



Westlink

Development Control Plan
May 2021



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1. Introduction

1.1 Aims and Objectives of this DCP

This Plan is known as the Westlink Development Control Plan (DCP) 2021 (**Westlink DCP**). It has been prepared in accordance with the provision of Division 6 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and Part 3 of the *Environmental Planning and Assessment Regulation 2000 (EP&A Reg)*.

The principal aims of the Westlink DCP are listed as follows:

To integrate State and local planning inputs to enable the delivery of environmentally, economic and socially sustainable development.

To provide suitably located industrial land to support the economic growth of the city.

To provide connections to required services to meet the future needs of the Precinct.

To facilitate development that is integrated with local road and freight networks.

To ensure minimal environmental and amenity impact to sensitive receivers, such as nearby rural residential receivers.

The primary aim of the Westlink DCP is to facilitate the redevelopment of the land in accordance with the provisions of the *State Environmental Planning Policy (Western Sydney Employment Area) 2009 (WSEA SEPP)*.

The DCP includes specific objectives that address the principal development standards listed within the WSEA SEPP and the planning principles developed during the precinct planning process. The associated investigations undertaken to inform the SEPP amendment.

1.2 Structure of the DCP

The DCP is structure into six sections as outlined within the following table.

Table 1 Structure of the DCP

Section	Description
1 – Introduction	Addresses information about the administrative provisions of the DCP, such as the name of the DCP, adoption and commencement information, where the DCP applies and how to use the DCP.
2 – Urban Design Principles	Outlines the urban design principles to be achieved on the Westlink Development Area.
3 – Precinct Planning Outcomes	Addresses topics related to the delivery of the precinct vision including biodiversity conservation, water cycle management, heritage, bushfire, contamination, and aviation safeguarding.
4 – Precinct and Subdivision Design	Addresses development issues including the subdivision of land, consolidation of land and boundary adjustments for industrial purposes, and the transport and traffic network for the precinct.
5 – General Requirements for Industrial Development	Addresses issues that are likely to arise for industrial development, such as site analysis, character and design, amenity, earthworks and retaining walls, waste minimisation and management, and transport, access and parking.
Appendix A	A dictionary defining key terms and lodgement requirements for development applications.

1.3 Land to which this DCP Applies

The DCP applies to land within the Westlink Development Area that is zoned IN1 General Industrial under the provisions of the WSEA SEPP.

As shown in **Figure 1** below, the affected land includes Lots 11 – 13 in DP 253503 which is owned by ESR Australia Pty Ltd. The area to which the DCP applies is unaffected by the 1:100 year flood event.

Figure 1 Site Aerial



1.4 Relationship to other Plans

This DCP has been prepared to provide detailed development controls to guide the preparation and assessment of development proposals on land located within the Westlink Development Area.

Penrith Local Environmental Plan 2010 and *Penrith Development Control Plan 2014* do not apply to land within the Westlink Development Area. The land use provisions and development standards within the WSEA SEPP and the detailed development controls within this DCP comprise the principal planning provisions relevant to the development.

1.5 Future Development in the Precinct

The development of land within the Mamre Road Precinct, including Westlink Development Area, will need to pay particular attention to the following key principles:

Ensure that future development is sympathetic to residential land in the surrounding area.

Ensure that future development takes into consideration the overland flooding levels associated with South Creek and its tributaries.

Provide suitable access to future developments, while maintaining vehicular safety along Mamre Road.

Ensure suitable public amenities and service infrastructure is provided to accommodate development.

Ensure future development does not result in pollution of waterways, in particular South Creek and its tributaries.

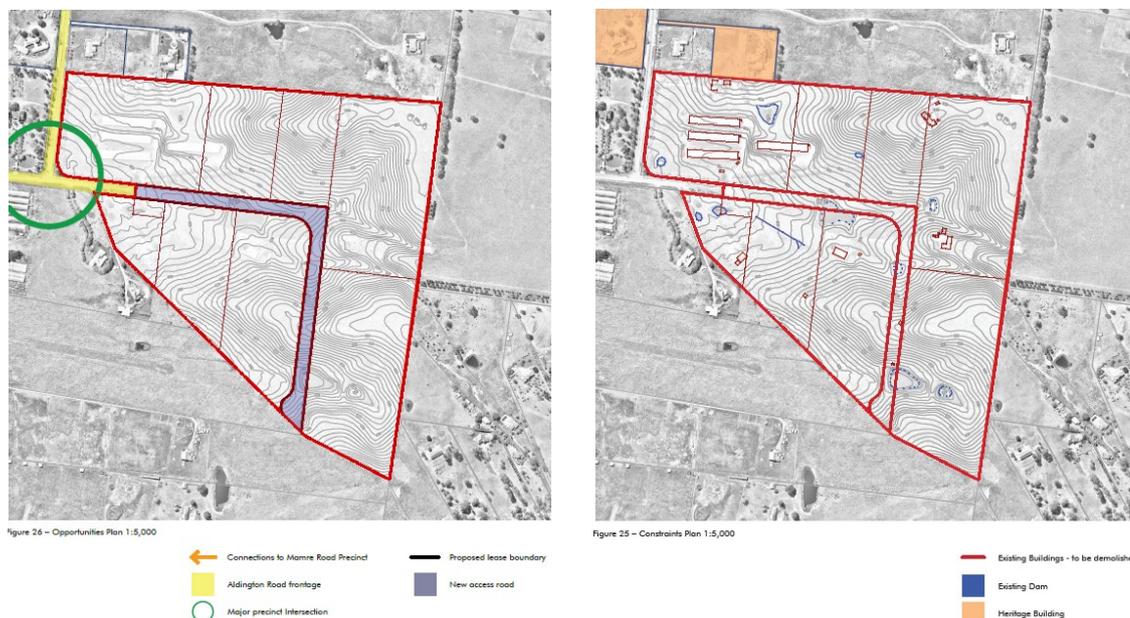
Ensure future development appropriately identifies and respects areas of significant biodiversity and cultural values.

Provide a design response that promotes the green grid and foster connections to the east and west of the site.

2. Urban Design Principles

The urban design principles for the site were established in the precinct planning process, including a comprehensive assessment of the site opportunities and constraints as outlined in **Figure 2**.

Figure 2 Opportunities and Constraints



The site investigations identified the site unaffected by the 1% AEP and PMF flood events as defined within the South Creek Floodplain Risk Management Study and Plan (Advisian, February 2020) as adopted by Penrith City Council on 27 April 2020.

The Westlink Development Area will allow for industrial uses, such as warehouse and distribution centres, and provide employment opportunities in accordance with the objectives of the WSEA SEPP. In addition, it establishes appropriate setback and edge treatments on its eastern boundary to assist in minimising impact to nearby rural residential land uses. The Westlink Development Area does not rely upon the redevelopment of other areas throughout the wider Mamre Road Precinct and will not compromise the future development opportunities of remaining areas in the Precinct.

The development area of the Westlink is on undulating land with access to the existing Abbots and Aldington Roads and utility service. Abbots and Aldington Roads are identified as future Collector Roads by Department of Planning, Industry and Environment (DPIE) and Penrith City Council (Council). The future acquisition and ultimate upgrade of both roads will be facilitated via Council and are identified on the draft Mamre Road Precinct Section 7.12 Contribution Plan.

The site is located within the Western Sydney Employment Area (WSEA). It forms part of the Mamre Road Precinct, which is immediately adjacent to the existing Erskine Business Park. The future industrial development in the Westlink Development Area will be compatible with the scale and types of uses that are operating nearby and complimentary to the 24-hour operations at the Western Sydney Airport. Detailed consideration has been given to the existing and likely future development within the balance of the Mamre Road Precinct, including the rural residential dwellings to the east, the Anglican School, Emmaus Catholic College and Retirement Village to the north, and the potential future use of developable land to the south.

The controls in this DCP have been included to address the potential impacts on the amenity of existing development in the Mamre Road Precinct, including views and acoustics. Consideration has been given to the potential urban footprint within the Precinct, having regard to the way in which access, traffic, and utility services could be integrated together.

Part of the DCP outlines the matters to be considered when undertaking all types of development within the precinct. These controls should be considered during the initial stages of subdivision planning to determine the suitability and the development potential of the land.

3. Precinct Planning Outcomes

3.1 Mamre Road Precinct Structure Plan

The Mamre Road Precinct Structure Plan (**Figure 3**) forms the basis for urban development in the Precinct by setting out:

The major road network and potential access points.

A potential intermodal terminal and associated integrated freight network to connect with the proposed Western Sydney Freight Line.

The open space and drainage networks.

The locations of critical infrastructure, including potential intermodal terminal and Warragamba Pipeline.

The potential locations of land uses, including employment lands, utilities, service hubs and recreation.

Areas requiring protection or special consideration related to environmental, heritage or amenity values.

Objectives

- a) To ensure that development in the Precinct occurs in an orderly manner.
- b) To ensure the Precinct is based on coordinated planning and delivery of infrastructure, land uses, supporting facilities and protection of the environment.
- c) To ensure that infrastructure, services, and amenities are sufficient to support growth and development in the Precinct.

Controls

- 1) All development applications are to be generally in accordance with the Precinct Structure Plan (**Figure 3**).
- 2) When assessing development applications, the consent authority will consider the extent to which the proposed development is consistent with the Structure Plan, including cumulative and precedent implications for the planned infrastructure, and services and amenities provision.
- 3) Any proposed variations to the general arrangement of the Structure Plan must be demonstrated by the applicant to the consent authority's satisfaction, it is consistent with the Precinct Vision.

Figure 3 Mamre Road Precinct Structure Plan

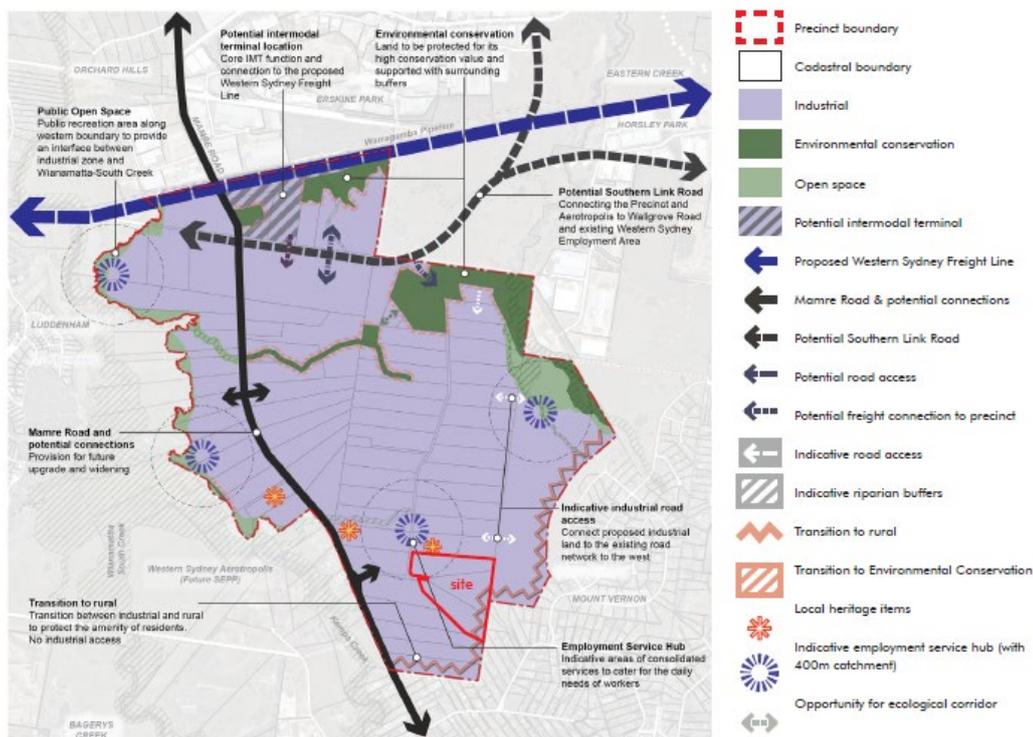


Figure 7 – Mamre Road Structure Plan (June 2020) [Source: NSW Department of Planning, Industry & Environment]

3.2 Biodiversity

3.2.1 General Principles for Biodiversity Conservation

The biodiversity framework for the Precinct comprises land zoned E2 Environmental Conservation, RE1 Public Recreation, designated riparian corridors including the Wianamatta-South Creek corridor, as well as private lands containing remnant vegetation (refer to **Figure 3** above). The Precinct seeks a balance between biodiversity conservation and urban development to deliver the dual outcomes of environmental protection and employment generation.

The overarching biodiversity principle is to avoid, minimise, and offset impacts of the development and land use change on biodiversity. Existing native trees should be preserved, wherever possible, to deliver biodiversity outcomes and support the ecological function of the Cumberland subregion while improving liveability and supporting urban development in Western Sydney.

The siting and layout of a development at the initial concept stage must consider the location of existing trees with a view to their preservation and new trees to their survival. Existing trees shall not be removed without the written consent form the relevant consent authority.

3.2.2 Biodiversity Conservation

The draft Cumberland Plain Conservation Plan (CPCP) aims to protect threatened plant and animals, while supporting the delivery of housing, infrastructure, and open and green spaces. The CPCP will meet the requirements for a strategic biodiversity certification under the *NSW Biodiversity Act 2016* (BC Act) and strategic assessment under the Australian Government's *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Objectives

- To ensure the requirements of strategic biodiversity certification under the CPCP are implemented, as it applies to the Mamre Road Precinct (if approved).

- b) To protect threatened species and threatened ecological communities and ensure populations persist and the condition of suitable habitat improves at the landscape scale.

Controls

- 1) Development is to be sited, designed and managed to avoid or mitigate potential adverse impacts on significant natural areas and habitat.
- 2) Development located on land that has the potential to impact biodiversity prior to the approval of the CPCP is to be accompanied by a Biodiversity Development Assessment Report submitted as part of the Development Application.
- 3) Where development is proposed to impact on an area of native vegetation, it will be demonstrated that no reasonable alternative is available. Suitable ameliorative measures will also be proposed (e.g. weed management, rehabilitation, nest boxes).
- 4) A Weed Eradication and Management Plan outlining weed control measures during and after construction is to be submitted with the development application.

3.2.3 Biodiversity Conservation and Management

Objectives

- a) Increase and improve landscape connectivity through conservation and restoration of native vegetation to enable plant and animal communities to survive in the long term.
- b) Ensure consistency with the requirements of the relevant biodiversity certification for the subject land where applicable.
- c) Mitigate indirect and ongoing impacts of development and associated works on threatened ecological communities to improve and enhance condition over the long term.
- d) Avoid and minimise impacts to biodiversity from development and mitigate residual impacts unable to be avoided or minimised.
- e) Retain and protect significant, intact native vegetation areas identified within the CPCP and provide for areas with a size and configuration that will allow for the survival and improvement of the native vegetation communities in the long term.
- f) Retain and protect wetlands with high ecological significance in patches of a size and configuration which will enable existing plant and animal communities to survive and improve in the long term.
- g) Ensure construction and operational works minimise impact to native vegetation and ecological communities.
- h) Reduce the risk to biodiversity and habitat in areas of bushfire risk and maintain threatened species through appropriate fire regimes over the long-term.
- i) Manage and enhance spatial variability of biodiversity to ensure species have habitat available for refuge from fires.
- j) To promote the conservation of urban bushland, avoid key biodiversity areas and ensure environmental integrity.
- k) To protect and preserve native vegetation and biological diversity in accordance with the principles of ecologically sustainable development.
- l) To retain native vegetation in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term.
- m) To protect and enhance habitat for threatened species and endangered ecological communities.
- n) To provide a biodiversity corridor system linking remnant vegetation across the Precinct with the riparian biodiversity system, including along Wianamatta-South Creek, Kemps Creek and Ropes Creek.

- o) To outline management arrangements to enable the establishment of a biodiversity corridor and its ongoing maintenance.
- p) To maintain the function of the floodplain to convey and store floodwaters to limit material adverse impacts of flooding on the development, its users and surrounding properties.
- q) Ensure the extent and spread of weeds including weeds of national significance (WONS) are minimised during the construction and operation of the development and managed towards eradication.

Controls

Environmental Conservation and Recreation Zones

- 1) Minimise clearing of native vegetation within land zoned E2 Environmental Conservation and RE1 Public Recreation and riparian corridors. Note: Clause 33K of WSEA SEPP also applies.
- 2) No clearing of native vegetation shall occur within the Precinct without consent.
- 3) A Vegetation Management Plan (VMP) for the rehabilitation and conservation of native vegetation and habitat is to be prepared for land located within E2 Environmental Conservation, RE1 Public Recreation or riparian corridor.
- 4) Asset Protection Zones (APZs) for bushfire protection purposes are to be located within land zoned for IN1 General Industrial, electrical easements and/or open grass flood ways.
- 5) Provide a green vegetated landscape setback or public road to all land zoned E2 Environmental Conservation, RE1 Public Recreation, RE2 Private Recreation in accordance with Section 4.2.3. The landscape buffer should generally be vegetated with endemic tree species and shrubs.
- 6) The following infrastructure will be considered within the landscape buffer, providing impacts on the Environmental Conservation and Recreation zoned lands can be minimised:
 - a) Pedestrian and shared pathways.
 - b) Street furniture and utilities.
 - c) Stormwater and drainage infrastructure (refer to Section 2.6.1).
- 7) In general, development should address lands zoned Environmental Conservation and Recreation zoned lands, and the associated buffer area to ensure the lands are managed appropriately, to provide amenity for workers and visitors, and passive surveillance. Ideally, a subdivisional road would be located between the buffer and development.
- 8) Where a vegetated landscape setback is provided to Environmental Conservation and Recreation lands and retained in private ownership, the consent authority may consider increased site coverage to offset the cost of delivering and managing the setback. This is to be considered on a case by case basis.
- 9) A Threatened Species Assessment is to be undertaken for sites within 500m of an E2 Environmental Conservation zone to determine the presence of threatened species of their habitat. Building setbacks for particular threatened species, if present, are required to be in accordance with **Table 2**.

Table 2 Prescribed building setbacks for specific threatened species

Species	Setback Control
Grey-headed flying fox	Grey-headed flying fox camp requires 100m setback to any buildings and development. The setback area should be maintained free of flying fox roosting habitat.
Raptors	Raptor nests require a 500m circular setback from where nests are located in extensive undisturbed bushland. Where nests are located close 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.

General Biodiversity Management

- 10) Development applications are to contain a Landscape Plan showing the location, extent and area of any existing native vegetation on the development site.
- 11) A Flora and Fauna Assessment is to be submitted with all subdivision development applications.
- 12) Avoid impacts to habitat features which provide essential habitat for threatened species and other fauna including large trees including dead trees at (>50cm diameter at breast height) and avoid impacts to soil within the dripline of the retained trees.
- 13) Mitigation to be undertaken in accordance with the following best practice guidelines for threatened ecological communities;
- 14) Best Practice Guidelines: Cooks River/ Castlereagh Ironbark Forest (NSW DECC, 2008) within and adjacent to the TEC.
- 15) Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland (NSW DECC, 2005).
- 16) Where practical, prior to development commencing, applicant are to:
 - a) Provide for the appropriate re-use of native plants (including but not limited to seed collection) and re-use of topsoil that contains known or potential native seed bank.
 - b) Relocate native animals from development sites. Applicant should refer to the former Office of Environment and Heritage's Policy on the Translocation of Threatened Fauna in NSW.
- 17) Weeds of National Significance (WONS) are on the National Environmental Alert List under the National Weeds Strategy are to be managed and eradicated. Proponent to reference NSW Weed Wise for current weed identification and managed approached.
- 18) All subdivision design and bulk earthworks are to consider the need to minimis weed dispersion and promote weed eradication. A Weed Eradication and Management Plan outlining weed control measures, during and after construction, is to be submitted with any subdivision development application.
- 19) Pest control techniques implemented during and post construction are to be in accordance with regulatory requirements for chemical use and address the relevant pest control strategy and are to reduce the risk of secondary poisoning (e.g. from Pindone or second-generation rodenticides).
- 20) Vegetation to which Part 3 of *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* applies is the same vegetation that must not be ringbarked, cut down, lopped, topped, removed, injured, wilfully destroyed or cleared without a development consent or permit granted by Council.
- 21) High intensity lighting is to be designed to avoid light spill into adjoining natural areas. Australian Standard AS 4282 or updates to that standard are to be considered as a minimum.
- 22) Where a development footprint contains or is within 100m of known microbat colonies or habitat likely to support microbat colonies, street lighting must not attract insects such as warm coloured LEP light 1.
- 23) If noise or lighting adjacent to land zoned E2 Environmental Conservation is likely to impact wildlife, the proponent must manage light spill, and timing of noise producing activities, including installing appropriate noise treatment barriers along major roads and other attenuation measures.
- 24) Ensure that appropriate mitigation strategies (including fauna-sensitive road design elements) are employed to minimise vehicle strike during and after road construction and upgrading.

- 25) Traffic calming measures are required in all development areas not subject to wildlife (including koala) exclusion fencing. For example:
- a) Local roads with speed limit restrictions for areas adjacent to Environmental Conservation and Recreation zoned lands.
 - b) Roads adjacent to wildlife habitat areas will be signposted in accordance with Austroads, RMS technical guidelines, Council Guidelines and relevant Australian Standards.
 - c) Traffic calming devices such as speed humps and audible surfacing to be installed along perimeter roads adjacent to Environmental Conservation and Recreation zoned lands.
 - d) Fauna-friendly road design structures such as underpasses, fauna bridges, and overpasses should be installed and maintained by the proponent for a time period consistent with any approval conditions. Reference to the RMS Biodiversity Guidelines is to be made.
- 26) Ensure movement of fauna is facilitated within and through wildlife corridors by:
- a) Ensuring that activities do not create barriers to the movement of fauna along and within wildlife corridors.
 - b) Separating fauna from potential construction hazards through the pre-consultation and construction process.
 - c) Adopt and implement open structure design for roads adjacent to known populations of Cumberland Plain Land Snail in accordance with actions under Save our Species Program (EES, 2020).

3.3 Non-Indigenous Heritage

Objectives

- a) To protect the heritage significance of intact heritage items.
- b) To ensure adequate curtilage and landscape setting for intact heritage items.
- c) To ensure the integrity of the intact heritage item and its setting is retained by the careful siting and design of new buildings and alterations and additions to existing buildings.
- d) To ensure that the subdivision of land on which an intact heritage building is located does not isolate the building from its setting or context, or adversely affect its amenity or privacy.
- e) To ensure that new development is carefully sited so as to avoid causing physical damage to intact heritage items especially where sited within the same curtilage as the heritage item.

Controls

- 1) A Heritage Impact Statement shall be lodged with a development application for subdivision, buildings or works in the vicinity of heritage items including development that:
 - a) May have an impact on the setting of a heritage item by affecting a significant view to or from the item or by overshadowing; or
 - b) May undermine or otherwise cause physical damage of heritage item; or
 - c) Will otherwise have any adverse impact on the heritage significance of a heritage item within which it is situated.
- 2) Proposals for subdivisions should be defined an appropriate setting or curtilage for any intact heritage building as part of the Heritage Impact Statement or Conservation Management Plan.
- 3) In determining the curtilage of an intact heritage building, consideration is to be given to the following:
 - a) The original form and function of the heritage building. The type of structure that constituted the heritage building should be reflected in the curtilage. For example, it may be appropriate that a larger curtilage be maintained around a former rural homestead that that of a suburban building;

- b) Outbuildings: A heritage building and its associated outbuildings should be retained on the same allotment; and
- c) Gardens, trees, fencing, gates and archaeological sites. Features that are considered valuable in interpreting the history and in maintaining the setting of a building should be identified and, where possible, retained within the curtilage.
- d) Curtilages shall be retained around all listed items sufficient to ensure that views to them and their relationship with adjacent settings are maintained.

Gardens, Landscaping and Fencing

- 4) In order to preserve and maintain an appropriate scale and the visual prominence of a heritage item, the building height of new development shall generally not exceed that of the original heritage item. New development or large additions or alterations must provide a transition in height from the heritage item.
- 5) Development proposals, which involve largescale redevelopment and alteration to the original character of the heritage item and will negatively impact on the heritage significance of the curtilage, will not be permitted.
- 6) The colours and materials used in a new development (whether an extension or addition) should complement the colours and materials of the heritage item. New development within the curtilage must not adversely impact upon the significant fabric of the heritage item. Where possible, existing fences that have been identified as significant or that contribute to the overall setting or character of a heritage item are to be retained or repaired, rather than replaced.
- 7) New fences should either match as closely as possible the original fencing, or if the original fence type is not known, specifically relate to the architectural character and period of the existing heritage item with respect to design, materials, colour and height. Old photographs and careful inspection of remaining fabric can often reveal the original fence type.
- 8) New development shall not be sited in front of the front building line of the existing heritage item nor shall it extend beyond the established side building lines of the heritage item.
- 9) New development within the same curtilage as a heritage item shall generally not be larger in scale than the heritage item. Reference shall be made to the building height of the heritage item as the maximum permissible building height of alterations or additions.
- 10) Vegetation around a heritage item shall be assessed for its value to the item and retained where required.

3.4 Aboriginal Heritage

Objectives

- a) To manage Aboriginal heritage values to ensure enduring conservation outcomes.
- b) To ensure areas identified as archaeologically or culturally significant are managed appropriately.

Controls

- 1) Sites of known Aboriginal Heritage and areas of high and moderate-high Aboriginal archaeological potential.
- 2) Undertaking any development or activities on land does not harm Aboriginal objects, development applications must identify any areas of Aboriginal heritage value that are within or adjoining the area of the proposed development, including any areas within the development site that are to be retained and protected (and identify the management protocols for these).
- 3) Any ground disturbance proposed in areas where cultural material has not been identified and/or is considered of low potential to occur should be subject to a due diligence investigation in accordance with DPIE and/or best practice guidelines (e.g. Due Diligence Code of Practise for the Protection of Aboriginal Objects in NSW). The findings of the due diligence should guide future assessment and approval requirements for the activity (if any).

- 4) Developments or other activities that will impact on Aboriginal heritage may require consent from the Heritage NSW, DCP under the *National Parks and Wildlife Act 1974* (NPW Act) and consultation with the relevant Aboriginal communities.
- 5) Any development application that is within or adjacent to land that contains a known Aboriginal cultural heritage site must consider and comply with the requirements of the NPW Act. An Aboriginal Heritage Impact Permit (AHIP) issued under Part 6 of the NPW Act may be required for any works which directly affected these sites as specified under the relevant planning pathway.
- 6) Where the necessary consents have already been obtained from Heritage NSW, the development application must demonstrate that the development will be undertaken in accordance with any requirements of that consent.

Notes: 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. Council or Heritage NSW may require additional investigations to be undertaken as part of a development application to confirm the presence of Aboriginal cultural heritage on the land.

Where works uncover items that may be of Aboriginal cultural heritage, the developer is to consult with Heritage NSW to determine an appropriate course of action.

3.5 Riparian Land

Objectives

- a) 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.
- b) To minimise disturbance and impact on natural waterbodies.
- c) To improve the ecological condition of aquatic and terrestrial ecosystems.
- d) To retain and restore native vegetation along riparian corridors to promote aquatic and terrestrial ecosystems functioning.
- e) To ensure natural stream design methodologies are adopted to retain watercourse stability.
- f) To ensure appropriate revegetation of riparian corridors is implemented to allow for watercourse stability.
- g) To protect, maintain or restore waterway health through a risk-based approach to managing the cumulative impacts of development.
- h) To ensure waterways are protected in the design and management of the stormwater and wastewater management systems.
- i) To maintain and improve the hydrological regime of wetlands and waterways.
- j) To manage the indirect and ongoing impacts of development to ensure established waterway health targets are achieved and maintained.
- k) To ensure development does not adversely affect aquatic fauna.
- l) To ensure development does not adversely affect water quality or availability, including ground water.
- m) To ensure watercourses and associated riparian vegetation are maintained to contribute to water quality.
- n) To ensure planning, design and development adopt naturalised solutions for riparian lands in accordance with Clause 33L of the WSEA SEPP.

Controls

Mapped Riparian Corridors (Field-Validated)

- 1) Within a riparian corridor:

- a) All existing native vegetation is to be retained and rehabilitated, except where clearing is required for essential infrastructure including roads or where approval by the Natural Resources and Assessment Regulator is obtained.
- b) Native vegetation is to be conserved and managed in accordance with the controls below.

Avoiding Modifications to Natural Waterbodies

- 2) There should be no modification to a natural (or historic) waterbody in its dimensions, depth or bank height unless the approval of Natural Resources and Access Regulator is obtained, including the enhancement of the ecological outcomes of the watercourse, hydrological benefits and ensure the long-term geomorphic stability of the watercourse.
- 3) Watercourses should not be modified to maximise flood conveyance unless there are no other means to avoid damage to existing dwellings or infrastructure that cannot be relocated.
- 4) Natural hydrological processes are to be maintained where possible, including natural vegetation and the flow regimes to maintain creek line stability and the health of terrestrial and aquatic plant communities.
- 5) Existing flows of surface and ground water should not be altered through construction of channelled flow or the redirection or interruption of flows.

Protection and Enhancement of Riparian Corridors

- 6) Waterways of Strahler Stream Order 2 and higher will be maintained in a natural state, including the maintenance and restoration of riparian area and habitat such as fallen debris.
- 7) Realignment of waterways of Strahler Stream Order 2 and higher will be subject to approval by the Natural Resources and Access Regulator (NRAR).
- 8) Waterway crossings such as bridges are to be maintained to retain ecological connectivity and water quality.
- 9) Road crossings across a waterway of Strahler Stream Order 2 or higher are to be designed to minimise impacts to vegetated riparian area and species movements in accordance with NSW Department of Primary Industries' requirements to maintain fish passage.
- 10) Development within a riparian corridor should be avoided where possible to retain its ecological processes. Where development is unavoidable within the riparian areas, it will be demonstrated in the development application that potential impacts on water quality, aquatic habitat, and riparian vegetation will be negligible or offset in accordance with the vegetated riparian zone and offsetting requirements as specified NRAR Guidelines for Controlled activities on waterfront land – riparian corridors.
- 11) All riparian corridors should comprise a vegetated riparian zone along each side of the watercourse/ channel.
- 12) The vegetated riparian zone should retain or be vegetated with fully structured native vegetation (trees, shrubs, and groundwater species).
- 13) In relation to activities within the vegetated riparian zone, such as cycleways and paths, detention basins, stormwater management devices and essential services, compliance is required with the 'riparian corridor matrix' in the NRAR controlled activities on waterfront land – riparian corridors (May 2018).
- 14) The number of vehicular and pedestrian watercourse crossings should be minimised and designed in accordance with the NRAR Guidelines to allow for riparian connectivity and flows.
- 15) Private and public fencing should be located on the perimeter of the riparian corridor and avoid intersecting across watercourse channels or riparian corridors.
- 16) A managed buffer zone outside the vegetated riparian zone should be provided (where possible) to provide an additional buffer between development and the vegetated riparian zone. Land uses within the managed buffer zone could include public or private access roads, paths, playgrounds and stormwater management devices.

- 17) Bushfire asset protection zones should be located outside the vegetated riparian zones.
- 18) Appropriate widths of vegetated riparian zones are dependent on the Order of Stream in accordance with the Strahler methodology. The width should be measured from the top of the highest bank on both side of the stream/watercourse, excluding any managed buffer zone, and shall comply with the requirements outlined in **Table 3**. Riparian corridors will be assessed by Council and NRAR on merit.

Table 3 Riparian Corridor Widths

Watercourse Type	Field-Validated Watercourse Name*	Vegetated Riparian Zone Width (m)	Total Riparian Corridor Width (m)
1 st Order	Numerous Unnamed Tributary South Creek 2	10	20
	Unnamed Tributary South Creek 1		
	Unnamed Tributary Kemps Creek 1		
2 nd Order	Unnamed Tributary Kemps Creek 1	20	40
3 rd Order	Ropes Creek	30	60
Wetland	Ropes Creek Wetland	40	80

* Note: The above field-validated watercourses have been identified in the Mamre Road Precinct Rezoning: Waterway Assessment (CT Environmental April 2020) and shown on the Mamre Road Precinct Structure Plan. 2nd and 3rd order streams have been zoned E2 Environmental Conservation under the WSEA SEPP. 1st Order Streams, including those field-validated streams outlined above, will be assessed on merit as part of development applications.

- 19) Enhancement of riparian corridors should, where possible:
- Mimic natural hydrological regimes for watercourse treatments;
 - Replicate the natural watercourse through creation of a meandering channel, rather than straight channels;
 - Simulate natural roughness having regard to riparian requirements and flow velocities to sustain vegetation groupings. A watercourse's shape, smoothness of its channel and amount of vegetation in the channel all affect the 'roughness' of that watercourse and the speed of water conveyed in the channel;
 - Minimise ongoing maintenance requirements through channel design;
 - Establish a functional riparian zone and natural channel selection;
 - Maintain or create a full assemblage of vegetation with likely natural obstructions;
 - Minimise likely damage to channel banks and vegetation from storm flow through channel design; and
 - Ensure that the channel has the capacity for appropriate flood flows having regard to the steepness of the catchment, channel modifications and future liability for landowners, Council and government agencies.
- 20) Where a development proposal would significantly affect Key Fish Habitat and/or threatened fish (as defined under the *Fisheries Management Act 1994*), applicants must include an aquatic ecological environmental assessment in accordance with the *Fisheries Management Act 1994*.
- 21) Water holing structures (e.g. farm dams) that are more than 0.1 ha in area or more than 3 ML in volume within 3 km of the approach boundary to Western Sydney Airport are to be avoided to ensure there is no attraction for water-favouring fowl.

Note: A Controlled Activity Approval under the *Water Management Act 2000* is requirement for all works located within waterfront land as defined in the Act unless otherwise required under the EP&A Act.

Development Adjacent to Riparian Corridors

- 22) Development adjacent to riparian corridors is to be managed in accordance with the controls in Section 4 and the controls below.
- 23) Retain areas of the Proteaceae shrubs for the Eastern Pygmy Possum *Cercartetus nanus* along or adjacent to riparian areas to improve and maintain habitat connectivity.
- 24) Where a development adjoins riparian corridors, Council may require bank stabilisation works, measures to minimise pollution and sedimentation. Reference should be made to the requirement of the *Fisheries Management Act 1994*.
- 25) Where industrial land immediately abuts a riparian corridor, development shall be located and designed to achieve a satisfactory interface with the riparian corridor. Consideration must be given to issues such as surveillance of the riparian corridor, built form and design, landscaping, opportunity for public interfaces, where appropriate, and protection from bushfire threat.

3.6 Integrated Water Cycle Management

The Aerotropolis contains the Wianamatta-South Creek system with many important riparian areas. Several flow components are considered to be critical for the protection or restoration of river health, ecology and biodiversity. This is particularly important for Wianamatta-South Creek as an ephemeral and perennial system, where geomorphology and ecology are very sensitive to flow. Key flow components include daily flows, baseflows, magnitude and frequency of high (90th percentile) and low (10th percentile) flow events, magnitude and frequency of freshes (between 75-90th percentiles) and period where there are no flows.

The primary objective of integrated water cycle management for the Kemps Creek Logistics Park is to preserve existing stream values by mimicking the natural baseline streamflow duration curve as best and practical.

Mimicking the natural baseline streamflow duration curve may be completed by either of the following options:

- 1) Meeting the prescribed Mean Daily Flow (L/ha) at any discharge point from the site; or
- 2) Further rigorous technical analysis and application of various water sensitive urban design measures to better match the existing baseline streamflow duration curve, to the satisfaction of the Consent Authority, than would be achieved through meeting the prescribed Mean Daily Flow Volumes (L/ha) as per Option 1. Key elements of the streamflow duration curve for comparative assessment are to be:
 - a) Zero flow periods (Cease to Flow)
 - b) Median Flow; and
 - c) Seasonal pulses (Freshes).
- 3) A contextually appropriate approach to meet acceptable waterway health outcomes to the satisfaction of the relevant water authority.

Stormwater Management

The *Mamre Road Precinct Integrated Water Cycle Management Strategy* (Sydney Water, 2020) outlines the overarching water management strategy for the precinct. The strategy is designed to meet the interim objectives for flow for the Wianamatta-South Creek established by DPIE (EES) which prescribe a stormwater runoff objective of 1.9 megalitres (ML) per hectare per annum, measures at any discharge point to South Creek, Kemps Creek or Ropes Creek.

Objectives

- a) Effectively manage indirect and ongoing impacts of development on waterways to meet the interim flow objectives for the entire Wianamatta-South Creek catchment. To do this, stormwater runoff reaching waterways must not

exceed a maximum of 1.9 ML/ha/year in line with the *NSW Government Risk-based Framework for considering Waterway Health Outcomes in Strategic Land-use Planning Decisions*.

- b) To ensure that land use planning and urban development is integrated with water cycle management including:
 - a. Service planning for potable water, recycled water and wastewater;
 - b. Effective management of stormwater volume and quality; and
 - c. Water management objectives for the maintenance of healthy waterways.
- c) To encourage design and delivery of infrastructure, servicing and development which builds resilience in Sydney's water supply through encouraging the use of recycled water, optimising stormwater management and maximising efficiency in the use of potable water.
- d) To ensure that the principles of integrated water cycle management inform the design of new development to optimise water, cooling and greening outcomes.
- e) To ensure that water management planning considers whole of life costs and ease of maintenance.
- f) To facilitate the delivery of regional water infrastructure where feasible to optimise the efficiency of development and deliver better outcomes for waterways, amenity and liveability.
- g) To encourage greater impervious surfaces to enable water to permeate ground...

Controls

Waterway health and water sensitive urban design

- 1) Development must demonstrate how the proposed site design and water sensitive urban design measures contribute to the interim NSW Government stormwater catchment flow objectives of Wianamatta-South Creek Catchment. The combined effect of site design and site water sensitive urban design measures (including on-lot, on street and end of pipe measures) shall contribute no more than 1.9 ML/ha/year in mean annual runoff at any discharge point to South Creek, Kemps Creek or Ropes Creek.
- 2) Any stormwater harvesting approaches will need to be consistent with a regional wastewater approach and the precinct water balance.
- 3) All stormwater treatment measures need to be designed with consideration for ongoing operation and maintenance.
- 4) All Maintenance Plan for stormwater treatment measures is to be submitted with all development application approvals.
- 5) All proposed industrial buildings are required to install a rainwater tank on the site for re-use of water in irrigation, industrial processes, toilet flushing, evaporative cooling or for other non-drinking purposes through a separate reticulated water supply system. The size of the tank should be determined in the calculation of required stormwater runoff volume reductions to meet NSW Government interim flow objectives for the Wianamatta-South Creek Catchment.
- 6) Industrial developments must supply at least 80% of their non-potable demand using non-potable sources including rainwater and recycled water.
- 7) Water sensitive urban design measures to retain stormwater within the development footprint are outlined in the Integrated Water Cycle Management controls in this DCP. An example of stormwater retention measures applied to an industrial development is shown in **Table 4** below.
- 8) Stormwater management targets may be satisfied on a developer lot, estate or catchment level.

Table 4 Example Stormwater Retention Measures

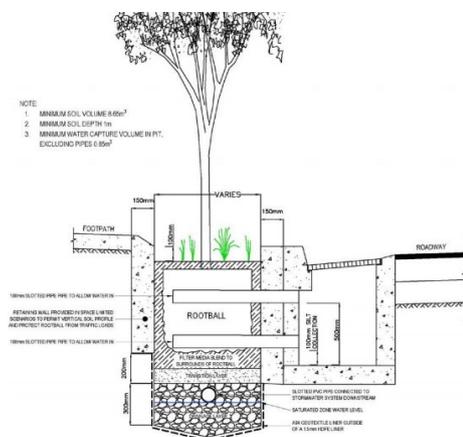
Component	Potential Measure
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Roof	<p>Compact development typologies</p> <p>Rainwater and stormwater harvesting connected to appropriate reuse</p> <p>Green roofs/walls</p>
Hardstand	<p>Diversion of runoff to deep soil/ landscaped areas</p> <p>Bioretention</p> <p>Stormwater harvesting</p>
Driveways, carparks and crossovers	<p>Diversion of runoff to deep soil/ landscaped areas</p> <p>Permeable pavement</p> <p>Bioretention</p>
Landscaped areas	<p>Infiltration into deep soil</p> <p>Irrigation from on-site rainwater tanks</p>
Public open space	<p>Infiltration into deep soil</p> <p>Estate/ precinct scale stormwater harvesting and irrigation</p>
Public roads	<p>Passively irrigated Wianamatta Street Trees</p> <p>Bioretention</p>

Trunk Drainage Infrastructure

- 9) Major trunk drainage elements proposed are shown indicatively at **Figure 4**. Additional drainage infrastructure may be required to be provided upstream of these identified elements in conjunction with development of sites to achieve the desired stormwater management objectives. Whole of life costs and ease of maintenance will be critical considerations in determining the form of the final drainage option.
- 10) Existing flows entering the catchment are to be accommodated within the stormwater drainage infrastructure elements provided within development in the precinct.
- 11) The additional drainage infrastructure is to be constructed by the developer of the land concerned.
- 12) All land identified by Council as performing a significant drainage function and where not specifically identified in the Contributions Plan, is to be covered by an appropriate “restriction to user” as deemed application by Council, and created free of cost to Council.
- 13) Trunk drainage infrastructure is to be retained in private ownership, unless otherwise agreed by Council.
- 14) Trunk drainage infrastructure may be piped, open swale or combination to convey the 100 year Annual Recurrence Interval (ARI) flow.

Figure 4 Wianamatta Street Tree – tree pit



Stormwater Quality

Objectives

- Water quality and waterway health values are protected and enhanced through a risk-based approach that mitigates development impacts as documented in the NSW Government's *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* (2017).
- Protect, maintain and restore the ecological condition of aquatic systems (including but not limited to wetland and riparian lands) over time.
- Retain and restore native vegetation to promote aquatic ecosystem functioning.
- Ensure that waterways are protected in the design and management of the stormwater and wastewater management systems.
- Effectively manage indirect and ongoing impacts of development on waterways to ensure that the interim water quality and waterway health values in **Table 5** are maintained.

Table 5 Interim water quality and waterway health values for Wianamatta-South Creek

Pollutant	Target Value (maximum)
Total Nitrogen (TN)	1.67 mg/L
Ammonium (NH ₄)	0.09 mg/L
Total Phosphorous (TP)	0.14 mg/L
Turbidity	29 NTU
Conductivity	1081 us/cm
pH	7.27 – 7.69

Controls

- All development proposal must include a Water Management Strategy. The Water Management Strategy must include a Water Sensitive Urban Design strategy detailing the proposed stormwater flow and quality control measures and how these measures will be implemented as part of the development including ongoing management and maintenance responsibilities. The Strategy should include details of modelling (e.g. eWater MUSIC) to reflect how the mean annual runoff targets are met.
- All stormwater treatment measures, including infiltration, stormwater harvesting, and reuse will need to demonstrate that they do not increase existing urban salinity or result in increased salt loads in waterways, wetland drainage lines or soils.
- Where water sensitive urban design basins are not provided to capture all runoff from lots and local roads before discharge to either the stormwater network or to planned regional stormwater infrastructure, Wianamatta Street Trees are to be incorporated into the local road network and designed in accordance with **Figure 4**. This design includes extended detention (either above tree or within tree sump/pit) of 0.6 m³/tree with pits to include subsurface gravel trenches, lined with waterproof membranes to minimise soil reactivity. All water is to be pre-screened with 200 micron mesh to maximise longevity.
- When proposed development demonstrates compliance with the flow management targets for Wianamatta South Creek, it is expected that the following pollutant load reduction targets, refer to **Table 6** below, will be achieved and contribute to the objectives for Wianamatta-South Creek.

Table 6 Pollutant Load Reduction Targets

Pollutant	Average Annual Pollutant Load Reduction (%)
Total Nitrogen (TN)	45
Total Phosphorus (TP)	60
Total Suspended Solids (TSS)	85
Gross Pollutants	90

Note: The State Government is reviewing the load reduction targets for South Creek and the outcome of this review will determine the final targets for the Western Sydney Aerotropolis.

3.7 Flood Prone Land

Objectives

- a) To ensure development in the floodplain is consistent with the NSW Flood Prone Land Policy and the principles in the NSW Government Floodplain Development Manual.
- b) To ensure floodplain risk management minimises the potential impact of development and other activity upon the aesthetic, recreational and ecological value of the waterway corridors.
- c) To maintain the existing flood regime, velocities, and flow conveyance and stream hydrology.
- d) To avoid significant adverse effects on the floodplain environment that would cause erosion, siltation, destruction or riparian vegetation or a reduction in the stability of the riverbank/ watercourse.
- e) To ensure the development does not alter flood behaviour that results in materially adverse impacts to surrounding properties.
- f) To reduce the impact of flooding and flood liability on individual owners and occupiers.
- g) To limit the potential risk of life and property resulting from flood events.
- h) To enable safe occupation and evacuation of flood prone land.
- i) To apply effective planning and development controls to ensure all new developments do not result in flood losses.
- j) To apply a “merit approach” to all development and building decisions, which takes account of social, economic, and ecological factors as well as flooding considerations.
- k) To ensure development is compatible with the flood hazard and flood behaviour.
- l) To consider adaptability to changing flood risks due to a changing climate.
- m) To ensure the development is in accordance with the principles contained in the Floodplain Development Manual issued by the NSW Government.

Controls

Submission Requirements

- 1) Where relevant, a comprehensive Flood Impact Risk Assessment (FIRA) is to be submitted with any development application on land identified as fully or partially flood affected. The FIRA should utilise Council’s existing data and is to provide an understanding of existing flooding condition and developed conditions consistent with the requirements of the NSW Flood Prone Land Policy and Floodplain Development Manual. The FIRA shall determine:
 - a) A detailed flood behaviour for existing and developed scenarios for the full range of flooding including the 5% AEP, 1% AEP, 0.5% AEP, 0.2% AEP and the PMF Flood Function (flood ways and flood storage areas);
 - b) Flood Hazards; and
 - c) Flood constraints including evacuation constraints (if applicable).

- 2) The levels on the survey are required to be verified during construction by a survey certificate. The study shall incorporate:
 - a) A survey of the main watercourse;
 - b) A survey of the site; and
 - c) A detailed flood and drainage investigation which establishes the estimated 20% AEP, 1%AEP (100 year ARI), 0.2% AEP and PMF levels including overland flow paths.
- 3) The applicant shall demonstrate to the satisfaction of the consent authority (on the basis of a qualified consultant report) that:
 - a) The development will not increase the flood hazard, flood levels or risk to other properties;
 - b) The development has incorporated appropriate measures to manage risk to life from flooding;
 - c) If the development is to be located within the PMF, a flood evacuation plan will be required;
 - d) The structure of the proposed building works shall be adequate to deal with the flood behaviour for a full range of floods identified in Control 1;
 - e) The proposed building materials are flood compatible with a full range of flood identified in Control 2.7(a);
 - f) The buildings and their access and their access are sited in the optimum position to avoid flood water and allow optimal vehicular flood access from the site for evacuation;
 - g) The impacts of climate change on flood behaviour has been considered;
 - h) The proposed redevelopment will not expose any persons to unacceptable levels of risk or any property to unreasonable damage;
 - i) Compliance of any existing buildings with the Standard – Construction of Buildings in Flood Hazard Area and the accompanying handbook developed by the Australian Building Codes Board (2012);
 - j) The proposed development will limit impact on riparian corridors and be designed and maintained to allow for natural stream processes; and
 - k) Fencing does not impede the flow of flood waters/ overland flow paths.

Flood Hazard Classifications

- 4) Council will consider development on land subject to the full range of flooding based on understanding of flooding in accordance with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual. New development in floodways and flood storages or in high hazard areas in the 1% AEP flood event considering climate change should be avoided.
- 5) Consideration will be given to such matters as depth and nature of flood waters, whether the area forms flood storage, the nature and risk posed to the development by flood waters, the velocity of floodwaters and the speed of inundation, and whether the development lies in an area classed as a 'floodway', 'flood fringe area' or 'flood storage area'.

New Development

- 6) Floor levels shall be at least 0.5m above the 1% AEP (100 year ARI) flood.
- 7) Flood safe access and emergency egress shall be provided to all new and modified developments.

Extensions and Infill Development

- 8) Where the application is for an extension to an existing building on land at or below the flood planning level or for new development that can be classed as infill development, Council may approve of the development with flood levels below the 1% AEP (100 year ARI) flood if it can be demonstrated by the applicant that all practical measures

will be taken to prevent or minimise the impact of flooding. In considering such applications and determining the required floor level, Council shall take into account such matters as:

- a) The nature of the business to be carried out;
 - b) The frequency and depth of flooding;
 - c) The potential for personal and property loss;
 - d) The utility of the building for its proposed use;
 - e) Whether the filling of the site or raising of the floor levels would render the development of the property unworkable or uneconomical;
 - f) Whether the raising of the floor levels would be out of character with adjacent buildings; and
 - g) Any risk of pollution of water from storage or use of chemical within the building.
- 9) Any portion of the proposed building extension subject to inundation shall be built from flood compatible materials.

Subdivision

- 10) Generally, subdivision of land below the flood planning level will not be supported. Further provisions relating to the proposed subdivision can be found in **Section 4.1**.
- 11) Subdivisions must comply with 'Designing safer subdivisions guidance on subdivision design in flood prone areas, 2007' Hawkesbury-Nepean Floodplain Management Steering Committee'.

Storage of Potential Pollutants above 1% AEP (100 year ARI) Flood

- 12) All potential pollutants that are stored or detained on-site (such as on-site effluent treatment plants, pollutant stores, or on-site water treatment facilities) should be stored above the 1% AEP (100 year ARI) flood. Details must be provided as part of any development application.

Overland Flow Flooding

- 13) Consideration must be given to the impact on any overland flow path. Development is required to demonstrate that any overland flow is maintained for the 1% AEP (100 year ARI) overland flow with consideration for failsafe of flows up to the PMF. A merit based approach will be taken when assessing development applications that affect the overland flow.
- 14) Council's Stormwater Drainage Specification for Building Developments provides information on the details required in the preparation of an overland flow study.
- 15) Where existing natural streams do not exist, naturalised drainage channels are encourage to ensure overland flows are safely conveyed via vegetated trunk drainage channels systems with 1% Annual Exceedance Probability capacity plus 0.5m freeboard. Constructed trunk drainage systems potentially increase peak flows by removing flood storage and increase conveyance. Any increase in peak flow must be offset using on-site stormwater detention (OSD) basins.
- 16) All required stormwater detention is to be accommodated within the development site estate unless otherwise approved at a catchment level with the consent authority.
- 17) OSD must be sized to ensure no increase 50% and 1% Annual Exceedance Probability peak storm flows at the Precinct boundary or at Mamre Road culverts An allowance shall be made for any local roads that bypass OSD or any vegetated trunk drainage systems that increase peak flows through the precinct.

Filling of Land At or Below the Flood Planning Level

- 18) Earthworks up to the PMF must meet the requirements of Clause 33H and 33J of the WSEA EPP as well as **Section 5.6** of this DCP.

- 19) Development consent will not grant consent for filling of floodways and/or critical flood storage areas in the 1% AEP flood. The filling of other land at or below the 1% AEP but outside the floodways and critical flood storage will generally not be supported. In particular, an application to fill land shall also describe the purpose for which the filling is to be undertaken. Council may consider such an application when the following criteria are met:
- a) Flood levels are not increased by more than 100mm on surrounding properties by the proposed filling;
 - b) Downstream velocities are not increased by more than 10% by the proposed filling;
 - c) Proposed filling does not redistribute flows by more than 15%;
 - d) The potential for cumulative effects of possible filling proposals in that area is minimal;
 - e) There are alternative opportunities for flood storage;
 - f) The development potential of surrounding properties is not adversely affected by the filling proposal;
 - g) The flood liability of buildings on surrounding properties is not increased;
 - h) No local drainage flow/runoff problems are created by the filling; and
 - i) The filling does not occur within the drip line of existing trees.
- 20) The above criteria can only be addressed and satisfied by the submission of a detailed flood study report by a qualified engineer. The flood study report would involve both hydrologic and hydraulic analysis of the watercourse and the effects of the proposed filling on flood levels, flow velocities and distribution of flows as listed above. The report needs to address items listed above. Any filling of land also needs to be in accordance with the other provisions in this DCP.

3.8 Bushfire Prone Land

Objectives

- a) To minimise the risk to life, property and the environment in the event of a bushfire including the lives of emergency personnel.
- b) To ensure that all development on bushfire prone land makes adequate provision for access for emergency personnel, vehicles and equipment.
- c) To balance the risk of bushfire to life and property with the other principles in this Plan, including the need to protect and enhance existing vegetation where possible.
- d) To recognise that land not classified as 'bushfire prone land' may still be subject to the impact from bushfire, particularly through ember attack.

Controls

- 1) Land identified as 'bushfire prone land' on Penrith City Council Bushfire Prone Land Map is to address the bushfire protection measures in the Rural Fire Service publication *Planning for Bushfire Protection 2019* (PBP) (as amended).
- 2) A Bushfire Assessment Report, prepared in accordance with PBP, must accompany all development applications on land identified as bushfire prone land on the Bushfire Prone Land Map.
- 3) Development on land within 250m of land zoned RU2, E2 and E4 that is not identified as 'bushfire prone land' on the Bushfire Prone Land Map must consider ways to minimise the risk of ember attack, particularly with regard to roof design, building materials and landscape design. These matters must be addressed in the submitted development application.
- 4) Bushfire hazard reduction work must be authorised by the *Rural Fires Act 1997*.

3.9 Salinity

Objectives

- a) To avoid or mitigate the impacts of development on salinity processes to prevent any degradation in soil, groundwater or vegetation.
- b) To avoid or mitigate the impacts of salinity on development, including damage to buildings and infrastructure and the loss of productive agricultural land.
- c) To ensure development will not significantly increase the salt load in existing watercourses.
- d) To minimise groundwater recharge where possible.
- e) To minimise disturbance to the natural hydrological system by maintaining good drainage and reducing water logging on the site.

Controls

- 1) A detailed salinity analysis and Salinity Management Plan will be necessary if an initial investigation show the site is saline or affected by salinity.
- 2) Investigations and sampling for salinity are to be conducted in accordance with the requirements of Local Government Salinity Initiative series by the former Department of Natural Resources (2002).
- 3) The author (company) of the salinity analysis must sign off on the project on completion of works and submit this to Council prior to an occupation certificate being issued, if required within development conditions of consent.
- 4) Soil erosion and sediment control measure, in accordance with erosion and sedimentation controls in this section shall be incorporated into the development during its construction and operation.
- 5) Construction techniques shall be employed that prevent structural damage to the development as a result of salinity (see *Building in a Saline Environment*). For example, building footings shall be constructed so as not to impede groundwater movement and building materials that are resistant to salt effects shall be used.
- 6) All landscape designs should undertake the following practices:
 - a) Select salt tolerant plant species (generally native trees and shrubs);
 - b) Use mulch in all garden beds;
 - c) Minimise landscaping which requires large quantities of water;
 - d) Use 'water wise' garden and landscape design (including timers, selection of plants with low water needs, grouping plant of similar water usage together, etc); and
 - e) Use non-corrosive materials when constructing pipes and channels.
- 7) All works are to conform with the *Western Sydney Salinity Code of Practice* (June 2003).

3.10 Contaminated Land

Objectives

- a) To minimise the risks to human health and the environment from the development of potentially contaminated land.
- b) To ensure that potential site contamination issues are adequately addressed at subdivision stages.

Controls

- 1) Prior to granting development consent, the consent authority must be satisfied that the site is suitable, or can be made suitable, for the proposed use having regard to land contamination.

- 2) All Das shall be accompanied by a Stage 1 Preliminary Site Investigation prepared in accordance with *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55) and the *Contaminated Land Management Act 1995*.
- 3) Where the site has known contamination or a Stage 1 Preliminary Site Investigation identifies potential or actual site contamination, a Stage 2 Detailed Site Investigation must be prepared in accordance with SEPP 55 and the *Contaminated Land Management Act 1995*. A Remediation Action Plan (RAP) will be required for areas identified as contaminated land in the Stage 2 Detailed Site Investigation.
- 4) A Site Audit Statement (SAS), issued by an Accredited Site Auditor, will be required prior to occupation certificate where remediation works have been undertaken to confirm that a site is suitable for the proposed use.

Note: All applicants should consider and assess contamination hazards on their land in accordance with the *Contaminated Land Management Act 1995* and SEPP 55. Both override any controls in this DCP related to remediation of lands.

3.11 Aviation Safeguarding

The Mamre Road Precinct is located within the Western Sydney Aerotropolis, approximately 4km north-east of the proposed Nancy-Bird Walton Airport. **Figure 5** identifies the location of the Precinct within the Western Sydney Aerotropolis.

Aviation safeguarding controls ensure development does not impact on the airport operation and should be read in conjunction with controls within the WSEA SEPP.

Objectives

- a) To safeguard the future operations of the Western Sydney Airport, including 24-hour operations and provide appropriate protections for the surrounding community.
- b) To ensure compatible development that exhibits design excellence occurs on surrounding land.
- c) To ensure development does not intensify noise sensitive uses.

Controls

- 1) An Aviation Safeguarding Assessment is to be submitted with development applications detailing compliance with aviation safeguarding measures and the controls outlined below.

Heights

- 2) The height of permanent buildings, structures, landscaping and cranes do not impact the operations of the Airport or create a hazard to the safe navigation of aircraft. Permanent buildings and any ancillary structures must not encroach into protected airspace.

Noise

- 3) Development is constructed in accordance with Australian Standards AS2021 – Acoustics Noise Intrusion – Building Siting and Construction.
- 4) Renovations to existing houses or minor extensions within ANEC/ANEF 20 and above must be constructed in accordance with Australian Standard AS2021 – Acoustics – Aircraft Noise Intrusion – Building Siting and Construction.

Protection of Operational Airspace

- 5) Development does not create a permanent physical or transient obstruction in the operational airspace of the Airport and complies with the *Airports Act 1996* and *Airports (Protection of Airspace) Regulations 1996*.
- 6) Pursuant to Section 183 of the *Airports Act 1996* and Regulation 7 of the *Airports (Protection of Airspace) Regulations 1996*, developments resulting in a temporary physical or transient obstruction in the operational airspace of the Airport must apply for approval of the operation (“controlled activity”) set out in the Schedule.

Lighting

- 7) Development does not impact on the operational aspects of the Airport with regard to light emission and reflective surfaces.
- 8) External lighting must be downlights or shrouded lights.

Emissions

- 9) Development must not generate emissions or plumes into the protected airspace which:
 - a) Have peak vertical velocities of more than 4.3m/sec.
 - b) Incorporate flares.

Wildlife Hazards

- 10) Development must not attract wildlife which would create a safety hazard in the operations of the Airport.
- 11) All waste bins are to be designed and installed with fixed lids.
- 12) Any bulk waste receptacle or communal waste storage area must be contained within enclosures that cannot be accessed by birds or flying foxes.
- 13) Any stormwater detention within the 8km wildlife buffer is to be designed to fully drain within 48 hours after a rainfall event.

Communications, Navigation and Surveillance Systems

- 14) Development must no impact upon communication, navigation and surveillance systems.
- 15) Development within the building restricted area does not create electromagnetic field radiations that will interfere with signals transmitted by the communication, navigation or surveillance facility.

Windshear and Turbulence

- 16) Development must not generate windshear and/or turbulence.

Figure 5 Location of Nancy Bird Walton Airport

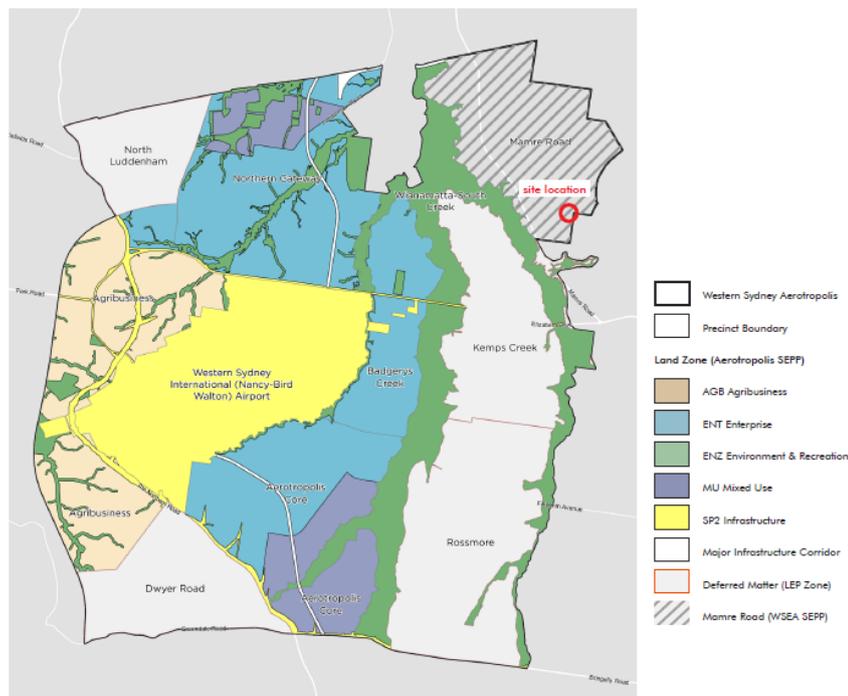


Figure 5 – Western Sydney Aerotropolis Land Zone Plan (September 2020) [Source: NSW Department of Planning, Industry & Environment]

3.14 Utility Services

Objectives

- a) To ensure development takes into account the availability of existing utility services and required upgrades.
- b) To provide for the timely provision and funding of new, extended and/or upgraded services.

Controls

- 1) The developer shall liaise with relevant service providers to ensure adequate arrangements have been made to service the development. This includes water and sewer, electricity, gas (where required) and telecommunications.
- 1) The developer shall submit sufficient evidence at subdivision state to demonstrate the satisfactory arrangements have been made to ensure the delivery and construction of utilities and services connections.
- 2) All utilities are to be accommodated in the road reserve unless otherwise required by the Utility Authority. The design of roads will need to take this into consideration.
- 3) Utilities services are to be provided in accordance with the relevant service provider requirements.
- 4) Development consents will include a condition requiring the applicant to provide evidence that satisfactory arrangements to Sydney Water have been made for water supply and sewer services to the development.
- 5) Applicants will be required to deliver water and sewer services upgrades (in accordance with current Sydney Water procurement guidelines) required to meet the anticipated demands for future industrial users.

3.15 Transport Investigation Areas

Objectives

- a) To safeguard the future transport infrastructure essential to the delivery of the Mamre Road Precinct.
- b) To ensure compatible development adjoining transport infrastructure occurs on surrounding land.
- c) To ensure safe, efficient and effective future transport infrastructure with adjoining development to provide access to local, regional and interstate networks.

Controls

Classified Roads – Mamre Road and Proposed Southern Link Road

This section applies to the Mamre Road corridor and land identified as Transport Investigation Area marked “B” under Clause 33B of *State Environmental Planning Policy (Western Sydney Employment Area) 2009*.

- 6) Proposed development on land subject to Mamre Road and the proposed Southern Link Road (refer **Figure 3**) must make provision for the upgrade and construction of these roads and future access to the corridors.
- 7) Applicants must consult with TfNSW in preparing development applications for this land to ensure an appropriate area of land is available and future access is not adversely impacted by development.

4. Precinct and Subdivision Design

4.1 Subdivision

Objectives

- a) To achieve maximum flexibility for siting and location of buildings, and to achieve an appropriate density of development.
- b) To provide opportunities for parcels of land of varying size and dimensions to satisfy market demand and the needs of the development industry.
- c) To ensure that subdivision design takes into account biodiversity considerations and facilitate minimum impact development to protect remnant native vegetation on the site and on adjoining land as detailed within the CPCP.
- d) To protect, restore, and enhance riparian corridors.
- e) To provide opportunities for a range of industrial uses and subdivision sizes.
- f) To ensure that development occurs in a logical and staged manner.
- g) To minimise the number of road entry points to designated roads, thereby allowing more efficient traffic management.
- h) To create the opportunity for innovative and efficient design solutions to subdivision layout.
- i) To create opportunities for large land parcels to be development in a co-ordinated, unified manner featuring elements such as common landscape theme/treatment, architectural treatments, and, where possible, shared parking areas.

Controls

- 1) Lots fronting biodiversity areas and corridors are required to have on-site drainage controls that prevent nutrient and erosion impacts on bushland.
- 1) Lot design should maximise the conservation of natural features including important fauna habitats, rare or threatened plant habitats, and designated biodiversity areas.
- 2) Lots adjoining or containing watercourses are required to maintain or establish native vegetation riparian corridors.
- 3) Perimeter roads should be provided for bushfire control and to improve outlook and amenity. This should be balanced with the need to minimise impacts on vegetation.
- 4) Variations to subdivision controls will be considered for lots created for “utility installations” or “utility undertakings” (e.g. electricity substation).
- 5) Land zoned E2 Environmental Conservation must not be subdivided unless the consent authority is satisfied appropriate arrangements have been made for revegetation and rehabilitation of the land in accordance with a Vegetation Management Plan including arrangements for ongoing monitoring and management.
- 6) The subdivision controls are outlined in **Table 7**.
- 7) Lots adjoining the intermodal terminal and integrated freight network should not preclude the development of the intermodal terminal and co-located freight and logistics development.

Table 7 Subdivision controls

Subdivision Element	Area	Control
Minimum Allotment Size	IN1 General Industrial	1,000m ²
	E2 Environmental Conservation	Single contiguous lot

Minimum Frontage	IN1 General Industrial	40m (excluding cul-de sacs and 35m minimum lot width at building line (for lots >5,000m ²) 60m (for lot >10,000m ²)
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4.2 Views and Visual Impacts

Objectives

- a) To protect the amenity of adjoining residential and rural residential areas and other sensitive land uses.
- b) To protect significant landscape features and view corridors.
- c) To consider topography and the natural landscape in the design of subdivisions.
- d) To leverage opportunities associated with natural site features to improve the amenity of the built environment for workers.

Controls

- 1) The design of subdivisions should respond to the significant landscape elements and view corridors. Development applications should demonstrate how the natural features of the site have influenced the design.
- 2) Subdivision and building design should relate to the scale of adjoining rural residential buildings and consider the use of height transitions and building setbacks.
- 3) Site design is to combine mounding and vegetation screening to soften the visual impact of the industrial use, particularly on adjoining rural residential uses.
- 4) Uses and building elements that are likely to adversely impact the visual amenity of adjoining rural residential areas should integrate suitable landscape screening.
- 5) Site design should promote visual connections with waterways, conservation areas, and open space.
- 6) Enable physical ground plan connection between the development and natural areas.
- 7) Enable visual connection to provide passive surveillance of the open space and public domain.
- 8) Avoid barriers, such as walls, between environmental conservation open space areas and industrial uses.
- 9) Creeks and waterways should be integrated as key features of the building and landscape design.
- 10) Landscape design and plant selection should provide continuity with the existing natural vegetation.
- 11) Lots adjoining Mamre Road should be designed in a manner that promote high quality landscape character including vistas.

4.3 Interface with Mount Vernon Residential Area

Objectives

- a) To provide a sensitive interface between industrial development and existing rural-residential properties within Mount Vernon.
- b) To ensure the design of subdivision and development at the interface with Mount Vernon responds to the topography of the land and other landscape features.
- c) To obscure the visual impact of development when viewed from Mount Vernon and respect the rural-residential context and setting.
- d) To minimise amenity impacts from industrial uses on rural-residential receivers in Mount Vernon including visual, noise, odour, vibration, overshadowing, privacy and light impacts.

Controls

- 12) Development applications for land within 250m of the southern and south-eastern Precinct boundary are to include a Landscape Plan prepared by a suitably qualified and experienced consultant which demonstrates a sympathetic transition to adjoining rural-residential development.
- 13) Development applications for land within the interface area are to be accompanied by a Visual Impact Assessment to address the visual and landscape impacts to sensitive receivers including appropriate cross-sections.
- 14) Where development adjoining a rural residential zone cannot achieve the objectives and requirements under Clause 23 of the WSEA SEPP, a minimum 30m building setback is to be provided to property boundaries that directly adjoin a rural residential zone. Access and car parking may be provided within 15m of the setback.
- 15) A reduced setback may be provided subject to the consent authority being satisfied appropriate mitigation measures do not adversely impact
- 16) Development applications are to include a Lighting Plan that minimises light spill to adjoining residential areas.
- 17) Loading areas, driveways, rubbish, storage areas and roof top equipment shall, where possible, not be located adjacent to rural residential properties.

4.4 Transport Network

4.4.1 Road Network, Hierarchy and Design

Objectives

- a) To create an efficient road network which enables a safe access for all users while minimising through traffic on minor roads.
- b) To incorporate sustainable landscape and drainage opportunities in the design of the transport network.
- c) To encourage the use of efficient alternative transport including public transport, bicycles and pedestrians.
- d) To provide traffic facilities to give safe and efficient access to Mamre Road.
- e) To maintain the capacity of the State Arterial Roads (Mamre Road and proposed Southern Link Road) by minimising the number of access points.
- f) To provide better connectivity between the precinct and other parts of the WSEA.
- g) To protect the landscape character of the Mamre Road transport corridor through an appropriate development setback.

Controls

Road Network

- 1) Internal local roads are to be designed to:
 - a) Create a permeable network that is based on a modified grid system;
 - b) Provide for pedestrian and cycle network, and minimise travel distances and conflict with industrial traffic;
 - c) Maximise connectivity between industrial areas and community facilities, open space and employment hubs;
 - d) Take account of view corridors and site drainage, and accommodate significant vegetation;
 - e) Provide frontage to and maximise surveillance of open space and riparian corridors;
 - f) Maximise the effectiveness of water sensitive urban design measures.
- 2) Access points shall be located to optimise safety, traffic flow, landscape opportunity and end user operations. All parking shall be provided either on site or in centralised off-road locations unless approved otherwise.

- 3) Upgrading of Mamre Road shall be undertaken to accommodate the increases in traffic generated by this development.
- 4) No direct vehicle access to Mamre Road, proposed Southern Link Road, or distributor roads (AADT >10,000) are permitted.
- 5) All intersections within the internal road network shall incorporate traffic facilities which promote safe and efficient pedestrian, cyclist and traffic movement.
- 6) The internal road pattern is to facilitate 'through-roads' with cul-de-sac to be avoided unless dictated by topography or other constraints.
- 7) Any addition connection(s) on Bakers Land need to protect the amenity of existing developments (e.g. schools).
- 8) The internal road network intersections to be provided at the following minimum intervals:
 - a) Local to local industrial street: 40m – 60m;
 - b) Local to collector/distributor street: 100m-200m;
 - c) Collector/distributor to sub-arterial: 400m – 500m.
- 9) The proponent shall have regard to *Guide for Traffic Generating Development*, Roads and Traffic Authority of NSW, October 2002.
- 10) Development shall, where appropriate, be designed to:
 - a) Allow all vehicles to either leave or enter the site in a forward direction;
 - b) Accommodate heavy vehicle parking and manoeuvring areas;
 - c) Avoid conflict with staff, customer and visual vehicular movements; and
 - d) Ensure satisfactory and safe operation with the adjacent road systems.
- 11) Full details of the volume, frequency and type of vehicle movements shall be submitted with the development application.
- 12) In general:
 - a) Turning circles will be required to be provided to accommodate the largest type of truck which could reasonably be expected to service the site.
 - b) All developments must be designed and operated so that a standard truck may complete a 3-point or semi-circular turn on the site without interfering with parked vehicles, buildings, landscaping or outdoor storage and work areas; and
 - c) Large-scale developments shall be designed to accommodate 26m B-double (PBS Level 2 Type B). In the case of the conversion of an existing development, should it appear that a truck turning circle may provide difficult; a practical demonstration may be required.
- 13) Council will assess the suitability of manoeuvring areas provided for large vehicles by reference to AS 2890 series and Performance Based Standards *An Introduction for Road Managers* (National Heavy Vehicle Regulator – May 2019).
- 14) Adequate space is to be provided within the site for the loading, unloading and fuelling (if applicable) of vehicles.

Road Design

- 15) Proposed industrial roads must comply with the road configurations in **Table 8**.
- 16) Main industrial roads to each have a width capable of providing either four travel lanes or two travel lanes and two parking lanes.

- 17) The internal road network needs to be designed for 26m long B-double (PBS Level 2 Type B) and tested for a 36m long B triple (PBS Level 3 Type A).
- 18) To improve safety for cyclists, separate cycle paths within the verge to avoid locating a bike lane adjacent to lanes carrying large trucks.
- 19) The internal road network is to incorporate a footpath of 1.5m on one side (minimum) and shared path of 2.5m (minimum) on the opposing side of the road.
- 20) The consent authority may consider a reduced road configuration for local roads adjoining open space, subject to road function, public utilities, bollards and fencing. Consideration of reduced widths will solely be at the discretion of Council and only where the finished road design levels match with existing levels of open space and negate the need for any retaining wall or battering. Applications that proposed reduced width will be assessed by Council with consideration given to:

Public access to open space;

Function of the road;

Impact on existing vegetation;

Public amenity;

Public safety; and

Impact on ability to provide street tree planting.

- 21) In special circumstances where it can be clearly demonstrated that the road configuration in **Table 8** is not appropriate, then the following key principles must be applied to any alternative proposal:

Road and lane widths must allow for two-way movement and turning movements of design vehicles, including consideration for buses, heavy vehicles, garbage trucks and emergency vehicles;

Verge widths must consider requirements for utilities, street tree planting, footpaths, shared paths and urban design outcomes;

Adequate on-street parking must be provided;

Adequate turning path must be provided for all design vehicles at intersections and for property access to meet the required design vehicle;

Road widths must be set to minimise kerbside restrictions and regulatory signage;

Sufficient width must be provided for specialist drainage functions; and

Life cycle costs for construction and maintenance must be minimised.

- 22) Industrial roads are to achieve the following performance objectives:

Provide direct access to industrial properties and interconnectivity with the adjoining road network;

Provide for all classes of heavy vehicles and appropriate circulation;

Provide dedicated on-street parking on both sides of the road;

Provide a shared path or on road cycle ways; and

Provide lighting in accordance with relevant Australian Standards.

- 23) Further controls may be applied as part of a development consent based on the individual circumstances of any proposed layout with reference to the adjoining road network.

Table 8 Summary of Preferred Road Typologies for Mamre Road Precinct

Component	Local Industrial Road (Type 1A) (AADT < 5000)	Local Industrial Road (Type 1B) (AADT >5000 – 10,000)	Distributor/ Collector Road (Type 2) (AADT > 10000)
Design Speed	60km/h (signposted 50km/h)	60km/h (signposted 50km/h)	70km/h (signposted 60km/h)
Pedestrian and cycle path (within verge width)	Verge 1 – 1.5m path Verge 2 – 2.5m shared path	Verge 1 – 1.5m path Verge 2 – 2.5m shared path	Verge 1 – 1.5m path Verge 2 – 2.5m shared path
Through traffic lane	2 x 3.5m = 7.0m	2 x 3.5m = 7.0m	2 x 3.5m = 7.0m
Kerbside lane (no parking)	2 x 3.14 = 6.28m	2 x 4.0 = 8.0m	2 x 4.2m = 8.4m
Median widths*	N/A	N/A	0.8m* (mid-block) 5.0m* (at intersections)
Road carriageway width	15.0m (mid-block)	15.0m (mid-block)	16.2m (mid-block) 20.4m (intersections)
Verge width (both sides of road)	Verge 1 – 4.0m Verge 2 – 5.0m	Verge 1 – 4.0m Verge 2 – 5.0m	Verge 1 – 4.6m Verge 2 – 5.6m
Street tree planting	1.9m (both sides of road)	1.9m (both sides of road)	2.5m (both sides of road)
Road reserve width (total)	24.0m (mid-block)	24.0m (mid-block)	26.4m (mid-block) 30.6m (intersections)

* Subject to road modelling and intersection design confirmation

Figure 7 Typical Local Industrial Road

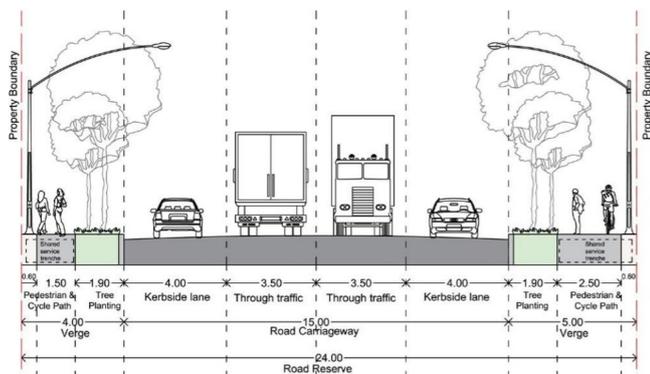
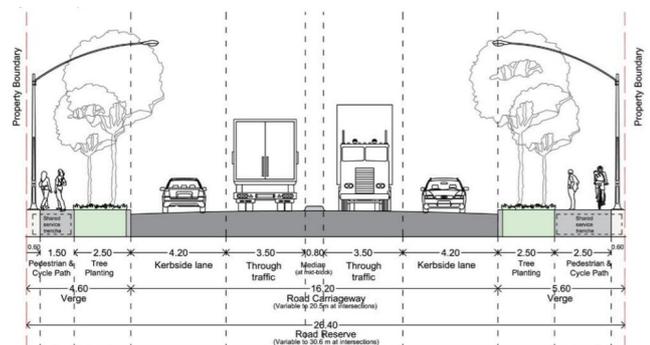


Figure 8 Typical Distributor/Collector Road



4.4.2 Traffic and Transport Assessments, Studies and Plans

Objectives

- a) To reduce travel demand including the number of trips generated by development and the distances travelled, especially by car.
- b) To promote and facilitate the use of public transport as a more sustainable alternative to the private car for personal travel.
- c) To ensure that transit infrastructure is effectively integrated with other development to maximise safety, security and convenience for transit users.
- d) To promote and facilitate walking and cycling within transit oriented precincts by establishing and maintaining high levels of amenity, safety and permeability in the urban form.
- e) To encourage the orderly and economic provision of road and intersection works.
- f) To ensure that existing roads and intersections are upgraded to provide a satisfactory level of service consistent with the volume and nature of traffic generated by the proposed development.

Controls

- 1) A Transport Management and Accessibility Plan (TMAP) is to be prepared for all significant developments. The TMAP is to address the objectives and controls in this section.
- 2) Development applications for major development proposals should be accompanied by an appropriate Traffic and Transport Report. The Traffic and Transport Report should detail the assessed impact of projected pedestrian and vehicular traffic associated with the proposal with recommendations on the extent and nature of the traffic facilities necessary to preserve or improve the safety and efficiency of the adjacent road system.
- 3) A Traffic and Transport Report must be provided for applications required to be referred to the TfNSW under Column 2 and a Traffic Impact Statement for Column 3 of *State Environmental Planning policy (Infrastructure) 2007* (ISEPP).
- 4) Depending on the scale, type and nature of the use proposed, Council may determine a Traffic and Transport Report or Traffic Impact Statement is required for certain development which is not listed under Column 2 or 3 of ISEPP.
- 5) Any Traffic Report or Traffic Impact Statement is required to address the following issues:

The objectives of this section relating to transport and land use;

The objectives of this section relating to traffic management and safety;

The objectives and controls of this section relating to traffic generating developments; and

Note: Any development identified in Schedule 3 of the ISEPP is either referred to TfNSW (Column 2 developments) or Council's Local Traffic Development Committee (Column 3 developments) for assessment and conditions as required.

4.4.4 Public Transport, Pedestrian and Cycle Network

Objectives

- a) To encourage the use of public and active transport through the provision of integrated bus routes, and pedestrian and cycle routes.
- b) To design major routes as 'integrator arterials' with extensive and frequent opportunity for pedestrians to move safely along and across them.
- c) To design and detail new developments to promote and support personal mobility for daily activities.

- d) To provide pedestrian pathways through parks for recreation purposes, wherever practicable.
- e) To encourage bicycle use by providing sufficient number of secure and accessible bicycle parking spaces with new developments.
- f) To provide for a future bus link to the M4 Motorway.

Controls

Desired Public Transport, Pedestrian and Cycle Network

- 1) Bus stops shall be provided as determined by bus operators and TfNSW in consultation with Council.
- 2) Pathways for cyclists and pedestrians are to include regional active transport connections, and links to key catchments and employment hubs across WSEA.

Public Transport

- 3) The road network is to ensure public transport (i.e. buses) is made available along key roads to support early adoption of good travel practices by future workers.
- 4) The design of the internal road network to identify the future public bus network and coverage. Any required infrastructure and bus services to be provided at the early stages of development (refer to TfNSW – Guidelines for Public Transport Capable Infrastructure in Greenfield Sites).
- 5) Public transport use is to be enhanced by providing good pedestrian connections from places of employment to transport networks or nodes.

Pedestrian Connections

- 6) Footpaths should have ramps at all kerb corners for wheelchairs and pram access and cater for all people with diverse abilities in line with current Australian Standards.
- 7) Street lighting in accordance with the provisions of AS1158 should be present in all urban streets.
- 8) To enable comfortable passage for all people with diverse abilities, footpaths must be:

Provided on both sides of the road;

A minimum of 1.5m wide on one side;

A minimum 2.5m shared path on the opposing side;

A minimum of 3.0m for 100m on approach routes to predictable destinations such as employment hubs and parks; and

A minimum width of 3.5m for gravel shared paths for recreational use within open space and environmental corridors.

- 9) A durable, non-slip surface and even paving is to be designed and constructed for minimum maintenance. Continuous pathways, uninterrupted by variations in surface material must be provided.
- 10) Gradients from pathways to streets are to be minimal, safe and comfortable for people with limited mobility and those using wheelchairs, prams and trolleys in line with current Australian Standards.
- 11) Gradients and ramps must be aligned with desired paths of travel for pedestrians and cyclists.
- 12) A smooth transition from ramps to roads is to be provided for people using wheelchairs or prams. Ramps should be designed in accordance with appropriate design guidelines and be as wide as the pathway or marked crossing point to eliminate squeeze points at transition areas.

Cycleways

- 13) All cycle routes and facilities are to be consistent with the relevant requirements of “Austroads Cycling Aspects of Austroads Guides” and Roads and Maritime Services “Bicycle Guidelines” including line-marketing, signage and logos and Council policies regarding bicycle access.

- 14) The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m.
- 15) The minimum width of 3.5m for gravel shared paths for recreational use within open space and environmental corridors.
- 16) Pedestrian and cycle routes and facilities in public spaces are to encourage way finding and be convenient, safe, well lit, clearly defined, functional and accessible to all.
- 17) Shared paths and pedestrian refuge islands are to be designed to be fully accessible by all in terms of access points and gradients, in accordance with Australian Standard 1428:1-4.

5. General Requirements for Industrial Development

5.1 Site Analysis

Objectives

- a) To ensure development considers the physical and natural features of the site and the immediate surrounding area.

Controls

- 1) All development applications are to be accompanied by a Site Analysis Plan.

5.2 Site Analysis

5.2.1 Building Height

Objectives

- a) To encourage building forms that respond to the topography of the site and the relative position of the allotment to other allotments and the street.
- b) To ensure a scale of buildings which minimises the impact of development on adjoining residential areas including views.
- c) To minimise the impact of buildings upon the surrounding public realm including areas of environmental significance, landscape value and residential uses.

Controls

- 1) Building height should respond to the scale of existing adjoining development incorporating lower elements toward the street, pedestrian paths, adjoining rural-residential areas, and areas of environmental value.
- 2) Buildings should not exceed a maximum height of 16m from proposed pad level within 250m of a rural-residential zone. For all other sites, a maximum building height of 20m from proposed pad level is permitted.
- 3) Should the nature of the business require a taller built form, the proponent must demonstrate the taller element will mitigate solar and visual impacts to the surrounding uses and public amenity. The development application must be accompanied by a visual impact assessment by a suitably qualified consultant.
- 4) Building height must ensure direct solar access to open space and environmental areas between hours of 11:00am and 2:00pm at the winter solstice, 21 June. Shadow diagrams must be submitted demonstrating this outcome.
- 5) Building services located on the roof (such as HVAC, lift motor room, exhaust fans, etc) must be accommodated within the maximum permissible height of the building.
- 6) A Visual Impact Assessment to be submitted with development applications demonstrating that development will not create an unacceptable impact on the scenic quality of:

The precinct particularly when viewed from elevated locations.

Wianamatta-South Creek

Adjoining rural-residential areas.

5.2.2 Building Setbacks

Objectives

- a) To provide a consistent streetscape design and landscaped transition to the public realm.
- b) To provide space for pedestrian and cycling circulation across the precinct.
- c) To provide an open streetscape with substantial areas for landscaping.
- d) To enhance the visual quality of development and the urban landscape.
- e) To screen undesirable views and minimise the visual impact of hard surface areas.
- f) To ensure new development retains existing trees or significant stands of vegetation in the overall site layout.
- g) To minimise the impact of overshadowing to adjoining buildings and open space.

Controls

- 1) Building setbacks are to be in accordance with the standards outlined in **Table 9**.

Table 9 Building setback requirements

Location	Distance (m)
Lots fronting designated roads (Mamre Road and proposed Southern Link Road)	20
Lots fronting key access roads (distributor and collector roads)	12
Lots fronting all other roads (local estate roads)	7.5
Secondary road frontages (corner lots)	5
Rear and side boundaries	5
Lots adjoining existing rural residential development in Mount Vernon	Refer to Section 4.3
Lots adjoining Warragamba Water Supply Pipeline (unless specified elsewhere in the DCP)	5
Lots adjoining the proposed Intermodal Terminal	20
Lots adjoining the proposed WSFL corridor	5
Lots adjoining land zoned E2 Environmental Conservation, RE1 Public Recreation and RE2 Private Recreation (unless otherwise specified elsewhere in this DCP)	10m setback within E2, RE1 and RE2 zone

- 2) Notwithstanding Control 1 above, no development other than the following development is permitted within the defined setback for any road other than Mamre Road and proposed Southern Link Road:

Landscaping;

Maintenance/rehabilitation of biodiversity corridors or areas;

Utility services installation;

Accessways and driveways (not permitted in setbacks to designated roads);

Fire access roads;

Approved signage;

Street furniture; or

Drainage works.

- 3) Setbacks may incorporate an off-street parking area if it can be demonstrated that the location of the car parking area:

Is set behind a landscaped area which is at 50% of the required setback;

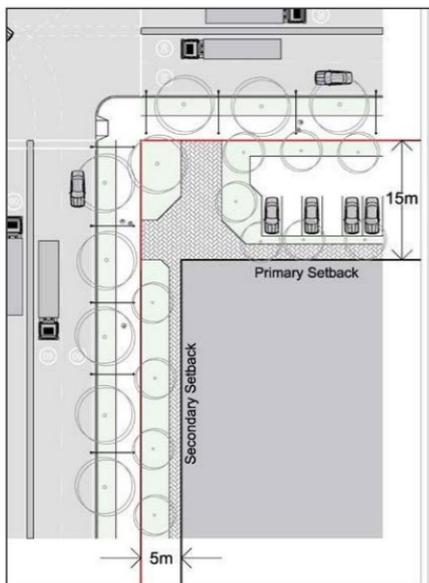
Promotes the function and operation of the development;

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

Does not detract from the streetscape values of the locality.

- 4) The design of setbacks and hardstand areas should seek to minimise the visual impacts of the development (see also **Section 5.2.3: Landscaping**).
- 5) Additional setbacks may be applicable to avoid construction over easements.
- 6) For corner sites, setbacks must also ensure clear vehicular sight lines for perpendicular traffic (refer to **Figure 10**).

Figure 10 Corner site setbacks



5.2.3 Landscaping

Objectives

- a) To provide functional areas of planting that enhance the presentation of a building.
- b) To provide vegetated buffers to areas of environmental and recreational value.
- c) To screen undesirable views.
- d) To reduce building energy consumption.
- e) To select tree species that are “low maintenance” planting to reduce the impact of green waste.
- f) To provide wildlife habitats.
- g) To contribute to the overall character of the locality.
- h) To contribute to the Greater Sydney Region Plan canopy cover target of 40% including by retaining existing paddock trees, windrows, and large canopy trees, where possible and adding to the existing canopy.

Controls

- 1) Landscaped area is to be provided generally in accordance with the requirements set out in **Table 10**.

Table 10 Minimum landscape requirements

Location	Requirement
Lots fronting designated roads (Mamre Road and proposed Southern Link Road)	10m landscape setback to the road frontage
Lots fronting key access roads (distributor and collector roads)	3.75m or average 50% of the setback along the road frontage
Lots fronting all other roads (local estate roads)	Average of 50% of setback along the road frontage
Rear boundary	2.5m from the rear boundary
Side boundary	No minimum requirement
Lots adjoining existing rural residential development in Mount Vernon	Refer to Section x
Lots adjoining land zoned E2 Environmental Conservation, RE1 Public Recreation, and RE2 Private Recreation (unless otherwise specified elsewhere in this DCP)	5m landscape setback from the edge of the E2, RE1, and RE2 zoned land unless separated by a public or private road, path or drainage channel.

- 2) A Landscape Plan prepared by an Landscape Architect is to be submitted with all development applications.
- 3) Outdoor recreation areas for staff should be integrated into landscaped areas, where possible, to provide shade and an appropriate level of amenity and comfort.
- 4) Landscaped front setback should include canopy trees whose mature height is in scale with the proposed development.
- 5) Tree planting in the form of island planter beds should be provided at a rate of one planter bed per 10 car spaces within car parks to reduce the heat effect and soften the hard surfaces.
- 6) Where practical existing remnant vegetation within front, rear and side setback areas shall be retained and enhanced as an integral part of the landscaping proposals for each development.
- 7) Where sites back onto designated roads or the main access roads, and where levels allow, setback areas should be provided with mounded landscape screens.
- 8) Screen planting with evergreen shrubs and trees is required to screen car parks, vehicular manoeuvring areas, garbage areas, and storages areas from the street frontages.
- 9) Paving, structures and wall materials should complement the architectural style of buildings on the site.
- 10) The selection of proposed trees and other landscaping plants is to consider:

The preferred trees identified in the Penrith Council Street and Park Tree Management Plan.

The use of relevant local native vegetation communities that occur, or once occurred in the area rather than exotic plant or non-local native species.

The re-use of native plants or topsoil removed during subdivisions works or earthworks.

The contribution to the management of soil salinity, water levels and soil erosion.

Tree species being low maintenance and drought tolerant.

The capacity of the species to contribute to tree canopy cover.

Invasive turf (including Kikuyu) must not be used in areas adjoining remnant vegetation within open space and riparian corridors.

A diverse range of flora species for both street and suburban plantings to increase species disease resilience.

Service authority requirements in easement locations.

- 11) Street planting is to have a minimum container pot of 55-75L at occupancy certificate or asset dedication stage.
- 12) Sufficient area/space is to be made available to allow trees to grow to maturity.
- 13) Consolidate landscape areas to maximise space for deep soil, tree growth and aesthetic opportunities.
- 14) Groundcovers should be considered as a grass alternative in areas not specifically designed for pedestrian use.

5.2.4 Building Design

Objectives

- a) To encourage innovation and a high standard of architectural design utilising quality materials and finishes.
- b) To ensure development achieves a high level of sustainability and environmental performance.
- c) To encourage articulated and varied frontages and rooflines to minimise perceived bulk and scale, particularly facing or visible from public roads.
- d) To ensure that new development contributes to the creation of a visually cohesive urban environment.
- e) To support passive surveillance of the adjoining public realm.

Controls

- 1) Development with a construction cost of \$1 million or more are to demonstrate a commitment to achieving no less than 4 stars under Green Star or 4.5 stars under the Australian Building Greenhouse Rating system (now part of the National Australian Built Environment Rating System (NABERS)), where appropriate.
- 2) An access report is required where disabled access is a requirement of the *Disabilities Discrimination Act 1992*.

Siting/ Building Orientation

- 3) Buildings should take advantage of a north or north-easterly aspect to maximise passive solar illumination, heating and natural cross-ventilation for cooling.
- 4) Trees should be planted around the building to create shade, screening and wind breaks.
- 5) Building design should minimise impacts of overshadowing within the site and on adjoining development.
- 6) Buildings should be oriented so that the building frontage is parallel with the primary street frontage.
- 7) Building elevations oriented towards rural-residential areas shall be minimised. Where site constraints create difficulties in complying in this regard, elevations shall be appropriately articulated to soften building scale.

Architectural Design

- 8) Utilise a mix of materials and colours on the visible from a publicly accessible area, provide articulation or utilise a textured surface treatment in order to provide visual interest.
- 9) Where the rear or side of a building is visible from a publicly accessible area, provide articulation or utilise a textured surface treatment in order to provide visual interest.
- 10) External finishes should be of low reflectivity to minimise glare and reflection to surrounding areas.
- 11) The colour and material palette should utilise muted tones of the natural landscape and avoid incompatible bright bold colours and textures. The consent authority will have regard to the use materials in assessing development.
- 12) Elevations fronting the street or public reserves or those that are visible from public areas and adjoining rural-residential areas must present a building form of architectural and design merit having regard to the nature of large industrial buildings. The construction of large, blank wall surfaces is not permitted in visually sensitive locations.

- 13) Loading areas are to be screened from the view of primary road frontages through physical and/or vegetation screening.
- 14) Details of samples of external materials and finishes shall be submitted with the Development Application.
- 15) Energy efficient design principles should be employed in all building designs.
- 16) Entrances to buildings must be highlighted by architectural features consistent with the overall design of the building.
- 17) Courtyard and screen walls should be in the same material as the building facades.
- 18) The main office administration component is to have a designated entry point that is highly visible and directly accessible from visitor parking.

Roof Design

- 19) Roof design must provide visual interest and variation from the streetscape.
- 20) Roof forms should generally be low pitch to reduce bulk of buildings.
- 21) Roof forms should help to visually articulate the use within the building. This may include transitions between foyer, office and larger warehouse uses.
- 22) Building services located in/ on the roof, such as HVAC systems, lift motor rooms, and exhaust fans must be screened from the façade with an integrated built element such as parapets.
- 23) Roof design must provide natural illumination to the interior of the building.

5.2.5 Design of Storage Areas

Objectives

- a) To ensure that external storage of goods does not detract from the visual amenity of industrial areas, streetscapes or adjoining residential areas.

Controls

- 1) All external storage areas must be located behind the front building setback. In addition, when assessing development applications involving external storage of goods, the following will be taken into consideration:

The proposed height and on-site arrangement of stored goods;

The visual impact of the storage area and how this is proposed to be minimised (orientation, screening with landscaping and/or solid fencing, etc);

Access arrangements; and

Safety issues.

- 2) For sites with multiple frontages, either to roads or other public spaces, the location and orientation of external storage areas shall minimise visual impact from all potential viewpoints.

5.2.6 Storage, Transportation, and Processing of Chemical Substances

Objectives

- a) To ensure that the use, storage or transportation of any chemical substance(s) do not have any detrimental impact on the environmental quality of the surrounding area.
- b) To ensure any proposed development involving the storage, transportation and processing of chemical substances shall have regard to the requirements of the *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33).

Controls

- 1) A Chemical Use and Storage Report is to be submitted with any Development Application which involves the storage, transportation and/or processing of chemical substances, except in the following circumstances:
 - a) The use of chemicals is for routine cleaning and the chemical to be used are of household or hospital grade.
 - b) The total quantity of chemicals to be routinely used or stored on the site does not exceed 100 litres.
 - c) The chemicals to be used or stored are not of sufficient acidity, alkalinity or strength to cause significant harm on skin contact, or to the environment if a spill were to occur.
 - d) The application outlines the methods proposed to be used to minimise the potential for spills.

5.2.7 Signage and Estate Entrance Walls

Objectives

- a) To promote an integrated design approach to all signage in character with the locality and its architectural and landscape features.
- b) To provide a quality entrance statement and signage at each of the entrance points to the Estate.
- c) To prevent the proliferation of signs.
- d) To minimise the visual impact of signage.
- e) To prevent distraction to motorists and minimise the potential for traffic conflicts.
- f) To permit the adequate display of information concerning the identification of premises, the name of the occupier, and the activity conducted on the land.
- g) To encourage a coordinated approach to advertising where multiple occupancy of sites occur.

Controls

- 1) All advertising is required to be:
 - a) Constructed of high quality, durable materials;
 - b) Considered in conjunction with the design and construction of buildings;
 - c) Restricted generally to one sign per occupant identifying the name of the occupants and/or products manufactured or produced on the site; and
 - d) Contained wholly within the site.
- 2) The dimensions of 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.
- 3) Building identification signage should have a maximum advertising area of up to 0.5 square metres for every metre of lineal street frontage.
- 4) Sky signs and other roof signs that project vertically above the roof of a building are not permitted.
- 5) Flat mounted wall signs for business identification signage are to be no higher than 15 metres above existing ground level.
- 6) Signage should generally 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.
- 7) The sign is to be contained fully within the confines of the wall or awning to which it is mounted.
- 8) In the case of multiple occupancy of a building or site:

- a) Each development should have a single directory board listing each occupant of the building or site. Only one sign is to be placed on the face of each premises.
- b) The minimum distance between under awning signs shall be 3m.
- c) Multiple tenancies in the same building should use consistent sign size, location and design to avoid visual clutter and promote business identification.

Illuminated Signage

- 9) Illuminated signs are not to detract from the architecture of the supporting building during daylight.
- 10) Illumination (including cabling) of signs is to be either:
 - a) Concealed.
 - b) Integral with the sign.
 - c) Provided by means of carefully designed and located remote or spot lighting.
- 11) The ability to adjust the light intensity of illuminated signs is to be installed where the consent authority considers it necessary.
- 12) A curfew may be imposed on the operation of illuminated signs where contiguous illumination may impact adversely on the amenity of residential buildings or have other adverse environmental effects.
- 13) Up-lighting of signs is prohibited. Any external lighting of signs is to be downward pointing and focussed directly on the sign and is to prevent or minimise the escape of light beyond the sign.
- 14) A maximum of one illuminated sign is permitted on each elevation of each warehouse building unless otherwise approved on a merit basis.
- 15) All illuminated signage shall be oriented away from residential receivers.

5.2.8 Lighting

Objectives

- a) To provide adequate external security lighting for business establishments, whilst ensuring there is no adverse impact upon the use and enjoyment of adjoining premises and surrounding areas, particularly residential and rural areas.
- b) To provide suitable lighting along the road network to enhance landscaping.
- c) To illuminate parts of the site for security reasons and to provide increased safety in accordance with the principles of Crime Prevention through Environmental Design (CPTED).
- d) To minimise energy waste by providing the correct lighting orientation and minimising overspill lighting.

Controls

- 1) Lighting details shall be provided as part of any relevant development application.
- 2) Lighting design should address the principles of CPTED, where there is significant pedestrian activity, late night work-shifts or safety and security issues.
- 3) Adequate lighting should be provided to meet security requirements without excessive energy consumption. Lighting powered by solar batteries or other renewable energy sources is encouraged. The use of sensor lighting, both internally and externally, should be considered.
- 4) Where premises are used outside daylight hours, car parks and entrances shall be adequately illuminated.
- 5) Lighting is to be designed or directed so as to not cause light spill onto adjoining sites where there could be an impact on the adjoining site's operations, safety or amenity.

5.2.9 Fencing

Objectives

- a) To ensure that the design and location of fencing is integrated within the development and is suitable for its purpose and setting.
- b) To ensure that the security needs of the development are satisfied in a manner which complements the surrounding landscape design and streetscape quality.
- c) To ensure that fencing is consistently located behind the landscaped front setback and is of consistent high quality.
- d) To provide security where appropriate while maintaining open lines of sight from the street.

Controls

- 1) Fencing along street frontages should provide open style fencing, which does not obstruct views of landscaping from the street or reduce visibility.
- 2) Palisade fencing is encouraged.
- 3) Solid fences above 1 metre in height are not permitted along street frontages.
- 4) No fencing other than a low ornamental type may be erected at the front or secondary street site boundary. Should the applicant elect to use high security fencing, such fencing must 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.

5.2.10 Ecologically Sustainable Development

Objectives

- a) To save energy through well considered passive building design applications.
- b) To improve the environmental performance and efficiency of buildings.
- c) To improve worker health, satisfaction and retention rates and to improve productivity.
- d) To improve environmental protection of downstream waters.
- e) To minimise the volume of potable water consumed.
- f) To minimise the volume of water consumed by irrigation systems.
- g) To promote landscape design that is both beneficial and appropriate for an industrial setting.
- h) To encourage development designed to minimise energy usage.
- i) To encourage development to consider the application of energy efficient technology and systems.

Controls

Building Design

- 1) Development applications should demonstrate Ecological Sustainable Design (ESD) measures have been incorporated into the design. An architect or appropriate building design consultant with demonstrated ESD skills should be engaged to consider the following issues:
 - a) Scale and massing of the built form.
 - b) Building and window orientation.
 - c) Window size and glass type.
 - d) Roof materials and colour.

- e) Thermal mass and floor material.
- f) Façade material, colour and surface treatments.
- g) Insulation.
- h) Landscape to provide amenity, shade and moderation of the building microclimate.
- i) External shading to reduce summer heat particularly on windows and roofs.
- j) Natural ventilation with generous, all weather openings which take advantage of the height of the spaces.
- k) Natural light preferred over artificial.
- l) Utilise extensive roof areas for energy and water collection.

Building Services (excluding Manufacturing Plant and Operations)

- 2) Building services, excluding manufacturing plant and operations, should promote the following ESD measures:
 - a) Separate metering of water and electricity is required for buildings with multiple uses or multiple tenants.
 - b) Zoning of lighting to match use, and movement sensitive lighting controls.
 - c) Shut-off valve at stormwater outlets is required to trap any toxic spills into piped stormwater systems.
 - d) Waterless urinals are required at a minimum.
 - e) Energy efficient lighting to be used throughout.
 - f) Gas boosted solar hot water for staff amenities (kitchen, toilets, showers) unless approved otherwise.
 - g) A suitably sized rainwater and recycled water storage tank is required for toilet flushing, irrigation or other permissible non-potable water uses.
 - h) Strategic use of translucent/transparent wall and roof cladding to increase natural light.
 - i) Waste heat recovery systems which use waste heat from refrigeration systems or other sources for uses such as preheating hot water.
 - j) Alternatives to cooling towers such as air-cooled systems, ground source heat rejection or pond heat rejection.
 - k) State of the art storage systems combined with the use of photo voltaic cells for roof areas.

Air Quality and Visual and Thermal Comfort

- 3) Measures to improve air quality and visual and thermal comfort include:
 - a) Ventilation systems are to be designed to supply a generous amount of fresh air through the use of natural cross flow ventilation.
 - b) Low VOC paints and low-formaldehyde floor covering, adhesive and furniture are to be used.
 - c) Provision of natural light over artificial light.
 - d) Control of direct sun in working areas.
 - e) Two component artificial lighting is required which include reflected light to ceiling and task lighting for desks.
 - f) Radiant heat is to be controlled through glazed facades by shading and/or performance glass.
 - g) Occupant control of comfort parameters (e.g. operable windows, control for temperature and air flow).
 - h) Protection from excessive noise, particularly when windows are open or between production and office areas.
 - i) Provision of quality landscaped outdoor amenity areas for staff for lunch and recreation.
 - j) Hydronic heating and ceiling fans.

- k) Materials with low reflectance values, Solar Reflective Index (SRI) < 4.0 are to be used.

Water Servicing

- 4) In areas where a recycled water scheme is planned:
 - a) Stormwater harvesting measures respond to the balance of demand for water from recycled and stormwater sources;
 - b) Street trees are to be indirectly connected to the recycled water network for irrigation during periods of drought;
 - c) Where a recycled water system is to be delivered as part of individual development proposals, reticulation should be designed in consultation with Sydney Water.
- 5) Where dual reticulation is being provided for future recycled water delivery, the recycled water supply be designed to supplement stormwater harvesting in a way that does not compromise waterway health objectives.
- 6) Rainwater tanks shall not be topped up with recycled water unless approved by Sydney Water.
- 7) Water use within the landscape (for uses such as irrigation, ponds, water features) must be supplied from non-potable sources such as recycled water, roof water, harvested stormwater or other non-licensed water sources and treated to the Australian Guidelines for Recycled Water.
- 8) All buildings not covered by the *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*:
 - a) That are installing any water use fittings must demonstrate minimum standards defined by the Water Efficiency Labelling and Standards (WELS) Scheme. Minimum WELS rating are 4 star dual-flush toilets, 3 star showerheads, 4 star taps (for all taps other than bath outlets and garden taps) and 3 star urinals. Water efficient washing machines and dishwashers are to be used wherever possible.
 - b) To install rainwater tanks to meet 80% of non-potable demand including outdoor use, toilets and laundry.
 - c) To incorporate passive cooling methods that rely on improved natural ventilation to supplement or preclude mechanical cooling.

5.3 Noise and Vibration

Objectives

- a) To establish design criteria for noise emissions from industrial or other employment-generating development.
- b) To establish acoustic environmental goals for existing and future adjacent residential areas.
- c) To establish noise contributions for individual allotments within the employment zones when related to residential boundaries.

Controls

- 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*.
- 2) The use of mechanical plant and equipment may be restricted in areas close to sensitive receivers, such as adjoining rural residential development. Developers in all areas should ensure through design of their development that no offensive noise is emitted.
- 3) Where it is considered likely that a development may cause an adverse impact on nearby rural or residential areas, an acoustic report from a qualified acoustic engineer will be required to be submitted for consideration with the development application. The acoustic report will need to demonstrate that the proposed development will not create any adverse impact.

- 4) All development shall comply with the requirements of relevant Australian Standards and State Government policies and guidelines relating to noise.

Erection of Buildings

- 5) An acoustic report shall be required for developments that are likely to generate high noise levels and for development within 500m of residential areas and other sensitive noise receivers, including senior housing, places of public worship and educational establishments. The acoustic design report should refer to the relevant Australian Standards and State Government policies and guidelines relating to noise.
- 6) If an acoustic report is not required at the development application stage, conditions will be imposed as part of the development consent which requires compliance with the relevant Australian Standards and State Government policies and guidelines relating to noise. Applicants must have regard to the criteria and demonstrate a standard of acoustic treatment for the building to comply with such criteria.
- 7) It is essential that potential developers investigate noise amelioration features to be included in building design, which will assist in achieving compliance with Council's acoustic criteria. Having regard to the surrounding topography, it is critical that the roof element of all buildings be acoustically capable of controlling potential breakout noise.

5.4 Trading and Operating Hours of Premises

Objectives

- a) To ensure the amenity of adjoining residential and rural areas is preserved.
- b) To ensure development is provided the flexibility in trading/operating hours to ensure it is competitive and productive.

Controls

- 1) The hours of operation for premises involved in any type of employment generating activity shall be 24 hours a day/ 7 days a week.

5.5 Air Quality

Objectives

- a) To maintain existing air quality and improve local air quality where possible.
- b) To ensure future development does not adversely affect existing air quality.

Controls

- 1) The emission of air impurities is to be controlled and limited to the standards allowed by the *Protection of the Environment Operations Act 1997*, to the satisfaction of Council and the Environmental Protection Authority at all times.
- 2) An Air Quality and Odour assessment is required for industrial development that in the opinion of the consent authority may have an impact on the air quality in the region.
- 3) An assessment of the merits of the proposal will be made at the development application stage. However, applicants should be able to demonstrate that the most efficient means of minimising emissions are being utilised.

5.6 Earthworks and Retaining Walls

5.6.1 Development on Sloping Sites

Objectives

- a) To take into account the stability of land having regard to its topography, geology, and soils as part of site planning principles.
- b) To minimise the extent of earthworks when creating a building site.
- c) To minimise disturbance of vegetation that stabilises land, particularly on sloping sites.
- d) To encourage reuse of fill material from within the precinct.

Controls

- 1) A Geotechnical Report is to be submitted with development applications proposing earthworks that change the levels of a site.
- 2) Level transitions must be managed between lots and not at the interface to the public domain.
- 3) Excavations and fill in excess of 4.0 metres may be permitted to allow for the establishment of a level construction pad providing the excavations are adequately retained and drained in accordance with engineering requirements.
- 4) Finished ground levels adjacent to the public domain or public road dedication be no greater than 4.0m above the finished road level (or public domain level).
- 5) Where a level difference results in retaining walls exceed 3.0m in height above an adjoining public domain or public road dedication, the resulting landscape setback must be increased to accommodate tiered retaining walls.
- 6) Cut or fill retaining walls up to 3.0m in height and fronting the public domain are to be setback 2.0m into the property boundary and the setback is to be suitably landscaped. The setback and retaining wall is included in the landscaped setback.
- 7) Fill retaining walls exceeding 3.0m in height and fronting public domain are to be stepped with a minimum 1.5m provided between each tier. A maximum height of 3.0m for each retaining wall element is permitted unless otherwise approved on a merit basis.
- 8) All retaining wall elements higher than 1.0m are to be suitably fenced for safety.
- 9) Where fill material is required to be imported to the site, all material is required to be Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) or material received under an EPA Resource Recovery Order and Exemption.
- 10) Any fill that is being transported from a development can only be transported to sites that are lawfully able to receive such material. The EPA legislation and guidelines should be consulted and consent should be sought for any such activity where required.
- 11) Any VENM, ENM or material received under an EPA Resource Recovery Order and Exemption must be validated by a suitably qualified person to demonstrate that it is fit for its intended use.

Limitations on Earthworks

- 12) All retaining walls proposed for the site are to be identified in the development application for the proposed development. Use of materials that complement the natural environment is encouraged.
- 13) During any earthworks, any topsoil should be preserved on site for re-use or blending with general fill for re-use. Topsoil should be stockpiled and covered to avoid dust or erosion. Refer to **Section 5.2.3: Landscape Design** for controls on stockpiling topsoil on site.
- 14) Earthworks in the floodplain must consider Section x of this DCP and Clause 33H in the WSEA SEPP.

5.6.2 Erosion and Sediment Control

Objectives

- a) To minimise site disturbance during the construction and operation of developments and land uses.
- b) To reduce the amount of erosion and/or sedimentation of land within Penrith LGA.
- c) To maximise the amount of vegetation retained on development sites and ensure its protection during construction and operation of the development.
- d) To protect the natural environment, particularly natural water bodies, from erosion and sedimentation.
- e) To encourage prompt rehabilitation of development sites by the implementation of revegetation strategies.

Controls

- 1) All applications for subdivision and development which involve site disturbance must be accompanied by a Erosion and Sediment Control Plan (ESCP).
- 2) Soil erosion and sediment control measures are to be provided on-site before the commencement of any earthworks or development activity, in accordance with the approved ESCP. These must be maintained throughout the course of construction until disturbed areas have been revegetated and the soil stabilised. The applicant will be required to provide certification to this effect, which is to be lodged with Council prior to construction.
- 3) All erosion and sediment control measures are to be installed to the satisfaction of Council or the proposed Certifier, in accordance with the best management practices recommended by recognised authorities (including *Managing Urban Stormwater – Soils and Construction*).
- 4) The work supervisor is responsible for ensuring that all erosion and sediment control measures are implemented in accordance with conditions of approval and are maintained until a final inspection has indicated that the site is sufficiently rehabilitated and stabilised.
- 5) The decision to install a particular mechanism to prevent erosion and/or sedimentation depends on the location and type of activity proposed and may vary from site to site.
- 6) The Principal Certifying Authority (PCA) (i.e. Council or Private Certifier) may require erosion and sediment control works to be carried out in addition to, or in variation from, the approved ESCP, should circumstances necessitate it. Any variations are to be approved by PCA and implemented in accordance with this section and current best practice guidelines, where relevant.
- 7) All erosion and sediment control measures should be maintained for the duration of the specified maintenance period. An established, stabilised ground cover must be in place and approval should be obtained from the Certifying Authority before removing erosion and sediment control measures.

Additional Measures for Large Sites

- 8) Where an application is for a site over 2,500m² and there will be substantial earthworks, the applicant is required to address a number of additional measures in the ESCP including:
 - a) Identify all areas likely to cause pollution of waterways from the transport of stormwater run-off containing sediment and silt, and implement appropriate devices to stop the risk of pollution;
 - b) Divert clean water around the construction site to prevent contamination;
 - c) Retain as much natural vegetation as possible and limit site disturbance;
 - d) Control stormwater that enter the construction site from upstream;
 - e) Divert stormwater from undisturbed upper slopes onto stable areas;
 - f) Retain and stockpile all excavated topsoil on site for future landscaping and to minimise risk of erosion;

- g) Prevent sediment/silt from entering adjoining public or private property (especially drains) by installing sediment control devices at the low side of sites and wash down areas;
- h) Provide a single, stabilised entry/exit point to the site;
- i) Prevent sediment, including building materials, from reaching the road or Council's stormwater system. Sediment is to be removed by sweeping, shovelling or sponging. Under no circumstances shall sediment be hosed;
- j) Where a work zone permit over public property is applicable, ensure that appropriate debris control devices are implemented to prevent spillage of building materials into stormwater drains;
- k) Compact all drainage lines when backfilling;
- l) Connect downpipes to the stormwater system as early as possible;
- m) Revegetate all disturbed areas, after on-site works are completed, in order to stabilise the surface; and
- n) Maintain all sediment control devices during earthworks and construction to standards acceptable to the PCA.

5.7 Utilities

5.7.1 General Principles for the Provision of Services

Objectives

- a) To ensure that adequate services are available to facilitate development.
- b) To ensure the co-location of services where possible.

Controls

- 1) The consent authority shall require as conditions of any development consent that arrangements satisfactory to:
 - a) Sydney Water will be made for the provision of water and sewerage services;
 - b) Endeavour Energy have been made for the supply of electricity;
 - c) Arrangements satisfactory to the relevant telecommunications authority will be made for the provision of telecommunication services; and
 - d) Council have been made for the drainage of the land.
- 2) A Utilities Plan is to be submitted with all subdivision and new building development applications.
- 3) Electricity and telecommunication mains are to be placed underground unless temporary provision have been agreed with the relevant utility authority. Where technically feasible, compatible public utility services shall be coordinated in common trenching to maximise cost-effectiveness.
- 4) New premises are to be provided with state of the art telecommunications infrastructure utilising optic fibre or DSL technology to enable companies to access broad band services using high speed, high reliability telecommunications.

5.7.2 Council Engineering Works and Construction Standards

Objectives

- a) To ensure a consistent approach to the design and construction of engineering works.
- b) To set performance standards for the design and construction of engineering works.

Controls

- 1) All engineering works shall be undertaken in accordance with the provisions of Council's standards, as amended:

- a) Stormwater Drainage Specifications for Building Developments;
- b) Council's Water Sensitive Urban Design (WSUD) Technical Guidelines;
- c) Engineering Design Specifications for Civil Works; and
- d) Engineering Construction Specifications for Civil Works;

5.8 Waste Minimisation and Management

Objectives

- a) To facilitate sustainable waste management within the Penrith LGA in accordance with the principles of Ecologically Sustainable Development.
- b) To manage waste in accordance with the 'Waste Hierarchy' to:
 - i) Avoid producing waste in the first place;
 - ii) Minimise the amount of waste produced;
 - iii) Re-use items as many times as possible to minimise waste;
 - iv) Recycle once re-use options have been exhausted; and
 - v) Dispose of what is left, as a last resort, in a responsible way to appropriate waste disposal facilities.
- c) To assist in achieving Federal and State Government waste minimisation targets as set out in the Waste Avoidance and Resource Recovery Act 2001 and NSW Waste Avoidance and Resource Recovery Strategy 2007.
- d) To minimise the overall environmental impacts of waste by:
 - i) Encouraging development that facilitate ongoing waste avoidance and complements waste services offered by both Council and/or private contractors;
 - ii) Requiring on-site source separation and other design and siting standards which assist waste collection and management services offered by Council and/or the private sector;
 - iii) Encouraging building designs and construction techniques that minimise waste generation;
 - iv) Maximising opportunities to reuse and recycle building and construction materials as well as other wastes in the ongoing use of a premise; and
 - v) Reducing the demand for waste disposal.

Controls

- 1) Applicants are to submit a Waste Management Plan when lodging a development application for:
 - a) Demolition or construction of buildings.
 - b) Change of use of buildings.
 - c) Subdivision of land and/or buildings
 - d) Alterations to 50% or more of the existing gross floor area of buildings, or additions to buildings resulting in a 50% increase (or more) to the existing gross floor area.
- 2) The Waste Management Plan must be supported by scaled waste management drawings that are to assist in demonstrating compliance with the provisions of this Plan.
- 3) A Waste Management Plan will also be required for applications for a Complying Development Certificate.
- 4) The Waste Management Plan enables Council (or the Certifying Authority) to assess the waste likely to be generated by the development and ensure that appropriate actions are taken so as to properly manage the generation, storage and disposal of wastes.

- 5) Waste storage and collection areas should be:
 - a) Flexible in their design so as to allow for future changes in the operation, tenancies and uses;
 - b) Located away from primary street frontages, where applicable;
 - c) Suitably screened from public areas so as to reduce the impacts of noise, odour and visual amenity; and
 - d) Designed and located to consider possible traffic hazards (pedestrian/vehicular) likely to be caused by the storage and collection of waste.
- 6) The following features will need to be considered in the design of waste storage and collection areas:
 - a) Dry recyclables including containers, paper, cardboard and toners for printers and photocopiers should be separated from other waste for recycling;
 - b) Food scraps should be placed in specialised containment bins and collected on a regular basis (particularly where large volumes of perishable wastes are generated);
 - c) Refrigerated garbage rooms should be provided where there are large quantities of perishable wastes and infrequent collections; and
 - d) Clinical or hazardous and liquid waste should be placed in specialised containment bins and collected by specialised services.
- 7) Grease traps must be provided where there is a likelihood of liquid waste entering the drainage systems (contact Sydney Water to obtain trade waste requirements).
- 8) Communal storage/collection facilities are recommended where:
 - a) The design makes it difficult for all tenants to have ready access to a collection point; or
 - b) The site characteristics restrict vehicle entry.
- 9) Where a communal facility exists, each tenant should have a designated area which is clearly signposted.
- 10) Should a collection vehicle be required to enter the property, the driveway and manoeuvring area must be suitable for a collection vehicle in terms of both its strength and design.
- 11) The system for waste management must be compatible with the collection service(s) to be used whether Council or private contractor.
- 12) Swept paths demonstrating adequate manoeuvring area are to be provided with the application.

5.9 Access and Parking

5.9.1 Parking

Objectives

- a) To ensure the provision of 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.
- b) To require parking areas to be designated and constructed in accordance with the Australian Standards for efficient and safe vehicle circulation and parking.
- c) To reduce pedestrian and vehicle conflicts on development sites.
- d) To facilitate an appropriate level of on-site parking provision.
- e) To minimise the visual impact of on-site parking.
- f) To provide adequate space for parking and manoeuvring of vehicles (including service vehicles and bicycles).

- g) To support the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

Controls

Provision of Parking Spaces

- 1) Parking provided on site is to meet AS 2890 and where appropriate, AS 1428. On-site car parking is to be provided to a standard appropriate to the intensity of the proposed development as set out in **Table 10**.
- 2) For existing developments, a new use must not commence or the floor area be increased until the required car park spaces have been provided on the site, corresponding to the activities outlined in **Table 10**.
- 3) Employee rates identified in **Table 10** are to be based on the initial use identified at the time of lodgement of the development application.
- 4) In the absence of specific requirements relevant to particular developments, the parking requirements in the RTA's "Guide to Traffic Generating Developments" (as updated) and Australian Standard AS 2890.1 and 2-2004 should be referred to as a guide. In the absence of all data, the applicant should revert to the use of first principles.
- 5) Where relevant, development shall provide on-site loading facilities to accommodate the anticipated heavy vehicle demand for the site.
- 6) Stacking parking will not be permitted.
- 7) Car parking above ground level is to have a minimum floor to ceiling height of 2.8m so it may be adapted to another use in the future.
- 8) Underground/basement car parking is not permitted.
- 9) Car parking and associated internal manoeuvring areas provided over and beyond the requirements of this DCP shall be calculated as part of the development's gross floor area.

Table 10 Minimum parking rates

Activity	Parking Requirement
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.
Industries	1 space per 200m ² of gross floor area or 1 space per 2 employees, whichever is greater.
Vehicle Body Repair Workshops/ Vehicle Repair Stations	3 spaces per 100m ² of gross floor area or 6 per work bay, whichever is the greater.
Warehouse or distribution centres	1 space per 300m ² of gross floor area or 1 space per 4 employees, whichever is greater.
Ancillary office space	1 space per 40m ² of gross floor area.
Neighbourhood shops	1 space per 40m ² of gross leasable area.
Other uses	In accordance with RMS 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 Access to Premises Standards, Building Code of Australia and AS2890.
Bicycle Parking	Bicycle parking in accordance with the suggested bicycle parking provision rates for different land use types in 'Planning Guidelines for Walking and Cycling' (NSW

Government 2004). Bicycle parking spaces should comply with AS2890.3:1993 Bicycle Parking Facilities.

Design of Parking and Manoeuvring Areas

- 10) Car space dimensions must comply with the relevant Australian Standards.
- 11) The movement of pedestrians throughout the car park should be clearly delineated and be visible for all users of the car park to minimise conflict with vehicles. The car parking and manoeuvring layout should be in accordance with the provisions of AS 2890.1:2004.
- 12) Provision of parking spaces for disabled persons should be in accordance with the Access to Premises Standards, Building Code of Australia and AS 2890.
- 13) All car parking areas to be constructed of hard stand, all weather material, with parking bays and circulation aisles clearly delineated.
- 14) Vehicle access is to be integrated into the building design as to be visually recessive.
- 15) The design of parking and access areas is to address Water Sensitive Urban Design (WSUD) principles (refer to **Section 3.6**).
- 16) All vehicles must be able to enter and leave the site in a forward direction without the need to make more than a three point turn.
- 17) Internal directional signs are to be provided to assist site visitors in locating parking areas.
- 18) The design of the car park should ensure that passive surveillance is possible and, where appropriate, incorporate active measures such as cameras and security patrols. Car parks should be designed to minimise dark areas through the provision of appropriate lighting.
- 19) Access to security parking shall be designed to ensure the access mechanism is accessible to the vehicle driver on the entry side of the driveway.
- 20) Provision should be made for all vehicles to enter and exit a secure (i.e. boom gated) area in a forward direction.
- 21) Visitor parking should be provided outside the secured parking areas.
- 22) The design of car parks should ensure adequate separation of staff/ visitor parking and loading dock circulation areas for heavy vehicles.
- 23) Vehicular ramps less than 20m long within developments and parking stations must have a maximum grade of 1 in 5 (20%). Ramp widths must be in accordance with AS 2890.
- 24) Loading docks associated with the development shall be provided on-site with all loading and unloading activities occurring on-site.
- 25) All loading and unloading areas are to be:
 - a) Integrated into the design of developments;
 - b) Separated from car parking and waste storage and collection areas;
 - c) Located away from the circulation path of other vehicles; and
 - d) Designed for commercial vehicle circulation and access complying with AS 2890.2.
- 26) Secure multi-deck car parks should incorporate communication devices such as:
 - a) Intercoms at boom gates;
 - b) Public address systems;
 - c) Telephone; or

- d) Emergency alarms.
- 27) To ensure users of secure multi-deck car parks are easily able to determine the location of exit and access points, security intercoms or similar and appropriate signage are to be included.
- 28) All surfaces in the car park should be designed to limit heat retention to reflect as much light as possible.
- 29) All potential entrapment points should be avoided, e.g. under stairs, blind corners, and wide columns. Adequate lighting and mirror should be used when certain design features are unavoidable.
- 30) Access, parking manoeuvring and loading facilities for industrial development shall be in accordance with AS 2890.2:2004 and Performance Based Standards 'An introduction for road managers' (National Heavy Vehicle Register – May 2019) to accommodate vehicle types outlined in **Table 11**.
- 31) A development is required to cater for vehicles larger than the minimum specified above where the development is for uses such as transport depot, warehouse, etc.
- 32) Reversing of heavy vehicles must only occur in designated loading bays and loading docks. No reversing of heavy vehicles is permitted in carparks or areas where pedestrians may be permitted.

Table 11 Minimum design vehicle requirements for industrial developments

Site Area	Design Vehicle
Up to 1,500m ²	Medium Rigid Vehicle (MRV)
1,500m ² to 4,000m ²	Heavy Rigid Vehicle (HRV)
4,000m ² to 20,000m ²	Articulated Vehicle
Greater than 20,000m ²	26m B-double (PBS Level 2 Type B)

5.9.2 Bicycle Parking, Facilities and Storage

Controls

- 1) Applicants should comply with the suggested bicycle parking provision rates for different land use types in the document 'Planning Guidelines for Walking and Cycling' (NSW Government 2004).
- 2) Bicycle parking spaces must be provided in accordance with AS2890.3:2015 Bicycle Parking Facilities.
- 3) The following associated bicycle facilities are to be provided:
 - a) Change and shower facilities for cyclists are to be conveniently located close to the bicycle storage areas; and
 - b) Where the building is to be strata-titled, the bicycle storage facilities and shower/change facilities are to be made available to all occupants in the building.
- 4) Bicycle parking spaces must:
 - a) Be located to provide convenient access from surrounding bicycle routes and main buildings entrances;
 - b) Not interfere with reasonable access to doorways, loading areas, access covers, furniture, services and infrastructure;
 - c) Not cause a hazard; and
 - d) Be adequately lit during periods of use.
- 5) A bicycle rail must:
 - a) Be securely fixed to a wall or to the floor or ground;
 - b) Be in a highly visible location for bicycle security (when no in a compound);

- c) Be of a shape that allows a cyclist to easily lock the bicycle frame and wheels; and
 - d) Be located to allow easy access to park, lock and remove the bicycle.
- 6) A bicycle compound or a bicycle locker must:
- a) Be located to provide convenient access to other bicycle facilities including showers and change rooms;
 - b) Be fully enclosed;
 - c) Be able to be locked; and
 - d) If outside, provide weather protection for the bicycle.

5.9.3 Access and Driveways

Objectives

- a) To ensure satisfactory arrangements are made for access to any development or new allotment created by subdivision.
- b) To require that access internal to the development is adequate to accommodate traffic generated by the development and the minimum design vehicle type.
- c) The Minimise the impact of vehicle access points on the quality of the public domain.
- d) To minimise the impact of driveway crossovers on pedestrian safety and streetscape amenity.
- e) To minimis stormwater runoff from uncovered driveways and parking areas.
- f) To ensure that accessways and driveways provide safe access from a property to a public road.
- g) To ensure driveways do not negatively impact on pedestrian mobility.

Controls

General Requirements

- 1) The road access to the site should provide for safe entry and exit. All vehicle must enter/exit the site in a forward direction.
- 2) The entry and exit from the site should provide for appropriate traffic sight distance in both directions, in accordance with the provisions of AS2890.1 and 2-2004 for car parking and commercial vehicles respectively.
- 3) The design of the development driveway should take into consideration the traffic volumes of the surrounding road network.
- 4) Driveways should be:
 - a) Located taking into account any services located within the road reserve, such as power poles, drainage inlet pits and existing street trees;
 - b) Setback a minimum of 6m from the perpendicular of any intersection of any two roads; and
 - c) Located to minimise noise and amenity impacts on adjacent residential development.
- 5) The driveway crossing and access roads shall be designed in accordance with the provisions of AS2890.1 and 2-2004 for car parking and commercial vehicles respectively.
- 6) Driveway widths must comply with the relevant Australian Standards and swept turning paths tested for larger vehicles types such as B-doubles (PBS Level 2 Type B).
- 7) Site specific driveway designs should be designed for sites which require access arrangements for 36m B-triple (PBS Level 3 Type A).

- 8) Driveway grades, vehicular ramp widths/grades and passing bays must be in accordance with the relevant Australian Standard (AS2890.1).
- 9) The required threshold should be set within the property to prevent cross fall greater than 4% within the footway area.

Design

- 10) All driveways are to be sealed from the point of the public road up to and including the hard-stand parking areas.

Construction Standards

- 11) Roads shall be constructed to Council's standards in consultation with Council's Engineering Services Unit and Council's 'Guidelines for Engineering Works – Development and Subdivision'.

Dedication

- 12) New road reservations and rights-of-way shall be dedicated or created at no cost to Council.

Access to Allotments Created in Subdivision

- 13) New allotments must have direct access to dedicated public roads.
- 14) Bushfire requirements must be considered when designing access roads for subdivisions of land which is classified as 'bushfire prone land'. Access arrangements must include adequate provision for turning areas and emergency access.

Responding to Topography

- 15) Natural contours should be followed when designing and constructing driveways. Driveways should be located to retain as much of the property's vegetation as practicable.
- 16) Any new private access roads or driveways that connect to a public road should be sealed with asphalt or another suitable surface from the public road to prevent erosion and minimise dust and dirt transfer.

5.9.4 Site Access and Servicing

Objectives

- a) To ensure the safe and efficient movement into and out of an industrial development without adversely affecting the existing and future service and safety levels of the road.
- b) To ensure industrial development provides sufficient parking on-site to accommodate all parking demands generated by the development while ensuring safe and efficient movement of vehicles within the site.
- c) To encourage the development of a parking layout that enhances the function and appearance of the industrial development.
- d) To ensure that cyclists and pedestrian needs are adequately and safely accommodated in all industrial areas.

Controls

- 1) Development that fronts Mamre Road, the future Southern Link Road or a classified road shall ensure that:
 - a) The allotment of land was created in accordance with a subdivision approved pursuant to this DCP; and
 - b) Access to the allotment is in accordance with the access arrangements approved with the subdivision.
- 2) Development shall, where appropriate, be designed to:
 - a) Allow all vehicles to enter and leave the site in a forward direction;
 - b) Accommodate heavy vehicle parking and manoeuvring areas;
 - c) Avoid conflict with staff, customer and visitor vehicular and cycle movements; and

- d) Ensure satisfactory and safe operation with the adjacent road system.
- 3) In determining access and servicing requirements, the consent authority will take the following into consideration:
 - a) The location, type and scale of the proposed development;
 - b) The compatibility of the location and design of the car park with adjoining properties;
 - c) Traffic Authority Guidelines and comments of the Local or Regional Traffic Committee(s); and
 - d) The potential for the development to generate heavy vehicle movements.
- 4) Full details of the volume, frequency and type of vehicle movements shall be submitted with the development application.
- 5) In general, turning circles will be required to be provided to accommodate the largest type of truck which could reasonably be expected to service the site. All developments must be designed and operated so that a standard truck may complete a 3-point or semi-circular turn on the site without interfering with parked vehicles, buildings, landscaping or outdoor storage and work areas. Large scale developments shall be designed to accommodate 26m B-double (PBS Level 2 Type B).
- 6) The suitability of manoeuvring areas provided for large vehicles will be assessed by reference to the Standard Vehicle Turning Templates which appear in Figures A.5a (small rigid truck), A.7a (large rigid truck) and A.9a (large articulated truck) of the Road and Maritime Services publication *Policies Guidelines and Procedures for Traffic Generating Developments* and turning templates for either 26m B-doubles (PBS Level 2 Type B) or 36m long B-triple (PBS Level 3 Type A).
- 7) Adequate space is to be provided within the site for the loading, unloading and fuelling (if applicable) of vehicles.
- 8) Car parks, aisles and manoeuvring areas shall be designed with function and safety in mind, and have minimum dimensions conforming with the Australian Standards 2890 Parking Facilities. The relevant parts of this standard are AS2890.1 Off-street parking, AS2890.2 Commercial vehicle facilities, and AS2890.3 Bicycle parking facilities.
- 9) Where the nature of the industrial development will attract clients/visitors to the site, the following elements shall be included in the car park design:
 - a) The internal (vehicular) circulation network is to be free of disruption to circulating traffic and ensure pedestrian safety;
 - b) The car park should, where possible, be designed with wheel stop kerbs only, rather than a barrier kerb between parking areas and pedestrian pathways.
 - c) The movement of pedestrians throughout the car park is clearly delineated by all users of the car park and minimises conflict with vehicles; and
 - d) Where parking spaces are to be provided for people with disabilities, these spaces are to be:
 - i) Suitably located near entrances to the building, lifts, and access ramps (if required);
 - ii) Provided in accordance with AS1428:1 Design for Access and Mobility; and
 - iii) Supplemented by the installation of appropriate tactile pavement treatments where required.
 - iv)

5.10 Employment Service Hubs

Objectives

- a) To facilitate the development of employment service hubs that provide consolidated small-scale retail and services to meet the daily convenience needs of the local workforce.

Controls

- 1) Indicative locations for employment service hubs are identified in the Mamre Road Precinct Structure Plan (**Figure 3**). Alternative location for an employment service hub may be considered, if:
 - a) It is located at least 1km from other existing and/or planned employment service hubs;
 - b) It does not preclude the provision of an employment service hub in a more accessible location.
- 2) Development applications must demonstrate that the size, function and proposed use serve the daily convenience needs of the workforce in the zone or is for the benefit of the local workforce and businesses.
- 3) Employment service hubs must not have an unreasonable impact on the viability of any other nearby established centre within an industrial or business zone.
- 4) Uses are to be located within the primary street frontage to generate activity and interest on the street.
- 5) Active transport paths and bicycle parking should be prioritised and incorporated into the design of the development.
- 6) The built form should address co-located open space areas.
- 7) Outdoor furniture and shading shall be provided.

Appendix A Dictionary

Term	Definition
1 in 100 change per year flood	A flood that has a 1% chance of occurring in any given year within a 100-year cycle.
5G	The fifth generation cellular network technology.
Acid sulfate soils	As defined under the Standard Instrument – Principal Local Environmental Plan
Aerotropolis	A metropolitan area whose infrastructure, land-use and economy are centred on the Western Sydney International Airport. It includes the outlying corridors, aviation-oriented business, and residential development that benefit from each other and their accessibility to the Western Sydney International Airport. See Western Sydney Aerotropolis.
Allotment (or lot)	An area of land contained within the boundaries as detailed in its certificate of title.
Amalgamation	Two or more lots joined to form a single development site.
Ancillary Structures	Structures that are subordinate or subservient to the dominant purpose for which a site is used or proposed to be used.
Annual Exceedance Probability (AEP)	The chance of flood of a given or larger site occurring in any one year, usually expressed as a percentage.
Arterial Road	As defined under the RTA Guide to Traffic Generating Developments Version 2.2 (October 2002).
Articulation	The architectural treatment of the exterior of a building using the different building elements that make up that part of the building. It involves how the building's exterior surfaces, edges, corners and material unite to give the building its form.
Asset protection zone	A fuel-reduced area surrounding a built asset or structure which provides a buffer zone between a bushfire hazard and an asset. The APZ includes a defensible space within which firefighting operations can be carried out. The size of the required asset protection zone varies with slope, vegetation and Fire Danger Index (FDI).
Australian Standard (AS)	Documents published by Standards Australia setting out specifications and procedures designed to ensure products, services, and systems are safe, reliable, and consistently perform the way they were intended to. These standards establish a common language which defines quality and safety criteria.
Awning	A predominately horizontal structure that projects from the host building to provide weather protection.
BC Act	<i>Biodiversity Conservation Act 2016</i>
Bicycle Parking facility	An area reserved or designed for short term parking of bicycles and includes a device to which the bicycle frame and wheels can be locked.
Biodiversity	As defined under the <i>State Environmental Planning Policy (Western Sydney Employment Area) 2009</i> .
Biodiversity offsets	Measure that compensate elsewhere for the adverse impacts of an action, such as clearing trees for development. Biodiversity offsets protect and manage biodiversity value in one area in exchange for impacts of biodiversity values in another.
Biodiversity Offset Scheme (BOS)	As defined under <i>Biodiversity Conservation Act 2016</i> .
Biofiltration (Swale)	A grassed or landscaped channel that both treats and conveys stormwater.
Blue-green grid	An interconnected network of natural and designed landscape components, including water bodies and green/open spaces.

Buffer	A distinct separation between developments or land-uses that require separation for amenity, environmental protection or other reason(s).
Bushfire prone land	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Bushland	Land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation.
Classified roads	As defined under the <i>Roads Act 1993</i> .
Clearing vegetation	As defined under the Standard Instrument – Principal Local Environmental Plan.
Climate change	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
Collector road	A local road that carries local traffic to the sub-arterial and arterial roads, and/or provides access to attractors within the precinct such as retail, commercial and educational facilities.
Communal open space	Outdoor space located within the site at ground level or on a structure that is within common ownership and for the recreational use of employees of the development. Communal open space may be accessible to employees only, or to the public.
Communication, Navigation and Surveillance facilities (CNS)	Facilities that allow: Pilots to navigate when en-route between airports; pilots to utilise terminal area navigation aids to conduct instrument approach procedures; dialogue between pilots and Air Traffic Control (ATC); and Air Traffic Control to monitor and confirm an aircraft location.
Consent Authority	As defined under the <i>Environmental Planning and Assessment Act 1979</i> .
Conservation (heritage)	All the processes of looking after a place so as to retain its cultural significance. This includes preservation, protection, maintenance, restoration, reconstruction and adaptation.
Conservation (vegetation management)	All the processes and actions of looking after a place so as to retain its natural significance and includes protection, maintenance and monitoring. Conservation may also include regeneration, restoration, enhancement, reinstatement, preservation or modification, or a combination of more than one of these. Conservation includes conserving natural processes of change (as opposed to artificially accelerated changes).
Contaminated land	As defined under <i>Environmental Planning and Assessment Act 1979</i> and <i>State Environmental Planning Policy No. 55</i> .
Contribution plans	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Conveyance	A direct measure of the flow carrying capacity of a particular cross-section of a stream or stormwater channel.
CPCP	Cumberland Plain Conservation Plan
Crime prevention through environmental design (CPTED)	A multi-disciplinary approach to deterring criminal behaviour through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts. The four principles of the approach are: Surveillance Access control Territorial reinforcement; and

	Space management.
Critical infrastructure	Infrastructure providing services that are essential for everyday life such as energy, water, transport, communications or health.
Dedicated freight corridor	A strip of land protected from incompatible development to allow the future delivery of a dedicated freight road which would provide dedicated movement for freight between the future intermodal terminal and development sites in the Mamre Road Precinct.
Deep soil zones	Area(s) of soil within a development that are unimpeded by buildings or structures above and below the ground.
Development	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Development application	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Development control plan	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Drip line of a tree	The horizontal extent of the canopy of the tree protected to ground level.
Easement	A right to use or travel over a specified strip of land belonging to another.
Ecologically sustainable development	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Emergency	A situation due to an actual or imminent occurrence (such as fire, flood, storm, earthquake, or warlike action) which: Endangers or threatens to endanger, the safety of health of persons or animals in the State, or destroys or damages, or threatens to destroy or damage, property in the State, and which requires a significant and co-ordinated response.
Endangered ecological community	As defined under the <i>Biodiversity Conservation Act 2016</i> and/or <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).
Endemic	Local and restricted to a particular area.
Environmental planning instrument	As defined under <i>Environmental Planning and Assessment Act 1979</i> .
Environmentally sensitive area	As defined under the <i>State Environmental Planning policy (Exempt and Complying Development Codes) 2008</i> .
Erosion	The process by which the detachment, drawing in, suspension and transport of soils occurs by wind, water, or gravitational effects. Erosion leads to sedimentation.
Fabric (heritage)	All the physical material of the place including elements, fixtures, contents and objects.
Façade	The external face of a building, generally the principal face, facing a public street or space.
Flood	A relatively high stream flow which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flow paths associated with major drainage, and/or oceanic inundation resulting from super-elevated ocean levels. It excludes waves overstepping coastline defences and tsunamis.
Flood Hazard	The potential for damage to property or persons due to flooding.
Flood hazard (high) or high flood hazard	When there is possible danger to life and limb; there is potential for structural damage; and financial losses could be high.
Floodplain	An area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land.
Flood prone land maps	Maps held by Penrith City Council or NSW Government which indicate relevant flood information.

Flood storage areas	The parts of the floodplain that have the important flood function of temporary storage of floodwater during the passage of a flood.
Floodplain Development Manual	As defined under the <i>Local Government Act 1993</i> and its supporting guidelines which facilitate the implementation of the NSW Flood Prone Land Policy.
Floodways	The areas of the floodplain whose flood functions result in a significant discharge of water during floods. They are often aligned with naturally defined channels. Floodways are areas that, even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in flood levels.
Greater Sydney Region	The region comprising the local government areas within the boundary shown on the map in the <i>A Metropolis of Three Cities: Greater Sydney Region Plan</i> and Schedule 1 of the <i>Greater Sydney Commission Act 2015</i> .
Green infrastructure	The network of green and blue spaces which includes waterways, bushland, parks, open spaces, and tree canopy that are strategically planned, designed, and managed to support a good quality of life in an urban environment.
Groundwater	Any moving or stationary body of water or moisture occurring underneath the land surface, but not below the geological basement.
Habitat	Includes: An area periodically or occasionally occupied by a species or ecological community; and The biotic and abiotic components of an area.
Hardstand area	The area of the site through which water cannot infiltrate, and includes the area of the building footprint, garages, water tanks, outbuildings, and non-porous driveways, paths and courts, but exclude the water surface area of swimming pools.
Harm an Aboriginal object	As defined under the <i>National Parks and Wildlife Act 1974</i> .
Hazardous material	Materials that have the potential to pose a significant risk to human health, life or property, or to the biophysical environment. These may include materials that are radioactive, flammable, explosive, corrosive, oxidising, asphyxiating, bio-hazardous, toxic, pathogenic, or allergenic. Compressed gases and liquid or hot material that may be hazardous in specific circumstances may also be included.
Impervious surface	Land or material that is not readily penetrable by water. Impervious areas occur where the soil surface is sealed, eliminating rainwater infiltration and natural groundwater recharge.
Infill development	The erection of a new building or buildings on land within an existing developed area. It may involve erection of building(s) on a vacant site or following the total demolition of existing building(s).
Integrated freight network	The network of freight only corridors including the north-south spine and fire access roads.
Integrated water cycle management	An approach to the management of water that considers aspects of water including rainwater, stormwater, groundwater, water supply and use, reuse, and treatment.
Kerb	A raised edge used for bordering the carriageways of a road.
Landmark building	A building of high quality and unique architectural style designed to be highly responsive to a specific site and its features that utilises architectural elements to be easily seen and recognised as a point of reference and navigating tool for pedestrians, cyclists, and vehicles.
Local environmental plan	As defined under <i>Environmental Planning and Assessment Act 1979</i> .

Local road	A road that has a low speed limit and a small footprint, serves local communities and is generally conducive to walking and cycling. These roads are used primarily for access to abutting properties.
Major road	An arterial or sub-arterial road.
Managing Urban Stormwater: Soils and Construction (Blue Book)	Managing Urban Stormwater: Soils and Construction (4 th edition, Landcom, 2004), commonly referred to as the “Blue Book” and in force at the commencement of <i>State Environmental Planning Policy (Infrastructure) Amendment 2018</i> .
Operational airspace	<p>The volume of airspace above a set of imaginary surfaces, the design of which is determined by criteria established by the International Civil Aviation Organisation (ICAO). These surfaces are established with the aim of protecting aircraft from obstacles or activities that could be a threat to safety. Operational airspace includes:</p> <p>Prescribed airspace (Commonwealth Airports);</p> <p>Obstacle Limitation Surface (OLS) and Procedures of Air Navigation Services – Aircraft Operations (PANS_OPS) (other NSW Strategic Airports); and</p> <p>The area identified on any Height Restriction Map for Defence Airfields.</p>
Performance outcome	A general statement of the means of achieving the intent of the applicable objectives of this development control plan.
Permeable surface	A surface which permits or facilitates the infiltration or penetration of water e.g. grass areas, landscaping, porous paving and the like.
Planning of Bushfire Protection	The version of the NSW Rural Fire Service Publication Planning for Bushfire Protection prescribed by the <i>Environmental Planning and Assessment Regulation 2000</i> .
Probable Maximum Flood (PMF)	The largest flood event that could conceivably occur at a particular location, usually estimated from probable maximum precipitation, and where applicable, snow melt coupled with the worst flood producing catchment conditions.
Public domain	Any permanent space, whether publicly or privately owned, that can be accessed and used by the public and/or is publicly visible or any publicly owned temporary space that can be accessed and used by the public and/or is publicly visible.
Raingarden	A small bioretention system with vertical sides that treats stormwater runoff by filtration through special soil and plants. Treated stormwater is discharged from the garden to an external stormwater drainage system.
Remediation	As defined under <i>State Environmental Planning Policy No. 55 – Remediation of Land</i> .
Retaining wall	A wall which is external to a building or work and is used to retain cut and fill and may incorporate provision for drainage.
Right of way	As defined under the <i>Conveyancing Act 1919</i> .
Riparian corridor	The channel which comprises the bed and banks of a watercourse (to the highest bank) and the vegetated riparian zone adjoining the channel.
Riparian zone	The terrestrial environment adjoining the channel within a riparian corridor.
Road reserve	<p>Include the following components:</p> <p>Footway</p> <p>Kerb and gutter</p> <p>Road carriageway</p> <p>Ancillary items to any of the above – any stormwater drainage asset, road/street furniture, edging, lighting, poles, services, signage, etc.</p>
Salinity	The salt content in water or soil.

Scale	The size of a building and/or its elements and its relationship with the surrounding elements of the built environment or landscape, viewed from ground/pedestrian level.
Secondary Road	As defined under the <i>Roads Act 1993</i> .
Sediment	Solid material, either mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, wind, water or gravity.
Sedimentation	The deposition of sediment, usually in such locations as a watercourse, gully, depression, sediment trap or dam, or along a fence line or an area of low slope.
Signage	As defined under the Standard Instrument – Principal Local Environmental Plan.
Site	The allotment(s) of land on which a development is located or is proposed to be carried out.
Site audit	As defined under <i>Contaminated Land Management Act 1997</i> .
Siting	The placement of the structure, both on its lot and within the wider landscape. It includes setbacks and the direction that the building faces.
Solar access	The ability of a building, part of a building or open space to continue to receive direct sunlight without obstruction from other surrounding buildings or impediments, not including trees.
Species	Includes: <ul style="list-style-type: none"> A defined subspecies, and A taxon below a subspecies, and A recognisable variant of a subspecies or taxon, and A population of a particular species (being a group of organisms, all of the same species, occupying a particular area)
Stack parking	A parking arrangement in which two or more vehicles are stacked one above another using a car-stacker system
State environmental planning policy	As defined under the <i>Environmental Planning and Assessment Act 1979</i> .
State Environmental Planning Policy (Western Sydney Employment Area) 2009	The NSW Government established the Western Sydney Employment Area to provide businesses in the region with land for industry and employment, catering for transport and logistics, warehousing and office space.
Stormwater	Untreated water that originates from rainfall or snow/ice melt and soaks into the ground (infiltrate) is held on the surface and evaporates, or runs off streams, rivers or other water bodies (surface water).
Stormwater management	The processes or practices used to control stormwater.
Streetscape	The character of a street and its close surrounds defined by the spatial arrangements and visual appearance of built and landscape features when viewed from the street.
Sub-arterial road	As defined under RTA Guide to Traffic Generating Developments Version 2.2 (October 2002).
Threatened ecological community	As defined under <i>Biodiversity Conservation Act 2016</i> and <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Threatened species	As defined under <i>Biodiversity Conservation Act 2016</i> and <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Transport corridor	A linear tract of land dedicated to at least one main line for transport. Transport corridors can be road, rail, or canal and are generally high capacity routes. Transport corridors typically connect two major ‘anchor’ destinations with many destinations in between.

Tributary	A river or stream flowing into a larger river or lake.
Under awning sign	A sign that is below and attached to the underside of the awning of a building.
Urban canopy	The layer of leaves, branches and stems of trees that cover the ground when viewed from above.
Urban heat island effect	An agglomeration of hard and dark-coloured surfaces such as roads and roofs caused by excessive localised warming.
Verge (also footway)	That part of a road as is set aside or formed as a path or way for pedestrian traffic (whether or not it may also be used by bicycle traffic).
Visually prominent site	A site that is situated at a highly visible location including ridge top locations, escarpments, environmentally sensitive sites on sloping land, elevated allotments, corner sites, road bends, vista end points and any site that has the potential to dominate the visual amenity.
Waste	As defined under the <i>Protection of the Environment Operations Act 1997</i> .
Water sensitive urban design	An approach that integrates water cycle management into urban planning and design. It is used to help mitigate and reduce the impacts of the development on our local waterways and retain water in the landscape.
Waterway	As defined under the Standard Instrument – Principal Local Environmental Plan.
Western Parkland City	A geographic area made up on the council areas of Penrith, Liverpool, Campbelltown, Hawkesbury, Wollondilly, Camden, Fairfield, and Blue Mountains, and incorporates the existing centres of Liverpool, Greater Penrith and Campbelltown-Macarthur with the new Airport and Aerotropolis at its centre.
Western Sydney Aerotropolis	A growth area encompasses 11,200 hectares of land roughly bounded by the Warragamba pipeline to the north, Kemps Creek to the east, Bringelly Road to the south and the future Outer Sydney Orbital Road to the west.
Western Sydney Airport	A Commonwealth business enterprise established in August 2017 to build the new Airport.
Wianamatta-South Creek	Wianamatta-South Creek runs from Narellan to Hawkesbury and forms part of the Hawkesbury-Nepean catchment.
Wianamatta-South Creek Catchment	This catchment includes most of the Cumberland Plain of Western Sydney and is a defining central element of the Western Parkland City and the Aerotropolis.
Wildlife buffer	As defined under the <i>State Environmental Planning Policy (Western Sydney Aerotropolis) 2020</i> .
WSEA	Western Sydney Employment Area