the design minimises cut and/or fill, and justification for the proposed changes to the landform. 3. The impact on environmental values of any earthworks proposed are to be mitigated through the construction of physical barriers and sediment controls 4. Where a proposal is for subdivision of land only, benching is limited to road layouts and to within 15m of each newly created or proposed lot.

2.18 Earthworks and retaining walls

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To ensure site planning considers the stability of land, its topography, geology and soils.	<ol style="list-style-type: none"> 1. Site planning is to respond to the natural topography of the site and protect vegetation, particularly where it is important to site stability. 2. A Geotechnical Report is to be submitted with applications proposing to change site levels. 3. Excavation and fill shall be adequately retained and drained in accordance with the Western Sydney Engineering Design Guidelines.
PO2	To ensure that earthworks and retaining wall construction is suitably designed and landscaped to ameliorate its visual presentation to and from the public domain and adjacent properties.	<ol style="list-style-type: none"> 1. Level transitions must be managed between lots and not at the interface to the public domain. 2. Finished ground levels adjacent to the public domain or public road shall be no greater than 1.0m above the finished road level (or public domain level). 3. Where a level difference must exceed 1.0m and adjoins the public domain or public road, the retaining wall must be tiered. Each retaining wall tier element shall be no more than 2.0m. A 1.5m wide deep soil zone with suitable landscaping is to be provided between each tier. The maximum cumulative height of any retaining walls adjoining the public domain is 6.0m. 4. The toe (fill retaining wall) or top (cut retaining wall) of all retaining walls are to be setback 2.0m into the property boundary and the setback is to be suitably landscaped. 5. On sloping sites, site disturbance is to be minimised by using split level or pier foundation building designs. 6. Retaining wall design and materials shall complement architectural and landscape design.

Performance Outcome		Benchmark Solution
PO3	To encourage reuse of fill material from within the Aerotropolis Precinct.	<ol style="list-style-type: none"> 1. Imported fill it is to be Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) and validated by a suitably qualified person. 2. Where possible, fill material should be sourced from within the Aerotropolis Precinct. 3. Topsoil should be preserved on site and suitably stockpiled and covered for re-use.

2.19 Public Art

This section supplements the Councils' public art policies and applies only to development greater than 20 hectares or with a capital investment value exceeding \$20 million.

Objectives

- O1.** Enrich and enliven the public and private domain with high quality, aesthetic, and functional art.
- O2.** Provide public art consistent with Council's Public Art Policy
- O3.** Recognise and celebrate Aboriginal heritage, values and living culture in the public domain.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	High-quality public art is integrated into the design and function of the development to embellish and enliven the public domain.	<ol style="list-style-type: none"> 1. The strategy should respond to cultural values mapping to deliver a suitable artwork for the development demonstrating that the scale of the public art provided is commensurate to the intensity of use at the site or landscape. 2. For such development defined above, a minimum of 1 work of public art is provided within the publicly available and accessible spaces of the development such as: <ol style="list-style-type: none"> a. Any frontage to the public domain; b. Building entrances; or c. Arcades and through site links. 3. Different types of public art may be incorporated into the following aspects of development: <ol style="list-style-type: none"> a. Murals may form part of the facades of new buildings; b. Sculptures may be multipurpose and be integrated into urban furniture (e.g. shade, seating, water/drinking fountains or play/exercise equipment); c. Light installations may be combined with public lighting to support the needs of pedestrians or active transport after dark; or d. Artworks may form part of landscaping as part of wayfinding or interpretive walking trails.
PO2	Public art is provided to capture and reflect the qualities and essence of place, community values and the stories of past and present cultures, places, and people.	<ol style="list-style-type: none"> 1. Artwork is the result of collaboration with an artist to deliver a coordinated and cohesive development and public art response 2. Public art is created in conjunction with a community consultation process to ensure alignment between public art, cultural/community values, and development. 3. Commissioning and contract processes prioritise artworks which are: <ol style="list-style-type: none"> a. Created by Aboriginal artists and/or created with direct involvement and collaboration with Aboriginal communities; and/or b. Initiated by the local community (i.e. Unsolicited requests for public art). 4. Public art themes provide a response to elements particular to a place. Considerations include, but are not limited to: <ol style="list-style-type: none"> a. Aboriginal culture and places of significance; b. Unique place qualities and attributes; c. Natural landscape elements; and/or d. Historical land uses; buildings, persons, and events
PO3	Public art is easy to maintain.	<ol style="list-style-type: none"> 1. Where art is permanent, use materials that are: <ol style="list-style-type: none"> a. Appropriate to the landscape/environment;

Performance Outcome	Benchmark Solution
	<ul style="list-style-type: none"> b. Resistant to vandalism; c. Safe for the public; and d. Require minimal maintenance. <p>2. Where art is temporary, develop clear and concise agreements with artists/organisations on expectations and deaccession (the process used to permanently remove an object, artwork, or assemblage). In this case, replacement art is to be provided, so the site has art in perpetuity.</p>

3.0 Development for Enterprise and Industry, and Agribusiness

This Chapter of the DCP applies specifically to development for the purpose of Enterprise and Light Industry, and Agribusiness only. The object of this Chapter is to meet the relevant performance outcomes established for each benchmark solution.

3.1 Local road network and design

3.1.1 Street design

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>To enable a road network that is safe and efficient for all users and minimises through traffic on minor roads.</p>	<ol style="list-style-type: none"> 1. Road design for local streets, collector streets and park edge streets as identified on the Aerotropolis Precinct Plan are to be consistent with the typical road cross-sections in this Figure 10 to Figure 12. 2. Development applications shall be accompanied by a Traffic and Transport Report. The Report shall assess the impact of projected pedestrian and vehicular traffic associated with the proposal and outline the extent and nature of traffic facilities necessary to preserve or improve the safety and efficiency of the road system. 3. Subdivision and development are to consider the coordinated staging and delivery of surrounding road infrastructure. Development consent will only be granted to land serviced by a suitable road network with traffic capacity to service the development (to the satisfaction of the relevant roads authority). 4. All parking shall be provided either on site or in centralised off- road locations. 5. The internal road pattern is to facilitate 'through-roads' with cul-de-sacs to be avoided unless dictated by topography or other constraints. 6. The road network is to be designed for 30m Performance Based Standards (PBS) Level 2 Type B vehicles and tested for a 36.5m PBS Level 3 Type A vehicles. 7. To accommodate the design vehicle (i.e. B-double and B-triple) the standard kerb return radius will need to increase from 12.5m to 15.0m. 8. Road design shall consider arrangements for broken down vehicles and incident response. <p>Note: All street cross-sections illustrate minimum requirements. In certain circumstances these may need to increase to respond to site specific conditions such as topography and the retention of remnant vegetation.</p>
<p>PO2</p> <p>To encourage the orderly and economic provision of road and intersection works.</p> <p>To encourage the use of public transport, bicycles and walking.</p>	<ol style="list-style-type: none"> 1. Internal road network intersections are to be provided at the following minimum intervals: <ul style="list-style-type: none"> a. Local to local industrial road – 40m-60m; b. Local to collector/distributor road – 100-200m; and c. Collector/distributor to sub-arterial – 400m-500m

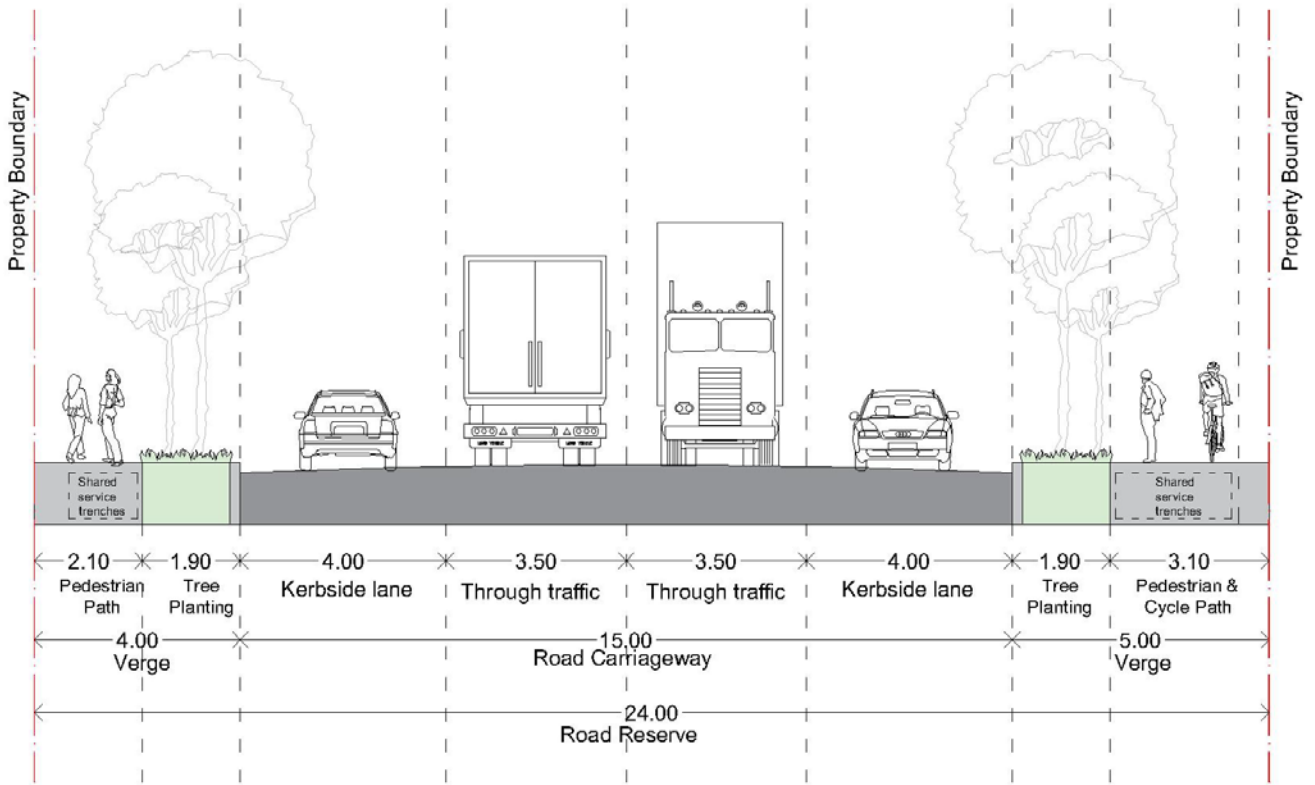


Figure 12 Typical Local Industrial Road

Note: Parking may be accommodated in the kerbside lane where appropriate.

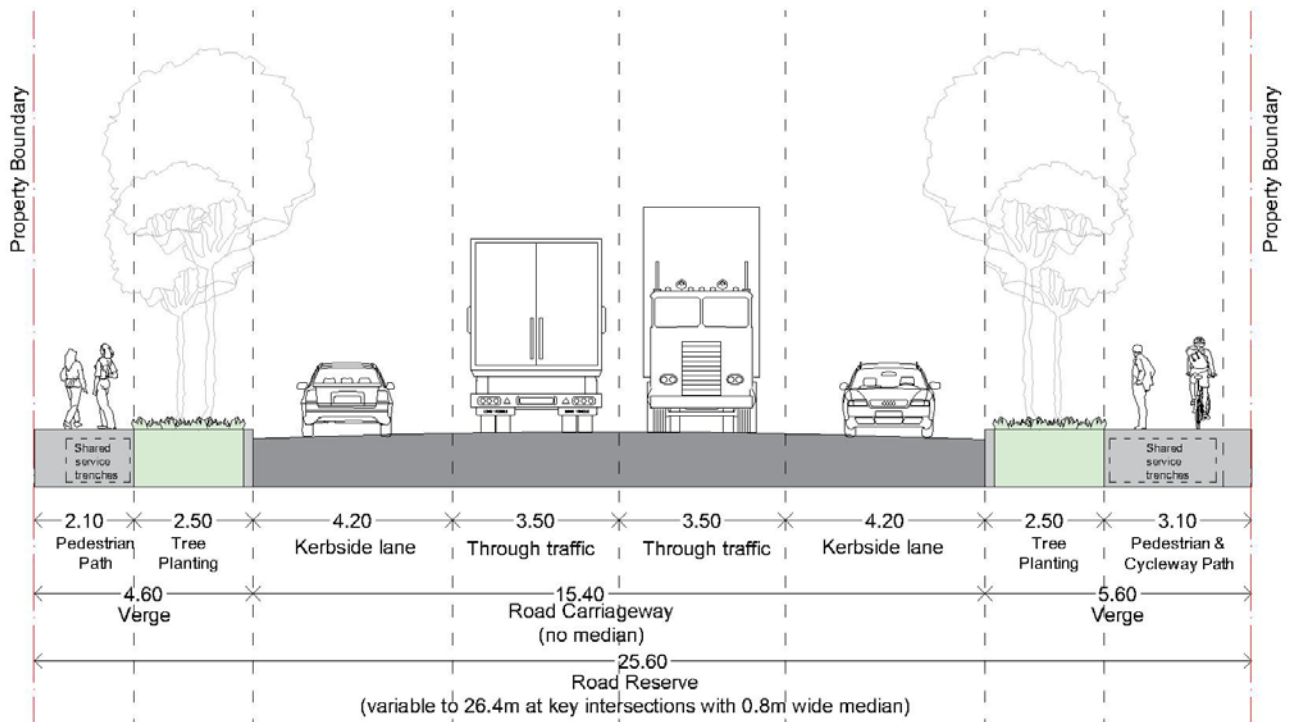


Figure 13 Typical Collector Road

Note: Parking may be accommodated in the kerbside lane where appropriate.

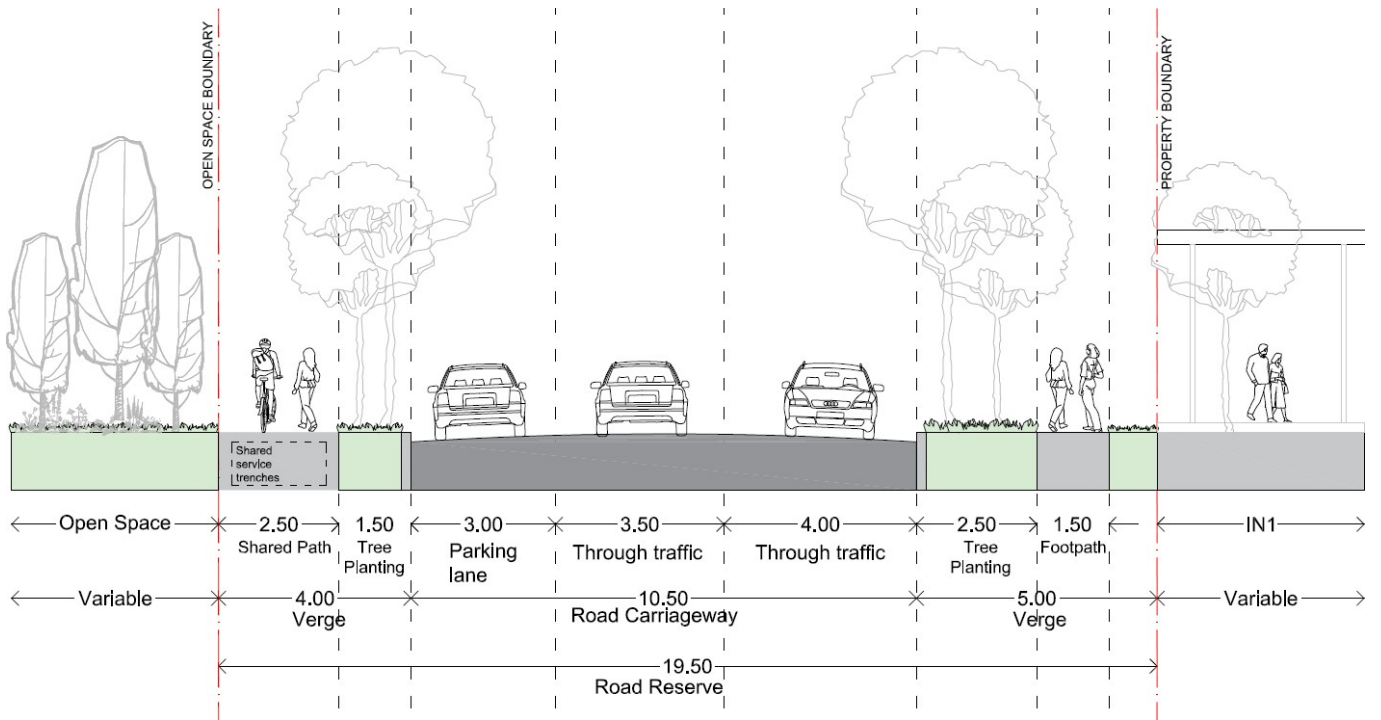


Figure 14 Typical Open Space Edge Road

3.2 Parking and travel management

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To facilitate an appropriate number of vehicular spaces having regard to the industrial and agribusiness nature of the locality.	<ol style="list-style-type: none"> On-site car parking is to be provided in accordance with Table 3. For activities not identified in Table 3, the TfNSW' (formerly RTA) Guide to Traffic Generating Developments (ISBN 0 7305 9080 1) should be referred to as a guide.
PO2	To promote efficient and safe vehicle circulation, manoeuvring and parking (including service vehicles and bicycles).	<ol style="list-style-type: none"> Vehicular access and driveways widths must be sweep path tested for the largest vehicle that will access a particular site e.g. 30m PBS Level 2 Type B or 36.5m PBS Level 3 Type A vehicles. The required threshold should be set within the property to prevent cross fall greater than 4% within the footway area. Turning circles shall accommodate the largest type of truck reasonably expected to service the site. A standard truck must be able to complete a 3-point or semi-circular turn on-site without interfering with parked vehicles, buildings, landscaping, storage and work areas. Vehicular ramps less than 20m long must have a maximum grade of 1 in 5 (20%). Development shall provide on-site loading facilities to accommodate the anticipated heavy vehicle demand for the site. All loading and unloading areas are to be: <ol style="list-style-type: none"> Integrated into the design of developments; Separated from car parking and waste storage and collection areas; Located away from the circulation path of other vehicles; and Located behind the building alignment of any street boundary and where visible from a public place, be provided with appropriate screening.

Performance Outcome		Benchmark Solution
		<p>7. Car park surfaces should use finishes that minimise heat retention e.g. painted in light coloured paint.</p> <p>8. Access, parking, manoeuvring and loading facilities shall be in accordance with Performance Based Standards An introduction for road managers (National Heavy Vehicle Register, May 2019) to accommodate vehicle types outlined in Table 4. The design shall have regard to the Standard Vehicle Turning Templates of the former RMS publication Policies Guidelines and Procedures for Traffic Generating Developments</p>
PO3	To minimise the impact of vehicle access points on the quality of the public domain and streetscape.	<p>1. Driveways should be:</p> <ol style="list-style-type: none"> Located considering any services within the road reserve, such as power poles, drainage inlet pits and existing street trees; Designed to avoid conflict between heavy vehicle and staff, customer and visitor vehicular and cycle movements, preferably by providing separate access driveways; and For driveways with high traffic volumes, located away from major roads, intersections, opposite other intense developments, high pedestrian zones, and where right turn movements would obstruct traffic.
PO4	To support the complementary use and benefit of public and active transport.	<p>1. The following bicycle destination facilities for staff are to be provided:</p> <ol style="list-style-type: none"> For ancillary office and retail space with a gross floor area over 2,500 sqm, at least 1 shower cubicle with ancillary change rooms; For industrial activities with a gross floor area over 4,000 sqm, at least 1 shower cubicle with ancillary change rooms; Change and shower facilities are to be located close to the bicycle storage areas; and Where the building is strata-titled, the facilities are to be available to all occupants. <p>2. Bicycle parking, facilities and storage must be in convenient locations, visible, secure, and provide weather protection for the bicycle. Bicycle parking and storage should be near to the entrances and facilities closer to work spaces or other amenities.</p>

Table 4 Car and bicycle parking rates

Activity	Rate		
	Within 800m walking distance of a metro station	Greater than 800m walking distance of a metro station	
	Maximum parking rate	Minimum parking rate	Maximum parking rate
Industry	1 space / 200 sqm	1 space / 200 sqm	1 space / 100 sqm
Warehouses or distribution centres	1 space / 250 sqm	1 space / 300 sqm	1 space / 100 sqm
Freight Transport Facilities	1 per transport vehicle present at peak vehicle accumulation plus 1 per 2 employees, or to be determined by a car parking survey of a comparable facility.		
Vehicle Body Repair Workshops/ Vehicle Repair Stations	3 spaces per 100m ² of gross floor area or 6 per work bay, whichever is greater		
Ancillary office space	1 space per 40 sqm of gross floor area		
Neighbourhood shops	1 space per 40 sqm of gross leasable area		
Other Uses	In accordance with TfNSW Guidelines or if there are no parking guidelines for a specific use, then a site specific car parking analysis will be required. This may require the applicant to submit a car parking report from a suitably qualified traffic consultant.		
Accessible Parking	Accessible car spaces should be in accordance with the <i>Access to Premises Standards, Building Code of Australia</i> and AS2890.		
Bicycle Parking	1 space per 600 sqm of gross floor area of office and retail space (over 1200m ² gross floor area) 1 space per 1,000 sqm of gross floor area of industrial activities (over 2000m ² gross floor area)		

Table 5 Minimum design vehicle requirements for Enterprise and Industrial, Industrial and Agribusiness developments

Site Area	Design Vehicle
Up to 1,500 sqm	Medium Rigid Vehicle (MRV)
1,500 sqm – 4,000 sqm	Heavy Rigid Vehicle (HRV)
4,000 sqm – 20,000 sqm	Articulated Vehicle (AV)
Greater than 20,000 sqm	30m PBS Level 2 Type B

3.3 Built form

3.3.1 Building siting and design

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>To encourage building form that responds to the topography of the site and the relative position of the allotment to other allotments and the street.</p> <p>To minimise the impact of buildings upon the surrounding public realm, including areas of environmental significance, landscape value and residential uses.</p>	<p>1. Building height should respond to the natural landscape and scale of adjoining development, with lower elements towards the street, pedestrian paths, adjoining rural-residential areas, environmental and open space areas, riparian corridors and ridgelines.</p>

3.3.2 Building setbacks

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>To provide a consistent streetscape design and landscaped transition to the public realm.</p> <p>To enhance the visual quality of development and the urban landscape.</p> <p>To minimise the impact of overshadowing to adjoining buildings and open space.</p>	<p>1. Building setbacks are to be in accordance with Table 5.</p> <p>2. Notwithstanding control (1) above, the following development is permitted within the defined setback for any road (excluding primary arterial roads):</p> <ul style="list-style-type: none"> a. Landscaping; b. Maintenance/rehabilitation of biodiversity corridors or areas; c. Utility services installation; d. Cross-overs; e. Fire access roads; f. Approved signage; g. Street furniture; or h. Drainage works. <p>3. Side and rear boundary setbacks may incorporate accessways and driveways (not permitted in setbacks to designated roads), where an alternative arrangement cannot be achieved.</p> <p>4. Setbacks to public roads may also incorporate loading dock manoeuvring areas and associated hardstand and off streetcar parking provided the minimum setbacks in Table 5 are achieved. In addition to the setback requirements in Table 5, setbacks that incorporate an off-street parking area must demonstrate the location of the car parking area:</p> <ul style="list-style-type: none"> a. Promotes the function and operation of the development; b. Enhances the overall design of the development by implementing design elements, including landscaping, that will screen the parking area and is complementary to the development; and

Performance Outcome	Benchmark Solution
	<p>c. Does not detract from the streetscape values of the locality.</p> <p>5. Additional setbacks may be applicable to avoid construction over easements.</p> <p>6. For corner sites, setbacks must ensure clear vehicular sight lines for perpendicular traffic.</p>

3.3.3 Landscape setbacks

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>To provide functional areas of planting that enhance the presentation of a building, provide amenity, cooling and shade, and contribute to overall streetscape character.</p>	<ol style="list-style-type: none"> 1. Landscaped area is to be provided in accordance with Table 5. Note control (4) and (7) in PO1 of Section 3.6.2 allows different landscape setbacks to those identified in Table 5 for loading dock manoeuvring areas and on-site car parking. 2. A Landscape Plan prepared by a Landscape Architect is to be submitted with all development proposals. 3. Existing remnant vegetation and paddock trees shall be retained where practical within setback areas and integrated with landscaping plans. 4. Landscaped front setbacks should include canopy trees whose mature height is in scale with the proposed development. 5. Setbacks shall include suitable tree planting along the northern and western elevations of buildings to provide shade and assist with cooling. 6. Developments adjoining existing sensitive receivers (e.g. educational establishments) shall be designed to mitigate impacts on sensitive receivers such as through generous buffer zones and landscaping, and locating noise generating activities away from the sensitive interface, as well as traffic management measures to improve safety and minimise conflicts. 7. Tree planting in the form of island planter beds shall be provided at a rate of one planter bed per 10 car spaces within car parks to reduce the heat island effect of hard surfaces that are a minimum 1.5m dimension. 8. Evergreen shrubs and trees shall screen car parks, vehicular manoeuvring areas, garbage areas, storage areas from the street frontage. 9. Paving, structures and wall materials should complement the architectural style of buildings.

Table 6 Building and landscape setbacks

Location	Building Setback (from site boundary)	Landscape minimum width (from the site boundary)
Lots fronting primary arterial and sub-arterial roads	20m	10m
Lots fronting collector streets	12m	6m
Lots fronting local streets	7.5m	4m
Secondary road frontages (corner lots)	5m	3m
Rear and side boundaries	5m	2.5m No minimum requirement for side boundaries
Lots adjoining land zoned Environment and Recreation	10m boundary adjoining Environment and Recreation land, unless separated by a road (streets setbacks above apply).	5m landscape setback from the edge of the E&R zoned land, unless separated by a road.
Development within defined building setbacks		
Lots fronting a public road with a setback containing loading dock manoeuvring areas and associated hardstand	As per relevant setback for each public road above	Minimum 6m
Lots fronting a public road with a setback containing off street car parking areas	Minimum 13m	Minimum 6m

Note: Refer to the Aerotropolis Precinct Plan Section 4.6.2 for relevant road hierarchies.

3.3.4 Building and architectural design

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To ensure buildings achieve a high level of sustainability and environmental performance.	<ol style="list-style-type: none"> 1. Buildings should take advantage of a north or north-easterly aspect to maximise passive solar illumination, heating and natural cross-ventilation for cooling. 2. Development proposals shall demonstrate Ecological Sustainable Design (ESD) measures have been incorporated into the design, including a consideration of: <ol style="list-style-type: none"> a. Building and window orientation; b. Window size and glass type; c. Insulation; d. Natural ventilation and light with generous, all weather openings; e. Utilise extensive roof areas for energy and water collection; f. Air flow, ventilation and building morphology to support cooling; and g. Circular economy in the design, construction and operation of buildings, public domain, infrastructure, and energy, water and waste systems.
PO2	To ensure new development contributes to a visually cohesive urban environment and responds to the adjacent scale and character of the area.	<ol style="list-style-type: none"> 1. Buildings shall be oriented so building frontage is parallel with the primary street frontage. 2. Building design should minimise overshadowing within the site and on adjoining buildings.
PO3	To encourage innovation and a high standard of architectural design, utilising quality materials and finishes.	<ol style="list-style-type: none"> 1. External finishes should contain a mix of materials and colours and low reflectivity to minimise glare and reflection. 2. Elevations visible from the public domain must be finished with materials and colours and articulation that enhance the appearance of that façade and provide an attractive and varied streetscape. 3. Large expanses of wall or building mass should be relieved using articulation, variation in construction materials, fenestration or alternative architectural enhancements. 4. Entrances to buildings must be highlighted by architectural features consistent with the overall design of the building. 5. The design and location of roof elements and plant and mechanical equipment, including exhausts, is to minimise visual impact from the street or from elevated locations, such as screening with an integrated built element such as parapets. 6. The design of the main office and administration components shall: <ol style="list-style-type: none"> a. Be located at the main frontage of the building and be designed as an integral part of the overall building, rather than a 'tack on' addition; b. Have a designated entry point that is highly visible and directly accessible from visitor parking and the main street frontage; and c. Incorporate the principles of Universal Design. 7. Roof forms should help to visually articulate the use within the building. This may include transitions between foyer, office and larger warehouse uses. 8. Roof design must provide natural illumination to the interior of the building.

3.3.5 Communal outdoor areas

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To contribute to amenity for employees	<ol style="list-style-type: none"> 1. Each building shall be provided with at least 1 communal outdoor area for the use and enjoyment of employees and visitors to that development. The space shall be commensurate with the scale of the development and be accessible from the main office. 2. In locating communal areas, consideration should be given to the outlook, natural features of the site, and neighbouring buildings. 3. Communal areas shall be embellished with appropriate soft landscaping, shade, paving, tables, chairs, bins, and access to drinking water commensurate with the scale of the development, activities, and anticipated number of workers. 4. Communal areas shall be relatively flat and not contain impediments which divide the area or create physical barriers which may impede use. 5. Communal areas must receive a minimum of 2 hours direct sunlight between 11am and 3pm on 21 June. 6. Outdoor communal areas shall immediately adjoin a staffroom/lunchroom with kitchen facilities. Where this is not possible, the outdoor communal area is to be provided with a suitably designed weatherproof outdoor kitchen for the use of staff.

3.4 Signage

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To permit the adequate display of information concerning the identification of premises, the name of the occupier, and the activity conducted on the land.	<ol style="list-style-type: none"> 1. Free standing pylon signage must not exceed 10m in height from finished ground level and 2m width. No signage is permitted in the bottom 2m of the structure. 2. Building identification signage should have a maximum advertising area of up to 0.5 square metres for every metre of lineal street frontage. 3. Sky signs and roof signs that project vertically above the roof of a building are not permitted. 4. In the case of multiple occupancy of a building or site: <ol style="list-style-type: none"> a. Each development should have at least one single directory board listing each occupant of the building or site; b. Only one sign is to be placed on the face of each premises either located on or over the door; and c. Multiple tenancies in the same building should use consistent sign size, location and design to avoid visual clutter and promote business identification.
PO2	To minimise the visual impact of signage. To prevent distraction to motorists and minimise the potential for traffic conflicts.	<ol style="list-style-type: none"> 1. Flat mounted wall signs for business identification signage are to be no higher than 15 metres above finished ground level. 2. Signs should be confined to the ground level of the building, awning or fascia, unless it can be demonstrated that the building is of a scale, architectural style and in a location that would be enhanced by signage at different elevations. 3. Signs are to be contained fully within the confines of the wall or awning to which they are mounted. 4. Illuminated signs are not to detract from the architecture of the building during daylight. 5. Illumination (including cabling) of signs is to be either: <ol style="list-style-type: none"> a. Concealed; b. Integral with the sign; c. Provided by means of carefully designed and located remote or spot lighting. 6. A curfew may be imposed on the operation of illuminated signs where continuous illumination may adversely impact the amenity of residential buildings or the environment.

Performance Outcome		Benchmark Solution
		<p>7. Up-lighting of signs is prohibited. External lighting of signs is to be downward pointing and focused directly on the sign and is to minimise the escape of light beyond the sign.</p> <p>8. A maximum of one illuminated sign is permitted on each elevation of each building.</p> <p>9. Illuminated signage shall be oriented away from residential receivers.</p>

3.5 Lighting

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To provide adequate external security lighting for employment activities, whilst minimising adverse impacts on adjoining premises and surrounding rural-residential areas.	<p>1. Lighting details shall be provided as part of development proposals.</p> <p>2. Lighting is to be designed or directed to not cause light spill onto adjoining sites, sensitive receivers or impact Airport operations.</p>
PO2	To encourage energy efficient lighting.	<p>1. Adequate lighting shall be provided to meet security requirements without excessive energy consumption. Lighting powered by solar batteries or other renewable energy sources and the use of sensor lighting, both internally and externally, is encouraged.</p>

3.6 Fencing

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To ensure that the design and location of fencing is integrated within the development and is suitable for its purpose and setting.	<p>1. Fencing along street frontages should provide open style fencing, which does not obstruct views of landscaping from the street or reduce visibility.</p> <p>2. Palisade fencing is encouraged.</p> <p>3. Solid fences above 1 metre in height are not permitted along street frontages.</p>
PO2	To ensure that the security needs of the development are satisfied in a manner which complements the surrounding landscape design and streetscape quality.	<p>1. No fencing other than a low ornamental type may be erected at the front or secondary street site boundary.</p> <p>2. High security fencing should be located either behind the landscape setback or alternatively within the landscaped area midway between the site front or secondary boundary and the building line. The design of the landscape setback should consider site security management.</p>

3.7 Noise and amenity

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	<p>To ensure noise and vibration do not adversely impact human health and amenity.</p> <p>To ensure building design adequately protects workers and surrounding receivers from noise and vibration.</p>	<p>1. Any machinery or activity considered to produce noise emissions from a premise shall be adequately sound-proofed so that noise emissions are in accordance with the provisions of the Protection of the Environment Operations Act 1997.</p> <p>2. Noise should be assessed in accordance with Noise Policy for Industry (EPA, 2017) and NSW Road Noise Policy (Department of Environment, Climate Change and Water, 2011).</p> <p>3. An Acoustic Report by a qualified acoustical engineer must be submitted where proposed development, including traffic generated by that development, will create noise and/or vibration impacts, either during construction or operation, that impacts on adjoining developments or nearby rural-residential areas. The Acoustic Report</p>

Performance Outcome	Benchmark Solution
	<p>should outline the proposed noise amelioration strategies and management methods.</p> <ol style="list-style-type: none"> 4. Acoustic Reports for individual developments must assess cumulative noise impacts, including likely future noise emissions from the development and operation of the Precinct. The consultant should liaise with the relevant consent authority to determine acceptable amenity goals for individual industrial developments and background noise levels. 5. The use of mechanical plant and equipment may be restricted in areas close to sensitive receivers, such as adjoining rural-residential development and educational establishments. 6. Building design is to incorporate noise amelioration features. Roof elements are to control potential breakout noise, having regard to surrounding topography. 7. Boundary fences are to incorporate noise amelioration features and control breakout noise having regard to developments adjoining rural-residential areas.

4.0 Non-Residential development in Centres

This chapter applies to non-residential development in the following centres of the Aerotropolis, as identified in the Aerotropolis Precinct Plan:

- Commercial Centre – Mixed Use;
- Specialised Centre – Mixed Use;
- Business and Enterprise; and
- Local/Neighbourhood Centre.

This chapter provides specific development controls which look to support the type of development intended for the abovementioned centres. Namely, development which:

- Has a focus on employment hubs and job creation;
- Is of a higher density and finer-grain which can leverage of public transport and interchanges; and
- Supports the needs of workers and surrounding residents through a variety of commercial, social and community uses.

Development controls relating to mixed use residential development in centres and standalone residential development are provided in **Section 5** of this DCP.

4.1 Road network and design

4.1.1 Street design

This section applies to development in centres that includes Collector Roads and Local Streets identified in the Street Network and Hierarchy map in the Aerotropolis Precinct Plan.

Objectives

- O1.** Design street networks to support the objectives of the NSW Government’s Movement and Place framework.
- O2.** Design the local road network generally consistent with the Aerotropolis Precinct Plan.
- O3.** Design the local street network to accommodate diverse modes of transport including cars, public transport, walking and cycling.
- O4.** To contribute to the creation of an interesting and attractive streetscape.
- O5.** Provide a safe and convenient public transport, pedestrian and cycleway network.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1</p> <p>The design, functionality and safety of Collector and Local roads within Centres is consistent across the Aerotropolis.</p>	<p>1. Road design for Collector and Local roads within as identified on the Aerotropolis Precinct Plan are to be consistent with the typical arrangements shown in Figures 13 to Figure 16.</p> <p>Note: All street cross-sections illustrate minimum requirements. In certain circumstances these may need to increase to respond to site specific conditions such as topography and the retention of remnant vegetation.</p>

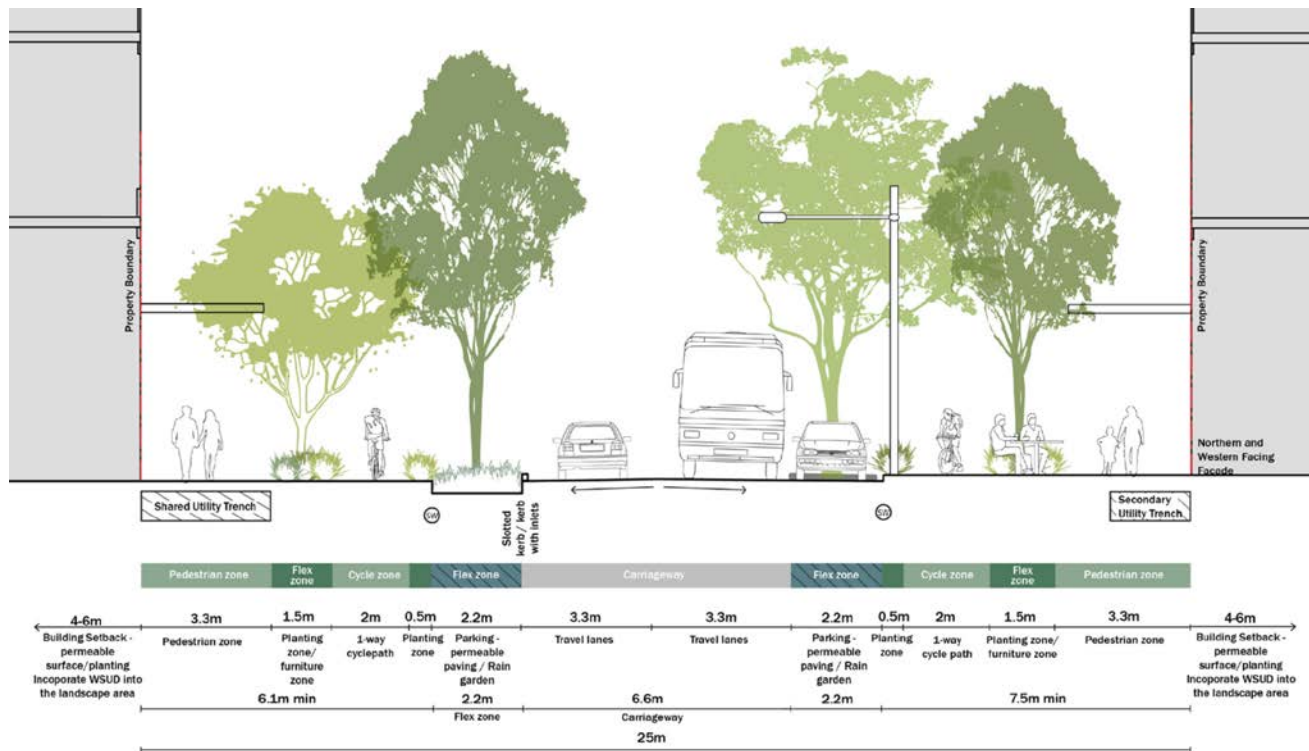


Figure 15 Local street (high street - commercial centre)

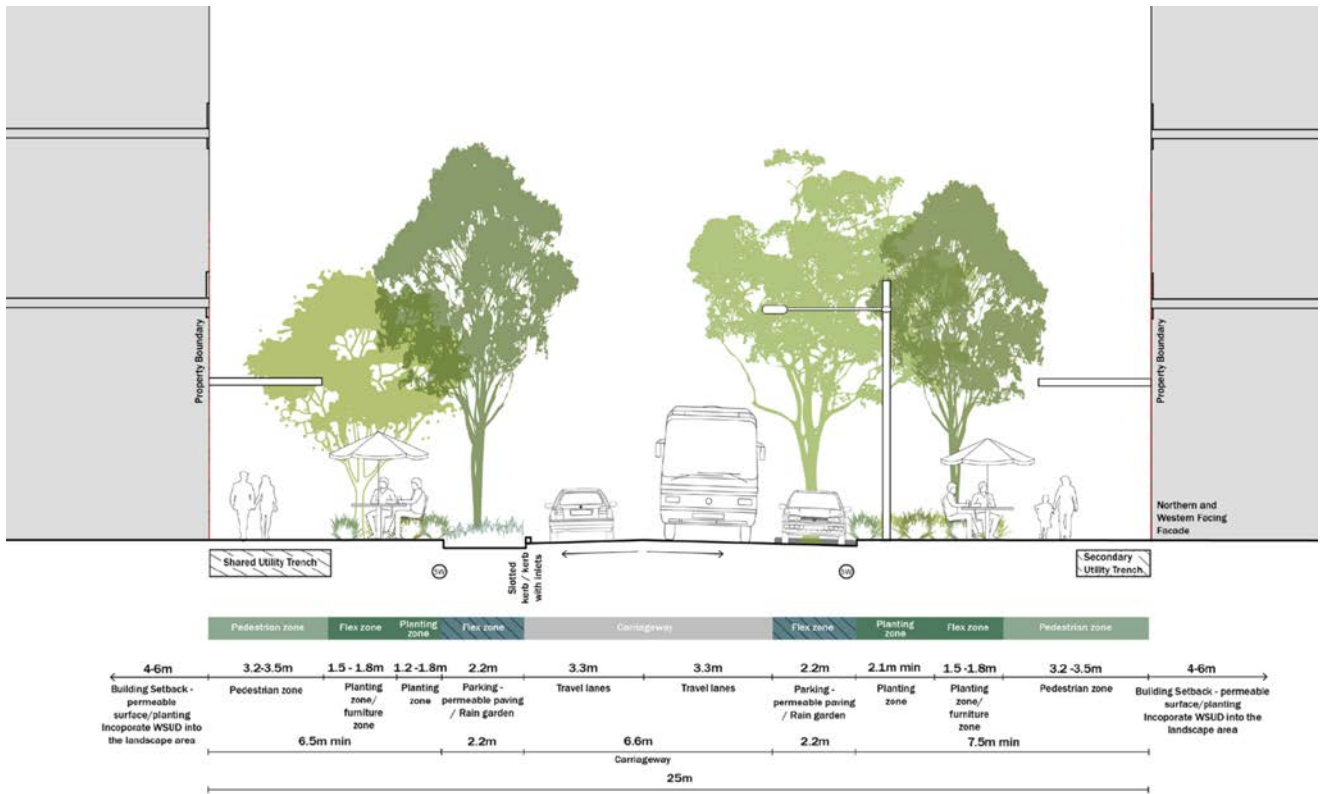


Figure 16 Local street (high street with cycle paths - commercial centre)

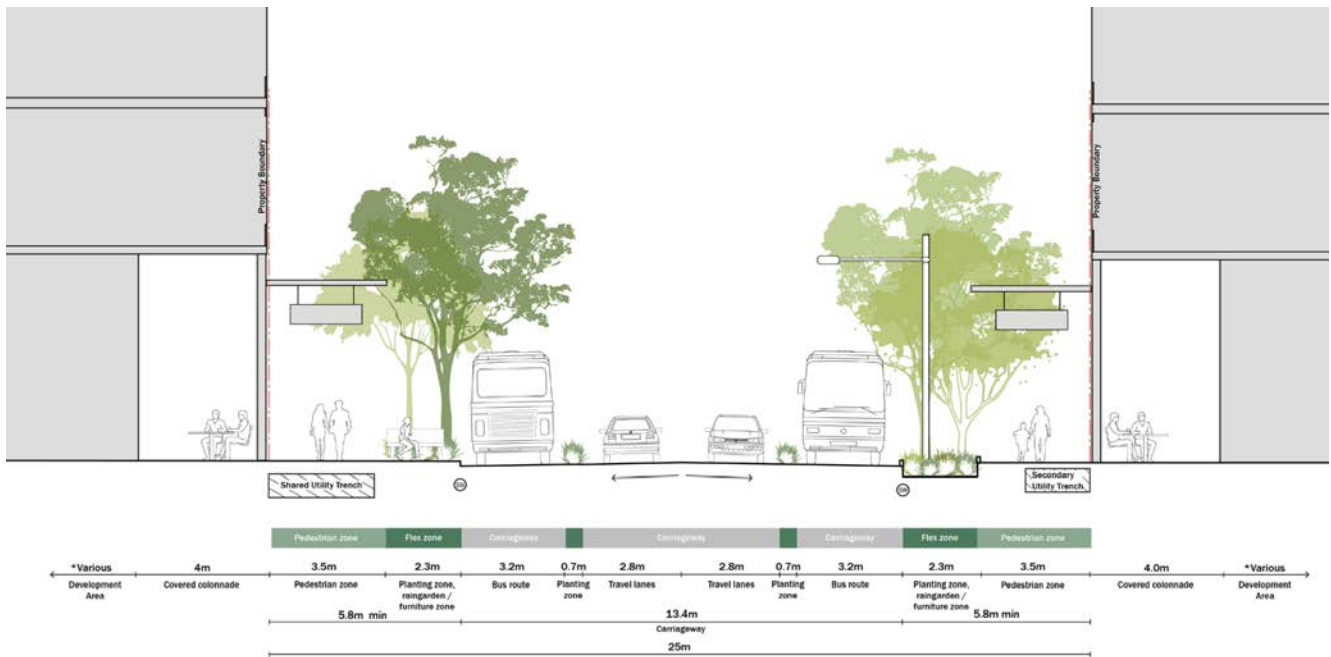


Figure 17 25 metre local street (high street - commercial centre) Bus lane

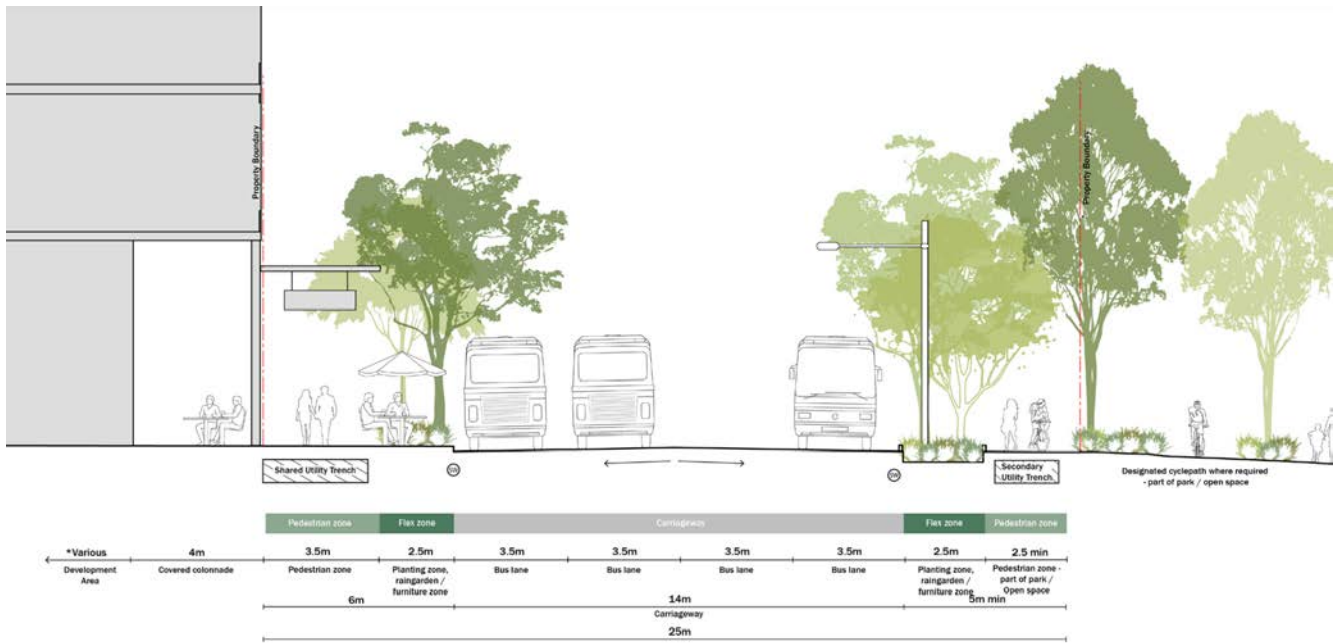


Figure 18 Local street (high street - commercial centre) Rapid bus and active transport only

4.2 Built form

Objectives

01. Ensure high quality architecture, design and built form outcomes which respond to topography, site characteristics and the public domain.
02. Encourage pedestrian activity in the streets and other public spaces.
03. Clearly define the character of the main street by activating the street and public domain.
04. Provide a high quality public domain to achieve desired employment outcomes.
05. Establish a consistent front building alignment and landscaped streetscape in accordance with the intended character of the Precinct.

4.2.1 Relationship to the public domain

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Building massing responds to context and future character including significant landforms, topography, landscape, built environment and the public domain.	<ol style="list-style-type: none"> 1. Building design responds appropriately to topography, with regular transitions that maximise integration between ground floor level and street level. 2. Building design is to incorporate a variety of materials and a schedule of materials and finishes is to accompany all development proposals. 3. Materials provided to building under crofts are to be integrated into the main building facade treatments.
PO2	Built form is orientated to activate the street and public realm, to provide positive address and architectural presence to the street.	<ol style="list-style-type: none"> 1. Locate and establish continuity of active uses such as retail outlets and restaurants at ground level street frontages built to the boundary, and offices (or residential) above ground level. 2. Non-active (i.e. non-retail, non-commercial, non-entertainment or non-community uses) uses to the principal street frontages are to be minimised. 3. Provide wide and legible entry/lobby areas and pedestrian pathways accessed from a public street or public open space. 4. Building facades at street level on active frontage streets and facing the public realm are to contain predominately clear glazing free of advertising and be open to the street. Dark glazed facades are not supported. 5. Upper floors are to be designed to overlook streets and public places to provide casual surveillance.

Performance Outcome		Benchmark Solution
		<ol style="list-style-type: none"> 6. The combined length of walls with no openings, car park entrances and service areas, cannot exceed 20% of the width of the primary street frontage. 7. Ground levels are to accommodate a range of tenancy sizes, including smaller tenancies that provide visual interest and numerous opportunities for interaction and activity along the street front. 8. Shopping centres and arcades are to maximise activation of the adjacent street and public domain and enhance permeability between public streets and places. 9. Ground floor tenancies and building entry lobbies are to have entries and ground floor levels at the same level as the adjacent footpath or public domain.

4.2.2 Amenity and sustainability

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	The floor-to-floor height provides flexibility to adapt to future permissible uses.	<ol style="list-style-type: none"> 1. Provide a minimum floor to floor height of: <ol style="list-style-type: none"> a. 5m on the ground floor of commercial buildings; and b. 3.6m on the first commercial floor and any commercial the floor above.
PO2	<p>Building depth and length is an appropriate scale to ensure adequate light, cross ventilation, and amenity for occupants.</p> <p>Building design and modulation create interest and suit the functionality of the building.</p>	<ol style="list-style-type: none"> 1. Building depth from facade to core is to be 12m. 2. Podiums are setback 3m from the property boundary fronting existing and new streets. 3. Any part of a building more than 40m in length must be designed with at least two distinct building components, each of which is to: <ol style="list-style-type: none"> a. Have its distinct architectural character; and b. Not exceed 25m in length. 4. Buildings less than or equal to 40m in length, may have a single architectural character provided that the cohesive elements establish a 'fine grain' articulation. 5. The maximum gross footprint for a commercial tower is 1,500 sqm.

4.2.3 Building setbacks and separation

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Building setbacks and separation provide for variation of built form in the street, and adequate upper building separation to support privacy, ventilation, and solar access.	<ol style="list-style-type: none"> 1. In a commercial building, the setbacks for podium and tower elements are as follows: <ol style="list-style-type: none"> a. Ground floor and podium: Nil setback (built to the property boundary). b. Tower: <ol style="list-style-type: none"> i. A primary street setback of minimum 6m; ii. 6m side setbacks; iii. Rear setback of 12m; and iv. Irrespective of (i), towers may have a nil setback on the primary street, subject to wind and microclimate analysis
PO2	Built form retains high levels of solar access to open spaces and/or public spaces.	<ol style="list-style-type: none"> 1. A minimum of 3 hours solar access between the hours of 9am and 3pm on 21 June is to be provided to a minimum of 70% of those public areas impacted by a commercial development.

4.2.4 Built form

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1 Built form, massing and design will define the placed based character and provide identity to the streetscape and the neighbourhood. Building design is also to serve a functional purpose including solar control, scale, and amenity.</p>	<ol style="list-style-type: none"> 1. Building design is to reflect the following: <ol style="list-style-type: none"> a. The part of the building that relates to the public domain; and b. The details and building elements including building entries, ground floor, lower floors, top floor, roof and corners. 2. Building facades consist of a variety of materials and openings (i.e. windows, door, and balconies) to create an architectural response that creates depth and visual diversity. 3. Incorporation of balconies, openings and other design elements that modulate the facade is encouraged above the ground floor to provide rhythm and interest.

4.2.5 Shelter and shade

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1 Provide continuous weather protection within centres that is integrated into building entrances and frontages, to optimise the provision of shade and shelter to the public domain.</p>	<ol style="list-style-type: none"> 1. Provide continuous awnings along the built form for shading and shelter of the adjacent footpath or public domain (including station plazas). 2. Awnings are to be designed with: <ol style="list-style-type: none"> a. A soffit height of 3.6m above the finished ground floor level; or b. On sloping sites, awning soffit height may vary from a minimum of 3.2m and maximum of 4.0 m. 3. The design of awnings is to provide: <ol style="list-style-type: none"> a. Integration between neighbouring properties in terms of awning height and setbacks; and b. Adequate space to support street trees canopy growth. 4. Separation between the awning edge and: <ol style="list-style-type: none"> a. Streetlights; b. Signage; c. The kerb of trafficable lanes to protect from bus and truck overhang; and d. Other street infrastructure.

4.2.6 Development in walking catchment of mass transit

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1 Development within mass transit walking catchments (800m) provide a public realm and built form that links the building with the station.</p>	<ol style="list-style-type: none"> 1. New development adjacent to or nearby a station plaza or place, station interchange areas and the Metro station itself is to integrate with that development (as designed or constructed). 2. All building frontages to a station plaza or interchange addresses and activates the public realm with well-designed and active street frontages, providing for land uses that support both daytime and night-time activity uses. 3. Built form is to maintain continuity and alignment of the street and to physically define the station plaza. 4. Driveways, loading docks, electrical substations and servicing facilities are located away from transit entry points and waiting areas, adjoining station plaza areas or significant pedestrian routes to the transit node.

4.3 Parking and travel management

4.3.1 Car parking

Objectives

- O1.** To facilitate an appropriate number of vehicular spaces having regard to the activities proposed on the land, the nature of the locality and the intensity of the commercial use.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To facilitate an appropriate number of vehicular spaces having regard to the activities within Centres and the intensity of the use.	<ol style="list-style-type: none"> On-site car parking is to be provided between the minimum and maximum rates in Table 6. For activities not identified in Table 6, the TfNSW's (formerly RTA) <i>Guide to Traffic Generating Developments</i> (ISBN 0 7305 9080 1) should be referred to as a guide.
PO2	Provision is made, where required, for the integration of car share parking.	<ol style="list-style-type: none"> All parking spaces for car share schemes are to be: <ol style="list-style-type: none"> Located together in closest proximity to entry and exit points of the building; and/or Located adjacent to a public road and integrated with the streetscape through appropriate landscaping where the space is external; and Signed for use only by car share vehicles. Parking spaces for car share schemes located on private land are to be retained as common property by the Owners Corporation of the site.
PO3	Electric vehicle parking and charging stations are to be integrated into car park design on the development site.	<ol style="list-style-type: none"> Design electric vehicle parking spaces with associated charging stations within or immediately adjacent to the parking spaces. Site on-street charging stations are to be located within the Flex Zone, a minimum of 600mm from the face of the adjacent kerb. Site charging stations clear of pedestrian paths of travel and do not inhibit desire lines. Car parking spaces are designed to be easily converted into electric charging stations. Provide charging points for micro mobility devices and prioritise parking for these vehicles.

Table 7 Car parking in Centres

Land use	Zone / Centre	Within 800m walking distance of a metro station	Greater than 800m walking distance of a metro station	
		Maximum parking rate	Minimum parking rate	Maximum parking rate
Tourist and Visitor Accommodation (Hotel, motel, or serviced apartments, backpacker accommodation)	All	1 space / 5 apartments or rooms, plus 1 space per 5 employees.	1 space / 5 apartments or rooms, plus 1 space per 5 employees.	1 space / 3 apartments or rooms, plus 1 space per 5 employees.
Office or business premises		1 space / 100m ² GFA		
Bulky goods premises		1 space / 100m ² GFA	1 space / 100m ² GFA	1 space / 75m ² GFA
Shop, restaurant or cafe		1 space / 90m ² GFA	1 space / 90m ² GFA	1 space / 45m ² GFA
Supermarkets		1 space / 200m ²	1 space / 200m ²	1 space / 50m ²
Shopping centre		1 space / 400m ² GFA	1 space / 400m ² GFA	1 space / 50m ² GFA
Entertainment facility		1 space / 100m ²	1 space / 100m ²	1 space / 25m ²
Hospital		1 space / 6 beds plus 1 space / 4 staff.	1 space / 6 beds plus 1 space / 4 staff.	1 space / 4 beds plus 1 space / 4 staff.
Place of public worship		1 space / 100m ²	1 space / 100m ²	1 space / 25m ²
Childcare centre		1 space / 2 employees with a maximum of 3 spaces plus:	1 space / 2 employees with a maximum of 3 spaces plus:	1 space / employee with a maximum of 6 spaces plus

Land use	Zone / Centre	Within 800m walking distance of a metro station	Greater than 800m walking distance of a metro station	
		<ul style="list-style-type: none"> 2 spaces if less than 24 enrolment places; or 3 spaces if 24 enrolment places and above. 	<ul style="list-style-type: none"> 2 spaces if less than 24 enrolment places; or 3 spaces if 24 enrolment places and above. 	1 space / 10 children in enrolment.
Educational		1 space / 6 staff	1 space / 6 staff	1 space / 4 staff
Medical centre or health consulting rooms		1 space / 200m ² Proposals for medical centres must include a traffic report accurately predicting traffic generation based on similar sized medical centres.	1 space / 200m ² Proposals for medical centres must include a traffic report accurately predicting traffic generation based on similar sized medical centres.	1 space / 75m ² Proposals for medical centres must include a traffic report accurately predicting traffic generation based on similar sized medical centres.
Recreational facilities		5 spaces / 100m ²	5 spaces / 100m ²	7 spaces / 100m ²
Swimming pool		5 spaces / 100m ²	5 spaces / 100m ²	7 spaces / 100m ²
Other land uses				
All uses not listed above	Neighbourhood Centre	1 space / 100m ² non-residential GFA	1 space / 100m ² non-residential GFA	1 space / 75m ² non-residential GFA
	Enterprise Zone	1 space / 250m ² non-residential GFA	1 space / 250m ² non-residential GFA	1 space / 150m ² non-residential GFA
	Mixed Use	1 space / 200m ² non-residential GFA	1 space / 200m ² non-residential GFA	1 space / 125m ² non-residential GFA
Motorcycle parking	All	Motorcycle parking – 1 space / 10 car spaces.		
Accessible car parking		2% of all spaces.		
Car share		Office, business, industrial or retail premises – minimum 1 space per 40 car spaces provided.		
Electric vehicle spaces		Office, business, industrial or retail premises – minimum 1 space per 40 car spaces provided.		

4.3.2 Bicycle parking

Objectives

- O1.** Minimise the reliance on private car usage.
- O2.** Prioritise the use of public and alternative transport modes including walking and cycling.
- O3.** Locate bicycle parking a short distance from the user's destination.
- O4.** Provide bicycle parking that is highly visible, safe for bicycles and is easy to find.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To facilitate an appropriate number of bicycle spaces having regard to the activities within Centres, the nature of the locality and the intensity of the use.	1. Bicycle parking is to be provided in accordance Table 7 below. The minimum number of bicycle parking spaces is to be rounded up to the nearest whole number.
PO2	Bicycle parking is to be functional and secure.	1. Where bicycle parking for tenants is provided in a basement, it is to be located: <ol style="list-style-type: none"> a. On the uppermost level of the basement and with access to the building lobby; and b. Close to entry and exit points.
PO3	Provision is made for electric bicycle charging.	1. 1 charging station for electric bicycles is provided for the first 5 bicycle spaces within a development, and for every 10 bicycle parking spaces thereafter.

Performance Outcome		Benchmark Solution
PO4	Bicycle parking is easily accessible.	<ol style="list-style-type: none"> 1. A safe path of travel from the bicycle parking to entry and exit points is marked. 2. Access to bicycle parking areas are: <ol style="list-style-type: none"> a. Rideable (i.e. users do not have to dismount to access); b. A minimum of 2m wide to allow a pedestrian and a person on a bicycle to pass each other; c. Accessible via a ramp where needed; d. Clearly identified by signage; and e. Accessible via appropriate security or intercom systems. 3. Bicycle parking for visitors is provided in an accessible at grade location near a major public entrance to the development and is appropriately signposted.

Table 8 Minimum bicycle parking rates in Centres

Use	Employees	Customers / visitors
Hotel, motel, or serviced apartments	1 space / 4 staff	1 space / 20 rooms
Backpackers accommodation		1 space / 10 beds
Office or business premises	1 space / 150m ² GFA	1 space / 400m ² GFA
Bulky goods premises	1 space / 600m ² GFA	1 space / 1,000m ² GFA
Shop, restaurant or cafe	1 space / 25m ² GFA	2 spaces plus 1 space / 100m ² over 100m ² GFA
Shopping centre	1 space / 200m ² GFA	1 space / 300m ² sales GFA
Pub	1 space / 100m ² GFA	1 space / 100m ² GFA
Entertainment facility	N/A	Whichever is greater of: a) 1 space / 15 seats; or b) 1 space / 40m ² GFA.
Place or public worship	N/A	
Hospital	1 space / 15 beds	1 space / 30 beds
Community centre	1 space / 10 staff	2 spaces plus 1 space / 1,000m ² GFA
Childcare centre	1 space / 10 staff	2 spaces / centre
Primary school	1 space / 20 staff	1 space / 5 students
Secondary school		
Tertiary educational institution	1 space / 10 staff	1 space / 10 students
Medical centre or health consulting rooms	1 space / 5 practitioners	1 space / 200m ² GFA
Swimming pool	1 space / 10 staff	2 spaces / 15m ² of pool area
Library	1 space / 10 staff	2 spaces plus 1 space / 200m ² GFA
Art gallery or museum	1 space / 1,000m ² GFA	1 space / 200m ² GFA

4.3.3 End of trip facilities

Objectives

- O1.** Provide high quality and innovatively designed end of trip facilities that promote multi-modal trips and efficient use of existing public and private parking facilities.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Change and shower facilities are provided for user needs.	<ol style="list-style-type: none"> 1. Lockers and bicycle parking spaces are decoupled. 2. The following end of trip facilities are provided at the following rates: <ol style="list-style-type: none"> a. 1 personal locker for each bicycle parking space;

Performance Outcome	Benchmark Solution
	<ul style="list-style-type: none"> b. 1 shower and change cubicle for the first 5 bicycle spaces or part thereof, plus an additional shower for every 10 bicycle parking spaces thereafter; c. Showers and change facilities may be provided in the form of shower and change cubicles in a unisex area or in both female and male change rooms; and d. Locker change room and shower facilities are located close to the bicycle parking area, entry/exit points.

4.4 Signage in Centres

Objectives

- O1. Ensure signs and advertisements contribute positively to the public domain and achieve a high level of design quality.
- O2. Ensure that visual and physical amenity are not adversely impacted by visual clutter associated with a proliferation of signs.
- O3. Ensure signs are clearly visible without dominating buildings, streets, or public places.
- O4. Ensure signs and advertisements do not create a safety risk or hinder direct movement in high volume pedestrian areas.
- O5. Support wayfinding.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
<p>PO1 Businesses are readily identifiable, while the visual and physical amenity of a locality is not impaired by a proliferation of signs.</p>	<ul style="list-style-type: none"> 1. Signage placement, design and dimensions comply with Table 8. 2. Signage is provided only for the purposes of business identification or wayfinding. 3. Where signage is for the purpose of business identification, it clearly identifies the name and street number of the business or activity undertaken on the premises. 4. For developments with multiple tenancies, one freestanding common tenancy sign is allowed per street frontage and the size is restricted to a maximum size of 10 sqm. 5. Sculptural features that reflect company branding may be considered as signage on a merit basis. 6. Signage should be confined to the ground level of the building, awning, or fascia, unless demonstrated that the building is of a scale, architectural style and in a location that would be enhanced by signage at different elevations.
<p>PO2 Signage does not result in adverse impacts on amenity.</p>	<ul style="list-style-type: none"> 1. Signage does not include moving, revolving, strobing, or flashing components which would impact Airport operations. 2. Signage does not cause undesirable overshadowing or impacts on properties overlooking the signage. 3. Signage is installed/constructed so that it can easily be removed when the business is no longer operating on the premises.
<p>PO4 Signage's level of illumination is safe and does not cause detrimental impacts on the amenity of its locality.</p>	<ul style="list-style-type: none"> 1. Illuminated signage may only be permitted where it can be demonstrated that it is necessary, suitable to its context, and will not result in adverse impacts on visual amenity and safety, including aviation safety. 2. The illuminance, luminance and threshold increment of illuminated signage complies with AS 4282-1997. 3. Up-lighting of signs is prohibited. Any external lighting of signs is: <ul style="list-style-type: none"> a. Downward pointing; b. Focused directly on the sign; and c. Prevents or minimises the escape of light beyond the sign. 4. Illumination must not cause glare, traffic hazard, environmental impacts, or another nuisance. 5. The maximum night-time luminance of any sign does not exceed 300 cd/sqm. A lighting report may be required in some circumstances.

Performance Outcome		Benchmark Solution
		6. A curfew may be imposed on the operation of illuminated signs where continuous illumination may impact adversely on the amenity of residential buildings, serviced apartments or other tourist and visitor accommodation, or have other adverse environmental effects.
PO5	Signage maintains appropriate levels of safety and not unduly obstruct, or distract, vehicular or pedestrian traffic.	<ol style="list-style-type: none"> 1. Signage is structurally sound and securely fastened to prevent accidental damage or injury. 2. Overhead signage provides a minimum of 2.4m high clearance to a public footpath below any signage device. 3. Signage must maintain the view of any traffic sign, traffic signals or street name, and does not reduce drivers' line of sight.
PO6	To deliver coordinated and site-specific approaches to signage that complement and support the architectural design of a building and the public domain.	1. A signage strategy is to be prepared for all signage applications that contain more than four business premises.

Table 9 Signage in Centres Placement Design and Dimensions

Signage type	Placement/ Maximum size
Shop front sign	Does not project above, below or beyond the return edge of the fascia.
Under-awning signage	Maximum dimensions 2.5m x 0.3m.
Flush wall sign	Maximum 5 sqm.
Building identification sign	Maximum of 1 sign per building.

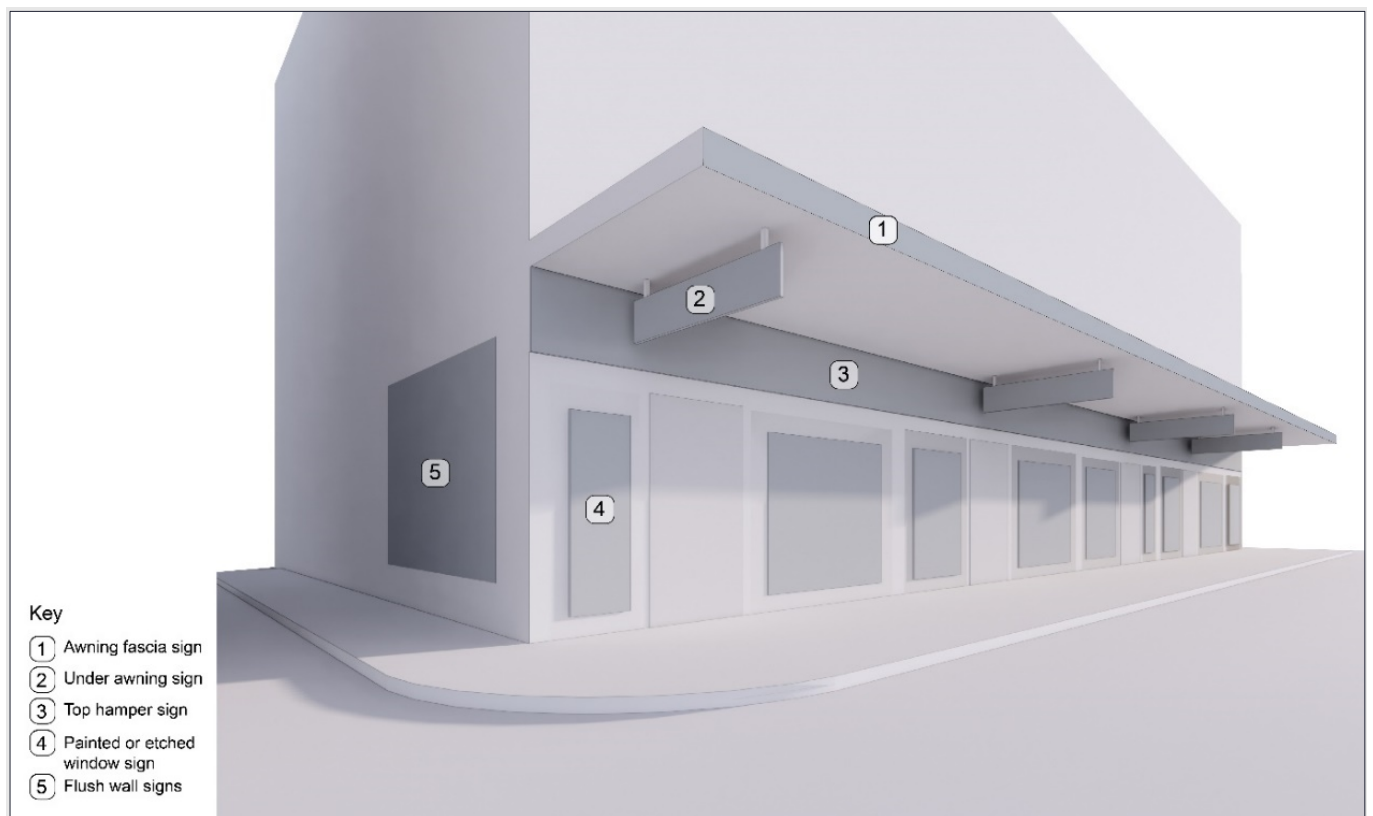


Figure 19 Signage types

5.0 Residential Development

This Chapter applies to residential development on land in the following areas of the Aerotropolis identified for residential development, as identified in the Aerotropolis Precinct Plan:

- Mixed Use residential;
- Subdivision and associated residential development in the Specialised Centre and Commercial Centre - mixed use areas; and
- The Sydney Science Park.

5.1 Road network and design

This section applies to residential development in areas identified for Mixed Use residential and residential development in Specialised Centre and Commercial Centre - mixed use areas that include Collector Roads and Local Streets identified in the Street Network and Hierarchy map in the Aerotropolis Precinct Plan. Further guidance on street design and engineering standards can be found in the *Western Sydney Street Design Guidelines*, *Western Sydney Engineering Design Manual* and the Precinct Plan.

Objectives

- O1.** Design street networks to support the objectives of the NSW Government's Movement and Place framework.
- O2.** Design the local road network generally consistent with the Aerotropolis Precinct Plan.
- O3.** Design the local street network to accommodate diverse modes of transport including cars, public transport, walking and cycling.
- O4.** To contribute to the creation of an interesting and attractive streetscape.
- O5.** Provide a safe and convenient public transport, pedestrian and cycleway network.

5.1.1 Street design

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	The design, functionality and safety of Collector and Local roads within Centres is consistent across the Aerotropolis.	<ol style="list-style-type: none">1. Road design for Collector and Local roads as identified on the Aerotropolis Precinct Plan are to be consistent with the typical arrangements shown in Figure 18 to Figure 21. Note: All street cross-sections illustrate minimum requirements. In certain circumstances distances may need to increase to respond to site specific conditions such as topography and the retention of remnant vegetation.

Note: Roads and streets are to be designed in accordance with the *Western Sydney Street Design Guidelines*, except where specific street cross sections are provided in this DCP for streets as shown on the street hierarchy map at Figure 10 of the Aerotropolis Precinct Plan.

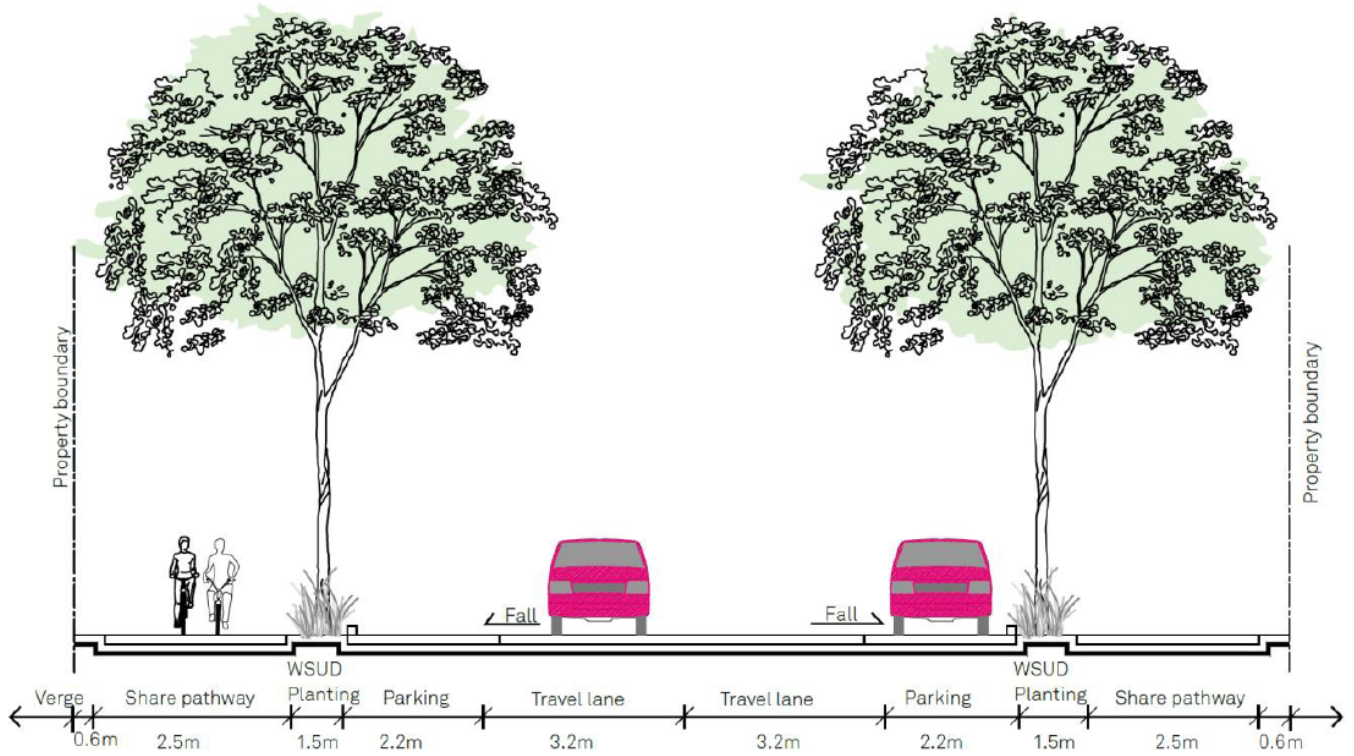


Figure 20 Typical collector road

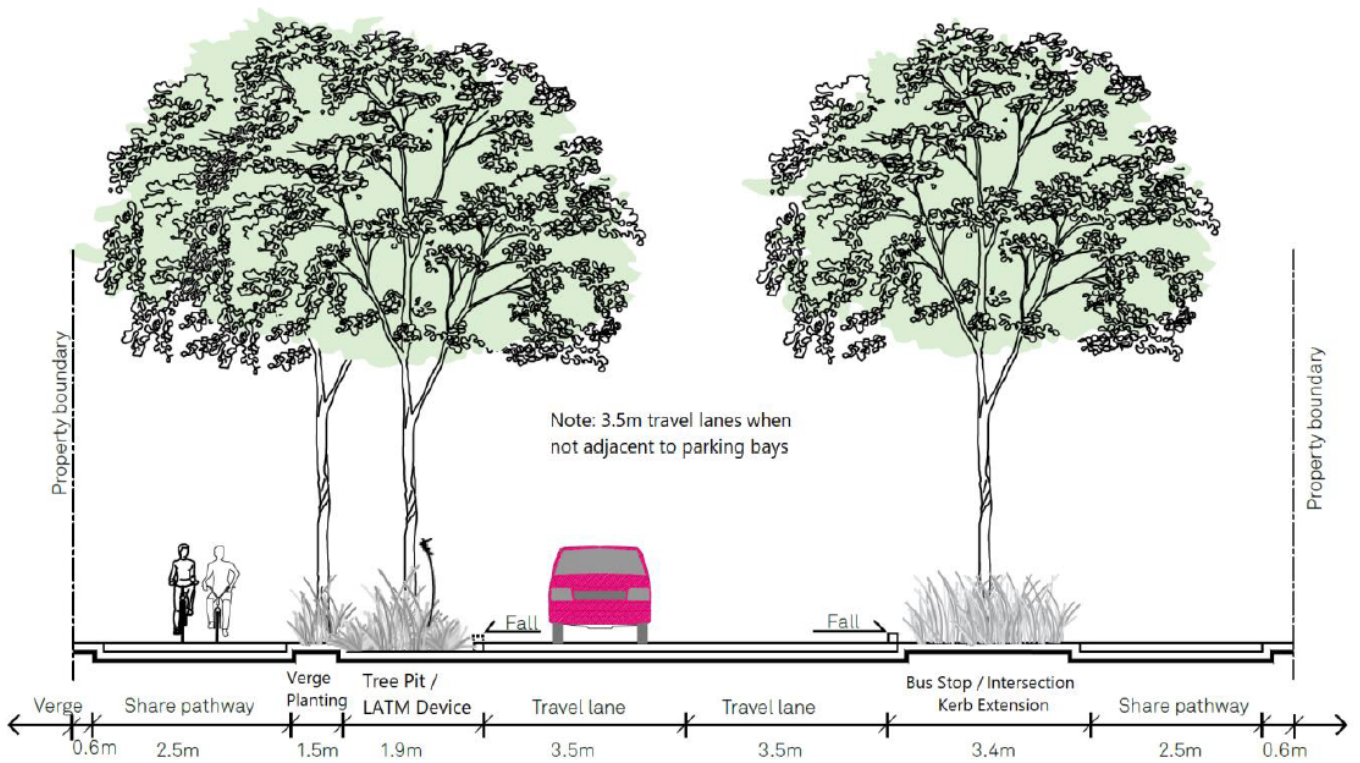
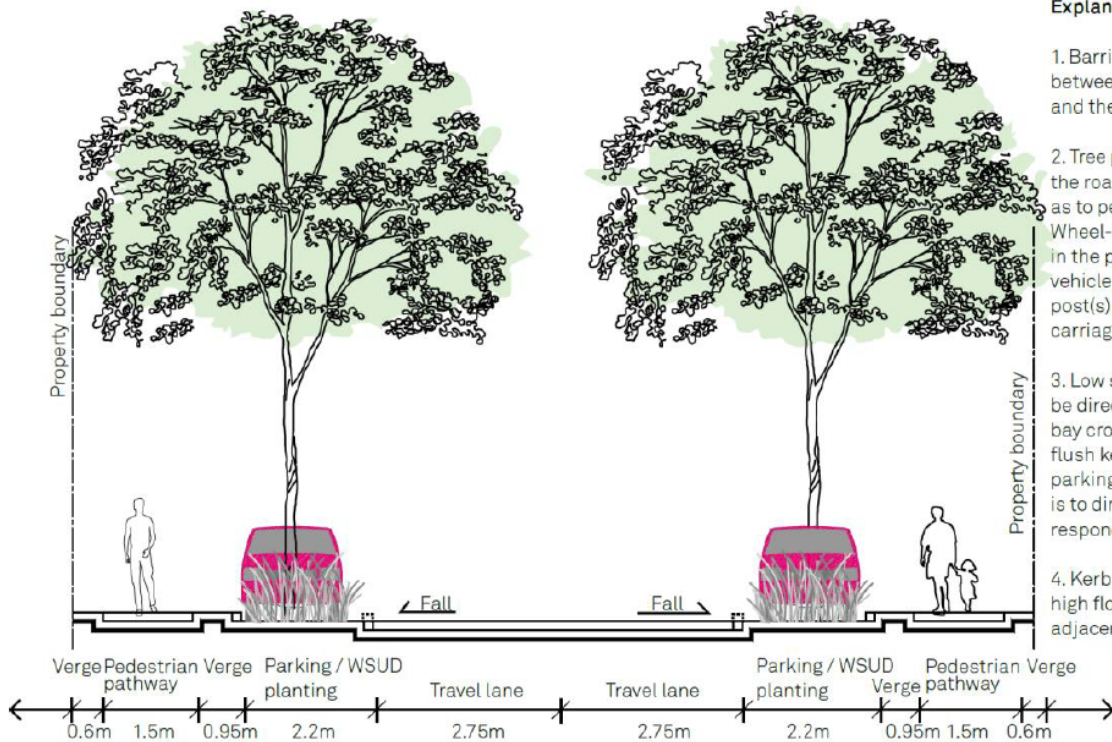


Figure 21 Collector Road LATM, Tree Pit, Bus Stop or Kerb Extension Details



Explanatory Notes:

1. Barrier kerbs are to be provided between the parking/WSUD bays and the verge.
2. Tree pits are to be set below the road surface, with no kerb, so as to permit passive irrigation. Wheel-stops are to be provided in the parking bays to prevent vehicles striking trees and guide post(s) provided adjacent to the carriageway.
3. Low stormwater flows are to be directed to tree pits. Parking bay cross-fall and the choice of flush kerbs or V-gutters between parking bays and traffic lanes is to direct water to trees whilst responding to site topography.
4. Kerb lintel inlets, if needed for high flows, should be provided adjacent to tree pits so as to capture overflow only.

Figure 22 Typical local street

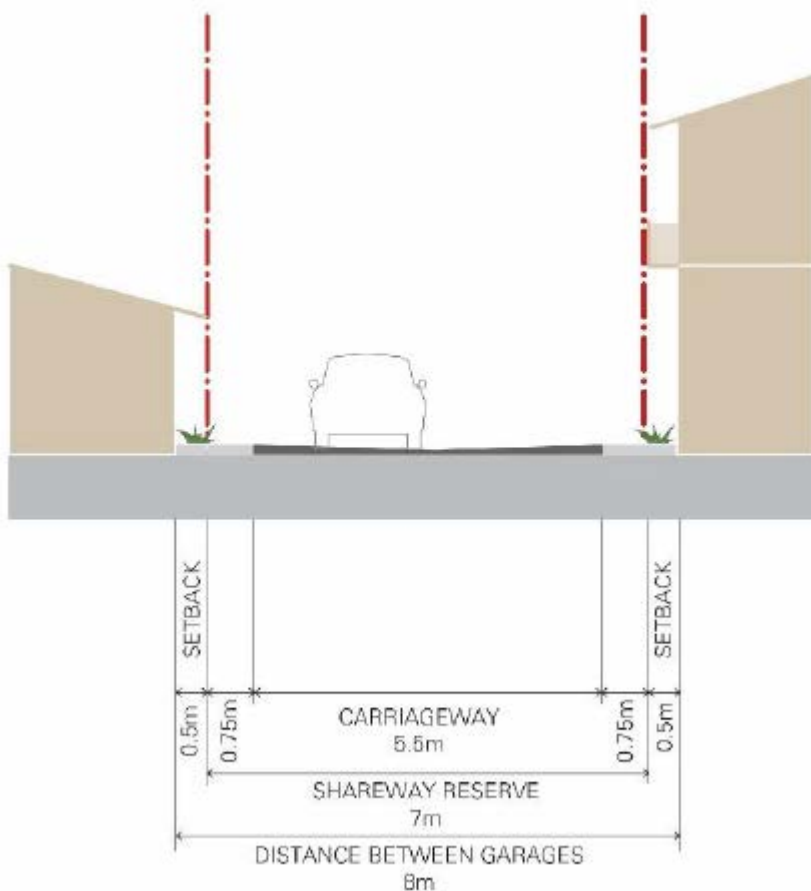


Figure 23 Typical laneway

5.2 Built form

Objectives

- O1.** Ensure high quality architecture, design and built form outcomes which respond to topography and site characteristics.
- O2.** To establish a high quality residential environment where all dwellings have a good level of amenity.
- O3.** To encourage a variety of housing forms within the mixed use residential areas of the Aerotropolis.
- O4.** Establish a consistent front building alignment and landscaped streetscape for mixed use residential areas of the Aerotropolis.

5.2.1 Relationship to the public domain

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Building massing responds to context and future character including significant landforms, topography, landscape, built environment and the public domain.	<ol style="list-style-type: none"> 1. Building design responds appropriately to topography, with regular transitions that maximise integration between ground floor level and street level.
PO2	Built form is orientated to activate the street and public realm, to provide positive address and architectural presence to the street.	<ol style="list-style-type: none"> 1. Pedestrian entries are to be clearly visible from the public domain. 2. Provide wide and legible entry/lobby areas and pedestrian pathways accessed from a public street or public open space. 3. Residential uses on the upper floors are to be designed to overlook streets and public places to provide casual surveillance. 4. Non-residential development associated with shop top housing at ground level is to have high activation and street presence. 5. No hardstand parking spaces are permitted directly in front of any residential building front door or pedestrian entrance point. 6. Building facades are to be articulated by: <ol style="list-style-type: none"> a. Off-setting walls; b. Providing a physical break in the building; c. The use of a mix of different materials and detailing; and d. The inclusion of balconies, verandas, pergolas, and landscaped beds.
PO3	Fencing is to complement the streetscape, provide separation between properties, and allow for passive surveillance.	<ol style="list-style-type: none"> 1. For the primary frontage, fencing: <ol style="list-style-type: none"> a. Must have a maximum height of 1.2m; b. Must not prevent surveillance by the dwelling's occupants of the street or communal areas; c. Must be at least 30% transparent for elements exceeding 1m in height; and d. Must be of a materiality integrates with the design of the development. 2. For secondary frontages fencing must have a maximum height of 1.2m in height. 3. For corner lots, fencing may have a maximum height of 1.8m in height, stepping down to allow for casual surveillance from the development to the street frontages.

5.2.2 Amenity and sustainability

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Lot size is appropriate for development.	<ol style="list-style-type: none"> 1. Development for the purpose of multi dwelling housing is to contain the minimum lot width and sizes:

Performance Outcome		Benchmark Solution
		<ul style="list-style-type: none"> a. Minimum lot size is 800 sqm; and b. Minimum lot width is 24m.
PO2	Building depth and length is an appropriate scale to ensure adequate light, cross ventilation, and amenity for occupants, visitors and/or workers.	1. The maximum gross footprint for a residential tower above 5 storeys in height is 650 sqm.
PO3	Ensure appropriate solar access to living areas and private open space.	<ul style="list-style-type: none"> 1. Multi dwelling housing and adjoining properties must receive a minimum of three hours of sunlight between 9am and 3pm on 21 June to the following areas: <ul style="list-style-type: none"> a. 1 living room; and b. 50% of the private open space. 2. Solar access for residential flat buildings and shop top housing is to achieve the solar access requirements set out in the Apartment Design Guide. 3. Orient habitable rooms and windows to take advantage of northern aspects. 4. Locate non-habitable rooms, such as service areas and circulation areas on the south side of the buildings. 5. Provide skylight or clerestory windows to improve solar access and provide shared light to poorly lit parts of a dwelling, where orientation and design cannot achieve performance outcome.
PO4	Provide for cross ventilation within the dwelling	<ul style="list-style-type: none"> 1. The internal layout of the dwelling must incorporate cross ventilation. 2. Natural ventilation is available to each habitable room.
PO5	Ceiling heights are an appropriate height for residential amenity.	<ul style="list-style-type: none"> 1. Ceiling heights for multi dwelling housing are to be a minimum of 3.1m on the ground floor and a minimum 2.7m above ground. (Note: This height is measured from the top of the finished slab level). 2. Ceiling heights for residential flat buildings and shop top housing are to be in accordance with the Apartment Design Guide.
PO6	Multi dwelling housing contains an area of principal private open space	<ul style="list-style-type: none"> 1. Each dwelling provides principal private open space with a minimum dimension of 4m, and a minimum area as follows: <ul style="list-style-type: none"> a. 1 bed / studio: 16 m²; b. 2 bed: 25m²; and c. 3+ bed: 35m². 2. Where the minimum 4m dimension cannot be provided at a level gradient due to site constraints, terraced areas may be considered. 3. One living area should have a direct link to the principal private open space.
PO7	Dwelling layout and site design maximise visual privacy to dwellings.	1. Building siting, window location, balconies and fencing are designed to maximise privacy on site and adjoining buildings and outdoor spaces.

5.2.3 Building setbacks

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Building setbacks and separation for high density residential development provide for variation of built form in the street, and adequate upper building separation to support privacy, ventilation, and solar access.	<ul style="list-style-type: none"> 2. Multi dwelling housing is to meet the following building setbacks and separation distances: <ul style="list-style-type: none"> a. Minimum front setbacks: 4.5m (ground level) and 5.5m (first floor). b. Minimum secondary frontage (corner sites): 2.5m (ground level) and 2.5m (first floor). c. Minimum 6m side and rear setbacks. d. Minimum 3m setback to a rear lane. 3. Residential flat buildings and shop top housing development is to be guided by the guidelines and principles of <i>State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development</i> and the Apartment Design Guide.

Performance Outcome		Benchmark Solution
	Provide consistent building alignment.	<p>4. Residential flat buildings and shop top housing is to meet the following front building setbacks:</p> <p>a. Minimum front setbacks:</p> <p>i. Residential flat building: 6m (balconies and other articulation may encroach up to 4.5m to the boundary).</p> <p>ii. Shop top housing: 0m first floor setback and 4m above the first floor.</p> <p>b. Secondary street (corner lot) setback:</p> <p>i. Residential flat building: 6m.</p> <p>ii. Shop top housing: 3m.</p> <p>5. The minimum setback from the side and rear property boundaries for residential flat buildings and shop top housing is to comply with the requirements of the Apartment Design Guide.</p> <p>6. Zero side setbacks are permitted for the upper floors providing the side wall contains no windows or other openings.</p> <p>7. Notwithstanding the setback controls outlined in control (1) or (2) above, balconies and other minor articulation may encroach 1.5m into the building setback provided it can maximise solar access, support landscaping or supports an articulated façade which can improve visual interest and reduce the perceived bulk and scale of development.</p>
PO2	Ensure the amenity of surrounding developments by providing screen planting on the boundary.	<p>1. Multi dwelling housing, residential flat buildings and shop top housing is to be supported by a minimum of 3m landscape width along all fence lines for the inclusion of screen planting and boundary planting.</p> <p>2. Screen planting on the boundary is to reach a minimum height of 2.5m at maturity.</p> <p>3. Landscaping along the boundary is to be strategically placed to have the optimal effect in relation to both the provision of privacy and the achievement of solar access controls.</p>

5.2.4 Diversity and accessibility

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	A diverse range of dwelling types are provided to meet a range of household sizes and income and cultural needs.	<p>1. Studio and one bedroom units must not be less than 10% of the total mix of units within each development.</p>
PO2	Universally designed dwellings are provided which cater to a range of household and personal need, (including the changing mobility requirements of people over their lifetime).	<p>1. Liveable dwellings are spread throughout the proposed development at the same rate of 1 bedroom, 2 bedroom, and 3 bedroom dwellings.</p> <p>2. 10% of all dwellings or a minimum one dwelling, whichever is greater, must be designed in accordance with the Australian Adaptable Housing Standard (AS4299-1995), to be capable of adaptation for people with a disability or elderly residents.</p>

5.2.5 Sydney Science Park

Residential development within the Sydney Science Park is to be in accordance with the benchmark solutions below.

Performance Outcomes and Benchmark Solutions

Performance Outcome	Benchmark Solution
Small lot housing	
<p>PO1</p> <p>Encourage quality-designed dwelling houses that make a positive contribution to the streetscape and amenity of the neighbourhood.</p> <p>Achieve a high level of amenity for the occupants.</p>	<ol style="list-style-type: none"> 1. Achieve the following minimum allotment size: <ol style="list-style-type: none"> a. 125 sqm (terrace). b. 200 sqm (zero side setback lot). c. 200 sqm (small detached). 2. Maximum allotment size: 450 sqm. 3. Minimum average allotment width (measured at the primary building line): <ol style="list-style-type: none"> a. 5m (terrace). b. 10m (zero side setback lot). c. 12m (small detached). 4. Maximum average allotment width – zero side setback lots only (measured at the primary building line): 15m. 5. Minimum lot depth: 20m. 6. Minimum private open space: <ol style="list-style-type: none"> a. 16 sqm (lots under 300 sqm and minimum width 3m). b. 24 sqm (lots over 300 sqm and minimum width 4m). 7. Principal area of private open space is to be directly accessible from living area. 8. Front setback: <ol style="list-style-type: none"> a. 3.5m (terrace). b. 4m (zero side setback lot, small detached) Where a particular street character or urban form is to be created or reinforced, a nil setback may be provided. c. 2m secondary street frontage (light weight). 9. Rear setback: <ol style="list-style-type: none"> a. 4m ground level (0m for terrace rear loaded). b. 6m upper level (1m from terrace front loaded). 10. Side setback: <ol style="list-style-type: none"> a. 1m (except attached and zero side setback lot). b. 1.5m upper setback (except terraces). 11. Corner lots (secondary frontage): 2m. 12. Lightweight projections within front setback: 2m (within front setback).
Standard Detached Housing	
<p>PO1</p> <p>Encourage quality-designed dwelling houses that make a positive contribution to the streetscape and amenity of the neighbourhood.</p> <p>Achieve a high level of amenity for the occupants.</p>	<ol style="list-style-type: none"> 1. Minimum allotment size: 450 sqm. 2. Maximum allotment size: 700 sqm. 3. Minimum average allotment width: 15m. 4. Minimum lot depth: 20m. 5. Minimum private open space: <ol style="list-style-type: none"> a. 24 sqm (minimum width 4m). b. Principal area of private open space is to be directly accessible from living area. 6. Maximum building site coverage: 65%. 7. Front setback: 4m (zero side setback lot, small detached). 8. Rear setback: <ol style="list-style-type: none"> a. 4m ground level. b. 6m upper level. 9. Side setback: 1m (except attached and zero side setback lot). 10. Corner lots (secondary frontage): 2m. 11. Lightweight projections within front setback: 2m (within front setback).

Performance Outcome		Benchmark Solution
Residential Flat Buildings		
PO1	Encourage quality-designed high density dwellings that make a positive contribution to the streetscape and amenity of the neighbourhood. Achieve a high level of amenity for the occupants.	<ol style="list-style-type: none"> 1. Minimum frontage width: 20m. 2. Minimum landscaped area: 20% (suitable for deep soil). 3. Minimum private open space: 8 sqm. 4. Front setback: 4m . 5. Rear setback: 9m upper level. 6. Side setback: <ol style="list-style-type: none"> a. 5m for buildings up to 4 storeys in height. b. 9m for buildings greater than 4 storeys in height. 7. Corner lots (secondary frontage): 4m.

5.3 Parking and travel management

5.3.1 Car parking

Objectives

- O2.** To facilitate an appropriate number of vehicular spaces having regard to the activities proposed on the land, the nature of the locality and the intensity of the use.
- O3.** Encourage the use of bicycles as an environmentally beneficial form of transport and an alternative to the use of private motor vehicles.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	To facilitate an appropriate number of vehicular spaces having regard to residential development.	<ol style="list-style-type: none"> 1. On-site car and bicycle parking is to be provided between the minimum and maximum rates in Table 9. 2. Where car parking is not accessed from a rear lane way, at least one (1) car parking space shall be provided for attached dwellings, detached dwellings and small lot housing behind the front setback area. 3. For activities not identified in Table 9, the TfNSW's (formerly RTA) <i>Guide to Traffic Generating Developments</i> (ISBN 0 7305 9080 1) should be referred to as a guide.

Table 10 Car and bicycle parking for residential development

Land use	Within 800m walking distance of a metro station		Greater than 800m walking distance of a metro station	
	Maximum parking rate		Minimum parking rate	Maximum parking rate
Attached and detached dwelling Small lot housing	Studio or 1 bedroom – 1 space / dwelling			
	2 bedroom – 1 space / dwelling		2 bedroom – 1 space / dwelling	2 bedroom – 2 spaces / dwelling
	3 or more bedrooms – 1 spaces / dwelling		3 or more bedrooms – 1 spaces / dwelling	3 or more bedrooms – 2 spaces / dwelling
Multi-dwelling housing	Studio or 1 bedroom – 1 space / dwelling			
	2 bedroom – 1 space / dwelling		2 bedroom – 1 space / dwelling	2 bedroom – 1.5 space / dwelling
	3 or more bedrooms – 1.5 spaces / dwelling		3 or more bedrooms – 1.5 spaces / dwelling	3 or more bedrooms – 2 spaces / dwelling
	Visitor – 0.25 spaces / dwelling with a minimum of 1 space.			
	Provision of a car washing space if there are more than 4 dwellings.			
Residential flat buildings and Shop-top housing	Studio or 1 bedroom – 0.5 spaces / dwelling		Studio or 1 bedroom – 0.5 spaces / dwelling	Studio – 0.5 spaces / dwelling 1 bedroom – 1 space / dwelling
	2 bedrooms – 1 space / dwelling			

	3 or more bedrooms – 1 space / dwelling	3 or more bedrooms – 1 space / dwelling	3 or more bedrooms – 1.5 spaces / dwelling
	Motorcycle parking – 1 space / 10 car spaces		
	Provision of a car washing space for developments with more than 4 dwellings.		
Accessible car parking	1 space / adaptable dwelling		
	1 space / 20 visitor spaces		
Minimum car share spaces – multi dwelling housing, Residential flat buildings and Shop-top housing	1 space / 60 car spaces provided		
Minimum electric vehicles spaces including charging stations – multi dwelling housing, Residential flat buildings and Shop-top housing	1 space per 60 car spaces provided For all other residential development, provision for the charging of electric vehicles shall be provided.		
Bicycle parking	1 space / dwelling (resident)		
	1 space / 10 dwelling (visitor)		

6.0 Certain Land Uses

This section guides development for certain additional land uses in the Aerotropolis and Identified in the Aerotropolis Precinct Plan.

6.1 Social and cultural infrastructure

Objectives

- O1.** Create an integrated hierarchy of social and cultural infrastructure within the Aerotropolis that is centrally located, adaptable and flexible to the changing needs of the population.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Social and cultural infrastructure can meet the needs of the future community and the needs of its users including workers, visitors, tourists and residents within the Aerotropolis.	<ol style="list-style-type: none"> 1. Social and cultural infrastructure supports (including benchmarks) the Western Sydney Aerotropolis Social Infrastructure Strategy (January 2022), developed as part of the Aerotropolis Precinct Plan. 2. Master planned sites and sites of 20 hectares or more within Metropolitan, Specialised and Local Centres are to identify areas for cultural infrastructure such as dedicated spaces for cultural practice, places for sharing culture and specialised infrastructure to meet the needs of the local Aboriginal community. 3. Social and cultural infrastructure can serve multiple purposes and is safe, well located, close to public transport, shops, restaurants and health facilities.
PO2	Social and cultural infrastructure is flexible so that it can respond and adapt as the population, technology, or community (residents and employees) needs change	<ol style="list-style-type: none"> 1. Demonstrate that social and cultural infrastructure is designed to be flexible to enable expansion or adaptation for other uses or activities such as: <ol style="list-style-type: none"> a. Large, medium, and small gatherings; b. Temporary public or private events; c. Public responses to emergencies or disasters; d. Changing population; or e. Changing technology.

6.2 Night time economy uses

Objectives

- O1.** Support a safe, diverse, inclusive, vibrant, and accessible night-time economy for the Aerotropolis.

O2. Enable trading hours to support night-time economy uses and activities in appropriate locations.

O3. Ensure that night-time accessibility to centres promotes high levels of activity and a strong night-time economy.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Night-time uses are highly accessible by public transport.	<ol style="list-style-type: none"> 1. Prioritise the locations of night-time uses in areas where they can be easily and safely accessed by public transport (walking distance from a Metro station, or a bus stop with high frequency service aligned with proposed hours of operation) or walking and cycling. 2. The design of key pedestrian routes from public transport nodes to areas of night-time activity provides for safe night-time walking. 3. Provide wayfinding (signage and lighting) to direct patrons between late-night services and public transport options.
PO2	Night-time uses are designed to have minimal adverse impacts on the comfort and safety of patrons, nearby residents and the broader community.	<ol style="list-style-type: none"> 1. Night-time economy uses are to include passive surveillance over the street frontage, avoiding the use of roller doors, blank walls or other components which do not enhance safety of the area. 2. Night-time uses shall include noise mitigation measures to manage any land use conflicts. 3. A Plan of Management and a Social Impact Assessment is to be submitted where night-time uses exceed 9:00pm.
PO3	Hours of operation promote a safe and vibrant night-time economy.	<ol style="list-style-type: none"> 1. Hours of operation are to be considered on a merit basis, with consideration of the following: <ol style="list-style-type: none"> a. The nature of the night-time use and its likely impacts on surrounding land uses, including residential; b. Surrounding hours of operation; c. Proposed management measures; d. Availability and frequency of public transport; e. The likelihood of the proposed use to promote antisocial activities; f. Levels of public lighting available at and to the site; g. Amenity impacts on surrounding premises; and h. Cumulative impact of uses in a location.

6.3 Animal boarding or training establishments

Objectives

O1. Ensure the design and location of animal boarding or training establishments does not adversely impact on the environment or the amenity of existing and future developments.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Development does not impact the amenity of adjacent neighbours.	<ol style="list-style-type: none"> 1. Locate animal boarding or training establishments a minimum distance of 150m from existing or future residential areas, including in mixed-use zones. This minimum distance proportionally increases on merit, depending on the number of animals permitted, with a maximum of 40 animals at 300m. 2. Site selection meets the following criteria: <ol style="list-style-type: none"> a. Minimum street frontage is 90m; and b. Minimum setback is 60m from any public road. 3. Concrete floors are provided to all kennels with runs to facilitate cleaning. 4. Facility design prevents pollution to surface and ground waters (e.g. washdown waters are collected and directed to sewer).

Performance Outcome		Benchmark Solution
		<ol style="list-style-type: none"> 5. Sound-proofed holding sheds are provided for distressed animals (as per the <i>NSW Animal Welfare Code of Practice No 5 – Dogs and cats in animal boarding establishments</i>). 6. An acoustic report demonstrates that relevant acoustic measures have been implemented to mitigate noise impact on adjoining properties and the public domain. 7. An odour report in accordance with Chapter 2.9.4 (above) must be provided to demonstrate if the use is appropriately located so as not to impact on the amenity of neighbouring properties.

6.4 Tourist and visitor accommodation

Objectives

- O1. Ensure that tourist and visitor accommodation provide acceptable standards of health, safety, cleanliness and amenity for guests and staff.
- O2. Ensure that tourist and visitor accommodation operate in manner that does not adversely impact on the amenity of the surrounding locality.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Tourist and visitor accommodation operate in a safe and clean manner that protects the amenity of guests, staff, and neighbours.	1. A plan of management for tourist and visitor accommodation is provided with the DA.
PO2	Tourist and visitor accommodation provide adequate amenity for the purpose of short term stays only.	<ol style="list-style-type: none"> 1. The maximum length of stay for any guest is 3 months. 2. Tourist and visitor accommodation provide communal recreation areas of 20m² or at a rate of 0.75m² per person based on the maximum number of guests, whichever is greater. 3. Any noise-generating activities and areas that cause exposure to sensitive uses on neighbouring sites are restricted between 10pm-7am.
PO3	Tourist and visitor accommodation are located close to public transport to provide a high level of amenity to guests.	1. Tourist and visitor accommodation shall be located within 800m of public transport and within easy access to facilities and services.

6.5 Telecommunication facilities

Objectives

- O1. Minimise impacts of telecommunication facilities on the environment, surrounding properties, workers, residents, and future character of the precinct.

Performance Outcomes and Benchmark Solutions

Performance Outcome		Benchmark Solution
PO1	Co-location of telecommunication facilities minimises the number of facilities required.	1. The siting and design telecommunication facilities consider the existing and future potential for co-location of additional telecommunications facilities.
PO2	Telecommunication facilities do not have adverse impacts on the environment.	1. Telecommunication facilities are not located on Environmentally Significant Land or on land below the PMF level.
PO3	Telecommunication facilities ensure human health and	1. Consult with the local community and ensure compliance with <i>NSW Telecommunications Facilities Guideline including Broadband</i> or any further updates.

Performance Outcome		Benchmark Solution
	safety, including risks associated with the emission of electro-magnetic radiation.	<ol style="list-style-type: none"> 2. Provide a minimum 300m separation from any residential area or other sensitive use. 3. The level of electro-magnetic radiation emitted from any telecommunications facility does not exceed the limit of 0.2uW/cm². 4. Signs are erected around a telecommunications facility displaying warnings and information to minimise public risk. 5. The facility is enclosed with a minimum 1.8m high open mesh (or similar) to prevent public access to the site.
PO4	Visual impact on the public domain is minimised.	<ol style="list-style-type: none"> 1. Locate the facility so that it does not detract from: <ol style="list-style-type: none"> a. The heritage significance or settings of a heritage item or potential archaeological site; b. The amenity of open spaces; or c. Key regional and district views and vistas. 2. Facilities are of a “slimline monopole” construction. 3. The facility does not include advertising signs, including logos. 4. The facility does not contain night illumination (except where a proposed telecommunications facility infringes the Obstacle Limitation Surface (OLS) for aircraft safety).
PO5	Landscaping screens the facility from the public domain.	<ol style="list-style-type: none"> 1. Locate the facility where vegetation, landform or open space features screen or can reduce its visual impact. 2. Additional landscaping shall be provided where existing vegetation does not adequately screen the facility.

6.6 Additional land uses

Where the land uses and particular sites identified in **Table 10** are proposed in the Aerotropolis, their development in addition to Chapter 2 of this DCP will also be guided by the existing provisions under the Liverpool Development Control Plan 2008 (for land in the Liverpool LGA) and the Penrith Development Control Plan 2014 (for land in the Penrith LGA). The Council DCPs apply for these land uses in spite of any notes in those DCPs regarding specific land use zones where they apply.

In these instances, both Liverpool and Penrith Council already have established development controls to guide these forms of development which continue to remain relevant and appropriate.

Table 11 Controls for additional land uses

LAND USE	DCP CONTROLS	
	Development in the Penrith LGA	Development in the Liverpool LGA
Childcare centres	Section 5.2 of Part D5 (Volume 1) of the PCC DCP 2014	Section 14 of Part 6 of the LCC DCP 2008
Educational facilities / establishments	Section 5.4 of Part D5 (Volume 1) of the PCC DCP 2014	Section 3 of Part 3.8 of the LCC DCP 2008
Places of public worship	Section 5.6 of Part D5 (Volume 1) of the PCC DCP 2014	Section 3.8 of Part 6 of the LCC DCP 2008
Roadside stalls	Section 1.5.5 of Part D1 (Volume 1) of the PCC DCP 2014	Section 9.7 of Part 5 of the LCC DCP 2008
Sex services and restricted premises	Section 3.2 and Section 3.3 of Part D3 (Volume 1) of the PCC DCP 2014	Section 30.1 of Part 1 of the LCC DCP 2008
Boarding houses	Section 5.11 of Part D5 (Volume 1) of the PCC DCP 2014	Part 3.9 of the LCC DCP 2008
Alterations and additions to existing residential dwellings	Section 1.2 of Part D1 (Volume 1) of the PCC DCP 2014	Part 5 Section 9.1 of the LCC DCP 2008

LAND USE	DCP CONTROLS	
Development within the Luddenham Village prior to the finalisation of the Luddenham Village Strategy	PCC DCP 2014	LCC DCP 2008