

PENRITH DEVELOPMENT CONTROL PLAN 2014

VOLUME 1

A - Introduction
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c – City-wide Provisions
d - Land use based controls

PENRITH
CITY COUNCIL

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A Introduction

1.1 What is the name of this Plan?

This Plan is known as “Penrith Development Control Plan 2014”.

It has been prepared in accordance with Section 74C of the Environmental Planning and Assessment Act 1979 and clause 16 of the Environmental Planning and Assessment Regulation 2000.

1.2 What does the Plan seek to achieve?

The purpose of this Plan is:

- a) To provide guidance to people wishing to carry out development within the City of Penrith
- b) To promote development which is consistent with Council’s vision for the City of Penrith, namely, one of a sustainable and prosperous region with a harmony of urban and rural qualities with a strong commitment to environmental protection and enhancement.
- c) To ensure development incorporates the principles of sustainable development through the delivery of balanced social, economic and environmental outcomes.
- d) To encourage development which ‘lifts the bar’ in terms of delivering sustainable and healthy communities in the long term.
- e) To foster development that responds appropriately to the natural and built environment, in particular, vegetation, biodiversity corridors, significant waterways, riparian land, significant buildings and gardens, and scenic landscapes and views.
- f) To provide for an urban environment that is active, attractive and safe for residents and visitors.
- g) To ensure the quality of development in the City of Penrith is of a high standard.

1.3 Where does the Plan apply?

This Plan applies to all land within the Penrith Local Government Area. It covers the Land covered by the following Planning Instruments

- Penrith Local Environmental Plan 2010
- Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation)
- Penrith Local Environmental Plan 1998 (Urban Land)
- Penrith Local Environmental Plan No.201 (Rural Lands)
- Penrith Interim Development Order No.13
- Penrith Interim Development Order No.47
- Penrith Interim Development Order No. 93
- State Environmental Planning Policy (Penrith Lakes Scheme) 1989
- State Environmental Planning Policy (Western Sydney Employment Area) 2009
- Sydney Regional Environmental Plan No. 30 – St Marys

1.4 Relationship of this Plan to the LEP and other plans and policies

This Plan must be read in conjunction with any environmental planning instrument that applies to the land. An environmental planning instrument includes a State Environmental Planning Policy (SEPP) (including Sydney Regional Environmental Plans (SREPs), now referred to as deemed SEPPs) or a Local Environmental Plan (LEP). Applicants should confirm which SEPPs apply and consider them when determining applicable development controls.

The provisions contained in this Plan supplement the provisions of the relevant environmental planning instrument. If there is any inconsistency between this Plan and relevant environmental planning instrument, the provisions of the relevant environmental planning instrument will prevail.

1.5 Repeal of plans

This Plan repeals the following Development Control Plans

- Penrith Development Control Plan 2006
- Penrith Development Control Plan 2010
- Werrington Mixed Use Area Development Control Plan
- Penrith City Centre Development Control Plan 2007
- Orchard Hills Development Control Code No. 1
- Orchard Hills Development Control Code No. 2
- Development Control Code - Orchard Hills subzone C

1.6 How is the Plan structured?

The Plan is divided into six parts:

Part A Introduction

This section provides details on the aims and purpose of the Plan and where and how it applies.

Part B Development Control Plan Principles

This section sets out Council's key sustainable development principles that apply to all development and how these principles should be used.

Part C Controls applying to all Land Uses

This section sets out the requirements for a range of issues that apply across the Penrith Local Government Area, including:

- a) Site Planning and Design Principles
- b) Vegetation Management
- c) Water Management
- d) Land Management
- e) Waste Management

- f) Landscape Design
- g) Culture and Heritage
- h) Public Domain
- i) Advertising and signage
- j) Transport, Access and Parking
- k) Subdivision
- l) Noise and Vibration
- m) Infrastructure and Services.

Part D Specific Land Uses / Activities

This section specifies the requirements relating to various types of land uses, including

- a) Rural Land Uses
- b) Residential Development
- c) Commercial and Retail Development
- d) Industrial Development
- e) Other Land Uses

Part E Key Precincts

This section details additional requirements relating to specific sites or areas in the City.

Part F Appendices

This section provides additional information to assist in the preparation of a development application that meets Council's requirements. This includes definitions of terms used, technical information requirements, notification and advertising requirements, and processes for development applications. Unless separately defined in a specific part of this Plan, terms used in this Plan have the same meaning as those adopted by the relevant environmental planning instrument.

Some sections of this Plan contain 'lifting the bar' requirements. 'Lifting the bar' establishes ways in which applicants can demonstrate additional commitment to the key Development Control Plan principles. Demonstration of this commitment may lead to Council considering variation of development controls.

Other relevant information: provides a list of additional information sources and legislation for consideration.

1.7 Where do I find the relevant controls?

The layered approach of this Plan means that some parts are relevant to all development, some to specific types of development or activities and some to specific land or precincts. Development may be determined as being either minor or major, with a higher level of submission and assessment required for more complex or larger proposals, or sites which are highly constrained.

- Step 1 →** Establish the zoning, permissibility and planning controls that apply to the proposed use and the property under the relevant environmental planning instrument.

- Step 2→** Understand and apply the DCP Principles for Penrith in Part B of this Plan. These principles apply to all development.
- Step 3→** Determine which controls or parts of this Plan apply to your development proposal. Remember some City wide provisions such as flooding, salinity and bushfire will only apply if these natural hazards affect your site.
- Sites identified or located in the vicinity of a heritage item, heritage conservation area or archaeological site will need to consider the Culture and Heritage chapter in Part C of this Plan.
- If you are uncertain whether a section of this Plan applies to your development, you should check that section, or ring Council for assistance.
- Step 4→** Understand the development application process and submission requirements. An overview of the application and assessment process, together with the submission requirements, is provided in Appendix F.
- Notification and advertising, and technical information requirements are also provided in Appendix F.
- In addition, you can check any words or terms you may be unsure of in Appendix F.
- Step 5→** Contact Council if you require further clarification on any aspect of this Plan or for advice on preparing your development application or determining whether your proposal is considered minor or major development.

1.8 What is the date of commencement for the Plan?

This Plan was adopted by Penrith City Council on 23 March 2015 and came into effect on 17 April 2015. The following is a list of the amendments to the DCP:

Amendment No.	Chapter	Change	Adopted by Council	Date of commencement
1	E7 Part B, Glenmore Park Stage 2	<ul style="list-style-type: none"> - Lot size range reduced to 450-1000m² - Setbacks reduced - Amending the maximum dwelling yield in Precinct C to 344 dwellings. 	7 December 2015	19 February 2016 (date of commencement of Amendment 6 to LEP 2010)
2(a)	C5 Waste Management	To broaden the objectives relating to waste management and introduce a number of new controls for medium and high density residential developments	27 June 2016	7 July 2016

2(b)	E16 – Sydney Science Park	Introduce a new Sydney Science Park Chapter into the DCP 2014 to provide provision for development in Sydney Science Park	14 March 2016	3 November 2016
3	E11 Part A – Penrith	Introduce site-specific controls for 164 Station Street, Penrith.	19 December 2016	12 January 2017
	E11 Part C – 164 Station Street, Penrith	Remove previous controls for 164 Station Street, Penrith previously located within Part A - Penrith		
4.1	E6 Erskine Business Park, C10 Transport, Access and Parking	To align the DCP and the State Significant Development (SSD 6917) consent for the Oakdale South Industrial Area and provide consistency of the built form across the site.	28 May 2018	21 June 2018
4.2	C3 Water Management, C6 Landscape Design, C13 Infrastructure and Services, and, F3 DA Submission Requirements	Update references and information in the DCP to be consistent with Council's <i>Stormwater Drainage Specification for Building Developments</i> policy (adopted November 2016).	28 May 2018	21 June 2018
4.5	D2 Residential Development, E5 Emu Plains, E8 Kingswood, and E15 St Marys / North St Marys	To revise controls at affected locations that will clarify Council's position relating to road construction, land dedication and guide development on affected lots.	28 May 2018	21 June 2018

5	D2 Residential Development D5 Other Land Uses	To revise controls for Multi Dwelling Housing and introduce controls for Boarding Houses.	10 December 2018	21 December 2018
6	C1 Site Planning and Design Principles	To revise and update controls, consistent with Council policy and legislation updates. To remove F4 Notification and Advertising, as the	10 August 2020	3 September 2020
	C2 Vegetation Management C8 Public Domain D5 Other Land Uses Removal of F4 Notification and Advertising	Community Participation Plan replaces it.		
7	E13 The Riverlink Precinct, Part B – Panthers Penrith Precinct	To align controls for the Panthers Penrith Precinct with Council plan updates.	13 November 2017	23 December 2020
8	E13 Part A - Riverlink Precinct - Winter Sporting Facility	Provide site-specific planning controls for 2 Tench Avenue, Jamisontown	24 May 2021	23 December 2021

9	C14 Urban Heat Management	<p>Introduce a new Urban Heat chapter into the DCP 2014 and provides new cooling measures below:</p> <ul style="list-style-type: none"> • Cooling with landscaping • Cool colours and materials • Cooling through building design • Optimising mechanical heating and cooling <p>This chapter supplements the LEP 2010 with more detailed planning.</p>	9 May 2022	22 July 2022
10	E7 Part C – Glenmore Park Stage 3	Introduce a new Glenmore Park Stage 3 chapter into the DCP 2014 to support the PLEP 2010 Amendment No. 30	Ordinary Meeting of 12 December 2022	30 June 2023
11	E7 Part C – Glenmore Park Stage 3	To introduce traffic and transport related sections and address other housekeeping matters	Ordinary Meeting of 28 August 2023	7 September 2023
12	E17 Orchard Hills North	To Introduce a new Orchard Hills North chapter into Penrith DCP 2014 to support Penrith LEP 2010 Amendment No. 29	Ordinary Meeting of 12 December 2022	1 October 2023
13	E18 Luddenham Road Industrial Business Park	Introduce a new Luddenham Road Industrial Business Park chapter into the DCP 2014 to support the PLEP Amendment No. 43	Ordinary Meeting of 20 November 2023	20 May 2024

14	E7 Part B Glenmore Park Stage 2	Addressing several formatting errors, omissions and minor inconsistencies for each DCP chapter.	Ordinary Meeting of 24 June 2024	8 July 2024
	E7 Part C Glenmore Park Stage 3	Introduce a new section for Glenmore Park Stage 3 which addresses development staging of the release area.		
	E17 Orchard Hills North	Updating masterplan for Orchard Hills North to add two 'compact lots' areas to align with Penrith LEP 2010.		

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DCP Principles

1.1. Background

1.1.1. Council's Commitment to Sustainability

Penrith City Council has made a firm commitment to building a Sustainable City. This commitment has been clearly articulated in 'Penrith's Principles for a Sustainable City.' These principles have subsequently been reflected in the Sustainable Penrith Program.

The Sustainable Penrith Program commits Council to apply the principles of sustainability in all of its operations. The program aims to ensure that Council's decisions, policies and actions should maintain or improve environmental, social and economic outcomes for future generations. A number of action plans and policies addressing specific sustainability issues have been developed under this program to guide Council's efforts towards a sustainable City.

1.1.2. Sustainability and Development Control

The preparation of this Plan has provided Council with an opportunity to extend its commitment to sustainability and progress the creation of a Sustainable Penrith. In its role as regulator, Council is able to encourage the inclusion of sustainable design principles and land management practices in future development.

To build a sustainable city, Council needs to ensure that development of land is responsive to the needs of current and future generations. The overriding goal of making Penrith a sustainable city is woven into every section of this Plan and has guided the development of the provisions contained within it.

1.1.3. Key Principles for this Plan

Transforming the City of Penrith into a sustainable city will require cooperation between all levels of government, resource managers, the business sector, community groups and all citizens. 'Penrith's Principles for a Sustainable City' have been adopted as the key principles for this Plan to guide our journey towards sustainability. The principles are supported by a series of objectives to help in interpreting these principles. A brief description of the principles and objectives, how they relate to sustainability and how they are reflected in the provisions contained within this Plan appear below.

1.1.4. How to Use these Principles

The principles and objectives set out below should be addressed as part of any development application to Council.

The principles and objectives will be satisfied by ensuring that any proposed development is in accordance with the development controls set out in the remainder of this Plan. Some examples of these controls and the desired outcomes are listed under each of the principles.

If a proposed development is unable to comply with all of the development controls then it will need to justify how non-compliance will be addressed in other ways to satisfy this Plan's principles.

The controls in this Plan are not intended to prevent new and innovative ways of addressing the principles and objectives in this section as long as the objectives can be addressed.

1.2. Principles

Principle 1: Provide a long term vision for cities, based on sustainability; intergenerational, social, economic and political equity; and their individuality.

A. Objectives

- We plan responsibly for now and the future.

The aims of this Plan, together with Council's strategic plans, set a vision for sustainable development, and ultimately, a sustainable city. Objectives within individual sections express the way towards a more sustainable city and should always be read in that context. The exemplar controls outlined in this Plan and supported by Penrith LEP 2010 demonstrate that Council is prepared to recognise developers and individuals who 'lift the bar' and drive the built form of the City closer towards the vision expressed.

This Plan reflects this principle by expressing an overall commitment to sustainability through:

- The format and structure of this Plan;
- Integration of Penrith's Principles for a Sustainable City throughout the document;
- Linking areas of objectives and controls to the overarching principles of sustainability; and
- Including information which explains how individual controls contribute to the creation of a sustainable city.

Principle 2: Achieve long term economic and social security.

A. Objectives

- We have access to what we need.

Environmental sustainability is only one part of the picture. To have a truly sustainable city, economic and social aspects must also be considered as part of the triple bottom line.

This Plan promotes sustainable economic growth through:

- Encouraging innovative and sustainable use of rural, industrial, commercial and residential land;
- Building on the existing strengths of the local and regional economy, by providing guidance for industrial and commercial development within the City;
- Ensuring that industrial and commercial development is responsibly designed and built;
- Helping protect rural lands from fragmentation;
- Helping reduce the negative impacts of necessary activities (such as manufacturing, waste disposal and some agricultural activities);
- Providing specific controls for transport corridors, in recognition of the key role they play in moving people and goods around our city, our region and our state; and
- Encouraging the integration of housing with other land uses which provide employment, social and cultural opportunities.

This Plan promotes social sustainability through:

- Encouraging the use of the principles of universal design, so that the public domain is accessible to people in all stages of life and with all levels of mobility;
- Encouraging buildings to be designed with the health and wellbeing of their future occupants in mind;
- Providing design guidelines for a variety of housing forms to accommodate people in all stages of life and with all levels of mobility;
- Encouraging the development of communities through allowing for (and designing) community spaces, both indoor and outdoor, providing opportunities for meeting and gathering and community interaction;
- Encouraging a range of uses and employment opportunities to create a mixed income and mixed demographic community;
- Providing guidelines to create a range of recreational and leisure opportunities; and
- Adopting the principles of 'Crime Prevention through Environmental Design' (CPTED), to assist in making the public domain a safer place.

Principle 3: Recognise the intrinsic value of biodiversity and natural ecosystems, and protect and restore them.

A. Objectives

- Our natural habitats are healthy

This Plan recognises the value of the surrounding environment and will minimise the impact of development on that environment by:

- Requiring all design to be based on a comprehensive site analysis, to ensure that development on a site reflects each site's unique conditions;
- Ensuring that any modification of the existing land form required to facilitate development is undertaken to minimise the impact on surrounding lands; and
- Including provisions to reduce the likelihood of development or activities increasing the salinity of land.

This Plan promotes biodiversity conservation through:

- Protection of known areas of biodiversity value;
- Protection of threatened species and ecological communities;
- Protection of watercourses, wetlands and riparian corridors;
- Protection of remnant native bushland; and
- Requiring that all significant areas of vegetation be assessed to determine their value prior to any development being designed for the site.

This Plan helps to reverse previous negative impacts on biodiversity conservation through:

- Encouraging replanting of key identified corridors, including riparian corridors; and
- Encouraging the use of plant species native to the area in all forms of landscaping.

This Plan helps to reduce the negative impact of development on air quality through encouraging alternate means of transport (e.g. cycling and walking).

This Plan helps to minimise the impact of poor air quality on amenity through:

- Encouraging the planting of particular species along main roads, which have proven to be effective at absorbing pollutants from motor vehicles; and
- Requiring the provision of buffer zones between polluting land uses and adjacent areas which may be sensitive to reduction in air quality.

This Plan helps to minimise the negative impact of development on water quality through:

- Minimising the risk of accidental pollution of surface and ground water sources through appropriate setbacks of potentially polluting activities from watercourses;
- Requiring soil testing to determine appropriate locations for water treatment activities;
- Encouraging the retention or replacement of vegetation along riparian corridors;
- Requiring that water quality be monitored throughout the construction process, and occasionally during occupation; and
- Requiring responsible use and storage of possible pollutants.

Principle 4: Enable communities to minimise their ecological footprint.

A. Objectives

- We use our resources wisely and take responsibility for our levels of consumption.

The ecological footprint of a city is a theoretical calculation of the land required to support that city in terms of its consumption of resources like food, energy and water, as well as for the disposal of the waste it produces. Reducing our ecological footprint means reducing this theoretical land area and represents an increase in the overall sustainability of the city.

A reduction in the ecological footprint will almost always mean an increase in the efficiency of a city's operation, either through consumption of fewer resources, production of less waste or both. It should not, however, result in a transfer of problems elsewhere.

This Plan assists in the reduction of Penrith's ecological footprint by:

- Encouraging a reduction in the amount of waste going to landfill through the inclusion of provisions relating to responsible waste management, recycling and resource reuse, and materials selection;
- Encouraging increased water re-use, either through harvesting of rainfall or the re-use of grey water, to reduce the demand for potable water;
- Encouraging the use of water efficient and energy efficient appliances; and
- Applying standards for energy efficiency to all forms of development to encourage buildings that minimise the use of electricity and gas as energy inputs.

Reducing the City's ecological footprint through the inclusion of energy efficiency principles will have the added benefits of mitigating the impacts of climate change, through decreased emission of greenhouse gases.

This Plan will also help Penrith adapt to the likely impacts of climate change by:

- Encouraging buildings to be designed to maximise natural ventilation and temperature regulation;
- Requiring drought resistant planting and landscaping;
- Requiring the harvesting and re-use of rainwater through tanks, dams and other means; and
- Requiring that the design of dwellings aims to minimise their vulnerability to extreme weather events and bushfires.

Principle 5: Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities.

A. Objectives

- Our public spaces encourage safe and healthy communities.
- Our physical infrastructure is adaptable and responds to changing needs.

Natural ecosystems are inherently more sustainable than artificial ones. Thus cities as artificial ecosystems can learn from and better reflect the processes and systems of the natural world to improve their sustainability.

The characteristics of natural ecosystems include diversity, an ability to adapt, interconnectedness, resilience, regenerative capacity and symbiosis. In nature all resources are valued – there is no waste. These are all traits which can increase the sustainability of a city and which this Plan will try to encourage in development within Penrith.

This Plan will encourage development in Penrith to learn from natural ecosystems by:

- Including provisions which require development to consider all aspects of the natural environment in their design, including topography and the water cycle;
- Providing standards to guide mixed use development to help provide a diverse urban area;
- Requiring housing to consider the changing life cycle of the occupants in its design;
- Helping to minimise land use conflict through requirements for buffer zones and other measures;
- Requiring the provision of adaptable and inclusive infrastructure which meets the needs of development and is designed to accommodate likely future needs;
- Encouraging innovative responses to the provision of infrastructure, such as car parks, drainage systems, etc. which adapt to changing circumstances and mimic natural ecosystems; and
- Incorporating the principles of Universal Design, adapting our built environments so they are suitable for all.

Principle 6: Recognise and build on the distinctive characteristics of cities, including their human and cultural values, history and natural systems.

A. Objectives

- We build on our strengths, value our heritage, celebrate our cultural diversity and foster

creativity.

Sustainability cannot be achieved if those promoting it ignore the context of the city and the people within it. Penrith City has its own set of unique characteristics, values and history which are all an integral part of where our city has come from and where it is heading. For Penrith to be a truly sustainable city, these characteristics, values and history must be recognised in our past and reflected in our future.

This Plan will help to recognise our past through:

- Including European heritage provisions, which protect our built heritage of the last 200 years and the people who contributed to the framework and fabric of our city;
- Including Aboriginal heritage provisions which recognise the original custodians of the land, their role in protecting it and their ongoing role in providing diversity in our society and a link with the past; and
- Including social planning provisions that seek to recognise and reinforce the cultural and social character of key areas.

This Plan will build on the distinct characteristics of Penrith by:

- Recognising that particular types of land use within the City require specific controls;
- Developing character statements for individual precincts that have unique features or development requirements;
- Including provisions that are aimed at protecting the scenic and landscape character of Penrith; and
- Including provisions that encourage development in Penrith to respond to Penrith's unique environment, particularly climate, soil, topography and natural hazards.

Principle 7: Empower people and foster participation.

A. Objectives

- We have a say in our future.

For a city to be sustainable, it must have the support and commitment of all sections of the community, not just those who have the means to make their voice heard. An increase in sustainability will only be achieved if the majority of the community recognise it as a legitimate goal and work together to achieve it.

This Plan will help to provide people with an opportunity to have a say in their future by:

- Requiring that certain development be advertised, to give neighbours and others that might be affected the opportunity to comment;
- Requiring that all likely affected parties are told about any development which substantially breaches outlined development standards;
- Providing information about the type of development that can be expected in Penrith; and
- Providing people with the opportunity to help guide development in Penrith, through the exhibition of this Plan and any future amendments.

Principle 8: Expand and enable cooperative networks to work towards a common, sustainable future.

A. Objectives

- We play an active role in our communities

Sustainability is a worldwide issue and Penrith cannot hope to achieve it on its own. Other local government areas within Australia and worldwide are also making advances towards sustainability and it is vital that we learn from their experiences.

This Plan will learn from others by being reviewed on a regular basis, taking account of best practice in promoting sustainable development both nationally and internationally. It will also learn from others through seeking and considering comments from the community and developers during the development and ongoing review of this Plan.

This Plan will assist in sharing knowledge through providing links to additional information throughout the text and through being publicly available, free of charge, through Council's web site.

This Plan will assist people to play an active role in their communities through:

- Encouraging the provision of community spaces, both (internal and external) for future developments within the City. Use of these spaces will help to encourage meeting and gathering and help develop a sense of community, which will in turn encourage people to have a say in how their community develops;
- Encouraging development to consider social needs and potential social impacts, to minimise and mitigate against potential impacts within both the existing and future communities;
- Encouraging a diverse community, which in turn helps foster a feeling of inclusiveness;
- Providing opportunities for people to participate in decision making; and
- Encouraging developers to recognise the human need to connect with nature, with their community and with their city, and take this concept into consideration in development design.

Principle 9: Promote sustainable production and consumption, through appropriate use of environmentally sound technologies and effective demand management.

A. Objectives

- We encourage sustainable production and technologies.

This Plan will help encourage sustainable production through:

- Requiring, where appropriate, Waste Management Plans to be prepared that consider all aspects of waste generation, recycling and disposal during design, demolition, construction and operation.
- Encouraging developers to source construction and fit out materials from sustainable sources;
- Encouraging developers and the community to consider the life cycle costs of products installed and used in construction and operation of buildings; and

- Encouraging the adoption of innovative technologies and designs, where they will have a positive sustainability outcome without an adverse impact on the amenity of the surrounding area.

This Plan will demonstrate a commitment to sustainable technologies through:

- Encouraging developers to consider technology at the design stage, so that necessary infrastructure can be installed, regardless of whether or not it can be used to its full effect at the time of construction; and
- Providing controls that, where possible, have flexibility in the way they can be met so new technologies can be adopted as they become available.

Principle 10: Enable continual improvement, based on accountability, transparency and good governance.

A. Objectives

- We demonstrate accountability, transparency and ethical conduct.

Good urban governance requires robust processes towards achieving the transformation of cities to sustainability through continual improvement.

This Plan contributes towards continual improvement through:

- Including within it exemplar provisions which can be measured, to allow benchmarking of the overall change in the level of sustainability measures being implemented by development in Penrith;
- Being subject to ongoing review (as with all planning documents and policies within Penrith), so that achievements can be measured and controls which are not resulting in the expected outcome can be changed; and
- Providing clear and comprehensive information to developers and the community about the development process and what type and standard of development the Council would like to see in Penrith.

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C1 Site Planning and Design Principles

A. Background

What is Site Planning?

Site planning is a design tool used to determine an appropriate development outcome based on an analysis of the development site's constraints.

Good site planning starts with a comprehensive analysis of the site, within the immediate and regional context. It encompasses broader decisions regarding building orientation and placement on the site, including location of associated structures and infrastructure such as access and circulation arrangements.

The complexity of the site planning process will vary depending on the scale and nature of the proposed development and the constraints affecting the site. Minor development may only require a site plan and a simple accompanying statement, whereas development of a certain scale or nature or where the site is highly constrained, may result in more detailed plans and supporting technical reports being required to support a development application. This should be discussed with officers from Council's Development Services Department prior to lodgement of the development application.

Adopting a Comprehensive Site Planning Process

Undertaking a thorough site analysis of the site assists in guiding the development concept and improves development outcomes through improvements in sustainability and design quality. Adopting good site planning principles results in improved development outcomes that translate to:

- **Economic sustainability and cost benefits:** A considered site design will reduce the demolition, construction and operational costs of buildings;
- **Social Sustainability:** Addressing the needs of the local community will improve quality of life, local vitality and enhance community identity;
- **Environmental Sustainability:** Ensuring the proposal minimises impact or even enhances environmental impacts; and
- **Better Planning and Urban Design Outcomes:** Achieving a development that integrates with the desired surrounding built form and landscape character.

What is the Aim of this Section of the Plan?

This Plan seeks to achieve high quality, sustainable development outcomes for all development requiring consent or approval by Council. The Plan seeks to achieve this by providing a range of controls for development that encompass various design and sustainability criteria.

This Section provides an overview of the key site planning and design principles applicable to all developments. It illustrates how the design of any development should adopt an integrated approach to improve design quality and sustainability.

B. General Objectives

- a) To improve the sustainability of development through improved site planning that takes into account social, economic and environmental opportunities and constraints;
- b) To ensure that developments address the key principles of site planning, urban design and design excellence by:
 - i) responding to the natural topography and landform of the site;

- ii) protecting areas of scenic or visual importance in the City of Penrith;
 - iii) adopting a height, massing and scale that accords with the analysis of the site and minimises visual impact;
 - iv) incorporating safety and security measures in its design;
 - v) utilising, where possible, sustainable materials that minimise impacts on the environment, maintenance and waste; and
 - vi) incorporating the principles of universal design to maximise accessibility for all people.
- c) To ensure that non-residential buildings (and their future uses) are designed to incorporate design and sustainable excellence by:
- i) being accredited under the Australian Buildings Greenhouse Ratings certification system, now part of the National Australian Built Environment Rating System (NABERS) and/or Green Star certification system, whichever is applicable; and
 - ii) ensuring that energy and water consumption is minimised.

C. How to Use this Section

This Section summarises the key criteria for achieving a high quality design and sustainable development outcome. The Section should be read in conjunction with the other relevant sections of this Plan and relevant planning instruments.

D. Other Relevant Sources of Information

Some additional sources of relevant information include:

- a) **Building Code of Australia (BCA):** The BCA contains provisions related to access for people with a disability. Where the provision of the BCA is a higher standard than this Plan, the provision in the BCA will prevail.
- b) **State Environmental Planning Policy 65 - Design Quality of Residential Flat Development and the associated Residential Flat Design Code (2002):** These apply only to residential flat buildings of a particular height and scale; and
- c) **AMCORD (Australian Model Code for Residential Development) (1995):** This applies to residential development.

1.1. Site Planning

Background

The first rule of site planning is to **understand the site**. Site planning requires the collection of information on existing natural, constructed and other features of the site, with the aim of:

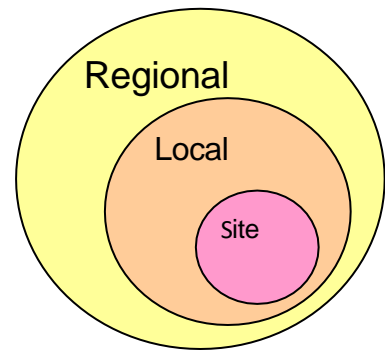
- a) Understanding the existing form of a locality and the relationships that have caused its development;
- b) Identifying the qualities and character of the existing urban form; and
- c) Identifying a successful development pattern and inappropriate developments.

The level of analysis required will vary depending on the scale of the proposal. Different levels of analysis are:

- a) **Regional analysis** (the regional context in relation to nearest urban centres, major services and infrastructure, and broad environmental catchments);

b) Local analysis (the local context around the site including local services and infrastructure, local environmental issues, and the local built form and landscape context of the site); and

c) Site analysis (the immediate context around and within the site including adjacent built form and services, site environmental issues and key site opportunities and constraints).



B. Objectives

- a) To ensure that the site's context has been analysed and considered to ensure that development is designed on a 'whole of building' approach; and
- b) To protect and enhance areas with high scenic and landscapes values which contribute to the character of the City of Penrith.

1.1.1. Site Analysis

Site analysis involves looking at the features of the site and the immediate surrounding area and, where possible, presenting the information in a diagrammatical plan(s). It includes the site and the immediate context – usually up to 50m or 100m in any direction from the site (depending on the scale of development, the proposed land use and its impacts).

Site analysis should include plan and section drawings of the existing features of the site at the same scale as the site and landscape plan. That plan should include the following minimum elements:

- the site's dimensions and areas;
- north point and the site's orientation (e.g. solar access);
- topography (with 0.5m to 1m contours);
- road and pedestrian access points;
- services and infrastructure (e.g. electricity poles, stormwater drainage lines, natural drainage, kerb crossings and easements);
- rights of way;
- views to and from the site (more detail is provided below);
- site overland flows and drainage patterns;
- geotechnical characteristics of the site and suitability for development;
- location of site in relation to shops, community facilities and transport;
- heritage items on site or on adjoining properties;
- form and character of adjacent and opposite buildings in the streetscape, including both sides of any street that the development fronts;
- location and use of any existing buildings or built features on the site;
- location and important characteristics of adjacent public, communal and private open spaces;
- location of significant vegetation on the site;
- location of any significant noise sources on and in the vicinity of the site; and

- assessment of site contamination and/or remediation.

Not all of the elements listed above will be relevant for every development or site. You are strongly recommended to contact Council's Development Services Department to discuss the requirements for your proposal prior to lodgement of a development application.

Further information on site planning can be found in Appendix F4 – Technical Information.

1.1.2. Key Areas with Scenic and Landscape Values

A. Background

This Section focuses on particular locations in the City of Penrith that are visible from major roads and other public places and have important scenic and landscape values. These locations are identified on the *Penrith LEP 2010 Scenic and Landscape Values Map*.

Key to the site analysis and planning process is minimising likely visual impact as a result of new development. This section identifies the key principles that should be addressed in a visual impact assessment and when such an assessment is required.

The locations identified on the *Penrith LEP 2010 Scenic and Landscape Values Map* include, but are not limited to:

- Land along the Blue Mountains escarpment;
- Land which has views to and from the Nepean River;
- Land within the riverine corridors of South and Ropes Creek;
- Land along major roads, including the M4 Motorway;
- Land that can be viewed from the Main Western Railway Line;
- Land within the Mulgoa Valley precinct, including vistas from major heritage items in the valley (see the Mulgoa Valley Section of this Plan);
- Land within Industrial Precincts 4 and 8 which have views to and from the Nepean River and the Blue Mountains escarpment, and within Industrial Precincts 7 and 9 which can be viewed from elevated locations elsewhere in the City (see the Industrial Development Section of this Plan); and
- Land at important gateways. Table C1.1 and Figure C1.1 below identify gateways in the City of Penrith. The design of new development at these locations requires a special response given their visual sensitivity.

Gateways are distinctive sites or spatial sequences which denote a change in a spatial or visual experience. They have a variety of configurations and scales from regional significance to neighbourhood scale. They can be marked by changes such as land use, density of development, vegetation, topography and space. Some are site specific places of environmental identity and others provide a sense of transition. They can be entrances and destinations. Gateways may also be located at sites such as significant community congregation areas, public art installations, municipal buildings and ceremonial places. Types of gateways in Penrith City providing a sense of arrival or transition may include crossings, village bookends, land use interfaces, intersections and cultural gateways.

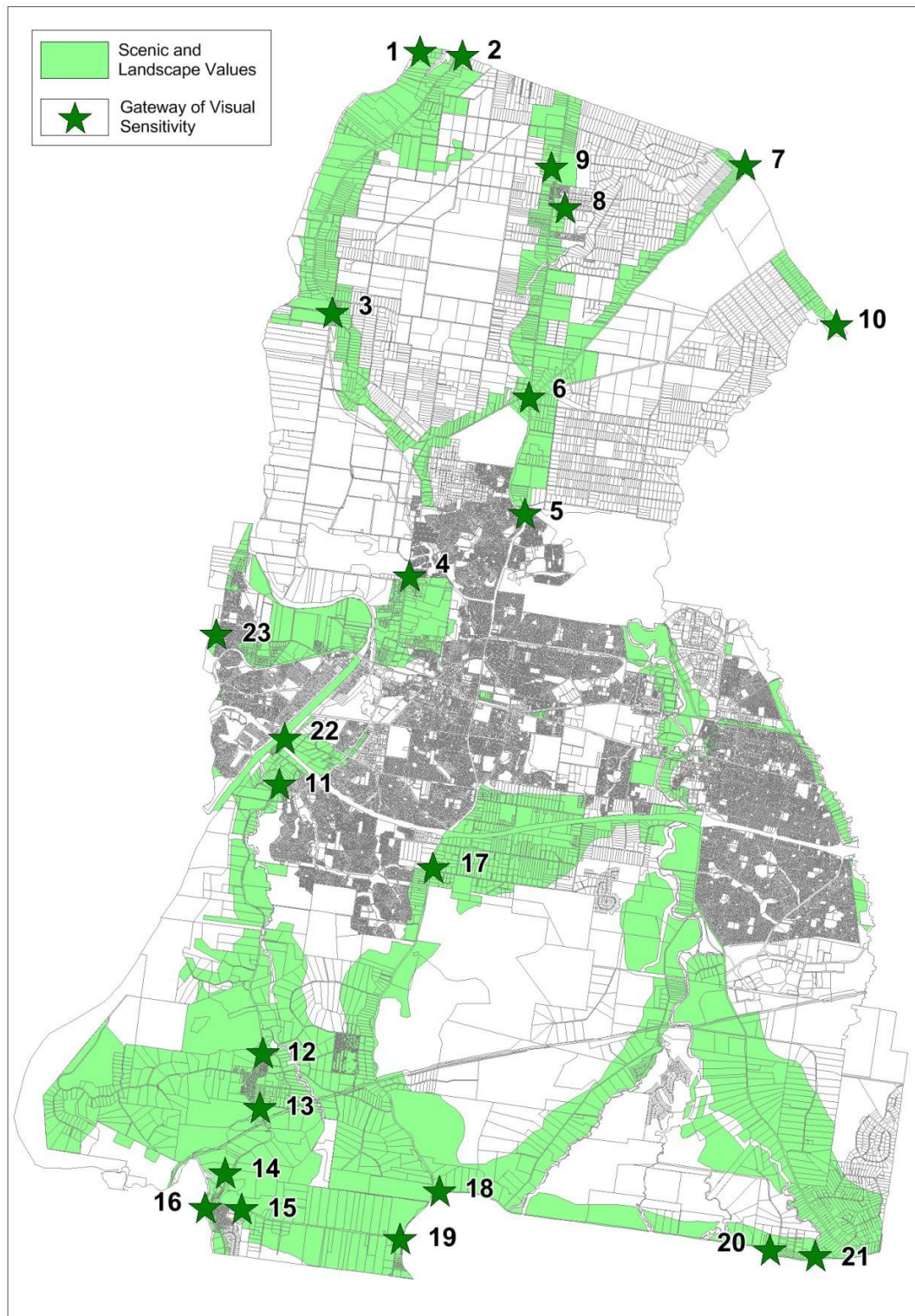
See the Technical Information Appendix for a more detailed definition of gateways.

Table C1.1: Gateways and Areas of Visual Sensitivity

Ref	Types of Gateways				Description
	Village bookends	Crossings	Land use interface	Intersections	
1		✓			Yarramundi crossing
2			✓	✓	Hawkesbury City Council boundary/Castlereagh Road
3	✓				Castlereagh rural centre/village
4			✓		Residential/ industrial interface
5			✓		Former ADI site suburban edge
6				✓	Intersection Cranebrook, Londonderry and The Northern Roads
7				✓	Richmond Road intersection
8	✓				Londonderry village - south
9	✓				Londonderry village - north
10		✓			Penrith City Council and Hawkesbury City Council boundaries / Richmond Road
11			✓		Glenmore Park west/rural interface
12	✓				Mulgoa village - north
13	✓				Mulgoa village - south
14	✓				Wallacia village - north
15	✓				Wallacia village - east
16	✓	✓			Wallacia village - west

Ref	Types of Gateways				Description
	Village bookends	Crossings	Land use interface	Intersections	
17			✓		Glenmore Park east/rural interface
18				✓	Elizabeth Drive intersection
19	✓				Luddenham village - north
20	✓				Kemps Creek rural centre - west
21	✓				Kemps Creek rural centre - east
22		✓			M4 entry over the Nepean River
23		✓		✓	Blue Mountains/Penrith Council boundary at Old Bathurst Road

Figure C1.1: Gateways and Areas of Visual Sensitivity



B. Principles

The following key principles should be addressed in a visual impact assessment to minimise the visual impact of the development and protect areas with high scenic and landscape values:

- Protect and enhance the visual diversity and scenic quality of gateways and view sheds within the City of Penrith, including detailed, mid and long range views;
- Protect and enhance the key regional natural features that contribute to the character of Penrith as a City, including the Blue Mountains escarpment, the Nepean River, other riparian corridors and bushland reserves;
- Protect, maintain and enhance other important natural features, including ridgelines, hillsides, watercourses and riparian corridors, vegetation and landform;
- Protect, maintain and enhance backdrops and settings that contribute to the local identity;
- Protect, maintain and enhance views and vistas from vantage points, including main road corridors and other public places;
- Conserve and enhance historic landscapes, properties and their curtilages;
- Plan and site new development to enhance local identity. Development is to effectively integrate with the surrounding landscape so that any change as a result of the new development does not compromise the character of the landscape. Issues such as context, scale, size, built form and height, setbacks/buffers, landform, structural space (private and public), streetscape, vegetation and infrastructure are to be addressed;
- Strengthen local identity through consistency and/or compatibility of design. Design development to take into account issues such as scale, form, line, colour, texture, lighting, existing vegetation, open space and landscaping;
- Use vegetation to frame scenic views, provide interest or change, define new space, provide backdrops and visually connect all other elements within the setting; and
- At gateways, reinforce the distinct experience of arrival or passing from one landscape character type to the next, through legible site planning and design.

C. Controls

- 1) New proposals on land identified in the LEP Scenic and Landscape Values Map (including gateway sites) or on land zoned E1 National Parks and Nature Reserves or E2 Environmental Conservation, are to submit a visual impact assessment with their development application. This assessment involves describing, analysing and evaluating the visual impacts of the proposed development, and identifying measures to minimise the impacts and ensure the development is sympathetic to the scenic and landscape character of the area.
- 2) Table C1.2 below identifies what type of visual impact assessment must be prepared and who can prepare it. The Submission Requirements Appendix provides details on the requirements for both types of visual impact assessment. In the table below, there are some parameters that require an opinion or determination from Council. In this regard, applicants will need to contact Council's Development Services Department for advice.

Table C1.2: Visual Impact Assessment Requirements

Category	Definition	Type of Visual Impact Assessment (VIA)	Who can prepare it?
1	<ul style="list-style-type: none">• New single dwelling houses or significant alterations and additions to single dwelling houses• Dual occupancy and secondary dwellings• Minor alterations and additions to commercial and industrial development as determined by Council• Other minor development as determined by Council	VIA 1	The designer of the development
2	<ul style="list-style-type: none">• Any development located in proximity to a gateway• Any development in category 1 which in the opinion of Council would have a significant visual impact on the locality• Any other development.	VIA 2	Business or individual with a professional background in design and experienced in visual assessment (e.g. architects, landscape architects, urban designers or town planners)

1.2. Design Principles

A. Background

This Section of the Plan highlights the general design principles for development and illustrates how compliance with the objectives and controls will achieve a higher standard of built form and design excellence.

B. Objectives

- a) To ensure that development is undertaken in a sustainable manner, demonstrating this through the application of the Building Sustainability Index (BASIX), Green Star and/or Australian Buildings Greenhouse Ratings certification system, where appropriate;
- b) To ensure that development is designed on a 'whole of building' approach by:
 - i) responding to the site's context, the desired scale and character of an area, and minimising impacts on key views, scenic values and where applicable, rural character;
 - ii) responding to climatic and contemporary environmental conditions by:
 - encouraging passive solar building design;
 - allowing reasonable daylight access to all developments and the public domain;
 - reducing the necessity for, or improve the control of, mechanical heating and cooling;
 - reducing the energy consumed by installed appliances and equipment;
 - improving the indoor environmental quality of occupants;
 - minimising greenhouse gas emissions;
 - iii) minimising likely bulk and scale impacts of a building;
 - iv) considering the natural topography and landform and minimise excavation and likely visual impacts of the development;
 - v) ensuring that the development (including the public domain):
 - has incorporated the Crime Prevention Through Environmental Design (CPTED) principles of surveillance, access control, territorial management and space management into its design; and
 - is accessible and useable for all members of the community.

1.2.1. Application of Certification System

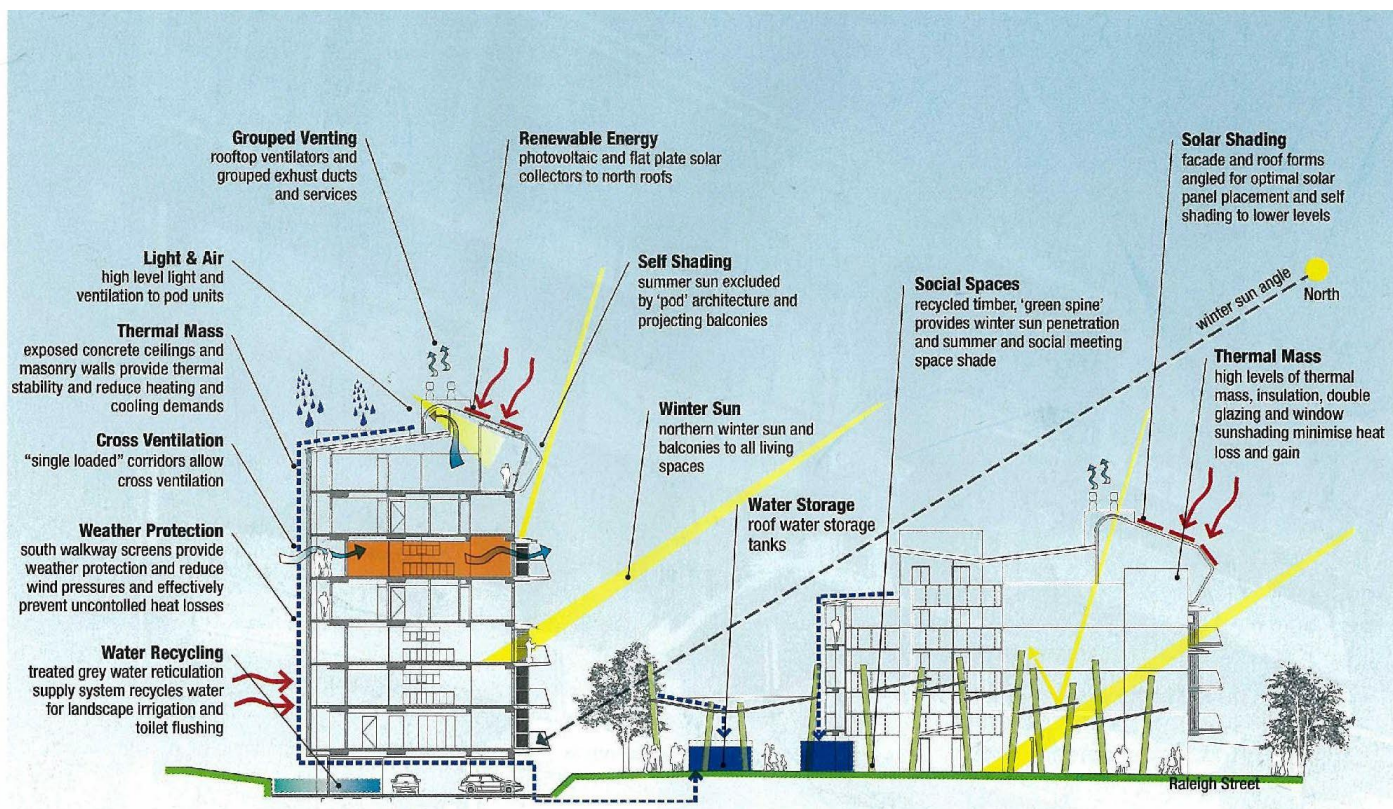
- a) Non-residential developments, including mixed-use developments, with a construction cost of \$1 million or more are to demonstrate a commitment to achieving no less than 4 stars under Green Star or 4.5 stars under the Australian Building Greenhouse Rating system, now part of the National Australian Built Environment Rating System (NABERS).

1.2.2. Built Form - Energy Efficiency and Conservation

- a) The selection criteria for construction materials, including internal fit-out work, should include detailed documentation of their energy efficiency properties.
- b) Buildings should be designed on passive solar design principles which:
 - i) Respond to orientation to maximise the northerly aspect and solar access in the cooler periods;

- ii) Reduce overheating in summer and promote solar gain in winter; and
- iii) Ensure there is adequate cross flow of air by utilising natural ventilation, resulting in a reduction in the use of mechanical ventilation and/or air-conditioning systems.
- c) The future use and occupants of the building should be considered in the design and location of building services/equipment to ensure that:
 - i) The thermal comfort of occupants is optimised through zoning sections of the floor area to
 - ii) of building services is provided enable individual control of heating and cooling;
 - iii) Lighting systems and fittings have reduced energy consumption that are also appropriate for the use/activity located in that part of the building;
 - iv) The equipment or service will be used and its future use will not affect other elements of sustainability; and
 - v) Sub-metering to individual tenancies within the development to enable individual monitoring of consumption performance.
- d) Common and service areas in the building should incorporate energy and water efficiency/conservation measures in their design and location.

Figure C1.2: Diagram showing application of design principles to enhance amenity and to provide good water and energy efficiency. (Source: Urban: sustainable solutions for a developing Australia (January 2008) Socially Sound p32.)



1.2.3. Building Form - Height, Bulk and Scale

- a) **Context:** An applicant must demonstrate how all proposed buildings are consistent with the height, bulk and scale of adjacent buildings and buildings of a similar type and use.

- b) Character:** An applicant must demonstrate how any building's height, bulk and scale will avoid or minimise negative impacts on an area's landscape, scenic or rural character (where relevant) taking into account the topography of the area, the surrounding landscape and views to and from the site.
- c) Articulation:** Where the dimension of the building is 20m or more, an applicant must demonstrate how the building or surface has been articulated (either through built form or materials) to minimise impact on bulk and scale.
- d) Overshadowing:** Building locations, height and setbacks should seek to minimise any additional overshadowing of adjacent buildings and/or public spaces where there would be a significant reduction in amenity for users of those buildings/spaces.
- e) Setbacks/Separations:** Buildings should be sufficiently set back from property boundaries and other buildings to:
 - i) Maintain consistency with the street context and streetscape character, especially street/front setbacks;
 - ii) Maximise visual and acoustic privacy, especially for sensitive land uses;
 - iii) Maximise deep root planting areas that will support landscape and significant tree plantings integrated with the built form, enhancing the streetscape character and reducing a building's visual impact and scale;
 - iv) Maximise permeable surface areas for stormwater management; and
 - v) Minimise overshadowing.
- f) Building Façade Treatment:** The aim is to ensure that any built form will:
 - i) promote a high architectural quality commensurate with the type of building and land use;
 - ii) adopt façade treatments which define, activate and enhance the public domain and street character;
 - iii) ensure that building elements are integrated into the overall building form and façade design;
 - iv) compose façades with an appropriate scale, rhythm and proportion that responds to the building's desired contextual character;
 - v) design façades to reflect the orientation of the site using elements such as sun shading, light shelves and appropriate glazing as environmental controls;
 - vi) express important corners by giving visual prominence to parts of the façade, for example, a change in building articulation, material or colour, roof expression or building height, and
 - vii) co-ordinate and integrate building services to improve the visual presentation.
- g) Roof Design:** The roof is an important architectural element of any building and:
 - i) the shape and form of the roof should respond to its surrounding context and minimise visual impact from any key viewpoints; and
 - ii) should consider opportunities for incorporating 'green roofs'.

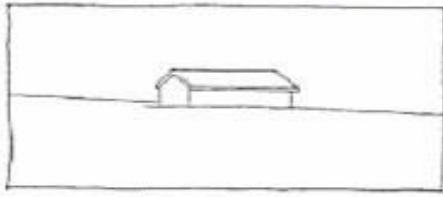
1.2.4. Responding to the Site's Topography and Landform

- a) Applicants must demonstrate how the development responds to the natural topography and landform of the site based on analysis drawings.

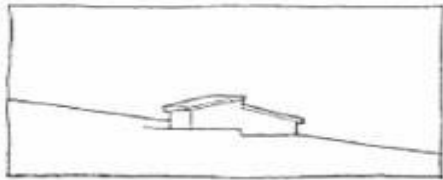
- b) Any built form should be located, oriented and designed to minimise excavation, cut and fill in accordance with the requirements of the Land Management Section of this Plan.
- c) The built form should respond to the natural topography by:
 - i) Avoiding steep slopes for buildings;
 - ii) Aligning the built form with the contours; and
 - iii) Utilising split level design on gentler slopes.
- d) Where relevant, buildings should be placed so there is a backdrop of a hill, slope or rise behind the building. In this way, the ridgeline of any building is lower than the highest level of any hill, slope or rise on which the building is placed to avoid being visible above that hill, slope or rise.

The following diagrams illustrate how building design can best respond to a site's natural topography, minimising excavation and potential visual impacts, and in turn, reducing construction costs.

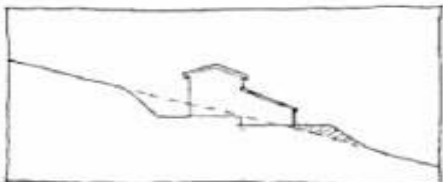
Figures C1.3: Buildings on Sloping Land



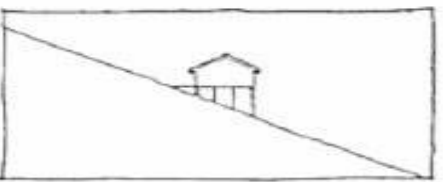
Flat land provides a great range of opportunities for variations in siting and the design of buildings. On flat land interesting development can be created through good building design and landscaping.



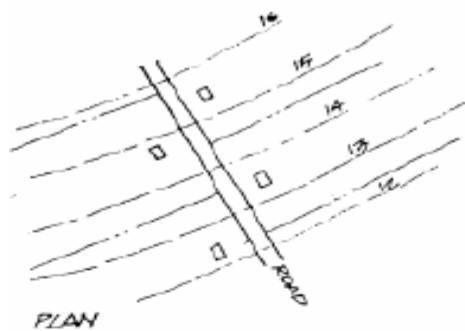
Gentle slopes require split level designs. The costs associated with building and access are higher. Sloping sites can provide interesting building design and landscape opportunities.



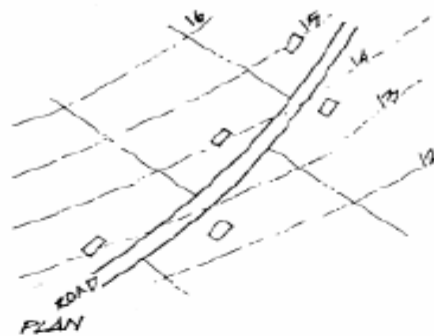
Steep slopes can become very difficult and expensive to build on. Access can also be difficult. Choosing the best site requires considerable thought. Advice from council will be of value.



On very steep slopes you have very limited building opportunities. Specialized building, engineering and drainage advice will be required. The cost of building will be much higher.



Roads that run with the contours of the land can be significantly easier and cheaper to design and construct. Maintenance should be much reduced also. There will be less need for cut and fill and more building opportunities.



ROOFLINES

The design of your house and other buildings will have an impact on the rural landscape.

These types of rooflines assist in allowing your house to blend into the rural setting.

Landscaping around buildings will also assist in creating an interesting development in the rural setting.

1.2.5. Safety and Security (Principles of Crime Prevention through Environmental Design)

A. Background

The design of buildings and public spaces has an impact on perceptions of safety and security, as well as actual opportunities for crime. When development is appropriately designed, it can reduce the likelihood of crimes being committed.

There are four main principles of CPTED– natural surveillance, access control, territorial reinforcement and space management. Incorporating these four principles of CPTED can help to create a safe and secure environment that encourages activity, vitality and viability, enabling a greater level of security. They can also assist in minimising the incidence of crime and contribute to perceptions of increased public safety.

Applicants should use this section as a tool in the design of developments. However, not all measures outlined below will be relevant for all types of development. For dwelling houses and dual occupancy developments, the CPTED principles may be delivered by simple measures such as:

- Installing a peephole in the front door;
- Locating a window of a living area to face the street; and
- Maintaining the property, particularly the landscaping.

B. Referrals and Required Information

Council is committed to ensuring that developments reduce the potential for crime. As such, Council has developed and entered into a protocol with the NSW Police Service which stipulates what type of developments will be referred to the Police and associated timeframes for response. The following developments will generally be referred to the Police:

- Multi dwelling housing and residential flat buildings, where there are more than 15 dwellings.
- Mixed use developments that include 15 or more dwellings.
- Major new or upgrading of commercial premises (business, office or retail premises).
- New industrial complexes with or without multiple industrial units comprising 1,000m² or more in floor space.
- New educational establishments or significant upgrading of existing educational establishments.
- New railway stations or significant upgrading of existing railway stations.
- Large recreational facilities and community facilities such as community centres.
- Large child care centres.
- New registered clubs or pubs including applications for extended hours of operation, gaming rooms and nightclubs.
- Highway service centres, service stations and some food and drink premises including drive through restaurants.
- New health services facilities and residential care facilities, including hospitals, nursing homes and medical centres and larger upgrades to these facilities.
- Unusual developments such as brothels and amusement centres.

- New public housing estates or significant upgrades to existing estates.
- Automatic Teller Machines which are located on the street and or near openings of buildings.

Generally all of the information listed below will be required to be submitted with your development application if you are lodging one of the above types of development:

- Measures that have been taken to ensure compliance with this section of the DCP.
- Results of any community safety assessments/audits, crime risk assessments or consultation that has been undertaken prior to the lodgement of the application.
- Community Safety Management plans for commercial premises such as hotels, clubs, sex industry premises and any other development that has the potential to attract members of the public either as paying or non-paying customer/visitor.
- Information from the NSW Police that may be requested as part of the approvals process and/or undertaken by way of Council/Police protocol.

In some cases, Council may request this information with other types of development application if it is considered warranted.

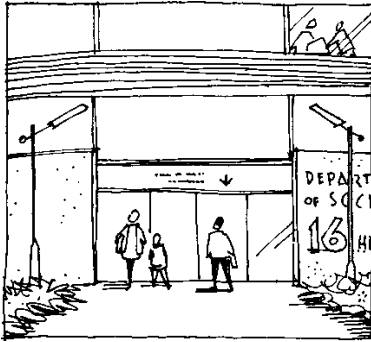
C. Principles

Principle 1: Natural Surveillance

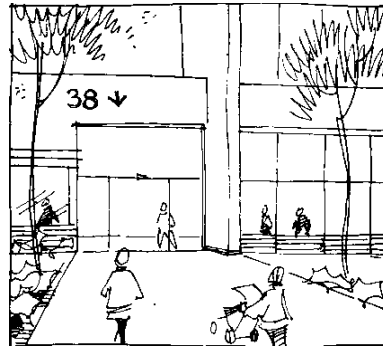
Providing opportunities for effective surveillance, both natural and technical, can reduce the attractiveness of crime targets. Good surveillance means that people can see what others are doing thereby deterring 'would-be offenders' from committing crime in areas with high levels of surveillance. From a design perspective, 'deterrence' can be achieved by:

- Locating public services in areas of high activity;
- Providing clear sightlines between public and private places;
- Avoiding blind corners in pathways, stairwells, hallways and car parks;
- Ensuring that the range of land uses within a building increases opportunities for natural surveillance;
- Providing natural surveillance into communal and public areas;
- Locating entries that are clearly visible from the street;
- Designing fences that maximise natural surveillance from the street to the building and from the building to the street, and minimise opportunities for intruders to hide;
- Installing security grilles, shutters and doors that allows natural observation of the street;
- Installing effective lighting in public places that does not produce glare or dark shadows; and
- Ensuring that landscaping does not obstruct natural surveillance or provides a place to hide or entrap victims

Clear sight lines to encourage natural surveillance



Clear building entrance not obscured by vegetation



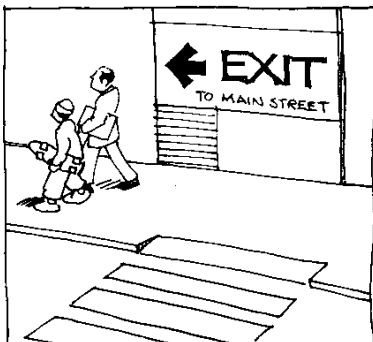
Principle 2: Access Control

Physical and symbolic barriers can be used to attract, channel or restrict the movement of people, and in turn, minimise opportunities for crime.

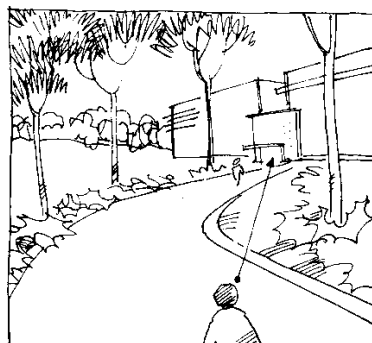
Effective access control can be achieved by:

- Ensuring buildings are clearly identified by street number;
- Providing clear entry points;
- Creating landscapes and physical locations that channel and group pedestrians into target areas;
- Using vegetation as barriers to deter unauthorised access;
- Using building materials/security that reduces the opportunity for intruder access;
- Designing public spaces that attract rather than discourage people from gathering;
- Restricting access to internal areas or high-risk areas such as loading or service areas;
- Ensuring there are appropriate security measures in place commensurate for the range of land uses within a building/development; and
- Ensuring that parking areas are clearly identified by signage to prevent unintended access and to assist persons trying to find their car.

Controlled access



Clear sight lines



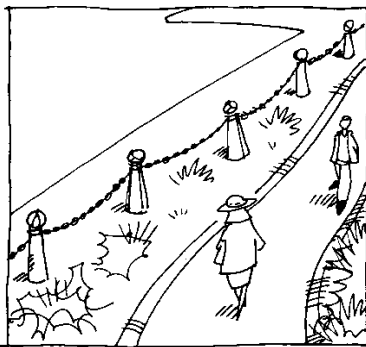
Principle 3: Territorial Reinforcement

This principle relies on the users of spaces or areas feeling that they have some ownership of public space and therefore are more likely to gather and enjoy that space. The ownership of space increases the likelihood that people who witness crime in or adjacent to that space will respond by quickly reporting it or by attempting to prevent it.

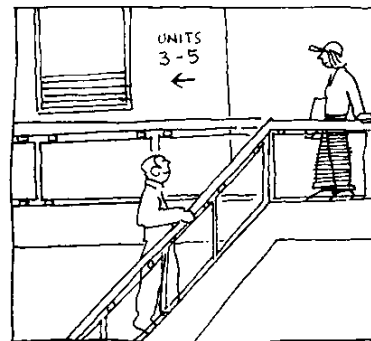
Territorial reinforcement can be achieved in the design of the development by:

- Having distinct transitions/boundaries between the public and private areas; and
- Clearly defining spaces to express a sense of ownership and reduce illegitimate use/entry.

Permeable barrier



Clear Identification of units



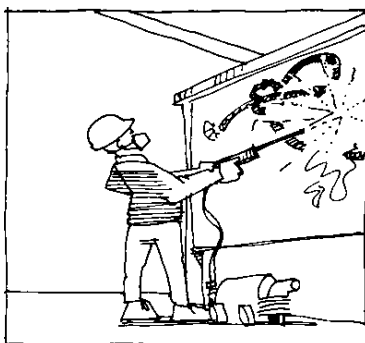
Principle 4: Space Management

Public space that is attractive and well maintained is inviting to users and becomes a well used space. Linked to the principle of territorial reinforcement, space management ensures that the space is appropriately utilised and well cared for.

Space management includes:

- Creating a 'cared for' image through proper maintenance regimes;
- Rapid repair of vandalism and graffiti, the replacement of burned out pedestrian and car park lighting and the removal or refurbishment of decayed physical elements;
- Using materials that reduce the opportunity for vandalism; and
- Encouraging design that promotes pride and a sense of place for the community.

Removal of graffiti



Encouraging a 'cared for' space



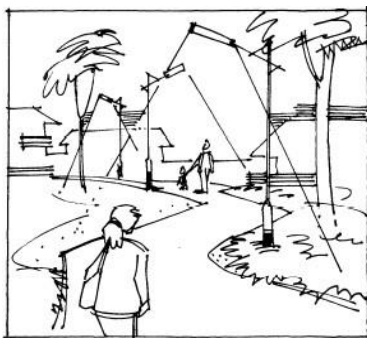
D. Controls

1) Lighting: Lighting plays a vital role in crime prevention and personal safety as you can see and respond to what is around you and ahead of you. Others can also see you, which further reduces the likelihood of a crime being committed.

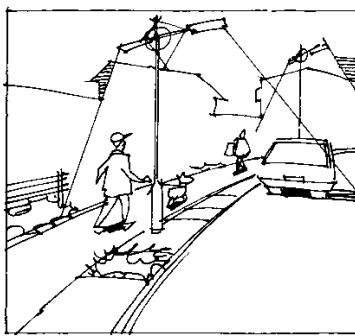
- a) All areas intended to be used at night should allow appropriate levels of visibility.
- b) Pedestrian pathways, lane ways and access routes in outdoor public spaces should be lit to the minimum Australian Standard of AS1158. Lighting should be consistent in order to reduce the contrast between shadows and illuminated areas. Lighting should be designed in accordance with AS4282 – Control of the obtrusive effects of outdoor lighting.
- c) Lighting should have a wide beam of illumination, which reaches to the beam of the next light, or the perimeter of the site or area being traversed. Lighting should clearly illuminate the faces of users of pathways.
- d) Streetlights should shine on pedestrian pathways and possible entrapment spaces as well as on the road.
- e) Lights should be directed towards access/egress routes to illuminate potential offenders, rather than towards buildings or resident observation points.
- f) Lighting should take into account all vegetation and landscaping that may act as an entrapment spot.
- g) Lighting should be designed so that it is “vandal tough” or difficult for vandals to break.
- h) Where appropriate, use movement sensitive and diffused lights.
- i) Avoid lighting spillage onto neighbouring properties as this can cause nuisance and reduce opportunities for natural surveillance.
- j) Illuminate possible places for intruders to hide.
- k) As a guide, areas should be lit to enable users to identify a face 15m away.
- l) All lighting should be maintained and kept in a clean condition with all broken or burnt out globes replaced quickly.
- m) Use energy efficient lamps/fittings/switches to save energy.

Note: Please refer to the Public Domain Section for further controls on lighting which may need to be incorporated into the development application.

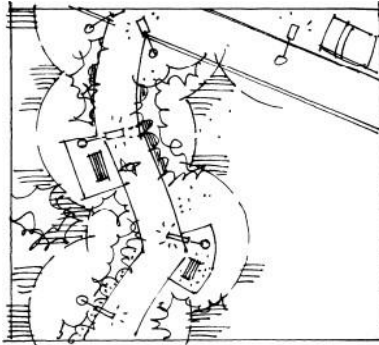
Well lit pedestrian pathways



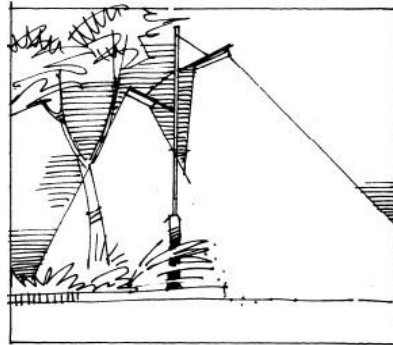
Appropriate lighting of a footpath and street



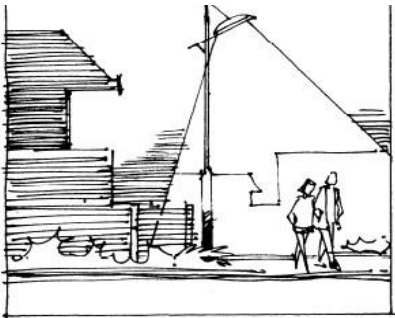
Wide circle of illumination that meets the next



Lighting that considers the vegetation to ensure that the area of illumination is maximised



Lighting that respects the neighbouring property owners by not causing a lighting nuisance

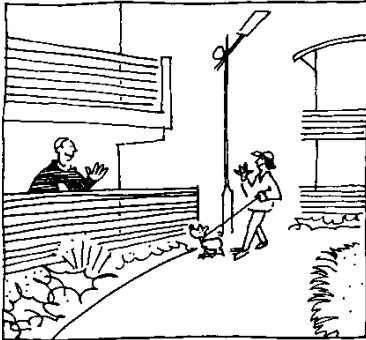


2) Fencing: If fencing is too high or made of inappropriate materials it reduces the opportunity for casual surveillance of the street and for users of the public domain to see what activities are taking place on your site. This then further increases the likelihood of a crime being committed.

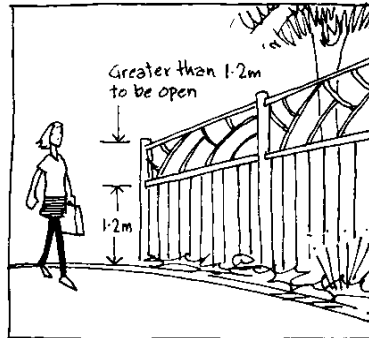
- a) Fence design should maximise natural surveillance from the street to the building and from the building to the street, and minimise the opportunities for intruders to hide.
- b) Front fences should preferably be no higher than 1.2m. Where a higher fence is proposed, it will only be considered if it is constructed of open materials e.g. spaced pickets, wrought iron etc. Fences greater than 1.2m will require the consent of Council.
- c) If noise insulation is required, install double-glazing at the front of the building rather than a high solid fence (greater than 1m).

Note: Please be aware that Council has several other sections within this Plan which relate to fencing which you may also need to refer to.

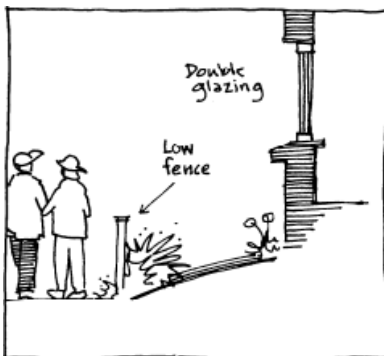
Fencing design that promotes natural surveillance



Greater than 1.2m in height is open.



Double-glazing at the front of the property to allow surveillance



3) Car Parking: Poorly designed car parks whether underground or not can be a dangerous environment for their users. Through the provision of some basic design elements, such as lighting and signage these spaces can be made safer.

a) Car parks, aisles and manoeuvring areas shall be:

- i) designed with safety and function in mind, and
- ii) have dimensions in conformity with Australian Standards 2890 - Parking Facilities. Relevant parts of this standard are:
 - AS2890. 1 - Off-street parking.
 - AS2890.2 - Commercial vehicle facilities.
 - AS2890.3 - Bicycle parking facilities.

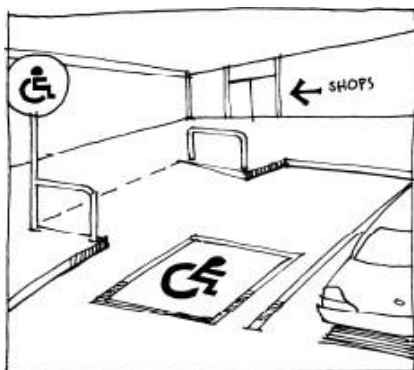
b) Where parking spaces are to be provided for people with disabilities, these spaces are to:

- i) be suitably located near entrances to the building and lifts/ access ramps, if required;
- ii) be provided in accordance with Australian Standards 1428.1 - Design for access and mobility; and
- iii) have appropriate signage and tactile pavement treatments, where required.

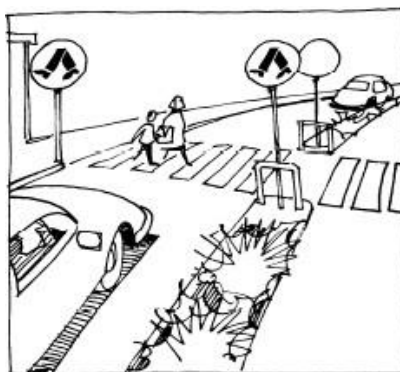
- c) The design of car parking areas should incorporate the following elements:
 - i) provision of a safe and convenient vehicle entry and exit that avoids traffic/pedestrian conflict and impacts on the surrounding road; and
 - ii) the internal (vehicular) circulation network is free of disruption to circulating traffic and ensures pedestrian safety.
- d) The movement of pedestrians throughout the car park should be clearly delineated by all users of the car park and minimises conflict with vehicles.
- e) 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.
- f) Large car parks should incorporate communication devices such as:
 - i) Intercoms
 - ii) Public address systems
 - iii) Telephones
 - iv) Emergency alarms.
- g) To ensure users of large car parks are easily able to determine their location, exit and access points, security intercoms and the like, appropriate signage is to be included.
- h) All surfaces in the car park should be painted in light coloured paint or finished in light grey concrete to reflect as much light as possible.
- i) All potential entrapment points should be avoided, e.g. under stairs, blind corners and wide columns. Adequate lighting and mirrors should be used when certain design features are unavoidable.

Note: Please be aware that Council has several other sections in this Plan relating to car parking which you may also need to refer to. :

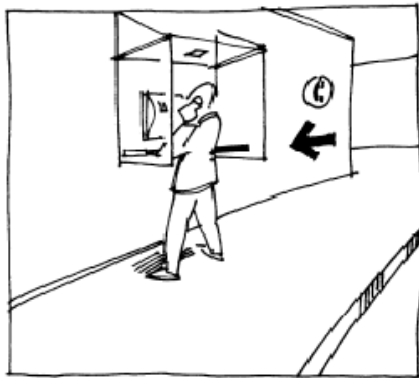
Disabled car space provided



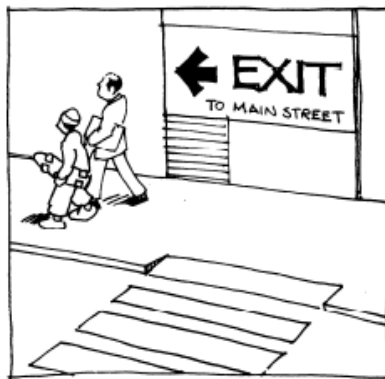
Safe movement of pedestrians promoted



Phone within car park



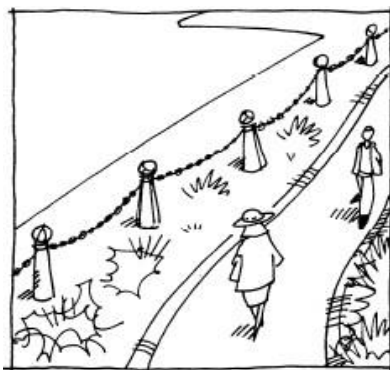
Clearly labelled exit within car park



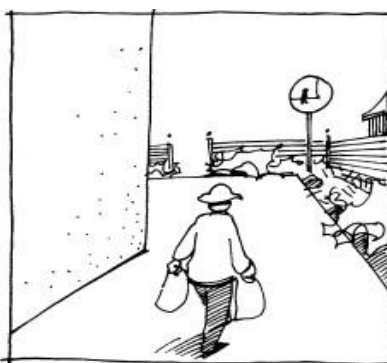
4) Entrapment spots and blind corners: Entrapment spots and blind corners provide opportunities for perpetrators of crime to hide and or commit crime.

- a) Pathways should be direct. All barriers along pathways should be permeable including landscaping, fencing etc.
- b) Consider the installation of mirrors to allow users to see ahead and around corners. The installation of glass or stainless steel panels in stairwells can also assist in this regard.
- c) Entrapment spots adjacent to main pedestrian routes such as a storage area or small alley should be eliminated from all designs.
- d) If entrapment spots are unavoidable they should be well lit with aids to visibility such as convex mirrors and locked after hours.
- e) To eliminate excuse making for individuals to loiter, avoid placement of seating near or adjacent to ATM's, public phone boxes, toilets, corridors and isolated locations.

Permeable barrier



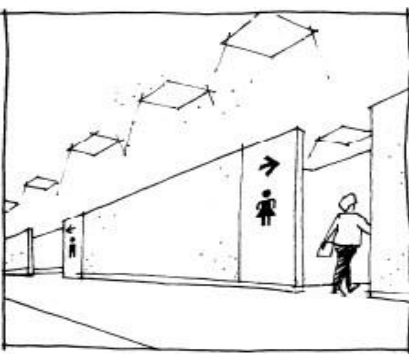
Mirrors that allow viewing around the corner



Glass panels used in stairwells to promote visibility



No seats outside toilets to minimise opportunity for loitering

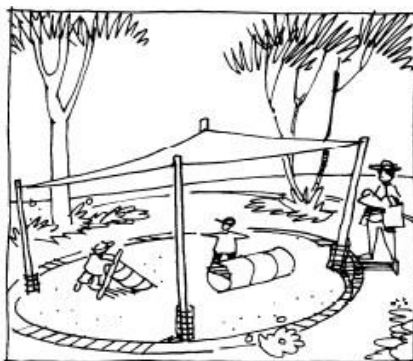
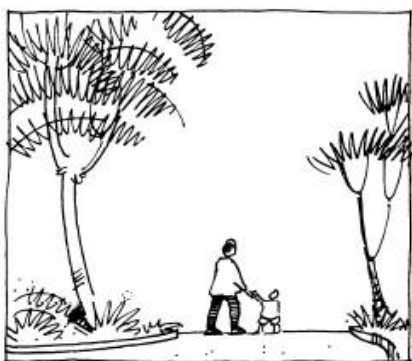


5) Landscaping: Trees and shrubs that are inappropriately located can easily reduce surveillance opportunities and provide entrapment spots and blind corners.

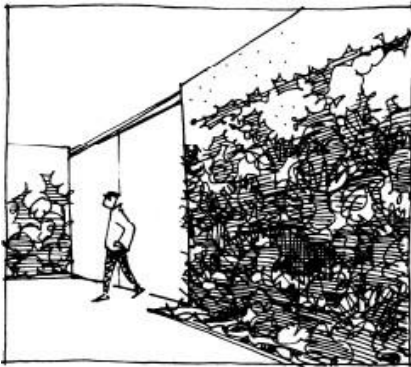
- a) Avoid medium height vegetation with concentrated top to bottom foliage. Plants such as low hedges and shrubs, creepers, ground covers and high-canopied vegetation are good for natural surveillance.
- b) Trees with dense low growth foliage should be spaced or crown raised to avoid a continuous barrier.
- c) Use low ground cover or high-canopied trees with clean trunks.
- d) Avoid vegetation, which conceals the building entrance from the street.
- e) Avoid vegetation screening of all public use toilets.
- f) Avoid vegetation that impedes the effectiveness of public and private space lighting. Use “green screens” (wall hugging vegetation that cannot be hidden behind) if screening large expanses of fencing to minimise graffiti.

Note: Refer to the Public Domain Section for more information on lighting.

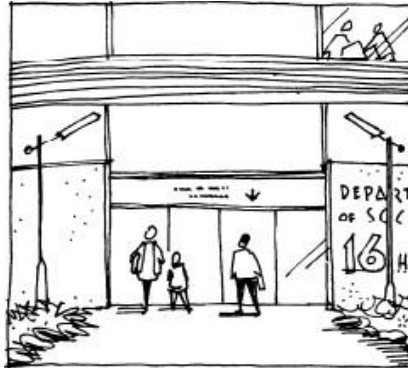
High and low vegetation



Green screen to minimise opportunity for graffiti



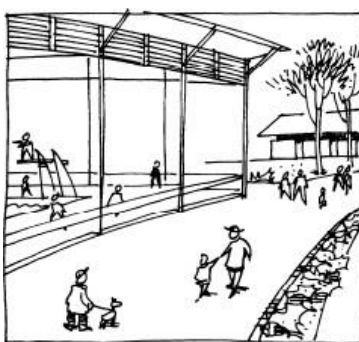
Clear building entrance not obscured by vegetation.



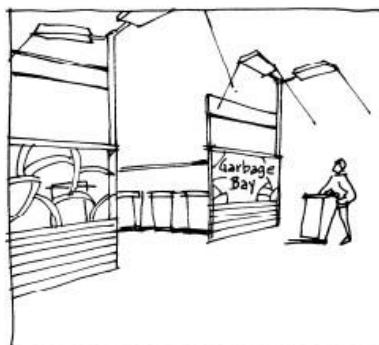
6) Communal/Public Areas: Communal or public open space areas that do not have adequate natural surveillance are a risk to personal safety.

- a) Position active uses or habitable rooms with windows adjacent to main communal/public areas e.g. playgrounds, swimming pools, gardens, car parks etc.
- b) Communal areas and utilities e.g. laundries and garbage bays should be easily seen and well lit.
- c) Where elevators or stairwells are provided, open style or transparent materials are encouraged on doors and/or walls of elevators/stairwells.
- d) Waiting areas and entries to elevators/stairwells should be close to areas of active uses, and should be visible from the building entry.
- e) Seating should be located in areas of active uses.

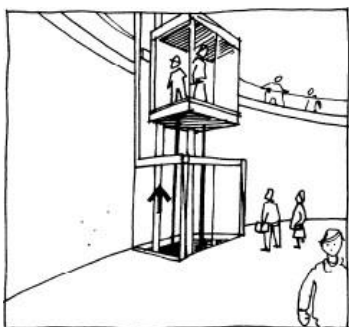
Windows adjacent to public areas



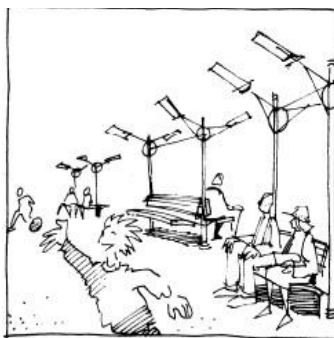
Well lit public areas



Transparent elevators



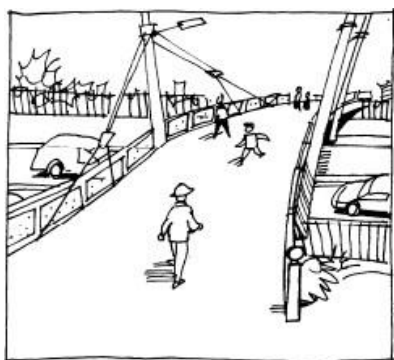
Seating in active areas



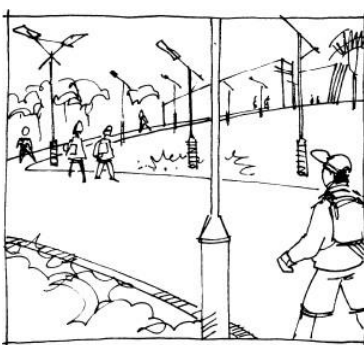
7) Movement predictors: Movement predictors are routes which people move through on a regular and predictable basis such as a pedestrian underpass. Careful design is needed to ensure that they are not included in a development or are appropriately treated where included to reduce the risk. Through site links are another type of movement predictor, however, unlike under passes these can provide a benefit to the community if designed appropriately to ensure safety.

- a) Pedestrian underpasses should not be included in new developments. Where existing developments, which include underpasses, are being redeveloped all efforts should be made to remove them.
- b) Where movement predictors are used the users of it should have clear site lines so they can see what is ahead and behind at all times.
- c) Lighting of movement predictors is essential. Natural lighting should be used where possible with consideration given to wall and ceiling materials to help reflect light.
- d) Emergency intercoms, telephones and security videos should be included in the design of movement predictors. Adequate consideration should be given to who will be monitoring such equipment.
- e) No entrapment spots should be included in any movement predictor.

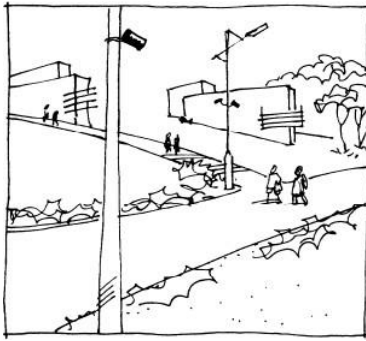
Bridge instead of underpass



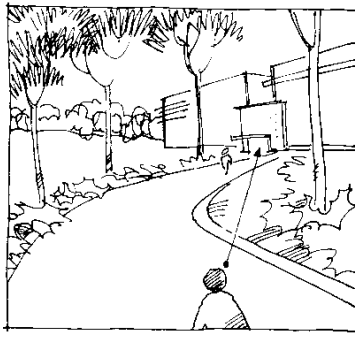
Movement predictor well lit



Security video used



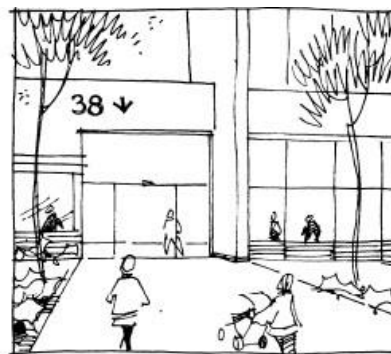
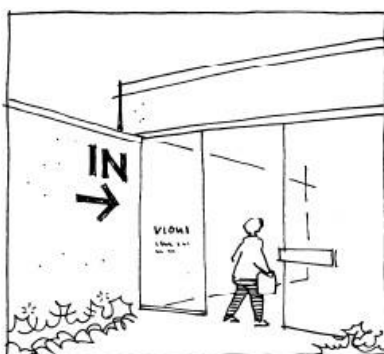
Clear sight lines



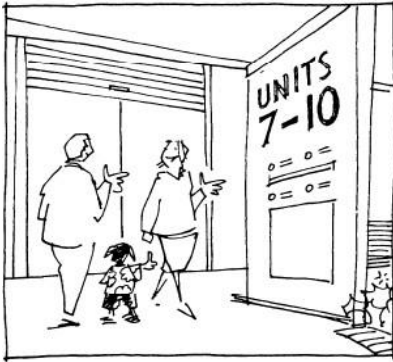
8) Entrances: Entrances to all types of development that are not visible from the public domain provide an opportunity for perpetrators of crime to hide and or commit crime. Entrances to all types of development need to be clearly visible and legible so that the users can obtain entry quickly and expediently.

- a) Entrances should be at prominent positions and clearly visible and legible to the users.
- b) Design entrances to allow users to see into the building before entering.
- c) Entrances should be easily recognisable through design features and directional signage.
- d) Minimise the number of entry points – no more than 10 dwellings should share a common building entry.
- e) If staff entrances must be separated from the main entrance, they should maximise opportunities for natural surveillance from the street.
- f) Avoid blank walls fronting the street.
- g) In industrial developments, administration/offices should be located at the front of the building.

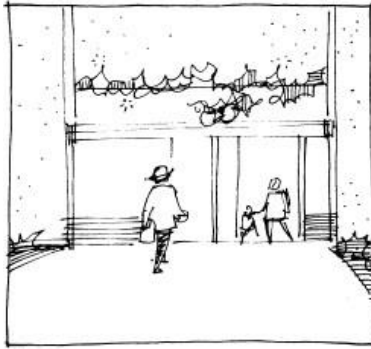
Entrance clear and visible



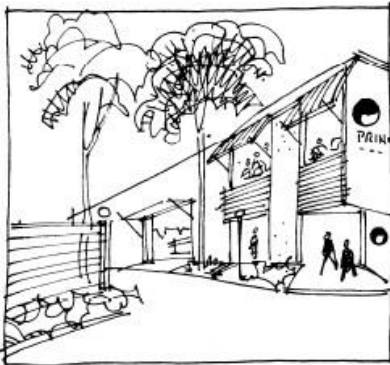
Entry points minimised



Blank walls avoided to minimise opportunity for graffiti



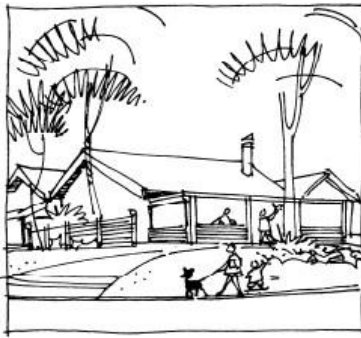
Offices at front of building



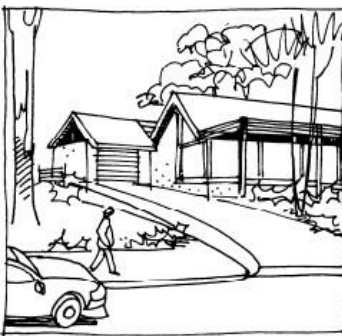
9) Site Building and Layout: Buildings should be sited so that they address the street and promote surveillance of the street from the dwelling and of the dwelling.

- a) For single dwellings and dual occupancies, orientate the main entrance towards the street or both streets if located on a corner.
- b) For townhouses/villas/multiple units, ensure that part of the building addresses the street or both streets if located on a corner.
- c) Position habitable rooms with windows at the front of the dwelling.
- d) Garages and carports should not dominate the front façade of the building.
- e) Access to dwellings or other uses above commercial/retail development should not be from rear lanes.
- f) Offset windows, doorways and balconies to allow for natural observation while protecting privacy.

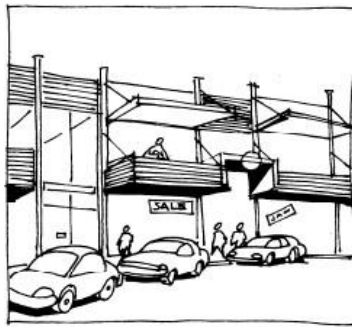
Dwellings addressing the street



Garages at rear



Residential above commercial



10) Building Identification: Adequate building identification is essential to ensure that people can easily find a destination and do not have to walk up and down the street searching for it.

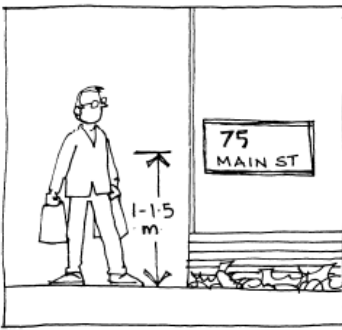
For commercial development:

- a) Street numbers should be at least 7cm high, and positioned between 1m and 1.5m above ground level on the street frontage.
- b) Street numbers should be made of durable materials preferably reflective or luminous, and should be unobstructed (e.g. by foliage).
- c) Location maps and directional signage should be provided for larger developments.

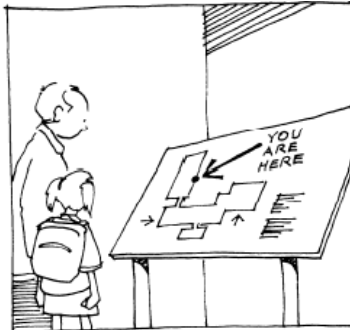
For residential development:

- a) Each individual dwelling should be clearly numbered.
- b) Unit numbers should be clearly provided on each level.
- c) Each building entry should clearly state the unit numbers accessed from that entry.

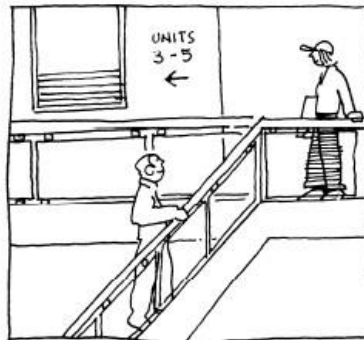
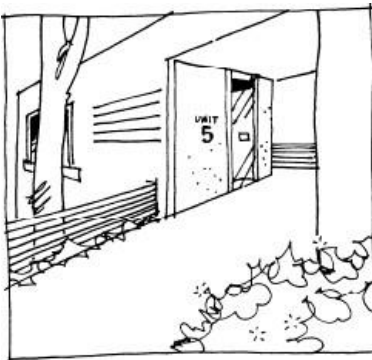
Street number size and positioning



Location board for larger developments



Clear identification of units

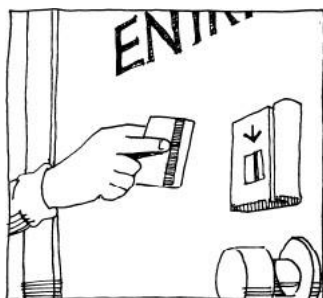


11) Security: A crucial part of a crime prevention strategy is the use of security hardware and/or personnel to reduce opportunities for unauthorised access.

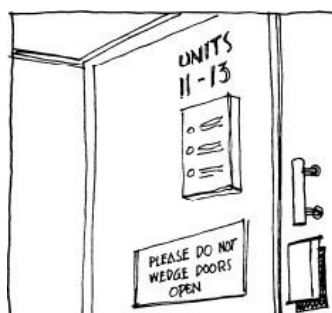
- a) Install intercom, code or card locks or similar for main entries to buildings including car parks.
- b) Main entry doors for apartment buildings should be displayed requesting residents not to leave doors wedged open.
- c) Australian Standard 220 - door and window locks should be installed in all dwellings.
- d) Consider installing user/sensor electronic security gates at car park entrances, garbage areas and laundry areas etc, or provide alternative access controls.
- e) Entry to basement parking should be through security access via the main building.
- f) External storage areas should be well secured and well lit.
- g) Install viewers on entry doors to allow residents to see who is at the door before it is opened.
- h) If security grilles are used on windows they should be operable from inside in case of emergencies.
- i) Ensure skylights and/or roof tiles cannot be readily removed or opened from outside.
- j) Consider monitored alarm systems.
- k) Provide lockable gates on side and rear access.
- l) Consider building supervisors or security guards.

Note: If you are proposing security gates to control access, you will need to liaise with the emergency service providers such as Police, Fire Brigade and Ambulance to ensure that they can gain access.

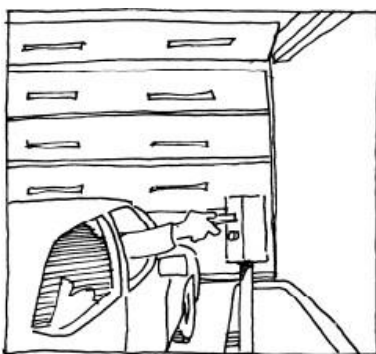
Security cards used where necessary



Doors not to be wedged open



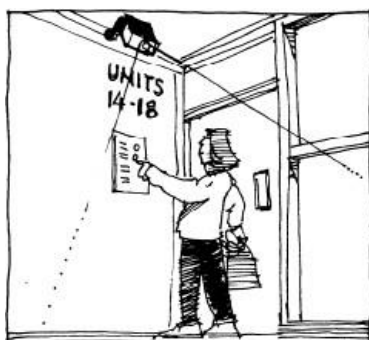
Secure car park



Well – lit storage area



Security camera at entrance to allow viewing of visitors



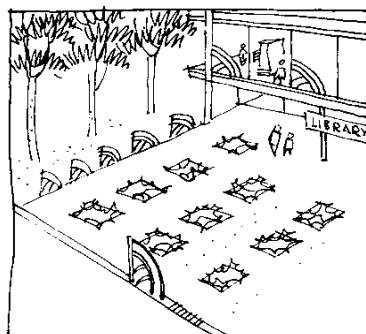
12) Ownership and Space Management: It is important that people have a sense of ownership of a place whether it is residential or commercial as a person who feels attached to a place is more likely to watch out for it and the other users of it.

- a) Ensure that dwellings or groups of dwellings are readily recognizable by the residents through the use of design features such as colouring, roof forms, vegetation, paving, artworks, fencing, furniture etc.
- b) Physical and/or psychological barriers, e.g. fences, gardens, lawn strips, varying textured surfaces can be used to define different spaces.
- c) Ensure the speedy repair or cleaning of damaged or vandalised property.
- d) Provide for the swift removal of graffiti.
- e) Provide information advising where to go for help and how to report maintenance or vandalism problems.
- f) Council, through its Community Safety Partnership Initiatives can provide residents with Community Safety advice on how to enhance property and personal safety and how to promptly report criminal or inappropriate behaviour to relevant authorities.

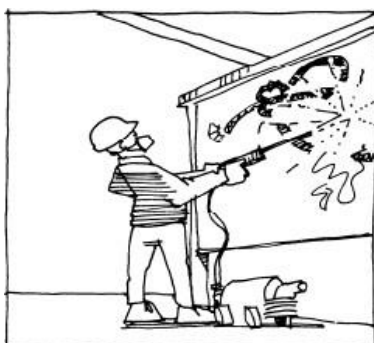
Note: The Penrith Community Safety Partnership oversees the implementation of the Penrith Community Safety Plan. Strategies in the Community Safety Plan include the conducting of Community Safety Audits.

An initiative of the partnership is to provide commercial property owners with some general “good amenity” tips to contribute to overall presentation of specific neighbourhoods. This document will be provided to all commercial properties prior to and/or at the conclusion of community safety audits/assessments surrounding their premises to promote “self rectification” and neighbourhood responsibility.

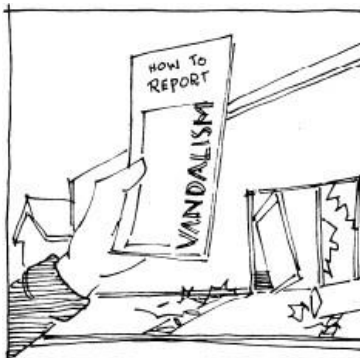
Distinctive entrance and style for different parts of a development



Removal of graffiti



Process to report vandalism

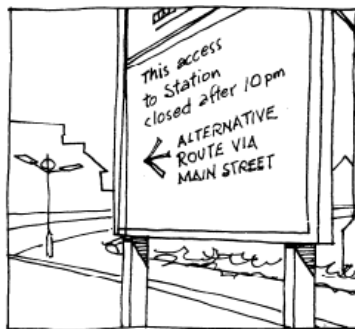
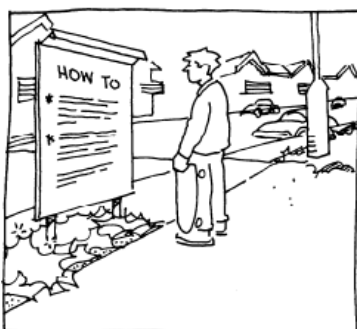
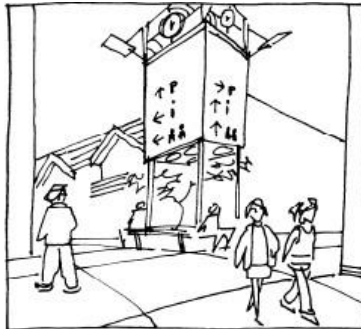
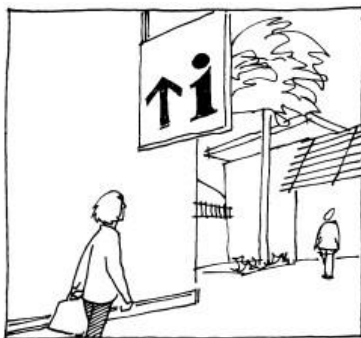


13) Way finding/ finding help: The ability to escape, communicate or find help when in danger can be assisted through improved signage and legible design. Moreover,

knowing where you are in a large open space or shopping centre contributes to a feeling of safety.

- a) Signs should be large and legible, with strong colours, standard symbols (e.g. for washrooms) and simple graphics. They should indicate where to go for help or assistance.
- b) Signs should be strategically located at entrances and near activity nodes such as intersections of corridors or paths.
- c) Signs should indicate how to report maintenance problems in the complex.
- d) The main pedestrian route through a large building, sets of building or areas of open public space should be indicated as such with appropriate signage.
- e) Where exits to pedestrian routes are closed after hours this should be indicated at the entrance to the route and information on alternative routes should clearly advised.
- f) Signs that provide way finding information should not be relied upon solely, the overall legibility of the design needs to be well considered. Users of the space need to be able to intuitively understand where they are within the complex or area and how they can get away.

Clear signage and way finding devices incorporated into the development



1.2.6 Maximising Access and Adaptability

A. Background

New developments and the spaces around them should be accessible and useable to all people. Developments should be designed and constructed beyond their initial or first use to

ensure that buildings are durable and capable of adaptability in the future. The 'whole of building approach' should consider how the building design, finishes and materials used in the construction phase affect the amenity and safety of future occupants of the building. This approach maximises the liveability and longevity of the buildings by ensuring that adaptability and accessibility is integral to the design and construction of the development. For example, houses could be designed with reinforced shower walls will allow for future installation of grab rails. Wider doorways can facilitate easier movement of less able occupants. Lever taps and door handles are designed for easier use by both young children and older people. Similar principles can apply to commercial and industrial developments. Designing flexibility into a building will increase the lifespan and marketability of the development.

B. Principles

There are a number of principles of universal design which, when considered in the planning and design stage, add very little to the cost of the development but make a great deal of difference to the overall useability of the development. These principles can be applicable to both external and internal areas. (The principles go beyond the requirements of the Australian Standard for Adaptable Housing (AS 4299-1995)).

- a) **Principle 1 – Equitable use:** The design is useful and marketable to people with diverse abilities.
- b) **Principle 2 – Flexibility in use:** The design accommodates a wide range of individual preferences and abilities.
- c) **Principle 3 – Simple and intuitive use:** Use of the design is easy to understand regardless of the individual's experience, knowledge, language skills or current concentration levels.
- d) **Principle 4 – Perceptible information:** The design communicates useable information effectively to the user regardless of ambient conditions or the user's sensory abilities.
- e) **Principle 5 – Tolerance for error:** The design minimises hazards and the adverse consequences of accidental or unintended actions.
- f) **Principle 6 – Low physical effort:** The design can be used effectively and comfortably with a minimum of fatigue.
- g) **Principle 7 – Size and space for approach and use:** Appropriate size is provided for approach, manipulation and use regardless of users body size, posture or mobility.

C. Controls

Dwellings

The Australian Network for Universal Design (ANUHD) recommends the following minimum criteria for inclusion in a universally designed home:

- 1) **Easy access:** People of all ages and abilities are able to gain easy access to the dwelling from the front boundary or car park to the entrance of the dwelling.
- 2) **At least one level entrance:** The dwelling includes at least one level entrance to enable all home occupants to enter and exit the dwelling with ease.
- 3) **Bathroom, living space and bedroom on the entrance level:** The level entry to the dwelling provides a living space, bathroom and toilet, and a bedroom space or space capable of accommodating a bedroom space.

- 4) **Bathrooms designed for easy adaption:** The bathroom provides a hobless shower and accommodates more generous internal circulation spaces to enable future adaptation.
- 5) **Reinforcement of bathroom walls:** Walls in the bathroom and shower are reinforced to enable future installation of grab rails, if required by home occupants.
- 6) **Kitchen access:** The kitchen design enables all home occupants to easily manoeuvre within the kitchen area and between fixed kitchen benches.
- 7) **Easy access to doors and corridors:** The internal passages and doorways within the dwelling facilitate ease of movement between rooms and accommodate the circulation needs of all home occupants.
- 8) **Consistent installation of switches, power outlets and window controls:** Light switches, power outlets and other operational devices are installed at a consistent height to ensure ease of access for all home occupants.
- 9) **Easy operable door, tap and window controls:** Door and window operating hardware is easy to manipulate and can be operated by the home occupants regardless of age or ability.
- 10) **Slip resistance of floor surfaces:** Kitchens, bathrooms and laundries feature flooring which provides slip resistance in both wet and dry conditions.

Development involving frequent public use

It is more important that development which involves frequent public use conforms to the principles of Universal Design, wherever practical, as it is this form of development where equity of access is most critical. This type of development includes (but is not limited to):

- Public halls;
- Entertainment facilities;
- Function centres, restaurants, registered clubs and the like;
- Large retail centres (including bulky goods development); and
- Large office buildings.

Development applications for any of the above uses should address the principles of Universal Design in the Statement of Environmental Effects.

D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this Section. Demonstration of this commitment may lead to Council considering variation of development controls.

- a) Adopt high quality building design that is visually attractive, innovative and improves sustainability outcomes through its design, including the management of vegetation and landscape, water, land and waste in accordance with this Plan;
- b) Address impacts on sensitive adjacent land uses through careful site planning, building design and landscape treatment; and
- c) Reduce the use of timber from old growth forests, rainforests and forests/plantations which do not have certified environmentally responsible forest management practices. Applicants need to demonstrate that a significant percentage of the timber and composite timber products used in the building and construction works has Forest Stewardship Council Certification (see www.fsc.org), utilises reused or recycled timber or is specified using the Friends of the Earth 'Good Wood Guide' 9th Edition.

1.2.7 Adult Change Facilities

A. Objectives

Objectives for including accessible change facilities in development involving frequent public use are:

- a) To provide adult change facilities in buildings that receive a high volume of public use to acknowledge the growing need of change facilities for people with a significant disability.
- b) Demonstrate that large scale public buildings have been planned and designed to meet the needs of people with a complex or profound disability.

B. Controls

- a) Accessible Adult Change Facilities, designed in accordance with Section F 2.9 of the National Construction Code (NCC) or similar, must be provided in the following new or redeveloped development types:
 - i) Shopping Centres with a design capacity of greater than 3,000 people.
 - ii) Multi-tenanted specialised retail premises (bulky goods developments) that are of a scale that they are considered a retail destination. In the context of this part of the DCP, a 'retail destination' is a site that offers products for sale and hire that is of a size, scale and attraction, where an extensive amount of pedestrian and vehicle traffic is likely to be received throughout the entire site, and customers have the ability to make multiple shops within the precinct.
 - iii) Major Recreation Facilities (i.e. sports stadiums, theme parks).
 - iv) Large Entertainment facilities with an internal floor area of no less than 5,000m², except where a lower design capacity is set by the NCC.
 - v) Large Clubs and Pubs with an internal floor area of no less than 5,000m², including any alfresco areas, terraces, play areas and other associated facilities attached to the club or pub.
- b) Designs for adult change facilities must include a ceiling-mounted hoist and an adult sized change table.
- c) Adult change facilities must be provided separately and not replace a standard accessible toilet.
- d) Consideration may be given where an adult change facility is currently servicing a precinct and is suitably accessible to any new or redeveloped developments.

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C2 Vegetation Management

2.1 Preservation of Trees and Vegetation

A. Introduction

It is important to protect and where possible enhance the trees and other vegetation in our City for several reasons including biodiversity conservation, habitat protection, preserving amenity, cleaning our air, cooling our City and contributing to the positive health and well-being of our community.

This section of the Plan seeks to address the requirements for tree and vegetation management while achieving an appropriate balance between protecting and enhancing trees and other vegetation, minimising risks to people and property, ensuring public safety and facilitating sustainable development.

If you are proposing to remove trees or other vegetation, you may be required to obtain approval from other government agencies that administer the following Acts. This is in addition to gaining approval from Council. Before commencing any works involving tree or vegetation removal you should check if approval is also required under other legislation including:

- *Biodiversity Conservation Act 2016*
- *Biosecurity Act 2015*
- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*
- *Environmental Planning & Assessment Act 1979 (and amendments)*
- *Fisheries Management Act 1994*
- *Heritage Act 1977*
- *Local Land Services Act 2013*
- *National Parks and Wildlife Act 1974*
- *Rural Fires Act 1997*
- *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017*
- *Water Management Act 2000*

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

While some areas of Penrith are zoned rural, for the purposes of State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 all land within the City of Penrith is considered as a non-rural area of the State. From this policy instrument Council is provided with the mechanism to require and issue permits for the removal or clearing of vegetation. The following sections of this Plan set out approval and permit requirements and other matters for consideration relating to vegetation management in the City.

B. Objectives

- a) To protect and conserve the biodiversity values of trees and other vegetation in the City, and
- b) To maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change, and
- c) To support conservation and threat abatement action to minimise biodiversity loss and conserve threatened species and ecological communities in nature, and
- d) To protect and enhance biodiversity corridors, landscape character and scenic values of the City; and
- e) Recognise the importance and function of trees and other vegetation for Cooling our City, and
- f) To preserve the amenity of the City through the preservation of trees and other vegetation, and
- g) To preserve existing trees and other vegetation where possible during the planning, design, development and construction process, and
- h) To firstly avoid or minimise impacts of a proposed development and land use change on biodiversity and if impacts are unavoidable provide appropriate offsets, and
- i) To achieve an appropriate balance between the protection of trees and other vegetation and mitigating risks from natural hazards.

C. Other Relevant Sections of this DCP

Other sections of this DCP may have a relationship or influence vegetation management outcomes, so it is important to read all relevant parts of this Plan.

D. Controls

1. Approval Requirements

Vegetation means “a tree or other vegetation, whether or not it is native vegetation.” Native Vegetation has the same meaning as defined in Part 5A of the *Local Land Services Act 2013*.

General Approval Requirements

- a) A person must not remove, clear, prune or otherwise cause harm to any tree or other vegetation prescribed by this Plan without an appropriate approval. This includes the following activities in relation to trees and other vegetation which are not permitted without approval:
 - Removal by cutting down, clearing, under scrubbing, thinning or any other method
 - Removal of bark around part of or full circumference of a tree trunk (i.e. ring-barking)
 - Cutting off the top of a tree to reduce its height (i.e. topping)
 - Cutting off branches on one side of a tree (i.e. lopping)
 - Cutting off or pruning branches greater than 50mm diameter
 - Cutting, removal or otherwise damaging the roots or root system

- Poisoning or any other activity which causes harm or injury

Development Consent

- b) A person must not remove, clear, prune or otherwise cause harm to any tree or other vegetation prescribed by this Plan, which is proposed as part of development without Development Consent. These works must be assessed as part of a Development Application.

Advisory Note:

Clearing of trees or other vegetation will only be considered where it is proposed in conjunction with a use permissible on that land.

Native Vegetation Panel Approval

- c) If proposed clearing of native vegetation is not associated with development (i.e. not for a purpose requiring development consent) and the proposed area of clearing exceeds the area clearing threshold (see table C2.1 below), or the vegetation is identified on the Biodiversity Values Map then approval is required from the Native Vegetation Panel (not Council).

The area clearing threshold (see table C2.1 below) varies depending on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan), or actual lot size (where there is no minimum lot size provided for the relevant land under the Local Environmental Plan).

If the land on which the proposed development is located has different minimum lot sizes the smaller or smallest of those minimum lot sizes is used to determine the area clearing threshold.

Table C2.1 – Area Clearing Thresholds

Minimum lot size associated with the property	Threshold for clearing , above which the BAM* and Biodiversity Offsets Scheme apply (requires Native Vegetation Panel approval)
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

* BAM means Biodiversity Assessment Method

Vegetation Permits

- d) Where the area clearing threshold is not exceeded (see table C2.1 above) and development consent is not required, a person must not remove, clear, prune or otherwise cause harm to any tree or other vegetation prescribed by this Plan without a Vegetation Permit.

There are two types of Vegetation Permit Application:

- i) Application to Remove or Prune Trees, or
- ii) Application to Clear Native Vegetation

A Vegetation Permit is not required if works are carried out in accordance with an exemption as detailed in Section 3 – Vegetation Permit Exemptions.

Advisory Note:

A Vegetation Permit will generally not be issued to facilitate Complying Development. A Development Application will be required if a complying development proposal does not meet the complying development controls in relation to trees and other vegetation.

2. Prescribed Vegetation

- a) Prescribed trees or other vegetation covered by this section of the Plan includes:
 - i) Any native tree (both living and dead) or other vegetation that is on land zoned E2 Environmental Conservation in the Penrith LEP 2010 Land Zoning Map, or on natural resources sensitive land identified in the Penrith LEP 2010 Natural Resources Sensitivity Land Map.
 - ii) In all areas, any native vegetation community including remnant native vegetation.
 - iii) In all areas, any tree or other vegetation whether native or introduced having a height of 3.5 metres or more or a trunk diameter exceeding 100mm at 1400mm above ground level.
 - iv) Any tree or other vegetation that is, or forms part of, a heritage item or is within a heritage conservation area.
 - v) Any tree or other vegetation that is culturally, socially or biologically significant or a unique specimen and has been formally recognised by an appropriate government authority (e.g. a significant tree or vegetation register).

3. Vegetation Permit Exemptions

- a) A Vegetation Permit is not required for pruning or removal of:
 - i) a tree that is dead and is not habitat for native fauna;
 - ii) a tree that is an imminent risk or threat to human life or property;
 - iii) deadwood that is not habitat for native fauna;
 - iv) a tree located within 3.0 metres of an external enclosing wall of a dwelling, as measured from the centre of the trunk at 1400mm above ground level;
 - v) an exempt tree species published by Council (refer to website);

- vi) a tree or other vegetation that produce an edible fruit, excluding Australian natives and ornamental fruit trees;
 - vii) a tree or other vegetation removed in accordance with the NSW Rural Fire Service 10/50 Vegetation Clearing Code of Practice;
 - viii) a tree or other vegetation within bushfire asset protection zones maintained in accordance with an approved Bushfire Risk Management Plan. The term 'asset protection zone' is defined in the *NSW Rural Fire Service Planning for Bushfire Protection 2018 guidelines*;
 - ix) a tree or other vegetation subject to written approval or direction from the NSW Rural Fire Service for the purpose of property protection and bushfire hazard reduction;
 - x) a tree that will cause imminent damage to the structural integrity or function of an existing perimeter boundary fence on rural land;
 - xi) a tree or other vegetation growing within an approved constructed dam or dam wall where maintenance is required to prevent impacts on structural integrity or function;
 - xii) a tree or other vegetation where works are carried out in accordance with a Development Consent, or approval issued by the Native Vegetation Panel;
 - xiii) trees or other vegetation that grow within a timber plantation;
 - xiv) a tree or other vegetation that are on Council owned or managed land provided the work is undertaken by persons authorised by Council, and is in accordance with Council approved works, a Council policy or a Plan of Management, AS 4373 - 2007, *Pruning of Amenity Trees* and statutory approvals;
 - xv) a tree or other vegetation where action is required or authorised to be done by or under the *Electricity Supply Act 1995*, the *Roads Act 1993* or the *Surveying and Spatial Information Act 2002*;
 - xvi) a tree or other vegetation declared as weeds and covered by a Biosecurity Priority Weeds Plan prepared under the *Biosecurity Act 2015* and *Biosecurity Regulation 2017* (see the Department of Primary Industries and Hawkesbury River County Council websites);
 - xvii) a tree or other vegetation to control pests in accordance with a pest management plan prepared under the *Biosecurity Act 2015* and *Biosecurity Regulation 2017* (see the Department of Primary Industries website).
- b) A Vegetation Permit is not required to prune a tree in accordance with AS 4373 - 2007, *Pruning of Amenity Trees* providing:
- i) the branches to be pruned are no greater than 50mm diameter and the shape and structure of the tree will not be significantly modified;
 - ii) the branches to be pruned are within 3.0 metres a dwelling roof, and the final cut is only back to the nearest branch junction or collar and the largest cut is no greater than 150mm in diameter;
 - iii) the branches to be pruned are located within 2.0 metres of ground level and the tree is greater than 6.0 metres in height, where the final cut is only back to the nearest branch junction or collar and the largest cut is no greater than 150mm in diameter.

Exemption Advisory Notes:

1. Property owner's consent is required before carrying out any exempt works.
2. For the purpose of this section 3 *imminent* means "*likely to happen at any moment*".
3. Before carrying out exempt works under section 3 a) i), ii), iii) and x), property owners should first obtain a report from a suitably qualified arborist (or other suitable evidence) clearly identifying a tree as dead, or as an imminent risk or threat to human life or property, or as an imminent risk of damage to an existing perimeter boundary fence on rural land.
4. All pruning work should be carried out in accordance with AS 4373 - 2007, *Pruning of Amenity Trees*.
5. Property owners must be able demonstrate exempt criteria have been met if requested by Council.
6. Property owners should contact Council for advice if they uncertain whether an exemption applies.

4. Application Submission Requirements

- a) The level of information required to assess a development or permit application to remove or clear trees or other vegetation will depend on:
 - i) the scale and extent of proposed works;
 - ii) site location and characteristics;
 - iii) whether the site contains any significant trees;
 - iv) whether the site contains any threatened species, threatened ecological communities, or protected plants and animals listed under the *Biodiversity Conservation Act 2016*;
 - v) whether the site is identified on the NSW Office of Environment and Heritage Biodiversity Values Map.
- b) A report prepared by a suitably qualified and experienced arborist may be required with a tree removal application and as a minimum should address the following in relation to trees:
 - i) The location, number and type (species) of trees proposed to be removed;
 - ii) A clear site plan identifying tree(s) proposed for removal and other relevant site features such as a dwelling, fences and driveways;
 - iii) Details of the proposed works and the reasons for the works;
 - iv) The age, health and condition, including structural soundness and the condition of the root zone;
 - v) The aesthetic, scientific, ecological and/or historic importance;
 - vi) The impact of the proposed work on the appearance, health or stability of trees or vegetation and the general amenity of the surrounding area, including any effect on the streetscape;
 - vii) In the case of an application to remove a tree(s) or vegetation, whether pruning would be a more practicable and desirable alternative;
 - viii) Any risk the tree(s) may pose to people, dwellings, structures or services;
 - ix) The extent of other trees and vegetation on the property;
 - x) Whether the tree(s) is likely to be used as habitat, or is a source of food or shelter for native animals;
 - xi) Whether the tree(s) is a threatened species or forms part of a threatened community; and
 - xii) Whether all alternatives to removing or pruning the tree or vegetation have been considered.
- c) A Flora and Fauna Assessment Report including a Test of Significance under Part 7, Division 1, Section 7.3 of the *Biodiversity Conservation Act 2016* may be required with an application to remove or clear native trees or other native vegetation. The report must be prepared by a suitably qualified and experienced ecological consultant.
- d) A Biodiversity Development Assessment Report (BDAR) will be required for an application to remove or clear native trees or other native vegetation on land identified by the Biodiversity Values Map, or where clearing exceeds the Biodiversity Offset Scheme area clearing thresholds, or after applying the Test of Significance the impacts are likely

be significant. A BDAR must be prepared by an accreditor assessor under the *Biodiversity Conservation Act 2016*.

Applicants should seek advice from Council if assistance is needed in relation to submission requirements.

5. Trees Causing Property Damage

- a) In relation to trees causing property damage, it must be demonstrated (e.g. by a report from a practising qualified structural engineer) that the tree, its trunk, or its root system is causing damage to a structure and the damage cannot be controlled by measures such as the installation of a root barricade.

6. Trees and New Development - Site Planning and Design

The following controls apply where the removal of trees and other vegetation is proposed as part of a development application for a proposed use permissible under the relevant zone of Penrith LEP 2010:

- a) Australian Standard AS 4970-2009 Protection of Trees on Development Sites should be considered, and
- b) The siting and layout of a development should consider, at the initial concept stage, the location of trees and other vegetation (including on adjoining land) and favour their retention.
- c) Buildings, Asset Protection Zones and Effluent Management Areas are to be sited on existing cleared land, where possible.
- d) Where a stand of trees is to be retained, any associated native understorey should also be retained.
- e) Trees and vegetation should be retained on steeply sloping sites (slopes greater than 20%) or where there is unstable soil to minimise erosion or geo-technical instability. (See also the controls in the Land Management section of this Plan relating to Geotechnical Stability).
- f) Trees and vegetation must be retained along watercourses (See also the controls in the Water Management section of this Plan, relating to Riparian Corridors).
- g) An application is required to address the effect of the proposed development on existing vegetation, the landscape character and the scenic quality of the locality.
- h) Trees and vegetation must be retained where they shield existing or proposed buildings from views from public areas.
- i) Trees and vegetation must be retained where they form part of the landscape character of an area, including on or near ridgelines.
- j) Any proposed building or structure are to be located outside the tree protection zone for retained trees. Council may consider a variation based on an appropriate arboricultural assessment.
- k) Hard (or impervious) surfaces are not permitted under the drip line of any tree.
- l) Where possible services (and particularly pipes carrying water/moisture) are to be located outside the tree protection zone of any tree to be retained. Council may consider a variation based on an appropriate arboricultural assessment.
- m) Wherever trees or vegetation are removed (with consent) as a consequence of the development, an equal or greater number of replacement trees that grow to a similar or

greater height or canopy should, where practical, be incorporated into the landscaping design of the new development.

- n) The siting and layout of a development should also consider, at the initial concept stage, bushfire risk. (See the Bushfire Management section of the Plan).

7. Protection of Trees During Construction

- a) Tree protection must be in accordance with an approved Tree Protection Plan (TPP) prepared with consideration of Australian Standard AS 4970-2009 *Protection of Trees on Development Sites*.
- b) During construction, an adequate fence or similar structure must be constructed around any trees or other vegetation to be retained in accordance with the approved TPP.
- c) Tree protection zones identified by an approved TPP must not be used by vehicles or machinery, for stockpiling wastes, for storage of any building materials or any other construction activities. This will help protect the tree or vegetation from soil compaction and contamination; root, trunk and limb damage; and changes in surface levels that affect the health of the tree or vegetation.

2.2. Biodiversity Corridors and Areas of Remnant Native Vegetation in Non-Urban Areas

A. Background

The protection and rehabilitation of biodiversity corridors between areas of remnant native vegetation help maintain biodiversity and the integrity of ecosystems. Fragmentation and isolation of habitat reduce the diversity and viability of flora and fauna populations.

This section of the Plan seeks to reinforce and supplement the controls set out in the 'Development on natural resources sensitive land' clause of Penrith LEP 2010. These controls focus on biodiversity corridors and areas of remnant native vegetation in Penrith's non-urban areas, which are identified as natural resources sensitive land on the Penrith LEP 2010 Natural Resources Sensitivity Land Map.

B. Objectives

- a) To promote the establishment and retention of biodiversity corridors and areas of remnant native vegetation that contribute to the long-term survival of native fauna and flora species in the area;
- b) To maintain (and where possible increase) the current area of native bushland and retain the natural species diversity of bushland as far as possible;
- c) To encourage the planting of a diversity of native species to enhance biodiversity values, scenic quality and landscape character; and
- d) To facilitate the implementation of weed control and management measures that act upon the processes causing weed invasion of natural areas.

C. Controls

1. Development Consent

- a) Biodiversity corridors and areas of remnant native vegetation are shown as natural resources sensitive land on the Penrith LEP 2010 Natural Resources Sensitivity Land Map.
- b) In accordance with the 'Development on natural resources sensitive land' clause of Penrith LEP 2010, development consent is required for the following in biodiversity corridors and areas of remnant native vegetation:
 - i) the subdivision of land;
 - ii) earthworks (including removal of rock or other natural material or alteration of a natural waterway or drainage line);
 - iii) the carrying out of a work;
 - iv) development site preparation works clearing vegetation (including slashing or under-scrubbing);
 - v) irrigation with treated effluent.
- c) Clause 1b) iv) above does not include slashing or under-scrubbing undertaken for the purposes of controlling declared pests under the *Biosecurity Act 2015* or to maintain dams, fences or asset protection zones.

2. Matters to be Considered

- a) The 'Development on natural resources sensitive land' clause of Penrith LEP 2010 lists matters that must be considered for any new development or work described in clause 1b) above.
- b) Council must also be satisfied that any development or work is designed, located and managed to avoid or minimise any potential adverse environmental impact.
- c) The matters listed in the 'Development on natural resources sensitive land' clause must be addressed in supporting documentation submitted with the application.

3. Submission Requirements

- a) The level of information required to assess a development or permit application to remove or clear trees or other vegetation will depend on:
 - i) the scale and extent of proposed works;
 - ii) site location and characteristics;
 - iii) whether the site contains any significant trees;
 - iv) whether the site contains any threatened species, threatened ecological communities, or protected plants and animals listed under the *Biodiversity Conservation Act 2016*;
 - v) whether the site is identified on the NSW Office of Environment and Heritage Biodiversity Values Map.
- b) A report prepared by a suitably qualified and experienced arborist may be required with a tree removal application and as a minimum should address the following in relation to trees:
 - i) The location, number and type (species) of trees proposed to be removed;
 - ii) A clear site plan identifying tree(s) proposed for removal and other relevant site features such as a dwelling, fences and driveways;
 - iii) Details of the proposed works and the reasons for the works;
 - iv) The age, health and condition, including structural soundness and the condition of the root zone;
 - v) The aesthetic, scientific, ecological and/or historic importance;
 - vi) The impact of the proposed work on the appearance, health or stability of trees or vegetation and the general amenity of the surrounding area, including any effect on the streetscape;
 - vii) In the case of an application to remove a tree(s) or vegetation, whether pruning would be a more practicable and desirable alternative;
 - viii) Any risk the tree(s) may pose to people, dwellings, structures or services;
 - ix) The extent of other trees and vegetation on the property;
 - x) Whether the tree(s) is likely to be used as habitat, or is a source of food or shelter for native animals;
 - xi) Whether the tree(s) is a threatened species or forms part of a threatened community; and

- xiii) Whether all alternatives to removing or pruning the tree or vegetation have been considered.
- c) A Flora and Fauna Assessment Report including a Test of Significance under Part 7, Division 1, Section 7.3 of the *Biodiversity Conservation Act 2016* may be required with an application to remove or clear native trees or other native vegetation. The report must be prepared by a suitably qualified and experienced ecological consultant.
- d) A Biodiversity Development Assessment Report (BDAR) will be required for an application to remove or clear native trees or other native vegetation on land identified by the Biodiversity Values Map, or where clearing exceeds the Biodiversity Offset Scheme area clearing thresholds, or after applying the Test of Significance the impacts are likely be significant. A BDAR must be prepared by an accreditor assessor under the *Biodiversity Conservation Act 2016*.
- e) Where vegetation works are proposed on land that is a heritage item or within a heritage conservation area, a Heritage Impact Statement may be required in accordance with Clause 5.10 Heritage conservation of Penrith LEP 2010. In this regard, applicants should consult with Council's Development Services Department.

Applicants should seek advice from Council if assistance is needed in relation to submission requirements.

4. Protecting and Enhancing Biodiversity Corridors and Areas of Remnant Native Vegetation

- a) As the purpose of biodiversity corridors and areas of remnant native vegetation is to conserve native plants and animals, no clearing of native vegetation should occur within these areas.
- b) As far as possible, biodiversity corridors and areas of remnant native vegetation should be retained with the smallest possible edge-to-area ratio. Measures must be taken to avoid fragmentation of vegetation by roads, tracks, services and the like.
- c) Management of biodiversity corridors and areas of remnant native vegetation must allow natural processes to continue. Measures must be taken to prevent disturbance to existing vegetation, including roots, the hydrological regime and surrounding soil.
- d) Management of biodiversity corridors and areas of remnant native vegetation must have regard to the value of the vegetation as fauna habitat. In particular, old trees (both living and dead), fallen logs, bush rock and a diverse vegetation structure, including understorey species, should be maintained for fauna habitat.
- e) Where land disturbance occurs, natural regeneration is the preferred method of rehabilitation.
- f) Locally native species must be used for revegetation and restoration of biodiversity corridors and areas of remnant native vegetation, if regeneration is unlikely to occur.
- g) Where possible, new native vegetation must be planted in clusters and connected to isolated patches of vegetation to enhance the network of biodiversity corridors.
- h) Non-native or introduced vegetation removed from a site is to be disposed of away from biodiversity corridors and areas of remnant native vegetation to avoid the spread of seed and regenerative vegetative material.
- i) Where possible, structures and any associated fire protection zones must be sited on existing cleared land and not within biodiversity corridors and areas of remnant native vegetation.

- j) Regular maintenance is required for existing tracks, especially to control track damage and erosion.
- k) Non-essential roads and tracks in biodiversity corridors and areas of remnant native vegetation must be closed and rehabilitated.
- l) Road signs should be erected where biodiversity corridors and areas of remnant native vegetation cross roads to alert motorists to the significance of fauna at these sites.
- m) Activities such as horse riding and motorcycle riding can cause damage to tracks and native vegetation, spread weeds and introduce nutrients. Therefore these activities must not occur in biodiversity corridors and areas of remnant native vegetation.

5. Development Near Biodiversity Corridors and Areas of Remnant Native Vegetation

- a) All new development adjacent to biodiversity corridors and areas of remnant native vegetation must be located, designed and constructed to prevent or minimise, as far as possible, adverse impacts on native vegetation, fauna and habitat.
- b) The layout of new development is to:
 - i) Ensure low intensity land uses are situated directly adjacent to the biodiversity corridor or area of remnant native vegetation;
 - ii) Ensure viability and functionality of the biodiversity corridor or area of remnant native vegetation;
 - iii) Maximise connectivity to neighbouring biodiversity corridors;
 - iv) Maximise connectivity to other areas of remnant native vegetation retained on-site or on neighbouring sites;
 - v) Ensure retained vegetation is configured to provide low edge-to-area ratios and avoid narrowing or bottlenecks within the biodiversity corridor;
 - vi) Ensure associated road infrastructure avoids core vegetation, or where not possible, provides for wildlife under/overpasses and minimises the intrusion, length and width;
 - vii) Where possible mitigate or prevent the impact of light pollution on fauna and habitat in adjacent biodiversity corridors and areas of remnant native vegetation.

6. Natural Regeneration and Planting Native Species

- a) Natural regeneration is the preferred method of rehabilitation. However, if planting is to be undertaken, native species related to the local vegetation community should be selected when planting on both public lands and private lands to aid the restoration or expansion of bushland.

7. Management of Weeds and Invasive Species

- a) Weed control refers to the control of non-native or introduced plants, particularly invasive species. Important elements of weed control are gaining an understanding of the causes of weed invasion and taking measures to minimise these causes.
- b) Measures are to be taken to prevent the occurrence of factors leading to weed invasion. Weed invasion occurs within native vegetation areas mainly as a result of the following factors:
 - i) Physical site disturbance;
 - ii) Increased soil moisture due to runoff from adjacent areas;

- iii) Increased nutrients from runoff or waste dumping;
 - iv) Increased light levels due to clearing or dieback; and
 - v) Increase in weed propagules and seed dispersal agents.
- c) Weed control techniques are to be carried out in a manner that minimises negative environmental impacts. Different techniques are required in varying situations, especially along watercourses, which are very sensitive to pollution impacts. Regular monitoring of weeds is to be carried out on an ongoing basis to identify and respond to the occurrence of new plant species that pose a potential threat to native vegetation.
- d) Biosecurity matter declared under the *Biosecurity Act 2015* include weed plant species posing a threat to primary production, the environment or human health. Please refer to the *Biosecurity Act 2015* for the requirements and a list of biosecurity matter. Further details on weed management in the Hawkesbury River County Council area (which includes the Penrith local government area) can be found at <http://hrcc.nsw.gov.au/>.
- e) Weeds not declared as biosecurity matter (commonly called environmental weeds) should also be controlled as part of a weed management program.

2.3. Bushfire Management

A. Background

This section applies to land identified on the Bushfire Prone Land Map. It also contains controls for development which, while not proposed on bushfire prone land, may still be subject to the impact from bushfires, particularly through ember attack.

To determine whether a particular site is 'bushfire prone land', Council has produced a Bushfire Prone Land Map which has been certified by the Rural Fire Service in accordance with Section 146 'Bush fire prone land' of the *Environmental Planning and Assessment Act 1979*. Applicants should review the Bushfire Prone Land Map to determine whether their site is 'bushfire prone land' and what category of risk of bushfire affects the site.

Alternatively, applicants can request a Section 149 Certificate from Council which will specify land that is identified as 'bushfire prone'.

The key objectives and controls to address bushfire risk are not set out in this Plan but are incorporated into the Rural Fire Service publication entitled *Planning for Bushfire Protection 2006 (PBP)* (as amended), as well as the *Rural Fires Act 1997* and the *Environmental Planning and Assessment Act 1979*.

By dealing with bushfire protection measures at the beginning of the planning and/or design process:

- Hazardous land uses can be avoided on bushfire prone land;
- Councils, developers and consultants can ensure subdivisions are designed and dwellings constructed to minimise the risk of bushfire attack; and
- The safety of people, property and the environment can be maximised.

B. 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 bush fire 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; and
- d) To recognise that land not classified as 'bushfire prone land' may still be subject to the impact from bushfire, particularly through ember attack.

C. Controls

1. Planning for Bushfire Protection

- a) If land is identified as 'bushfire prone land' on the Bushfire Prone Land Map, then any development application on that land must address the bush fire protection measures set out in the document *'Planning for Bushfire Protection 2006 (PBP)*.
- b) If the development proposes the subdivision of land for residential and rural-residential purposes or is a development which has been identified as 'special fire protection purposes', then the development will be Integrated Development under the *Environmental Planning and Assessment Act 1979*.

A development identified as 'special fire protection purposes' includes:

- i) a school

- ii) a child care centre
- iii) a hospital
- iv) a hotel, motel or other tourist accommodation
- v) seniors housing
- vi) a group home
- vii) any other purpose prescribed by section 100B (6) of the *Rural Fires Act 1997*.

2. Bushfire Assessment Report

- a) A Bushfire Assessment Report, prepared in accordance with the PBP, must accompany all development applications on land identified as bush fire prone land. (For report requirements, see Appendix F3 – DA Submission Requirements).
- b) The Single Dwelling Application Kit (available on the Rural Fire Service website www.rfs.nsw.gov.au) provides applicants with a streamlined approach to meeting the requirements of the PBP for single dwellings. It has been designed to assist applicants to provide information in support of a development application and presents options that can be incorporated into the building to mitigate the impact of bush fire on life and property.

3. Land that is Not Classified as Bushfire Prone Land

- a) Development on land zoned RU1, RU2, RU4, RU5, E2, E3, E4 and R5, or on land within 250m of any of these zones 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 Statement of Environmental Effects.

4. Bushfire Hazard Reduction

- a) Although consent is not required for bushfire hazard reduction work, it must be authorised by the *Rural Fires Act 1997*.

D. Other Information

People seeking further information on bushfire management or preparing development applications may wish to refer to the following:

- Penrith City Council's *Bushfire Prone Land Map*
- Rural Fire Service (2006) *Planning for Bush Fire Protection 2006* (as amended) available on the Rural Fire Service's website at www.rfs.nsw.gov.au
- Rural Fire Service *Single Dwelling Application Kit* at www.rfs.nsw.gov.au.
- 10/50 Vegetation Clearing Code of Practice for New South Wales at www.rfs.nsw.gov.au.
- Bush Fire Environmental Assessment Code for New South Wales at www.rfs.nsw.gov.au.

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C3 Water Management

General Objectives

- a) To adopt an integrated approach that takes into account all aspects of the water cycle in determining impacts and enhancing water resources;
- b) To promote sustainable practices in relation to the use of water resources for human activities;
- c) To minimise water consumption for human uses by using best practice site planning, design and water efficient appliances;
- d) To address water resources in terms of the entire water catchment;
- e) To protect water catchments and environmental systems from development pressures and potential pollution sources;
- f) To protect and enhance natural watercourses, riparian corridors, wetlands and groundwater dependent ecosystems;
- g) To protect, conserve and enhance surface and groundwater resources;
- h) To integrate water management with stormwater, drainage and flood conveyance requirements; and
- i) To utilise principles of Water Sensitive Urban Design in designing new developments or infill development in existing areas.

3.1. The Water Cycle/Water Conservation

A. Background

Key Issues

Key issues for preserving the quality of water supplies and minimising impact on the water cycle include:

- a) Pursuing more sustainable consumption practices for water;
- b) Regulating the pumping of water from ground water and surface water systems;
- c) Promoting the trapping of surface run-off in dams and storage areas, where appropriate;
- d) Minimising water consumption for new developments; and
- e) Recycling grey-water and stormwater, including rain water collection.

Relevant Water Conservation Policies

For residential development, the current water conservation requirements are set out in *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004* (BASIX). Other building types do not currently have any legislative requirements for water conservation. However, there are a number of tools available for testing the water conservation initiatives of a range of developments (e.g. the Greenstar and NABERS rating tools). The following controls supplement the existing legislative requirements for all developments.

All naturally occurring water (both surface and ground water) in NSW that is capable of being used for irrigation or for watering stock is regulated by the provisions of the *Water*

Management Act 2000 or the *Water Act 1912*. Any 'work' (which includes any dam, pump, weir, regulator, race, channel, cutting, well, excavation, etc.), which affects the quantity of water flowing to or from, or contained in, a river, stream or lake comes within the provisions of the *Water Management Act 2000* in areas where water sharing plans have commenced (includes Penrith LGA). Licences are issued to authorise (construct/install and use) such works. In relation to groundwater, the construction of any bore (which includes any bore, spear point or excavation) requires authorisation under the *Water Management Act 2000*.

B. Objectives

- a) To minimise impacts on the water cycle and natural ecosystems from redirection of water for human land uses and activities; and
- b) Where possible, to recycle water for non-drinking uses.

C. Controls

1) Alterations/Additions to Existing Buildings

Extensions to existing residential buildings will, in most cases, need to comply with the requirements of BASIX, the sustainability tool developed by the State Government.

For extensions to non-residential buildings or residential extensions that do not trigger BASIX, the following controls apply:

- a) Water saving devices must be incorporated into any internal renovation (taps, toilets, etc.).
- b) Rainwater tank(s) and gutter systems shall be installed to capture rainwater and reuse for irrigation, toilet flushing and other non-drinking purposes. Installation of rainwater tanks shall comply with the relevant standards established by Sydney Water.
- c) If water saving devices and/or rainwater tanks are not to be installed, the applicant will need to submit a statement explaining why the installation of these measures is not economically feasible or is technically difficult.

2) Pools, Spas and Water Features

Any proposal for a permanent residential swimming pool, spa pool or water feature with a capacity of greater than 40,000 litres must consider the following:

- a) Provision of shading or covers to minimise evaporation; and
- b) Other mechanisms to reduce water consumption.

3) Proposed Industrial Land Uses

Any new industrial development or significant alteration and/or addition to an industrial building needs to reduce water consumption by a combination of careful site planning, design and water efficient appliances.

Significant alterations/ additions are those where the roof or hard surface area is increased to the minimum standard AND those additions are not less than 25% of the existing roof area.

The minimum standard is:

- a) 200m² in clause 3 a)
- b) 1,000m² in clause 3 b)
- c) 600m² in clause 3 c).

The following controls apply to new industrial buildings and significant alterations/additions to industrial buildings:

- a) All proposed industrial buildings with a roof area greater than 200m² are required to install a rainwater tank of minimum capacity of 100,000 litres on the site for re-use of water in irrigation, industrial processes, toilet flushing or for other non-drinking purposes through a separate reticulated water supply system.
- b) All proposed industrial sites with a hard surface area (including roof area, driveways, parking areas, loading bays, covered storage areas, etc.) greater than 1,000m² shall submit a water management plan which estimates required water needs, and includes an investigation into the feasibility of the measures listed below, outlines those to be adopted on the site and explains why any measures not adopted were unable to be implemented:
 - i) Rainwater tanks connected to roof and gutter systems and installed to enable reuse of rainwater for irrigation, industrial processes, toilet flushing or other non-drinking purposes;
 - ii) Stormwater detention systems installed and maintained to enable the reuse of stored water for irrigation, industrial processes, toilet flushing or other non-drinking purposes, and to minimise the impact of runoff from the site;
 - iii) Roof gardens, either for recreational purposes or as a means to reduce hard stand area.
- c) Any proposed industrial development with a roof area greater than 600m² must submit a documented investigation into the feasibility of a roof garden to reduce hard surface area and associated run off.

4) Proposed Rural Land Uses

- a) Any application for a new rural land use that requires the consent of Council and will increase the water needs of a particular rural area must submit a water management plan which:
 - i) Estimates future water needs of the proposed development;
 - ii) Indicates the proposed water source to meet those needs; and
 - iii) Outlines water conservation measures to be implemented.
- b) Where new rural dwellings are proposed and reticulated water supplies are not available, each allotment or dwelling should demonstrate that it has an adequate and self sufficient water supply without having to pump from streams or groundwater sources.

5) Requirements for Extraction of Water

Rural landholders have rights to access water for some basic purposes, such as domestic and stock water, harvestable rights from farm dams and native title rights (see other provisions in this section).

Whether or not you need a licence (or other approval) from the Office of Water to access surface water (water from rivers, lakes etc.) depends on how and why you want to use the water. Please consult with the Office of Water regarding any proposed water extraction.

Access to groundwater for any purpose requires a licence or approval from the Office of Water (see other provisions in this section).

If you want to extract water from rivers or aquifers and use it for commercial purposes, you must hold a water access licence and an approval from the Office of Water.

D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the water conservation principles expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Exceeding BASIX for proposed residential dwellings: Whilst BASIX sets the minimum requirement for reduction in water consumption for new residential dwellings (depending on location), Council recommends that an additional 10% water reduction is sought for any residential developments over 3 dwellings.
- b) Recycling of grey-water / stormwater: Where possible, any new developments or substantial re-developments of a site should seek to include opportunities for recycling of grey-water and stormwater on the site to minimise use of potable (drinking) water.
- a) Reticulated recycling systems: New large scale developments resulting in 5 or more dwellings should seek to provide a reticulated water system that enables on-site treatment and re-use of grey water from the site.

E. Other Information

People seeking further information on water management may wish to refer to the following:

- Penrith City Council's *Stormwater Drainage Specification for Building Developments*
- BASIX – the on-line program that assesses a house or unit design and compares it against energy and water reduction targets. A BASIX Certificate must be submitted with every development application for a new home. The design must meet these targets before a BASIX Certificate can be provided (www.basix.nsw.gov.au)
- Greenstar rating tool for commercial and other developments (www.gbcaus.org)
- National Australian Built Environment Rating System (NABERS) water tool for commercial and other developments (www.nabers.com.au)
- *Australian Drinking Water Guidelines* (2011) National Health and Medical Research Council (NHMRC) (compliance regulated by NSW Health)
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1)* (2006) Environment Protection and Heritage Council, Natural Resource Management Ministerial Council and Australian Health Ministers' Conference
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2) - Augmentation of Drinking Water Supplies* (2008) Environment Protection and Heritage Council, Natural Resource Management Ministerial Council and Australian Health Ministers' Conference
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2) - Stormwater Harvesting and Reuse* (2009) Environment Protection and Heritage Council, Natural Resource Management Ministerial Council and Australian Health Ministers' Conference
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2) - Managed Aquifer Recharge* (2009) Environment Protection and Heritage

Council, Natural Resource Management Ministerial Council and Australian Health Ministers' Conference

- *Management of Private Recycled Water Schemes (Interim NSW Guidelines)* (2007) NSW Department of Water and Energy
- Penrith City Council's *Sustainability Blueprint for urban release areas* (June 2005)
- *NSW Water Conservation Strategy* (Oct 2000) NSW Department of Land and Water Conservation
- *Sydney Metropolitan Water Plan* (reviewed 2010) NSW Department of Water and Energy
- *Water for Life* (www.waterforlife.nsw.gov.au).

3.2. Catchment Management and Water Quality

A. Background

Catchment management requires protecting water systems from:

- Chemicals (including pesticides and insecticides);
- Untreated sewage from on-site effluent treatment and disposal systems;
- Nutrient run-off from application of fertilisers and animal manure;
- Soil erosion and sedimentation from poor construction/land use practices;
- Removal of natural vegetation around watercourses that could trap sediment and provide treatment of surface run-off to reduce pollution entering water systems; and
- Stormwater run-off and surface pollution.

Water Sensitive Urban Design (WSUD) involves adopting design and management practices that take advantage of natural site features and seek to minimise impacts on the water cycle. WSUD requires consideration of issues such as water conservation, water quality and stormwater management. It seeks to minimise the extent of impervious surfaces and mitigate changes to the natural water balance through on-site re-use of water as well as through temporary storage.

WSUD relies on an integrated approach to both water and stormwater management. This integrated approach regards stormwater as a resource and involves considering all aspects of runoff within a development, including environmental and social issues. For example, the inclusion of a multi-purpose corridor in an integrated stormwater management system may provide water features, stormwater treatment, habitat protection and recreation.

Council's Water Sensitive Urban Design Policy (2013) was prepared to improve water conservation, quality and quantity in both new developments and some redevelopments. The Policy sought to clarify which developments needed to achieve water conservation, quality and quantity outcomes. The Policy has now been incorporated into this section of the DCP.

B. Objectives

Catchment Management

- a) To adopt a total catchment management approach to water quality and protection of water systems;

- b) To prevent direct pollution of existing groundwater or surface water systems;
- c) To ensure appropriate management of land uses and activities to minimise the risk of indirect water pollution;
- d) To improve the water quality of the Hawkesbury-Nepean River system and tributaries;
- e) To ensure the high quality of discharge to sewer and drainage systems; and
- f) To protect the aquatic environment through the use of ecologically sustainable development principles.

Water Sensitive Urban Design

- g) To protect and enhance natural land and water systems such as creeks and rivers, particularly water quality.
- h) To maintain and restore the natural water balance;
- i) To make more efficient use of water resources by conserving water, particularly potable (drinking) water;
- j) To reduce flood risk in urban areas;
- k) To reduce erosion of waterways, slopes and banks;
- l) To control stormwater pollution and improve water quality in waterways and groundwater;
- m) To integrate stormwater management with water supply and waste water treatment; and
- n) To integrate stormwater treatment into the landscape so as to maximise the visual and recreational amenity of urban development.

C. Controls

1) Approval to Discharge Contaminants

Water discharge from any development must not contain contaminants, unless necessary licences and/or approvals are obtained from relevant government authorities.

All liquids (including water) produced and/or discharged from the site shall not contain pollutants above acceptable levels. Acceptable levels will be determined at the time of consideration of individual proposals by Council, the Office of Environment and Heritage and, if required, Sydney Water.

2) Addressing Potential Catchment Impacts

All applications to Council, where there is the potential to impact upon a water system, are required to identify in the application the relevant water systems in the catchment area of the site that may be affected and address how any potential impacts will be mitigated/avoided.

3) Water Quality for all Land Uses

Council's Water Sensitive Urban Design (WSUD) Policy (2013) has been prepared to improve water conservation, quality and quantity in both new development and some redevelopments. The policy seeks to clarify which developments need to achieve the targets for water conservation, quality and quantity.

Where any development could result in water quality impacts in nearby surface water systems, the water quality at that system is to be monitored for pollutants prior to the commencement of works, and at regular intervals during construction and/or operation.

Water quality entering natural areas shall either maintain or improve on pre-development levels.

All monitoring is to be undertaken in accordance with any relevant guidelines of the Office of Environment and Heritage (or any other applicable guidelines).

4) Council Approval Requirements for WSUD Systems

Development types required to meet water conservation and stormwater quality and quantity targets are defined in Table C3.1. The performance criteria required to be met are listed below under subsection '5) WSUD Development Controls'. Affected developments must submit a WSUD Strategy (report dealing with measures to be implemented as part of the development) with a Development Application.

A WSUD Strategy is a written report detailing potable water savings and stormwater quality and quantity control measures to be implemented as part of a development. The required content of the Strategy is outlined in Council's WSUD Technical Guidelines. The WSUD Technical Guidelines must be considered when undertaking certain developments within the City. The guidelines outline the information to be submitted with development applications and construction certificates, in order to demonstrate compliance with the objectives and performance criteria outlined below. The WSUD Technical Guidelines provide a list of:

- Council's requirements for the location, ownership and ongoing maintenance responsibilities of WSUD measures;
- What is to be submitted with a development application or construction certificate application;
- What is required to be included in a WSUD Strategy;
- Parameters to be used in MUSIC modelling;
- Where to get further information on the design, construction, operation and maintenance of stormwater treatment measures; and
- Council's expectations in relation to the proposed WSUD measures.

The Technical Guidelines should be read in conjunction with a number of referenced industry best practice guidelines/documents including the following:

- Draft NSW Music Modelling Guidelines (prepared for the Sydney Metropolitan CMA);
- WSUD Conceptual Design Information (prepared by Water by Design);
- WSUD Technical Design Guidelines (prepared by Water by Design);
- Typical Drawings (prepared for the Sydney Metropolitan CMA).

When preparing supporting documentation for a development application or construction certificate application, Council requires applicants and developers to engage appropriately qualified and experienced practitioners for the development of appropriate WSUD designs and strategies. Discussion with Council is encouraged at an early stage of a development proposal to agree on a general design approach before a detailed WSUD Strategy is prepared.

Nothing in this section is to be construed as limiting, in any way, Council's right to impose differing conditions when approving development proposals, or limiting the discretion of Council's nominated representative to vary any necessary requirements in respect of a particular development or Council project, having regard to potential site restrictions and best practice.

The WSUD Technical Guidelines will be periodically reviewed and updated to reflect changes in industry best practice and are available on Council's website.

Table C3.1: Developments Required to Consider Water Sensitive Urban Design

Land Use	Development Type	Water Conservation 5(a)	Stormwater Quality 5(b)	Water Quantity Flow 5(c)
Residential	Alterations and additions, detached dwellings and residential land uses not addressed below	√ - BASIX	No	No
	New single dwellings and dual occupancy	√ - BASIX	No	No
	Existing residential villas, flats and townhouses with additional impervious area greater than 250m ²	√ - BASIX	No	No
	Residential development of 5 or more dwellings including multi dwelling housing, residential housing, residential flat buildings and mixed use development	√ - BASIX	√	√
Commercial and Industrial	All new commercial, retail, mixed use and industrial development greater than 2,500m ² total site area	√ - WELS	√	√
	Alterations and additions where the increase in roof area and impervious area* is equal to or greater than 250m ² .	√ - WELS	√	√
	Commercial, retail, mixed use and industrial	√ - WELS	No	No

Land Use	Development Type	Water Conservation 5(a)	Stormwater Quality 5(b)	Water Quantity Flow 5(c)
	development not addressed above			
Subdivision (where new road and or carriageway works are involved)	Residential (5 or more lots) or commercial and industrial subdivision	N/A	√	√
Other development not listed above	Any development which results in an increase of the existing impervious area by greater than 250m ² . Development includes but not limited to additional roads, driveways, vehicle parking areas, manoeuvring areas, loading and storage areas	√ - WELS (as required)	√	√

Note: √ means performance criteria detailed in subsection '5) WSUD Development Controls' apply.

*Additional impervious area includes building footprint (including roof area), vehicle access ways and parking spaces.

5) WSUD Development Controls

A. Water conservation

Water conservation seeks to reduce the demand for potable water. Reduced potable mains water demand is a key commitment of the NSW Government as outlined in the Metropolitan Water Plan (see <http://www.waterforlife.nsw.gov.au>). The NSW Government's BASIX Scheme requires all new residential development to incorporate water savings measures (<http://www.basix.nsw.gov.au>). There are, however, no such requirements for other development types (e.g. commercial or industrial), which are addressed by these controls.

Objectives

- To reduce consumption of potable water for all development types within the City;
- To use harvested rainwater, treated urban stormwater or treated wastewater for non-potable substitution where appropriate.

Performance Criteria

Water conservation requirements for development types identified in Table C3.1 are:

- a) All residential buildings are to demonstrate compliance with State Environmental Planning Policy – Building Sustainability Index (BASIX), as required.
- b) All buildings not covered by the State Environmental Planning Policy – BASIX:
 - i) That are installing any water use fittings must demonstrate minimum standards defined by the Water Efficiency Labelling and Standards (WELS) Scheme. Minimum WELS ratings 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.
 - ii) To install rainwater tanks to meet 80% of non-potable demand including outdoor use, toilets and laundry;
 - iii) To incorporate passive cooling methods that rely on improved natural ventilation to supplement or preclude mechanical cooling.
- c) Where cooling towers are used, they are:
 - i) To be connected to a conductivity meter to ensure optimum circulation before discharge;
 - ii) To include a water meter connected to a building energy and water metering system to monitor water usage;
 - iii) To employ alternative water sources for cooling towers where practical and in accordance with the Public Health Act and NSW Health Guidelines.
- d) Water use within public open space (for uses such as irrigation, pools, water features, etc.) should be supplied from sources other than potable mains water (e.g. treated stormwater or greywater) to meet 80% water use demand.

B. Stormwater Quality

Urban development increases the pollution load entering receiving environments. Stormwater quality controls have been derived through the modelling of numerous combinations of WSUD elements for a range of urban development types. They reflect a cost-effective level of stormwater treatment considered to be technically feasible in terms of land-take (or footprint) of stormwater and WSUD measures. Stormwater quality elements are to be sized using MUSIC modelling (the model for Urban Stormwater Improvement Conceptualisation, or equivalent) using Penrith data, which is available in the associated WSUD Technical Guidelines.

Objectives

- a) To safeguard the environment by improving the quality of stormwater run-off entering receiving waters.

Performance Criteria

Stormwater quality requirements for all development types identified in Table C3.1 are:

- a) Pollution load reductions:
 - i) 90% reduction in the post development mean annual load total gross pollutant (greater than 5mm);
 - ii) 85% reduction in the post development mean annual load of Total Suspended Solids (TSS);
 - iii) 60% reduction in the post development mean annual load of Total Phosphorus (TP);
 - iv) 45% reduction in the post development mean annual load of Total Nitrogen (TN);

- v) 90% Free Oils and Grease with no visible discharge.
- b) Modelling for the determination of the mean annual loads of land uses must be undertaken in MUSIC and in accordance with the associated WSUD Technical Guidelines.
- c) Any changes to the flow rate and flow duration within the receiving watercourses as a result of the development shall be limited as far as practicable. Natural flow paths, discharge point and runoff volumes from the site should also be retained and maintained as far as practicable.
- d) Impervious areas directly connected to the stormwater system shall be minimised. Runoff from impervious areas such as roofs, driveways and rainwater tank overflows shall be directed onto grass and other landscaped areas designed to accept such flows.

C. Stormwater Quantity – Stream Forming Flows

Urban development has the potential to significantly increase surface runoff flow rates and volumes leading to impacts on stream stability, receiving water ecology and flooding in receiving waters.

Objectives

- a) To manage the volume and duration of stormwater flows entering local waterways so as to protect the geomorphic values of those waterways.

Performance Criteria

- a) The post development duration of stream forming flows shall be no greater than 3.5 times the pre developed duration of stream forming flows. The comparison of post development and pre development stream flows is commonly referred to as the Stream Erosion Index (SEI). The approach to evaluating the SEI is outlined in the associated WSUD Technical Guidelines.

6) Use and Storage of Chemicals/Pesticides/Fertilisers

- a) Any application for a land use/activity that involves significant use of chemicals/fertilisers must demonstrate what measures are proposed to minimise and control nutrients or chemicals entering watercourses, water bodies or groundwater.
- b) All land uses, particularly rural land uses, should avoid use of chemicals and pesticides in areas or situations where they are likely to enter surface water or ground water sources.
- c) Chemicals and pesticides must be stored in such a way as to prevent accidental leakage into water systems or the on-site stormwater system. This may include:
 - i) Secure storage in a bunded area; and
 - ii) Secure storage in water proof/spill proof containers.

7) Other relevant areas of this DCP

Provisions relating to on-site effluent disposal, soil erosion and sedimentation and protection of vegetation near watercourses are all highly relevant to water quality. Applicants should refer to these and other relevant sections of this DCP for more information.

D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the catchment management/water quality principles expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to

demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) On-site water monitoring for water pollutants to identify practices/activities impacting on the water systems; and
- b) Best-practice farming practices including minimising the use of chemicals and fertilisers (where possible).

E. Other Information

People seeking further information on water quality may wish to refer to the following:

- Penrith City Council's *Stormwater Drainage Specification for Building Developments*
- *ANZECC Guidelines and Water Quality Objectives in NSW* (2000) Department of Environment (Australian Government)
- Office of Environment and Heritage's website – www.environment.nsw.gov.au
- Sydney Catchment Authority's website - www.sca.nsw.gov.au
- Sydney Water Corporation's website - www.sydneywater.com.au
- Penrith City Council's *Sustainability Blueprint for urban release areas* (June 2005)
- Penrith City Council's *Water Sensitive Urban Design Technical Guidelines*, (December 2013)
- www.wsud.org

3.3. Watercourses, Wetlands and Riparian Corridors

A. Background

A riparian corridor is the land directly adjacent to (or surrounding) a natural or artificial waterway and provides a crucial link between terrestrial and stream ecosystems.

Wetlands and riparian corridors help purify water, improving the quality of larger water bodies. As runoff from surrounding land is critical to the performance of a wetland or riparian corridor, buffer areas are needed around wetlands and riparian corridors to minimise the entry of pollutants.

In addition to the water catchment management issues above, the following issues need to be addressed in relation to land uses and activities which can impact on watercourses, wetlands and riparian corridors:

- Preserving the natural alignment of watercourses;
- Avoiding disturbance to the watercourse banks and channels;
- Retaining native vegetation along creek corridors to stabilise banks and treat surface water run-off;
- Protecting wetland and riparian corridor flora and fauna;
- Providing setbacks to development in proximity to watercourses, wetlands and riparian corridors; and
- Protecting the watercourses natural stream flow regimes.

B. Objectives

- a) To protect water quality and terrestrial and aquatic life forms by identifying a riparian corridor along identified waterways and establishing specific planning controls for land within those corridors;
- b) To minimise disturbance and/or impacts on natural waterbodies;
- c) To rehabilitate existing riparian corridors and ensure that width, buffers to development, quality of landscape and diversity of vegetation to support principles of ecological sustainability are provided.

C. Controls

1) Controlled Activity Approval under the Water Management Act 2000

If any activities/land uses are proposed near a watercourse, the *Water Management Act 2000* may apply and you may be required to seek a Controlled Activity Approval from the Office of Water. Please consult with this Office regarding your proposal. Except for certain exemptions, you are likely to need a controlled activity approval for:

- a) The erection of a building or the carrying out of a work (within the meaning of the *Environmental Planning and Assessment Act 1979*) on the bank or shore of any river, estuary or lake or within 40m from the top of its bank or shore;
- b) Excavation in a river, estuary or lake, or within 40m from the top of its bank or shore;
- c) Removal of material (including vegetation) from the bank or shore of any river, estuary or lake or from within 40m from the top of the bank or shore;
- d) Deposition of material, whether by way of landfill operations or otherwise on or within the bank or shore of any river, estuary or lake or within 40m from the top of the bank or shore;
- e) Anything which affects the quantity or flow of water in a water source, or is likely to do so.

Even if there is an exemption from the requirement for an approval from this Office, you may still require the approval of Council. You may also require approval from Fisheries (NSW).

2) Preserving Alignment of Watercourses

- a) Where possible, the natural (or historic) alignment of an existing wetland or watercourse should be retained along with its natural dimensions and flow regimes.
- b) Watercourses should not be straightened to reduce the natural meander or flow path or to improve flood conveyance.
- c) The alignment of major overland flow paths should be recognised in site planning and development design.

3) Avoiding Modifications to Natural Waterbodies

- a) There should be no modifications to a natural (or historic) waterbody in its dimensions, depth or bank height unless it seeks to enhance the ecological outcomes of the waterbody.
- b) 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.

- c) 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.

4) Protection and Enhancement of Riparian Corridors

- a) All riparian corridors should comprise a vegetated riparian zone along each side of the waterway (see Figure C3.1).
- b) The vegetated riparian zone should retain or be vegetated with, fully structured native vegetation (trees, shrubs and groundwater species).
- c) 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 NSW Office of Water's Guidelines for riparian corridors on waterfront land (July 2012).
- d) 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 roads, paths, playgrounds and stormwater management devices.
- e) Asset protection zones should be located outside the vegetated riparian zones.
- f) Appropriate widths for vegetated riparian zones will depend on the specific ecosystems being managed. Council's approach to determining the Order of Stream is based on the Strahler methodology, which is consistent with the NSW Office of Water.

Council reserves the right to assess each riparian corridor and each development on its merits. In general, however, the width will depend on the order of the stream/watercourse (see Figure C3.2) which provides an indication. The width should be measured from the top of the highest bank on both sides of the stream/watercourse, excluding any managed buffer zone, and shall comply with the requirements outlined in Table C3.3.

Figure C3.1

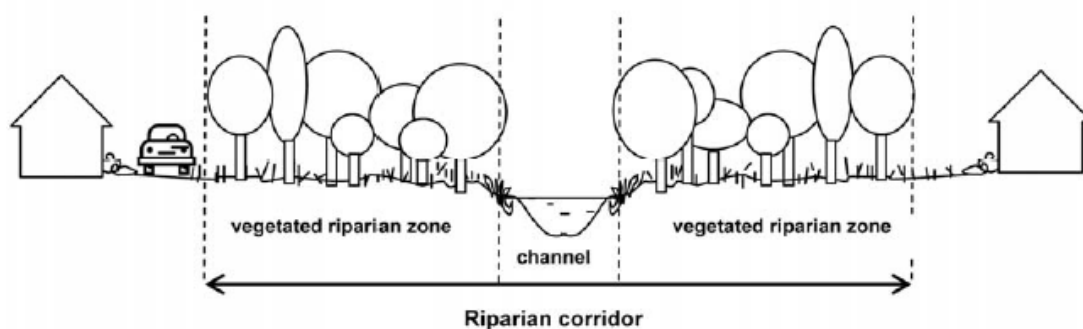


Figure C3.2: Stream Classification

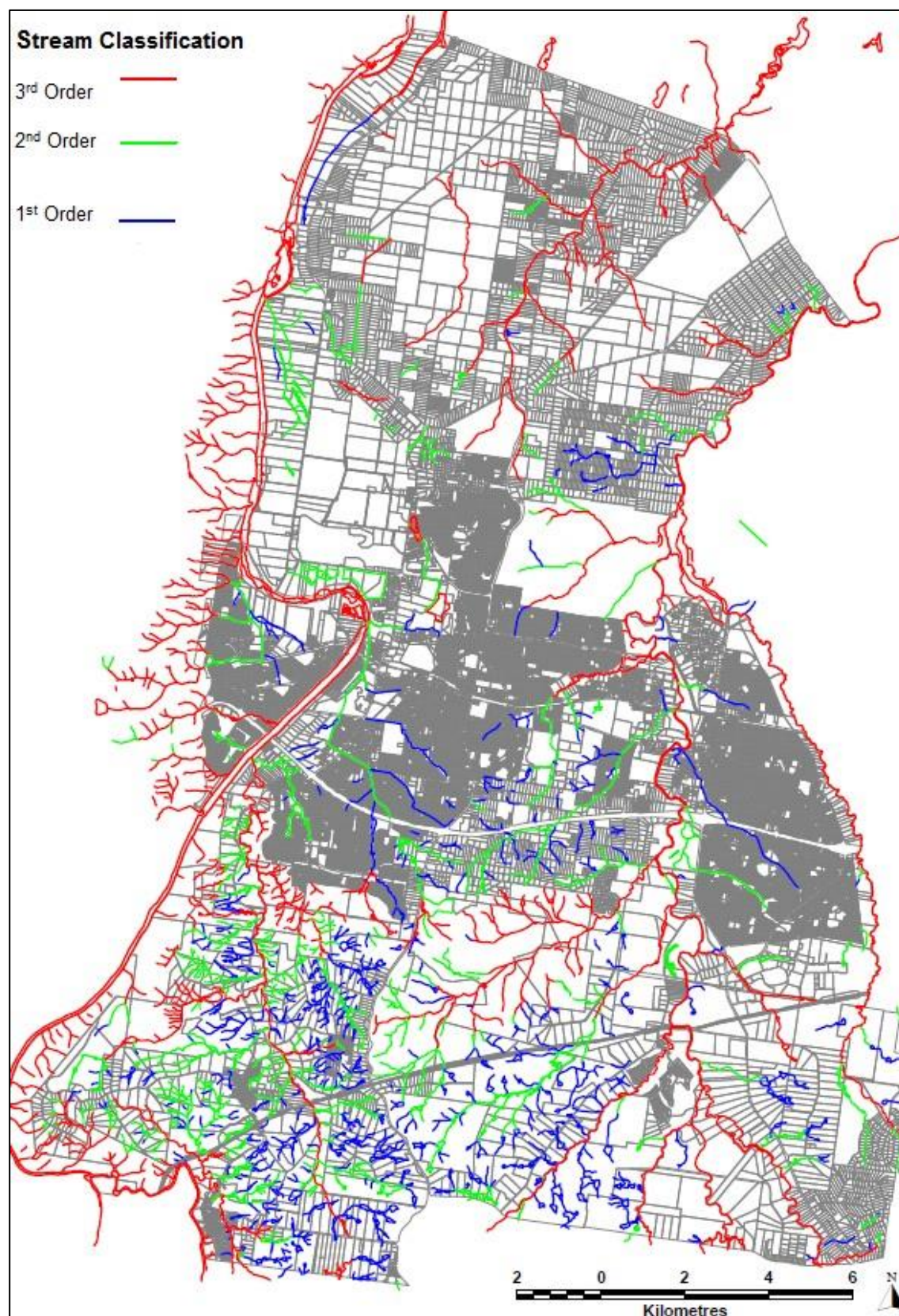


Table C3.3

Water Course Type	Vegetated Riparian Zone Width	Total Riparian Corridor Width
1 st Order (Blue)	10m	20m + channel width
2 nd Order (Green)	20m	40m + channel width
3 rd Order (Red) except Nepean River	30m	60m + channel width
Nepean River	90m	
Wetland	40m	80m + channel width

Where, a watercourse has had a gabion wall or channellisation constructed, this should be removed to restore a natural meander for ecological purposes, except where:

- i) The length of the watercourse through the development site is less than 50m; or
- ii) The watercourse through the development site is a middle section of the overall watercourse, and it is technically unfeasible to reverse the channellisation; or
- iii) Restoring the natural meander will create a hazard.

Enhancement of riparian corridors should, where possible:

- i) Mimic natural hydrological regimes for watercourse treatments;
- ii) Replicate the natural watercourse through creation of a meandering channel, rather than straight channels;
- iii) Simulate natural roughness having regard to riparian requirements and flow velocities to sustain vegetation groupings;

Roughness: 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.

- iv) Minimise ongoing maintenance requirements through channel design;
- v) Establish a functional riparian zone and natural channel section;
- vi) Maintain or create a full assemblage of vegetation with likely natural obstructions;
- vii) Create variations in channel cross-section and provide an opportunity for meandering of the channel within the flood plain;
- viii) Minimise likely damage to channel banks and vegetation from storm flow through channel design; and
- ix) 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 land owners, Council and government agencies.

There may be a need for a sensitivity analysis for a range of flood hydrology and design flows having regard to supporting flood studies for development.

D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the protection of watercourses, wetlands and riparian corridors expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

a) No development or site disturbance occurs:

- i) Within 40m on either side, measured from the top of the bank, of a 2nd Order stream/watercourse; or
- ii) Within 20m on either side, measured from the top of the bank, of a 1st Order stream/watercourse or significant natural drainage line; and
- iii) Where riparian corridors are also acting as a significant wildlife corridor (subject to Council's review), the minimum area to be protected or revegetated is 40m on either side of the watercourse. This may be increased to up to 60m if the wildlife corridor is significant, or if it forms a major link to an extensive area of natural bushland (e.g. nature reserve or national park).

E. Other Information

People seeking further information on watercourses, wetlands and riparian corridors may wish to refer to the following:

- Penrith City Council's *Stormwater Drainage Specification for Building Developments*
- *Guidelines for riparian corridors on waterfront land* (2012) (Office of Water)
- *NSW Wetlands Policy* (2010) (Office of Water)
- *NSW Rivers and Estuaries Policy* (1993) (Office of Water)
- Penrith City Council's *Sustainability Blueprint for urban release areas* (June 2005)
- *Rehabilitation Manual for Australian Streams* (1999) Rutherford et al
- *Natural Channel Design Guidelines* (2003) (Brisbane City Council)
- *Stream Corridor Restoration: Principles Processes and Practices* (2000) United States Department of Agriculture
- Fairfull, S. and Witheridge, G. (2003) *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings*. NSW Fisheries, Cronulla, 16pp
- NSW Fisheries (2013) *Policy and Guidelines for Fish Habitat Conservation* NSW Department of Primary Industries, *Policy and Guidelines for Fish Friendly Waterway Crossings*.

3.4. Groundwater

A. Background

Groundwater is water located beneath the ground surface in soil pore spaces and in the fractures of rock formations. Water can become trapped in aquifers which provide useable quantities of water. The depth at which soil pore spaces or fractures and voids in rock become fully saturated with water is called the water table. Groundwater is recharged from,

and eventually flows to, the surface naturally. Natural discharge often occurs at springs and streams, and may also form oases or wetlands.

Groundwater is often withdrawn for agricultural, residential, construction (i.e. dewatering where construction is below the water table) and industrial use. However, due to demand for water, there are increasing pressures on groundwater and aquifer supplies and groundwater dependent ecosystems which need to be managed. Most controls relating to groundwater use are governed by State Government and not Council. A summary of the key issues is set out below to guide any developments that may impact on groundwater.

B. Objectives

- a) To protect groundwater supplies against excessive water extraction;
- b) To protect groundwater supplies against pollution and contaminants;
- c) To provide equity in access to groundwater supplies.

C. Controls

1) Utilising Groundwater/Bores

Where groundwater is proposed to be accessed, satisfactory arrangements for the proper utilisation and protection of the groundwater resource must be made with the Office of Water. All piezometers or bores must be licensed by the Office of Water.

A bore must be at least:

- a) 40m from the nearest bank of any river or creek;
- b) 500m from any town water supply bore;
- c) 400m from any irrigation bore on an adjoining property;
- d) 50 – 100m from a property boundary; and
- e) 200 – 400m from any Office of Water observation bores.

For distance rules, applicants are advised to consult the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources – Part 9 – Rules for Water Supply Work Approvals.

2) Protecting Groundwater

- a) Applicants are required to consider the impact of the proposed development on underlying and surrounding groundwater resources and adopt appropriate measures to avoid these impacts.
- b) The following matters should be considered:
 - i) The design of the development and the potential for its below-ground extent to impede, dam or otherwise obstruct the passage of groundwater flow;
 - ii) The management of stormwater or roof runoff within and around the development and any potential degradation or deterioration of local groundwater quality that may occur as a result;
 - iii) The management of greywater or wastewater generated from the development and any potential degradation or deterioration of local groundwater quality that may occur as a result;
 - iv) The existence of groundwater users in the vicinity of the development and the potential for them to be adversely impacted by the proposed development;

- v) The vulnerability of groundwater locally and the pollution potential of the development; and
 - vi) The presence and distribution of groundwater dependent systems (environmental attributes having a dependence on groundwater) in the vicinity and the potential for adverse impacts to occur as a result of the development.
- c) Groundwater shall not generally be pumped or extracted without specific licensed approval for any purpose other than temporary construction dewatering at the site identified in the development application.
- d) Where construction is proposed below the water table:
- i) The volume of any groundwater abstracted for the purposes of temporary dewatering should be minimised, e.g. by minimising the length of time that any basement excavations below the water table are left open. In general, the Office of Water will not authorise temporary construction dewatering for periods of more than 12 months.
 - ii) The design and construction of the building should prevent any long-term take of groundwater by making any below-water table levels watertight for the anticipated life of the building. Waterproofing of below-ground levels must be sufficiently extensive to incorporate adequate provision for unforeseen high water table elevations to prevent potential future inundation.
 - iii) A reasonable estimate of the total volume of groundwater to be extracted shall be calculated and a report provided to the NSW Office of Water. Details of the calculation method shall be included in the report.

D. Other Information

People seeking further information on groundwater may wish to refer to the following:

- *NSW State Groundwater Policy Framework Document* (1997) NSW Government
- *NSW State Groundwater Quality Protection Policy* (1998) NSW Government
- *NSW State Groundwater Dependent Ecosystems Policy* (2002) NSW Government
- *Hawkesbury-Nepean Catchment Groundwater Vulnerability Map* (1998) Department of Land and Water Conservation
- *Hawkesbury-Nepean Catchment Groundwater Availability Map* (1998) Department of Land and Water Conservation.

3.5 Flood Planning

A. Background

Impact of Flooding

The Hawkesbury/Nepean River system has one of the most dramatic flood behaviours in the world. The geography and topography of the area mean that flood waters are contained in the Nepean Gorge until they reach the floodplains at Penrith, resulting in unusually rapid rises in water levels. These floods continue to modify the physical environment of the valley as well as causing social and economic challenges to the valley's inhabitants.

Relevant Policies

Local government is the primary authority responsible for both flood risk management and land use planning in NSW. However, the State Government has introduced the *Flood Prone*

Land Policy and the associated *Floodplain Development Manual* (2005) (FDM) to reduce the impacts of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecologically positive methods wherever possible. To achieve this objective, the supporting FDM acknowledges a broad risk management hierarchy of:

- avoidance of flood risk;
- minimisation of flood risk using appropriate planning controls; and
- flood risk mitigation.

Generally, the Flood Prone Land Policy adopts the following approach:

- The impact of flooding and flood liability on existing developed areas shall be reduced by flood mitigation works and measures, appropriate development and building controls and the voluntary acquisition of property in hazardous areas;
- The potential for flood losses in all new developed areas shall be contained by the application of effective planning and development controls;
- A merit approach to all development and building decisions which takes account of social, economic factors, as well as flooding considerations, should be followed.

Local Environmental Plan

The LEP contains provisions for development on land at or below the flood planning level, defined in the LEP as the level of a 1:100 Average Recurrence Interval (ARI) (1% AEP (100 year ARI)) flood event plus 0.5m freeboard.

The 1% AEP (100 year ARI) flood event is a tool for broadly assessing the suitability of land for development. It is not an assessment of flood risk, nor does reference to the 1% AEP (100 year ARI) flood event mean that properties and development above this level are not subject to flood risk.

Average Recurrence Interval (ARI) is the long term average number of years between the occurrence of a flood as big as or larger than the selected event. For example, floods with a discharge as great as or greater than the 100 year ARI flood event will occur on average once every 100 years.

Consideration of Floods Larger than the 1% AEP (100 year ARI) Flood Event

The 1% AEP (100 year ARI) flood is not, in most cases, the largest flood that can occur. There have been documented floods which exceeded this level for the Nepean River on a number of occasions over the last 200 years. The highest flood event at Penrith occurred in June 1867 and is estimated at greater than the 1:200 ARI event. Floodwaters reached a peak height of 27.5m above Australian Height Datum and covered most of the present day Emu Plains and large parts of Penrith. The 1967 flood for Ropes Creek and the 1956 and 1988 floods for South Creek were also major flood events.

For this reason, developments that may have a significant impact on the extent of flooding experienced by nearby or downstream properties may be asked to consider floods larger than the 1% AEP (100 year ARI) flood event. Significant areas of Penrith are affected by the Probable Maximum Flood (PMF) and in some cases this will need to be considered in determining flood hazard.

Probable Maximum Flood (PMF) is the largest flood that could conceivably occur at a particular location.

Flood Hazard Classifications

In order to determine what development may occur in areas subject to partial or full flooding, it is necessary to classify land according to flood hazard.

The greatest flood hazard occurs in land that is a 'floodway'. They are often aligned with obvious naturally defined channels.

Floodway is defined as those areas of the floodplain where a significant discharge of water occurs during floods.

In addition, there are significant risks in 'flood storage areas'.

Flood storage areas are defined as those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood.

Floodplain is defined as the area of land which is subject to inundation by floods up to and including the PMF event.

The remaining area of land affected by flooding after floodway and flood storage areas have been defined is the 'flood fringe area'.

Alterations to Land at or below the Flood Planning Level/Watercourses

One key issue with the development of land at or below the flood planning level is that some developments have the potential to adversely affect flood behaviour (including flow distributions and velocities). This can result in detrimental increases in the potential flood impacts on other development or properties and/or impacts on the floodplain environment that could cause erosion, siltation, destruction of riparian vegetation or a reduction in the stability of the river bank/watercourse.

Developments that would partially or fully block floodways or flood storage areas may result in redistribution of flood flows or impacts. The greatest impact comes from filling land at or below the flood planning level in order to raise development above the flood planning level. Therefore, these impacts must be minimised in the location and design of any structures on the land.

Minimising Flood Impacts on Property

Flood impacts on property can be reduced not only by appropriate location of development but also by design, layout and structure. This Plan provides controls for appropriate levels for 'habitable rooms' or 'flood proofing' of buildings.

Habitable rooms are defined as a living area such as a lounge room, dining room, rumpus room, kitchen and bedroom and excluding garages.

Flood proofing refers to the combination of measures incorporated in the design, construction and alteration of individual buildings or structures subject to flooding to reduce or eliminate flood damages.

B. Objectives

- a) 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;
- b) To maintain the existing flood regime and flow conveyance capacity and avoid significant adverse impacts on flood behaviour;

- c) To avoid significant adverse effects on the floodplain environment that would cause erosion, siltation, destruction of riparian vegetation or a reduction in the stability of the river bank/watercourse;
- d) To reduce the impact of flooding and flood liability on individual owners and occupiers;
- e) To limit the potential risk to life and property resulting from flood events;
- f) To contain the potential for flood losses in all new developed areas by the application of effective planning and development controls;
- g) 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;
- h) To prevent the introduction of unsuitable land uses on land subject to the flood planning provisions of the LEP; and
- i) To deal equitably and consistently (where possible) with applications for development on land affected by potential floods, in accordance with the principles contained in the Floodplain Development Manual, issued by the NSW Government.

C. Controls

The following controls only apply to land subject to the flood planning provisions of the LEP.

1) Submission Requirements

- a) Where relevant, a comprehensive flood study, incorporating:
 - i) a survey of the main watercourse;
 - ii) a survey of the site; and
 - iii) a detailed flood and drainage investigation which establishes the estimated 1% AEP (100 year ARI) flood level;

is to be submitted with any development application on land identified as fully or partially flood affected. The levels on the survey are required to be verified during construction by a survey certificate.
- b) The applicant shall be required to demonstrate to the satisfaction of Council (on the basis of a qualified consultant report) that:
 - i) The development will not increase the flood hazard or risk to other properties;
 - ii) The structure of the proposed building works shall be adequate to deal with flooding situations;
 - iii) The proposed building materials are suitable;
 - iv) The buildings are sited in the optimum position to avoid flood waters and allow safe flood access for evacuation;
 - v) The proposed redevelopment will not expose any resident to unacceptable levels of risk or any property to unreasonable damage; and
 - vi) 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).

2) Flood Hazard Classifications

- a) Council will consider development on land subject to the flood planning provisions of the LEP but will not grant consent to new development in floodways or in high hazard areas.

Flood hazard (high) or high flood hazard occurs when there is possible danger to life and limb; evacuation by trucks is difficult; there is potential for structural damage; and social disruption and financial losses could be high.

- b) 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'.

3) Residential - New Developments - Single Dwellings

- b) Residential – upper storey additions will not be considered as 'New Development' provided; the first floor additions are above the Flood Planning level and the additions and alterations do not increase the building footprint at ground level beyond 35m². (Ground floor additions include all non-habitable buildings such as garages, storage areas, carports and the like).
- c) Floor levels of habitable rooms shall be at least 0.5m above the 1% AEP (100 year ARI) flood; i.e. the flood planning level.
- d) The lowest floor level of habitable rooms shall be not more than 3.0m above ground level.
- e) Any portion of buildings subject to inundation shall be built from flood compatible materials.
- f) Flood safe access and emergency egress shall be provided to all new developments and for dwelling replacements where practicable.

Flood safe access means access that is generally considered satisfactory when the depth of flooding over vehicular driveways and roads is limited to approximately 0.25m with low velocities.

- g) All services associated with the development shall be adequately flood proofed.
- h) A certificate, prepared by a registered surveyor to verify the lowest floor level of a habitable room of a residential building to the required Australian Height Datum (AHD) level, shall be submitted to the Council upon completion of the building to that level. The building shall not be further constructed until approval is given by Council to proceed with construction works.

4) Residential - Minor Extensions

- a) This section does not apply to minor extensions for the purpose of dual occupancy development, an existing single storey home which retains essentially the outer walls of the existing dwelling and proposes an upper floor addition, a knockdown rebuild that retains exactly the same building footprint, or a building burnt down and replaced with the same building footprint. These shall be treated as new development.
- b) Once only extensions with a floor area up to 30m² may be approved with floor levels below the 1% AEP (100 year ARI) flood, if the applicant can demonstrate that no practical alternatives exists for constructing the extension above the 1% AEP (100 year ARI) flood.
- c) Once only extensions which increase the existing floor area by between 30 and 35m² may be approved with floor levels at or above the 1% AEP (100 year ARI) flood.
- d) Extensions greater than 35m² will be treated as a new development.

5) Non-Habitable Extensions or Alterations, Outbuildings and Swimming Pools

- a) All electrical services shall be adequately flood proofed.
- b) All flood sensitive equipment (including electric motors and switches) shall be located above the 1% AEP (100 year ARI) flood.

6) Industrial/Commercial - New Development

- a) Floor levels shall be at least 0.5m above the 1% AEP (100 year ARI) flood or the buildings shall be flood-proofed to a least 0.5m above the 1% AEP (100 year ARI) flood. If floor levels are below the 1% AEP (100 year ARI) flood the matters listed in section 7 i) – vii) shall be addressed.
- b) Flood safe access and emergency egress shall be provided to all new developments.

7) Industrial/Commercial - Extensions and Infill Development

- a) 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 floor 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:
 - i) The nature of the business to be carried out;
 - ii) The frequency and depth of flooding;
 - iii) The potential for personal and property loss;
 - iv) The utility of the building for its proposed use;
 - v) Whether the filling of the site or raising of the floor levels would render the development of the property unworkable or uneconomical;
 - vi) Whether the raising of the floor levels would be out of character with adjacent buildings; and
 - vii) Any risk of pollution of water from storage or use of chemicals within the building.
- b) Any portion of the proposed building extension subject to inundation shall be built from flood compatible materials.

8) Change of Use of Existing Buildings

- a) Development consent for change of use of an existing building with floor levels below the 1% AEP (100 year ARI) flood will only be given where it can be demonstrated by the applicant that:
 - i) There is no foreseeable risk of pollution associated with the proposed use of the building in the event that the 1% AEP (100 year ARI) flood occurs;
 - ii) All practical measures shall be taken to minimise the risk of flood damage to the property within the building by the 1% AEP (100 year ARI) flood. These measures could include:
 - Flood proofing the building to the level of the 1% AEP (100 year ARI) flood by either construction of a wall or levee bank or some other means of preventing water entry;

- Raising the floor level of the building to the level of the 1% AEP (100 year ARI) flood; and/or
- Storing all equipment, machinery and stock above the 1% AEP (100 year ARI) flood level.

9) Rural Uses

- a) Applications for minor extensions to existing buildings and new buildings associated with rural uses that are below the 1% AEP (100 year ARI) flood (other than residential buildings) will be considered on their merits having regard to the proposed use and the potential for property loss.

10) Subdivision

- a) Generally, subdivision of land below the flood planning level will not be supported. Further provisions relating to the proposed subdivision of such land can be found in the Subdivision Section of this Plan.

11) Residential Accommodation and Caravan Parks

- a) Applications for residential accommodation, defined in the LEP, with the exception of dwelling houses, will be treated as per subdivisions. Applications for caravan parks will also be treated as per subdivisions. Other land uses which may attract large numbers of people.
- b) Council will generally not support an application for any land use which may attract large numbers of people (including schools, function centres, child care centres, hostels, etc.) on land below the flood planning level and on land that cannot be safely and effectively evacuated during a 1% AEP (100 year ARI) flood event.

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

- a) 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 application to Council.

13) Overland Flow Flooding

- a) Council has undertaken a Penrith Overland Flow Flood 'Overview' Study. Consideration must be given to the impact on any overland flow path. Generally, Council will not support development obstructing overland flow paths. Development is required to demonstrate that any overland flow is maintained for the 1% AEP (100 year ARI) overland flow. A merit based approach will be taken when assessing development applications that affect the overland flow.
- b) Council's *Stormwater Drainage Specification for Building Developments* provides information on the details required in the preparation of an overland flow study.

14) Filling of Land At or Below the Flood Planning Level

- a) Council will not grant consent to filling of floodways or high hazard areas. The filling of other land at or below the flood planning level will generally not be supported; however, Council will adopt a merits based approach. 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:

- i) Flood levels are not increased by more than 0.1m by the proposed filling;
 - ii) Downstream velocities are not increased by more than 10% by the proposed filling;
 - iii) Proposed filling does not redistribute flows by more than 15%;
 - iv) The potential for cumulative effects of possible filling proposals in that area is minimal;
 - v) There are alternative opportunities for flood storage;
 - vi) The development potential of surrounding properties is not adversely affected by the filling proposal;
 - vii) The flood liability of buildings on surrounding properties is not increased;
 - viii) No local drainage flow/runoff problems are created by the filling; and
 - ix) The filling does not occur within the drip line of existing trees.
- b) The above criteria can only be addressed and satisfied by the submission of a detailed flood study report by an appropriate consulting 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 in i) to iii) above. In addition, the report needs to address items iv) to ix) listed above. Any filling of land also needs to be in accordance with the other provisions in this Plan.

15) Rezoning of Land

- a) Council will not support the rezoning of any land located in a floodway or high hazard area.
- b) Council will generally not support the rezoning of rural land situated below the 1% AEP (100 year ARI) flood where the development of that land may require or permit the erection of buildings or works even if the surface of the land can be raised to a level above the 1% AEP (100 year ARI) flood by means of filling.
- c) Where land below the flood planning level is currently zoned to permit urban development, Council will generally not support the rezoning of land to permit a higher economic use or an increase in the density of development.

D. Other Information

People seeking further information on flood planning lands or preparing development applications may wish to refer to the following:

- Penrith City Council's *Stormwater Drainage Specification for Building Developments*
- NSW Government's *Flood Prone Land Policy* and associated *Floodplain Development Manual* (2005)
- Penrith City Council's *Sustainability Blueprint for urban release areas* (June 2005)
- *Standard - Construction of Buildings in Flood Hazard Areas* and accompanying handbook, developed by the Australian Building Codes Board (2012).

3.6. Stormwater Management and Drainage

A. Background

Stormwater is a term used to describe water that originates primarily from rainfall or from runoff water that enters the stormwater system. Stormwater that does not soak into the ground becomes surface runoff, which either flows into surface waterways or is channelled into stormwater systems. In Penrith, stormwater generally drains to the street drainage system or drainage easements in urban areas.

There are two main issues in relation to stormwater - one related to the volume and timing of runoff water (flood control and water supplies) and the other related to potential contaminants that the water is carrying (water pollution).

Because impervious surfaces (parking lots, roads, buildings) do not allow rain to infiltrate into the ground, more runoff is generated than in the undeveloped condition. This additional runoff can erode watercourses as well as cause flooding when the stormwater collection system is overwhelmed. Excess water can also infiltrate soils and raise water tables resulting in additional salinity issues.

One solution to address stormwater issues is on-site detention. On-site detention is the provision of depressed areas or specific storage in paved or landscaped areas, with relatively small stormwater outlets, that detain a volume of water for a short duration during more intense storms. This prevents or mitigates any increase in peak stormwater flow rates from development and delays the peak volume of runoff. It is important to note that on-site detention systems are required to release water after the peak storm event to provide capacity for future events. Therefore, on-site detention systems do not include rainwater tanks, water retention basins or dams. These are dealt with later in this section of the DCP.

In addition, to help address stormwater issues, drainage structures off-site may need to be upgraded as a result of new development. Generally, the developer is responsible for the full or partial cost of upgrading structures where it can be demonstrated that the proposed development overloads the existing drainage system.

The aim of these controls is to ensure that developments minimise their impact on the water cycle by minimising impervious surfaces, providing on-site storage for stormwater to reduce peak events and ensuring that stormwater systems are upgraded to manage any additional stormwater flows.

Relevant Stormwater Drainage Policy

Council has adopted the Stormwater Drainage Specification for Building Developments. This policy provides guidance to ensure that stormwater drainage for building developments is designed to provide a robust, safe and low maintenance system to manage stormwater impacts on the drainage network and surrounding properties in a holistic manner that is incorporated aesthetically with the overall development.

This policy sets out Council's minimum requirements for the provision of stormwater drainage principally to building development sites, and should be used in conjunction with the Penrith DCP and other policies referred to in the Stormwater Drainage Specification for Building Developments.

B. Objectives

- a) To prevent damage by stormwater to the built and natural environment;

- b) To ensure that new development does not generate stormwater discharges that exceed the capacity of the existing drainage network;
- c) To ensure that an adequate and environmentally acceptable method of removing surface water and stormwater is implemented;
- d) To minimise nuisance flows of stormwater from one property to adjoining properties;
- e) To maximise reasonable on-site detention, to provide opportunities for rainwater re-use;
- f) To minimise hardstand and impervious areas on developed land to minimise run off;
- g) To provide a stormwater system which can be maintained economically;
- h) To provide a stormwater system which utilises open space in a manner compatible with other uses;
- i) To control flooding and enable access to allotments, stabilise the land form and control erosion; and
- j) To minimise urban runoff pollutants to watercourses.

C. Controls

1) Natural Environment

- a) Runoff must not be discharged into bushland areas, including threatened ecological communities.
- b) Pipe outlets shall be treated with measures to dissipate stormwater velocity, except where waters enter a formed channel or similar structure that is unlikely to be damaged by water flowing in at high velocity.
- c) Permeable ground surfaces are to be maintained as far as possible, and where suitable conditions exist, stormwater is to be infiltrated on-site.

2) Drainage

- a) Council's Stormwater Drainage Specification for Building Developments provides details on drainage requirements including on-site detention, new drainage systems and the like.
- b) The development of any lot should take into account the existing drainage patterns of the area, including any localised ponding, and whether the proposed development is likely to affect:
 - i) Access to the site;
 - ii) Drainage on adjoining properties;
 - iii) Localised nuisance flooding on adjoining properties; and
 - iv) Natural overland flow or drainage paths.
- c) In areas where there are no defined drainage patterns, Council may require the applicant to liaise with the adjoining owners regarding the construction of a drain or channel to an existing watercourse. This may include the provision of drainage easements.
- d) Depending on the scale of the proposed development, the applicant may be required to address the following matters in their application:
 - i) The drainage capacity available for the site (e.g. if the site is connected to a centralised stormwater system, the existing drainage network capacity);

- ii) Where capacity may be limited, appropriate drainage measures, including possible on-site detention (determined by liaising with Council's Development Engineering Unit and receiving detailed advice from a qualified engineering consultant);
 - iii) If the site is affected by drainage constraints, the current stormwater discharge and likely future discharge. In this regard, a report prepared by a qualified engineer will be required and should demonstrate that the development will not overload trunk drains during peak storm events or cause localised flooding;
 - iv) If the proposed development will result in additional pollutant loading (and the appropriate licences have been obtained from the relevant government authorities), details demonstrating that the drainage systems have adequate capacity for those pollutants and runoff will comply with the water quality requirements referred to in this Plan; and
 - v) Any required easements across neighbouring properties. Where easements are required, Council requires the submission of the adjoining owner's consent with the development application.
- e) If the site does not have access to Council's stormwater drainage system, all drainage should be designed to ensure that the intensity, quantity and quality of surface runoff is not detrimental to downstream properties and watercourses. A legal point of discharge will be required.
 - f) If the site has access to Council's stormwater drainage system, all roof and surface water that is not recycled for use on the site must be discharged into Council's stormwater drainage system. No surface drainage will be permitted to discharge across Council's footways or reserves or enter adjoining land.
 - g) The applicant should demonstrate how existing soil type and associated constraints (e.g. salinity and poor percolation) have been considered in the drainage design).

On-Site Stormwater Detention (OSD)

- a) Council's *Stormwater Drainage Specification for Building Developments* provides details on drainage requirements for on-site detention.
- b) Adequate stormwater systems shall be designed and constructed to ensure that, for all rainwater events up to and including the 1:100 Average Recurrence Interval (ARI) event, new developments and redevelopments do not increase stormwater peak flows in any downstream areas.
- c) On-site stormwater detention systems must release water after any rainfall event to maximise future capacity and, therefore, cannot include rainwater tanks, water retention basins or dams.
- d) Detention storage is to be located at a level that is above the 1:5 ARI flood level.
- e) On-site detention systems are to be designed using a catchment wide approach. Advice should be sought from Council's Development Engineering Unit in this regard.
- f) On-site stormwater detention mechanisms should have a maintenance program in place.
- g) Onsite stormwater detention mechanisms should be placed on the title of the relevant allotment/property to ensure their retention and maintenance.

New Drainage Design

- a) Any new piped drainage system shall be designed to control minor stormwater flows under normal operating conditions for an ARI of 5 years.
- b) Any new drainage system shall be designed to control major stormwater flows under normal operating conditions for an ARI of 100 years.
- c) Council's *Stormwater Drainage Specification for Building Developments* provides details on drainage requirements for on-site detention.

D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the stormwater management principles expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Stormwater detention on site should have capacity to improve the quality of water leaving the site from pre-development state. This may involve treatment of water flowing into the site from upstream properties.

E. Other Information

People seeking further information on stormwater management and drainage or preparing development applications may wish to refer to the following:

- Penrith City Council's *Stormwater Drainage Specification for Building Developments*
- *Australian and New Zealand guidelines for fresh and marine water quality* (2000) Australian and New Zealand Environment Conservation Council
- National Water Quality Management Strategy No 10: *Australian Guidelines for Urban Stormwater Management* (2000)
- *Penrith City Council's Water Sensitive Urban Design Policy*, (December 2013)
- *Penrith City Council's Water Sensitive Urban Design Technical Guidelines*, (December 2013).

3.7. Water Retention Basins/Dams

A. Background

Relevant Policies for Water Harvesting

The NSW Farm Dams Policy (harvestable right dams' policy) allows rural landholders to harvest a basic volume of water (10% of runoff), store and use that water for any purpose without the need to obtain a licence under the *Water Management Act 2000*. The policy has a number of exceptions, exemptions and location variations and advice from the Office of Water should be sought. Any take of water over and above 10% runoff would require a water access licence and an approval.

Information on water sharing and how to calculate harvestable rights can be found on the Office of Water website <http://www.water.nsw.gov.au/>.

Relevant Policies for Dam Construction and Safety

Dams that are classified as prescribed under the *Dams Safety Act 1978* need to be registered with the Dam Safety Committee. Prescribed dams are those dams that have a

significant impact on community interests in the event of dam failure. All dams higher than 15m are prescribed. For smaller dams, the Dam Safety Committee determines whether prescription is necessary based on the consequence of dam failure occurring in the:

- event of a natural flood (Flood Consequence Category); and
- absence of a natural flood (Sunny Day Consequence Category).

Although registration is required for very few dams, proposed dams should be checked with the Dam Safety Committee.

Dam safety can be a major issue depending on the stability of the geology/soils, the size of the dam and the size and characteristics of the dam's catchment. Specific advice on the construction of dams can be obtained from the Office of Water.

Factors to be considered include:

- a) The location of the dam in relation to local water flows;
- b) Dam construction – wall design, heights, method of construction, etc;
- c) Volume of water and extent of the land inundated when the dam is at capacity;
- d) The relative height and dimensions of the by-wash to control the dam's capacity or the provisions to ensure that inundation of land does not exceed the specified extent; and
- e) Provision for passing flows.

Information on the type, size, location and consequence category (i.e. failure consequences) of new dams is critical for the Dam Safety Committee's consideration to determine the need, or otherwise, to prescribe the dam. The Dam Safety Committee's website provides a form to assist with enquiries. Once approved, the dam design or location should not be altered without the agreement of the Dam Safety Committee.

B. Objectives

- a) To provide controls for water harvesting to limit the impacts on the natural water cycle and ensure water flows to natural waterways and river systems;
- b) To allow water harvesting to support essential rural land uses, especially agricultural uses;
- c) To ensure that water retention basins and dams are designed and constructed in accordance with the relevant State policies and guidelines for safety.

C. Controls

- 1) Council's consent is required to construct or form a dam, pond, lake or water retention basin where it will collect more than 10% of surface run-off (as determined by a hydraulic engineer and/or by Council).
- 2) The design and location of any water retention basin/dam should be carefully considered within the catchment area of the site to protect natural flows to natural waterways and river systems.
- 3) Dams need to be appropriately constructed to ensure they will not have an adverse impact on surrounding properties either by ponding water back up onto upstream properties or by concentrating water to any downstream properties.
- 4) Where possible, water retention basins/dams should seek to minimise disturbance to existing vegetation. Where possible, they should also be landscaped to minimise visual impact and provide shade to minimise evaporation losses and reduce algae growth.

- 5) If a dam is to be breached intentionally, an analysis of the sediment in the dam must be carried out prior to breaching to identify potential pollutants. If necessary, a remediation action plan or plan for disposal of contaminated sediment must be developed. Dam breaching must be carried out in a manner which does not impact on downstream properties.

3.8. Rainwater / Storage Tanks

A. Background

This section aims to ensure that the location, types, materials and colours for any rainwater or other storage tanks are considered as part of the entire site design and are sympathetic to the rural and landscape character of the area. Use of rainwater tanks is consistent with the NSW State Government's objective of reducing the amount of potable (drinking) water consumed for non-potable uses, like flushing toilets and in gardens. Therefore, provision of a rainwater tank can form part of a BASIX commitment listed within the BASIX certificate to meet reduced water consumption targets.

If water in rainwater tanks is intended for human consumption, the tank must be appropriately maintained. Refer to the Australian Government's *Guidance on use of rainwater tanks* (2010) produced by the Environmental Health Committee for further information.

B. Objectives

To ensure that rainwater or other water storage tanks and associated structures are:

- a) Appropriately located and designed (with appropriate types, materials and colours) to minimise the visual impact on any rural, scenic or landscape character of any area;
- b) Integrated into the design of any cluster of buildings or as part of the primary dwelling during the site planning and design process;
- c) Designed and/or constructed in accordance with the necessary guidelines to ensure safety and structural stability;
- d) Designed to minimise the entry of contaminants into any water that may be harvested for drinking purposes.

C. Controls

1) General Requirements

In many cases, rainwater tanks may be exempt development under *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* and development consent may not be required. Where development consent is necessary, the following additional requirements apply:

- a) Rainwater tanks must not exceed 3m in height above ground level (including stand).
- b) Rainwater tanks must not collect water from a source other than gutters or down pipes on a building or a water supply service pipe.
- c) Rainwater tanks must be structurally sound.
- d) The rainwater tank, and any stand for the tank, must:
 - i) Be assembled and installed in accordance with the manufacturer's specifications; and

- ii) Not rest on a footing of any building or other structure on the property including a retaining wall.
- e) Rainwater tanks must utilise prefabricated materials or be constructed from prefabricated elements designed and manufactured for the purpose of construction of a rainwater tank.
- f) A rainwater tank must be enclosed and inlets screened or filtered to prevent the entry of foreign matter or creatures.
- g) A rainwater tank must utilise a non-reflective finish. Materials and colours should complement those used on the dwelling house and any other buildings on the land.
- h) Plastic rainwater tanks are not to be used in bushfire prone areas.
- i) Rainwater tanks on land zoned E3 Environmental Management or E4 Environmental Living must have a maximum total capacity for the entire property of:
 - i) 90,000 litres (where the property has an area of 10 hectares or greater); or
 - ii) 45,000 litres (where the property has an area of less than 10 hectares).

D. Other Relevant Information

People seeking further information on rainwater/storage tanks may wish to refer to the following:

Penrith City Council's Stormwater Drainage Specification for Building Developments

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C4 Land Management

A. Background

Need for Land Management

Land degradation and the associated loss of agricultural potential has been a serious problem since the advent of European settlement. Land degradation is not restricted to the rural environment. Urban environments also suffer from introduced weeds, erosion and contamination of soil and water, including pollution from run-off. As the population expands, pressure on land from urban development intensifies and the agricultural industry increasingly must use marginal lands, thereby increasing the threat of significant land degradation.

Key Issues

Some of the key issues associated with land management in the Penrith Local Government Area (LGA) include:

- a) Impacts of changing the natural landform through excavation and filling;
- b) Erosion and sedimentation;
- c) Salinity;
- d) Contamination of land;
- e) Landfill and leaching of contaminants;
- f) Land rehabilitation;
- g) Sustainable land use practices, including sustainable farm management;
- h) Native vegetation cover, especially near watercourses;
- i) Appropriate intensities of agricultural land uses; and
- j) Balancing land for rural and urban development.

Benefits of Sustainable Land Use

Sustainable land use is about taking a holistic approach to managing our natural resources based on ecological, social and economic considerations. It requires, among other things, integrating land, water, vegetation and biodiversity management so land uses can occur without damaging ecological processes or reducing biodiversity over the long term. Sustainable land use practices can improve profitability, maintain the productive capacity of land and improve the capacity of land to cope with severe climatic conditions, while maintaining or enhancing the natural resource base.

B. General Objectives

- a) To promote sustainable land use practices for all land use types;
- b) To minimise land degradation in the Penrith LGA and promote restoration of degraded lands;
- c) To control erosion, sedimentation and dust to maintain soil and water quality and protect amenity;

- d) To minimise land contamination through inappropriate landfill or pollution of land and maximise remediation of contaminated land; and
- e) To reduce the likelihood of salinity and its impact on land and development.

C. Other Relevant Sections of this DCP

This DCP is a multi-layered document that recognises the relationship of a number of issues to achieving sustainable outcomes. Therefore, when addressing land management issues, it is important to read all relevant parts of this DCP to ensure they are aware of all land management issues.

4.1. Site Stability and Earthworks

A. Background

This section seeks to ensure that site planning for any proposed development takes into account the topography, geology and soils of the site and surrounding land. This is necessary to minimise disturbance to existing landforms and costly earthworks, to protect existing and proposed development from becoming unstable, and to minimise erosion.

B. 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; and
- c) To minimise disturbance of vegetation that stabilises land, particularly on sloping sites.

C. Controls

1) Development Consent

- a) In accordance with the earthworks provisions of the LEP, development consent is required for any earthworks unless:
 - i) The work is exempt development under *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*; or
 - ii) The work is ancillary to other development for which development consent has been given.
- b) Consent is required when material is imported or removed from a property or is relocated on the same property.

2) Matters to be Considered

- a) The LEP contains clauses that list the matters that must be considered before granting development consent for earthworks.
- b) These matters must be addressed in the supporting documentation submitted with the development application.

3) Development Application Requirements

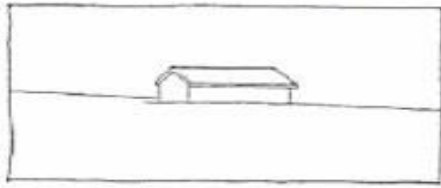
- a) Any development application that proposes earthworks and therefore changes to the levels of a site, is required to clearly address the following in the Statement of Environmental Effects or a Geotechnical Report (if required, see 3 b)):

- i) The location and extent of the earthworks on the site;
 - ii) Justification for the need to change the land levels in terms of the overall development;
 - iii) Any other impacts from the changed land levels as a consequence of the earthworks.
- b) Where a building is proposed on land where the existing slope gradient is higher than 15% (or the land is likely to be subject to any land stability issues), the development application may be required to include a Geotechnical Report (prepared by a suitably qualified consultant).
- c) Council will not permit a building to be placed on land where the existing slope gradient before development is greater than 20%.
- d) Applicants should refer to the following sections of this DCP:
- i) Vegetation Management, to ensure vegetation is protected on the site, particularly where the vegetation is important to site stability;
 - ii) Site Planning and Design Principles, to ensure any proposed development responds to the natural topography of the site; and
 - iii) The other sections of this section relating to landfill, erosion and sedimentation, contaminated lands and salinity to determine if any additional information is required to address these issues.

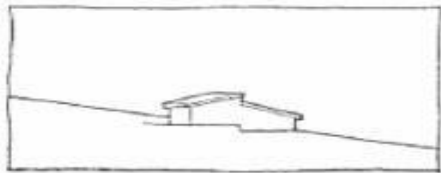
4) Limitations on Earthworks

- a) Earthworks to create a building platform shall not be undertaken where excavation and/or filling would exceed 1m from the existing natural ground level of the site.
- b) On sloping sites, site disturbance is to be minimised by using split level or pier foundation building designs (see Figure C4.1).
- c) All retaining walls proposed for the site are to be identified in the development application for the proposed development. Retaining walls are to be kept to a minimum to reduce earthworks. Use of materials that complement the natural environment is encouraged.
- d) During any earthworks, any topsoil should be preserved on site for re-use and should be stockpiled and covered to avoid dust or loss of topsoil. Refer to the Landscape Design Section of this Plan for controls on stockpiling topsoil on site.

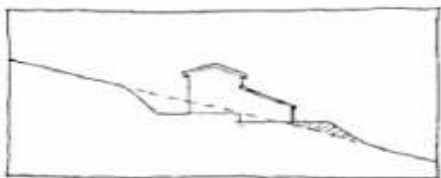
Figure C4.1: Building on Sloping Land



Flat land provides a great range of opportunities for variations in siting and the design of buildings. On flat land interesting development can be created through good building design and landscaping.



Gentle slopes require split level designs. The costs associated with building and access are higher. Sloping sites can provide interesting building design and landscape opportunities.



Steep slopes can become very difficult and expensive to build on. Access can also be difficult. Choosing the best site requires considerable thought. Advice from council will be of value.



On very steep slopes you have very limited building opportunities. Specialized building, engineering and drainage advice will be required. The cost of building will be much higher.

4.2. Landfill

A. Background

In determining applications for landfill (either on its own or as part of another development), Council will consider the possibility of land contamination and the implications it has for any proposed future use of the land (Refer to the Contaminated Lands Section of this Plan). Council will also have regard to the method, nature and effect of landfill to ensure all material is managed appropriately and in accordance with:

- relevant legislation; and
- The Environment Protection Authority (EPA) requirements and guidelines.

The use of waste building materials as landfill is not permitted apart from the use of crushed bricks or similar for vehicular access areas.

B. Objectives

- a) To require an applicant to justify the use of landfill on any site and ensure that it enhances the use of a property;
- b) To ensure that any landfill utilises appropriate materials that do not result in pollution or contamination of land or water on a site;
- c) To ensure that landfill does not adversely impact on local drainage characteristics; and
- d) To ensure that landfill will not increase flood hazard or risk to other properties.

C. Controls

1) Development Application Requirements

- a) Applicants seeking Council's consent for landfill must provide a Landfill Validation Report (written by an appropriately qualified person).
- b) Council may require a further detailed investigation to occur if contamination is, or may be, present in the fill material to prove that the fill material is suitable for the proposed use. (Refer to the Contaminated Land Section of this Plan for further requirements).

2) Landfill Requirements

- a) Imported fill shall not include putrescible waste (i.e. waste that breaks down) or building material. Clean fill including soil, sand or virgin excavated natural material (VENM) is generally acceptable.
- b) The filled area shall be drained to Council's satisfaction and not impact upon the drainage characteristics of other properties in the catchment area.
- c) The material shall be suitably compacted and treated to prevent runoff and siltation of watercourses.
- d) Compaction of filled areas is to be 98% standard compaction and in accordance with relevant Australian Standards, including AS1289 Method of testing soils for engineering purposes and AS3798 Guidelines on earthworks for commercial and residential development, and Council's engineering standards. Compaction certificates are to be submitted to the private certifier or Council.
- e) The finished area shall be revegetated and stabilised to blend the filled area and natural surfaces.

- f) Earth moved from areas containing noxious weed material must be disposed of at an approved waste disposal facility and transported in compliance with the *Noxious Weed Act 1993*.
- g) Fill within 10m of adjoining bushland must not be carried out. Any fill in the vicinity of bushland must only use material from the local area (in order to minimise spread of weeds) and must be carried out in a manner that does not cause adverse impacts to surrounding properties, local drainage systems and existing vegetation. Material which is likely to have an adverse environmental effect due to it being combustible, toxic, hazardous or dangerous must not be used.
- h) Fill must not be carried out within the drip line of existing trees.

4.3. Erosion and Sedimentation

A. Background

One of the major impacts of erosion is the removal of the topsoil, which results in the loss of essential nutrients for plant development and animal nutrition, and the loss of soil structure and permeability to water. This reduces the viability of plants and soil habitats which support ecosystems, agriculture and the natural landscape.

Another major impact is the relocation of the eroded soil to other locations, called sedimentation. Sedimentation can damage natural vegetation, block stormwater drains and flowpaths, and cause significant impacts on natural watercourses and other waterbodies such as wetlands. The impact on natural waterbodies includes the smothering of aquatic plants and animals, with additional nutrient loads promoting rapid growth of invasive organisms and species such as blue-green algae and water hyacinth. This reduces water quality and the recreational value of these water systems.

This section applies to all land where any proposed development or land use:

- a) Involves disturbing the existing ground surface or placing fill, and/or results in changes to the shape of the land; and
- b) Involves changes in the velocity and/or volume of water runoff entering directly or indirectly into a watercourse or wetland, or flowing over the land.

While this will include the excavation and filling of land, it may also include significant landscaping works and topsoil stockpiling.

This section also seeks to supplement the controls set out in clauses relating to earthworks of the LEP.

B. 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 the 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; and

- e) To encourage prompt rehabilitation of development sites by the implementation of revegetation strategies.

C. Controls

1) Erosion and Sediment Controls Plans (ESCP)

- a) All applications for subdivision and development which involve site disturbance must be accompanied by an Erosion and Sediment Control Plan (ESCP), except in the following circumstances:
 - i) The construction of minor structures including carports, pergolas, verandahs, garden sheds and the like; and
 - ii) Dwelling additions and alterations which are deemed by Council as not likely to cause erosion and sediment loss from the site.
- b) An ESCP is necessary to ensure that a strategy to manage erosion and sedimentation is considered at an early stage in the planning process. The ESCP must consider the potential for soil erosion and sedimentation during all stages of the development – demolition, construction and operation of the development. The ESCP must demonstrate that appropriate controls have been planned which will, when implemented, minimise erosion of soil from the site and, accordingly, sedimentation of drainage systems and waterways.
- c) The ESCP must be submitted in accordance with best practice guidelines for erosion and sediment control, including Landcom's, *Managing Urban Stormwater – Soils and Construction*, 2004.
- d) Where the applicant is uncertain of the most suitable method of control for a particular situation, the applicant is requested to consult with Council officers to discuss the proposal prior to the submission of an ESCP.

2) Requirements for Erosion and Sediment Control

- a) 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.
- b) All erosion and sediment control measures are to be installed to the satisfaction of Council or the proposed Certifier, in accordance with best management practices recommended by recognised authorities (including *Managing Urban Stormwater – Soils and Construction*).
- c) 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.
- d) 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.
- e) Council 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 Council and implemented in accordance with this

section and current best practice guidelines (including *Managing Urban Stormwater – Soils and Construction*), where relevant.

- f) 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.

3) Additional Measures for Large Sites

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 enters 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 Council.

4) Implementation, Monitoring and Maintenance

- a) Requirements for erosion and sediment control will be incorporated in approval conditions for development consents. The supervisor of the development is responsible for ensuring that all conditions are implemented and maintained throughout the development process. All control measures are to be regularly inspected and maintained by the work supervisor in accordance with current best practice (including *Managing Urban Stormwater – Soils and Construction*).

- b) In the case of new dwellings, the frame inspection will not be carried out by Council unless erosion and sediment control measures are satisfactorily installed and gutters and downpipes are connected to direct roof water to the stormwater system approved by Council.
- c) The consent holder, owner, contractor builder and all persons on site are responsible for controlling soil erosion and preventing the discharge of sediment from the building site.
- d) Erosion and sediment control measures will be inspected in the course of Council site inspections following issue of a construction certificate.
- e) The Landscape Design Section of this Plan also contains requirements relating to erosion and sedimentation control during landscape works.

5) Penalties for Non-Compliance

- a) An environmental bond/security may be required to be lodged with Council and may be used to make good any damage that has the potential to cause pollution.
- b) Where there is non-compliance with any controls in this DCP relating to erosion and/or sedimentation, Council may charge a reinspection fee, claim the environmental bond, or issue a Clean-up Notice, Prevention Notice or Penalty Infringement Notice if a pollution incident has occurred or has the potential to occur.
- c) Any person(s) who fails to satisfactorily implement erosion and sediment controls may be subject to action under state or federal legislation.
- d) In more serious cases, legal action may be considered under legislation dealing with environmental protection.

D. Other Information

This section must be read in conjunction with:

- a) *Guidelines for Engineering Works for Subdivisions and Developments* (Penrith City Council, November 2013)
- b) *Managing Urban Stormwater – Soils and Construction* ('The Blue Book') (Landcom, March 2004)

4.4. Contaminated Lands

A. Background

Impacts of Contamination

There are a number of activities that use, store and dispose of contaminants which can potentially impact on soils, groundwater, surface water and air. The Technical Information Appendix of this DCP lists key uses/activities that may result in contamination and the likely chemicals used in such activities. Such contamination can impact on the health and well-being of the community and on the integrity of buildings, structures and service facilities.

Adverse impacts from contamination can occur as a result of accidents or of ongoing poorly managed industrial, agricultural or commercial activities. Accordingly, steps need to be taken to minimise the creation of contaminated sites and to prevent the further contamination of already contaminated sites. Contaminated land is to be remediated before development can occur on that land. Remediation involves the treatment and/or mitigation of the contaminants.

Addressing Contamination

Under the *Environmental Planning and Assessment Act 1979*, Council has a duty of care, when considering development proposals, to fully consider the possibility of land contamination and the implications it has for any proposed future use of land. In particular, this section refers to, and formally adopts, the *Managing Land Contamination - Planning Guidelines* (Department of Urban Affairs and Planning & NSW Environmental Protection Authority, 1998) and other relevant legislative requirements.

In recognition of its duty of care, Council will adopt a precautionary approach to its consideration of applications involving contaminated or potentially contaminated land. The object of this approach is to enable any land contamination issues to be identified and dealt with at an early stage in the planning process.

In order for this to occur, Council has developed a set of procedures to be followed for development proposals. These procedures allow for a merit-based consideration of land contamination issues. All investigations, reporting, sampling, development of plans, etc in relation to contaminated land must be completed by a suitably qualified person in accordance with the relevant guidelines.

In considering the implications of contamination, Council will have regard for the sensitivity of a proposed land use, in addition to any technical standards or requirements published by:

- The NSW Environment Protection Authority (EPA);
- National Health and Medical Research Council (NHMRC);
- National Environment Protection Council (NEPC); and
- Any other relevant authority.

B. Objectives

- a) To prevent or minimise the risk of contamination of land and any associated impacts or harm from any such contamination;
- b) To enable Council to more adequately identify, record and manage known and potentially contaminated land;
- c) To provide direction for Council in the gathering and assessment of information in relation to previous land use activities that may have resulted in contamination;
- d) To assist Council in the discharge of its functions and responsibilities in relation to existing and potential contaminated land with reasonable care and due diligence to minimise potential risk to both public health and the environment;
- e) To inform the community, particularly those interested or involved in the planning and development process, of Council's procedures relating to existing or potential contaminated land; and
- f) To ensure that all stakeholders are aware of their responsibilities for the ongoing management of contaminated land.

4.4.1. Preventing Contamination

A. Background

A proactive approach which ensures that the potential for contamination is reduced or prevented must be linked to the nature of an activity on a particular site. Contamination of

land may often be associated with new developments that involve potentially contaminating activities. Such activities may result in accidental releases of chemicals to land which, in turn, will render the land contaminated.

B. Controls

- 1) Development applications for new or for expanding existing developments may be required to include information on the potential for the activity to contaminate.
- 2) Environmental impact assessments are required to address the potential and likelihood of contamination.
- 3) In assessing development applications for activities which could be potential sources of contamination, Council will ensure it is satisfied that the proposed technical and management controls will be adequate to prevent contamination. Conditions of consent may be imposed by Council to ensure adequate controls are applied to an activity or development.
- 4) Periodic environmental audits of activities may be required as a condition of consent by Council.

4.4.2. Triggers for Contamination Investigation

A. Background

A contamination investigation is triggered when a land use change is proposed on lands which have previously been used for certain purposes that have the potential to result in contamination. A list of activities and land uses that could potentially result in contamination is included in the Technical Information Appendix of this DCP.

In determining applications for development proposals, Council will fully consider the possibility of land contamination and the implications it has for any proposed future use of the land. A precautionary approach will be taken to ensure that any land contamination issues are identified and dealt with early in the planning process. Accordingly, Council will:

- a) Proceed with the application according to its usual practice if the site has been proven suitable for the proposed uses without the need for further testing or treatment; or
- b) Proceed with the application according to its usual practice if the site has been proven to be capable of being remediated to a standard that is suitable for the proposed use either in its contaminated state or after remediation; or
- c) Request the applicant to provide additional information; or
- d) Refuse the application with stated reasons.

B. Controls

- 1) Any application must provide appropriate information relating to past, present and proposed land uses.
- 2) Council will evaluate the site's potential for contamination in accordance with procedures established by this section. If there is any indication of a past land use or activity that may have caused contamination, Council will require additional information to prove that the site is suitable for the proposed use.
- 3) Council may require any site investigation report or similar information submitted in support of an application to be referred to a site auditor for an independent review. The

auditor shall be nominated by Council. All costs associated with the review shall be borne by the applicant. All communication with the auditor shall be either with the knowledge of Council or in the presence of Council officers.

4.4.3. Stages of Contamination Investigation

A. Background

If contamination is, or may be, present the applicant must investigate the site and provide Council with the information it needs to carry out its planning functions.

There are four main stages in the investigation of contaminated or potentially contaminated land. At each stage, it is the applicant's responsibility to provide the necessary documentation to Council and to fund the work required to prepare such documents. Not every site will require all four stages of investigation. The appropriate level of investigation will depend on the circumstances and may involve one or more stages. In providing the necessary information to Council, the applicant must engage an appropriately qualified person, experienced in contaminated site assessment and management.

B. Controls

The four stages are as follows:

Stage 1 - Preliminary Investigation

- a) To identify any past or present potentially contaminating activities;
- b) To provide a preliminary assessment of any site contamination; and
- c) To provide the basis for a more detailed investigation, if required.

This stage involves the investigation and reporting of the site history and is typically based on readily available information such as historical records of land use, aerial photographs, consultations with previous occupants and relevant authorities, and a site inspection.

Where contaminating activities are suspected to have had an impact on the land, some initial sampling and analysis will need to be undertaken to confirm and support any conclusions reached from the site history appraisal.

Stage 2 – Detailed Investigation

A detailed investigation is only necessary when a preliminary investigation indicates that the land is contaminated or is, or was, formally used for a potentially contaminating activity.

The objectives of a detailed investigation are to:

- a) define the nature, extent and degree of contamination;
- b) assess potential risk posed by contaminants to health and the environment; and
- c) obtain sufficient information for the development of a Remedial Action Plan (RAP), if required.

Should the initial investigations fail to clearly demonstrate that the land is suitable for its proposed use, a more detailed assessment and evaluation must be undertaken. This detailed evaluation stage involves formal sampling. Typically, a site specific work plan is developed during this stage, based on previous investigations.

Stage 3 - Remedial Action Plan

The objectives of a RAP are to:

- a) Set remediation objectives; and
- b) Document the process to remediate the site.

The RAP or plan of remediation should demonstrate how the applicant or their consultant proposes to reduce risks to acceptable levels and achieve the desired clean-up levels. The ultimate goal of site clean-up is to ensure that the site is remediated to a level where the proposed development/land use can occur on that land and there will be no risk of harm to human health or any other aspects of the environment in accordance with that use.

Stage 4 - Validation and Monitoring

The objectives of validation and monitoring are to demonstrate whether the objectives stated in the RAP and any conditions of development consent have been achieved.

The purpose of validation is to confirm whether the pre-determined clean-up objectives have been attained and whether any further remediation or restrictions on land use are required. Ideally, validation should be conducted by the same consultant that conducted the rest of the site investigation and remediation process.

Depending on the extent of contamination and the method of remediation (e.g. containment), there may be a need for continual site monitoring and/or restrictions on the development potential of the land. A proper monitoring program should include a monitoring strategy, the parameters to be monitored, the monitoring locations, the frequency of monitoring and the appropriate reporting requirements. Any restrictions on the land's development potential would normally be imposed by Council at the stage the application is determined.

As a general rule, Council prefers remediation strategies that do not rely on site monitoring or land restrictions. Such strategies may include the removal of contaminants and their off-site disposal or their in-situ treatment (e.g. bio-remediation). (See the Technical Information Appendix of this DCP for further details).

4.4.4. Site Audit

A. Background

In determining applications for development proposals, Council may require an independent review (Site Audit) of any or all stages of the site investigation, remediation or validation process, conducted in accordance with the *Contaminated Land Management Act 1997* (CLM Act).

A site audit will lead to the provision of a site audit statement, stating for what use the land is suitable, including any conditions that should be adhered to for that land use. Only site auditors accredited by the EPA under the *Contaminated Land Management Act 1997* can issue site audit statements. A site audit statement must be prepared in accordance with the *Guidelines for the NSW Site Auditor Scheme* and must be in a prescribed form.

B. Controls

- 1) Council may require a site audit if it:
 - a) Believes on reasonable grounds that the information provided by the applicant is incomplete;

- b) Wishes to verify whether the information provided by the applicant has adhered to appropriate standards, procedures and guidelines; or
 - c) Does not have the internal resources to conduct its own technical review.
- 2) Council will inform the applicant if a site audit is required, after Council has conducted a review of the contamination reports and associated documents submitted to Council.
 - 3) The applicant is responsible for engaging an EPA accredited site auditor for contaminated land to perform a site audit.
 - 4) If Council requires a site audit to make its planning decision, the cost shall be fully borne by the applicant and not Council.
 - 5) The *Guidelines for the NSW Site Auditor Scheme* outline what may be included in a site audit, however, the guidelines state that, in some situations, Councils may also need to contribute to defining the scope of the site audit.
 - 6) When Council requests a site audit, Council will specify any issues that shall be included within the scope of the site audit. Either the applicant or the appointed EPA accredited site auditor shall liaise with Council during the preparation of the site audit to ensure that the scope of the site audit addresses the concerns raised by Council.
 - 7) A copy of all statutory site audit statements must be given to the EPA and Council at the same time as the site auditor gives the statutory site audit statement to the person who commissioned the site audit.
 - 8) A request for a site audit included as a condition in any development consent is a statutory site audit.
 - 9) The “Guidelines for the NSW Site Auditor Scheme” indicate the content and format of Site Audit Statements.
 - 10) Before issuing a site audit statement, the site auditor must prepare and finalise a summary site audit report. The *Guidelines for the NSW Site Auditor Scheme* outline what must be included in a site audit report.

4.4.5. Remediation Procedures

A. Background

It is the policy of Council that all remediation required to be carried out will be done so in such a manner that will not cause any adverse impact or harm to the environment. The preferred remediation method should result from a consideration of the cost benefit analysis of options, including their practicability, reliability and impact.

Remediation of contaminated land will require development consent, even if the proposed land use does not require consent. A RAP must be submitted to Council for approval with the development application for remediation.

All remediation work must be consistent with the *Managing Land Contamination – Planning Guidelines* and be carried out in accordance with *Sydney Regional Environmental Plan No.20 Hawkesbury-Nepean River* (SREP 20), *State Environmental Planning Policy No.55 - Remediation of Land* (SEPP 55), the *Contaminated Land Management Act 1997*, all relevant EPA guidelines and this section.

B. Controls

1) When is Consent Required for Remediation?

- a) Council consent is required for the remediation of all contaminated land within the Penrith LGA. This requirement is prescribed by SREP20 and SEPP 55.

2) Determination Procedures

- a) For land which has been previously remediated, Council may still require further investigation and a statement from the applicant's consultant that the site has been remediated in accordance with applicable guidelines and standards, and other appropriate regulatory requirements to allow the intended use.
- b) If Council considers that contamination makes the land unsuitable for the proposed use and requires remediation, Council may enforce remediation requirements by:
 - i) Requiring the applicant to amend the development application to include a remediation proposal; or
 - ii) Requiring a new and separate development application for the remediation before the development application for the use is considered.
- c) If Council considers that contamination makes the land unsuitable for the proposed use and the land may not be appropriately remediated or the applicant does not wish to remediate:
 - i) The proposal may be modified to a use that is suitable for the land without remediation; or
 - ii) The application may be withdrawn; or
 - iii) The application may be refused.
- d) In issuing any development consent, Council may impose conditions relating to contaminated land. Such conditions will be consistent with the requirements of this section and any relevant legislation or guidelines.
- e) Where Council requires further information prior to the commencement of a development activity, it may issue a deferred or staged consent incorporating relevant conditions.
- f) Applicants are advised to carefully read any consent issued to them and identify all matters requiring attention.
- g) Council will not refuse consent to a development application to carry out remediation work on land unless the work would present, or result in, a more significant risk of harm to human health or some other aspect of the environment (whether or not the harm would occur on the same land) than not proceeding with that work.

3) Advertised Development

A development application for Category 1 remediation work is advertised development in accordance with SEPP 55.

4) Remedial Action Plan (RAP)

- a) A RAP shall be prepared for all remediation proposals and shall be submitted to Council with a development application for assessment. The RAP may form part of an environmental impact statement if the remediation work is designated development.
- b) The RAP shall:

- i) establish remediation goals that ensure the site will be suitable for the proposed land use and will pose no unacceptable risk to human health or to the environment;
 - ii) determine the most appropriate remedial strategy;
 - iii) provide details of the selected remedial strategy;
 - iv) identify all necessary approvals or licences required from all relevant regulatory authorities; and
 - v) provide details of monitoring to be undertaken both during and after the remedial works.
- c) The RAP shall demonstrate how the risk posed by contamination will be reduced to acceptable levels and how the remediation goals could be met. The objectives of the remediation strategy and the clean-up criteria recommended shall be clearly stated in the RAP. Applicable EPA guidelines provide details of what the RAP should cover.

5) Independent Review of the RAP

- a) Council may require the RAP to be reviewed by an EPA accredited site auditor. All costs associated with the review shall be borne by the applicant.
- b) Council may require the applicant to incorporate the comments of the site auditor into their RAP and to provide evidence that all necessary licences and permits have been obtained.

6) Monitoring of Remediation

- a) All remediation work must be carried out in accordance with:
 - i) the *Managing Land Contamination – Planning Guidelines*;
 - ii) any guidelines made under the *Contaminated Land Management Act 1997*;
 - iii) applicable OEHL/EPA guidelines; and
 - iv) the RAP submitted to and approved by Council with the development application.
- b) Council may undertake visits to the site during the remedial works to monitor the progress of such works. These visits may be carried out with personnel from the EPA, other relevant regulatory authorities or the site auditor. All costs (as described in Council's approved Fees and Charges Schedule) associated with such visits shall be borne by the applicant.

7) Validation Report

- a) Council will require the applicant to submit to Council a validation report confirming that the remediation goals established in the RAP have been achieved. (The degree of validation required will depend on the degree of contamination originally present on the site, the type of remediation processes that have been carried out and the proposed land uses).
- b) The validation report must confirm statistically that the remediated site complies with the clean-up criteria, and does not pose an unacceptable risk to human health or the environment.
- c) The validation report shall assess the results of the post-remediation testing against the clean-up criteria nominated in the RAP. Where these have not been achieved, reasons for such failure must be stated and additional site work shall be proposed that will achieve the original objectives. The validation report shall also detail any ongoing

monitoring requirements for the site. If clean-up criteria cannot be achieved, other development options may need to be considered.

- d) Development applications for sites where remediation has been undertaken prior to lodgement must include a validation report.

8) Review of Validation Report

Council may require the validation report to be reviewed by an EPA accredited site auditor. All costs associated with the review shall be borne by the applicant.

4.4.6. Clean Up Notices

A. Background

Clause 21 of SEPP 55 states that the SEPP 55 provisions do not apply to clean-up notices. At present, all appropriate regulatory authorities (including Penrith City Council), as defined in the *Protection of the Environment Operations Act 1997* can issue a clean-up notice.

B. Controls

Any development or activity carried out for the purpose of complying with a clean-up notice:

- a) May be carried out without development consent; and
- b) To the extent that it involves carrying out any remediation work must be carried out in accordance with:
 - i) the *Managing Land Contamination – Planning Guidelines*; and
 - ii) any guidelines in force under the *Contaminated Land Management Act 1997*.

4.4.7. Council Records and Community Information

Council does not hold comprehensive information about land contamination. In the past, little information was kept about contaminated land. Council holds specific information about contamination on only a very small number of sites.

Land contamination is dynamic and no information system can record the nature of all contamination within the local government area at any one time. Council records will change over time as information comes to light. Specifically, the following information will be added to the record for individual parcels of land from time to time:

- a) Information contained in development applications, indicating the use of a site for a potentially contaminating activity listed in the Submission Requirements Appendix of this DCP.
- b) Reports submitted to Council, including preliminary investigation, detailed investigation, remedial action plans, validation and monitoring reports, and site audit statements.
- c) EPA declarations and orders issued under the *Contaminated Land Management Act 1997* (including voluntary management proposals approved by EPA).
- d) Notification of completion of Category 1 and Category 2 remediation work.

Information about land contamination held within the Council's records will be supplied to the public by the following means (subject to payment of any prescribed fees):

- a) By issuing planning certificates (Section 149 certificates) on application.

- b) By providing access to documents in accordance with the Freedom of Information Act 1989 and other legislation.

Total reliance should not be placed on Section 149 certificates. Interested parties should request a detailed search by Council of its records in regard to previous uses of a site and/or have a contamination assessment conducted by a qualified consultant.

C. Other Information

People seeking further information on contaminated lands or preparing development applications may wish to refer to the following:

- a) NSW Department of Urban Affairs and Planning and the NSW Environment Protection Authority (1998) – *Managing Land Contamination - Planning Guidelines SEPP 55 – Remediation of Land*.
- b) NSW EPA (2003) *Contaminated Sites: Guidelines for Assessing Service Station Sites*.
- c) NSW EPA (1995) *Contaminated Sites: Guidelines for the Vertical Mixing of Soil on Former Broad-Acre Agricultural Land*.
- d) NSW EPA (1995) *Contaminated Sites: Sampling Design Guidelines*.
- e) NSW EPA (2003) *Contaminated Sites: Guidelines for Significant Risk of Harm from Contaminated Land and the Duty to Report*.
- f) Department of Environment and Conservation NSW (2005) *Contaminated Sites: Guidelines for Assessing Former Orchards and Market Gardens*.
- g) Department of Environment and Conservation NSW (2007) *Guidelines for the Assessment and Management of Groundwater Contamination*.
- h) ANZECC & Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000) *Australian and New Zealand guidelines for fresh and marine water quality: Volume 1 – The Guidelines*.
- i) NHMRC Natural Resource Management Ministerial Council (NRMMC) (2011) *Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy*.

Council considers these guidelines to be a mandatory reference for consultants assessing contamination levels and undertaking remediation works. Consultants preparing contamination reports should also have a practical working knowledge of the various EPA and National Environment Protection Council (EPC) publications on contaminated land including:

- a) NSW EPA (2006) *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme*.
- b) National Environment Protection Council (NEPC) (2013) *National Environmental Protection (Assessment of Site Contamination) Measure 1999*.
- c) NSW OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*.

4.5. Salinity

A. Background

Salinity is increasingly recognised as an issue that can potentially cause significant economic, environmental and social costs in both rural and urban areas. Some areas in the Penrith LGA are affected by levels of salinity that are high enough to damage buildings and

corrode concrete structures. Salinity can also result in the degradation of vegetation and soils, including the loss of productive agricultural land.

Salinity occurs when salts naturally found in soil or groundwater mobilise and rise to concentrate at the ground's surface. This is due to changes in the natural water cycle caused by such activities as vegetation removal and replacement with shallow rooted, high water using plants; concentrated stormwater flows; leaking underground water pipes; and over-watering of parks and gardens.

This section seeks to ensure that consideration is given to the impact of new development on salinity processes, as well as the impact of salinity on new development. It seeks to supplement the salinity controls set out in the LEP.

B. Objectives

- a) To avoid or mitigate the impacts of development on salinity processes to prevent any degradation in soils, 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; and
- c) To ensure development will not significantly increase the salt load in existing watercourses.

C. Controls

1) Salinity Analysis

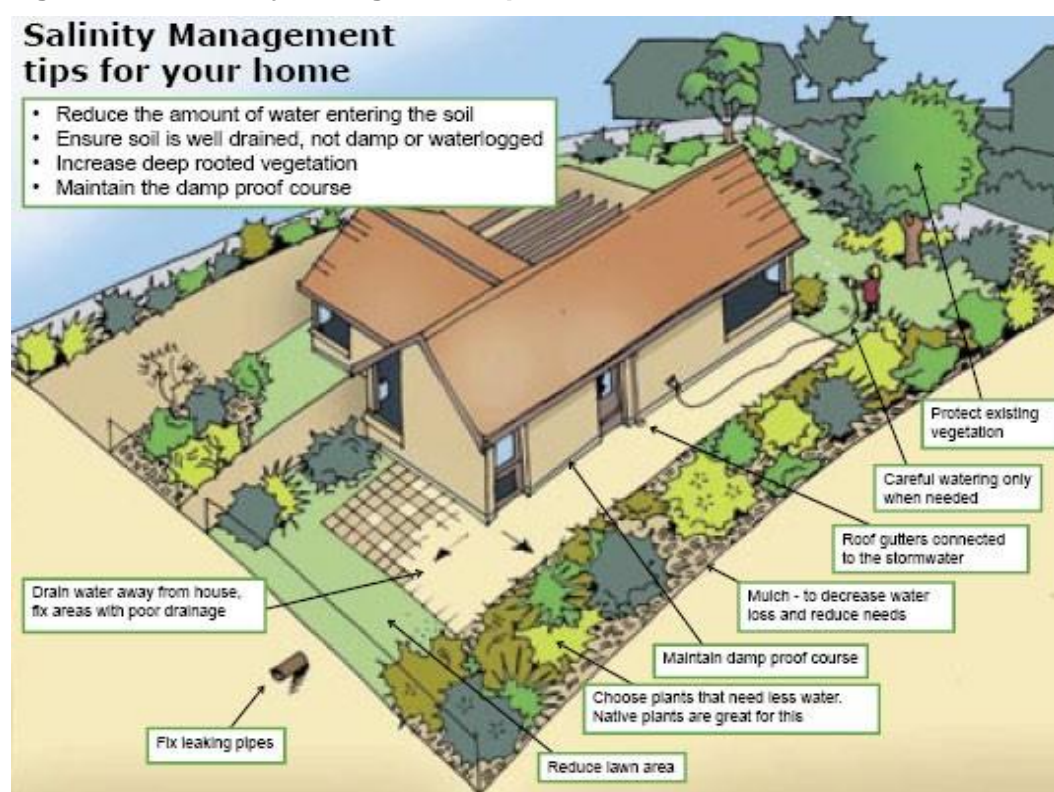
- a) A detailed salinity analysis will be necessary if:
 - i) The site of the proposed development has been identified as being subject to a potential risk of salinity (refer to the map *Salinity Potential in Western Sydney 2002*), or
 - ii) An initial investigation shows the site is saline or affected by salinity.
- b) Investigations and sampling for salinity are to be conducted in accordance with the requirements of *Site Investigations for Urban Salinity*.
- c) The author 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.

2) Salinity Controls

- a) Disturbance to the natural hydrological system shall be minimised by maintaining good drainage and reducing water logging on the site.
- b) Groundwater recharge shall be minimised by such measures as:
 - i) Directing runoff from paved areas (roads, car parks, domestic paving, etc) into lined stormwater drains rather than along grassed channels as necessary;
 - ii) Lining or locating any water storages/ponds/drainage basins higher in the landscape to avoid recharge where proximity to the water table is likely to create groundwater mounding; and
 - iii) Encouraging on site detention of roof water runoff.
- c) Soil erosion and sediment control measures, in accordance with erosion and sedimentation controls in this section, shall be incorporated into the development during its construction and following its completion.

- d) 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.
 - e) The removal of vegetation, particularly native vegetation, on the site shall be minimised.
 - f) All landscape designs should undertake the following practices:
 - i) Select salt tolerant plant species (generally native trees and shrubs);
 - ii) Use mulch in all garden beds;
 - iii) Minimise the area of lawn as this requires large quantities of water;
 - iv) Use ‘water wise’ garden and landscape design (including timers, selection of plants with low water needs, grouping plants of similar water usage together, etc); and
 - v) Use non-corrosive materials when constructing pipes and channels.
 - g) All works are to conform with the *Western Sydney Salinity Code of Practice*, June 2003.
- Figure C4.2 below illustrates some of these controls.

Figure C4.2: Salinity Management Tips



(Source: WSROC 2005, *Good Housekeeping to Manage Urban Salinity*)

C. Other Information

People seeking further information on salinity or preparing development applications may wish to refer to the following:

- Department of Planning, Infrastructure and Natural Resources 2002, *Map of Salinity Potential in Western Sydney* and accompanying *Guidelines*
- Western Sydney Regional Organisation of Councils (WSROC) 2003, *Western Sydney Salinity Code of Practice*
- WSROC 2005, *Good Housekeeping to Manage Urban Salinity*
- Local Government Salinity Initiative series by the former Department of Natural Resources (2002) including:
 - *Site Investigations for Urban Salinity*
 - *Land Use Planning and Urban Salinity*
 - *Building in a Saline Environment*
 - *Roads and Salinity.*

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C5 Waste Management

A. Background

Waste management has developed into a major environmental issue linked to sustainability, and is increasing in priority for all levels of government within Australia. There is an increasing realisation that 'waste' is a significant resource, like land and water, due to the potential to reuse, recycle and recover products from waste streams.

Waste management is relevant to all stages of a development from construction, through its ongoing use, to demolition. Waste management also includes the way in which waste is stored and collected.

The Waste Hierarchy

The *Waste Avoidance and Resource Recovery Act 2001* highlights the need for a holistic approach to waste management. The 'waste hierarchy' (see Figures C5.1 and C5.2) attempts to prioritise waste management based on reducing waste generation, re-using existing products, recycling products, recovering products and finally disposing responsibly of waste with the aim of reducing the need for landfill sites.

Figure C5.1



Figure C5.2



Types of Waste

Waste comes in a number of forms including solid, liquid and hazardous wastes. Liquid and hazardous wastes are primarily dealt with by existing Acts and Regulations, but there are some issues relating to rural, health and industrial land uses that are covered by this Plan. Traditionally, solid wastes focussed on municipal wastes such as garbage. Since 2001, waste has been recognised as a by-product of development, with the building and construction industry identified as a major generator of waste.

Benefits of Waste Management

Effective waste planning and on-site management assists in improving the efficiency and lowering the cost of the development/construction process. A few of the benefits of good waste planning include:

- **Costs:** Material wasted on site is paid for twice – once in the original purchase, and secondly, in its disposal. Reducing waste reduces these costs.
- **Safety:** Good site management can improve site safety and reduce liabilities – 'A Clean Site is a Safe Site'.

- **Image:** Waste is a significant marketing issue. Good waste management practices can provide a positive image for the builder/developer.

B. General Objectives

- a) To facilitate sustainable waste management within the City of Penrith 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 facilitates 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.

C. When does this Section apply?

The provisions of this Section apply to proposals requiring development consent or a Complying Development Certificate, and will include demolition, construction (including earthworks), alteration/addition and/or change of use of buildings for all types of developments in the City of Penrith. This section should also be used as a guide for activities which are classified as exempt development or development which falls under Part 5 'Environmental Assessment' of the *Environmental Planning and Assessment Act 1979*.

D. How to Use this Section

This Plan is a multi-layered document that recognises the relationship of a number of issues to achieving sustainable outcomes. Therefore, when addressing waste management, it is important to read all relevant parts of this Plan.

E. Other Information

People seeking further information on waste management or preparing development applications may wish to refer to the following:

- *NSW Waste Avoidance and Resource Recovery Strategy 2007 and Performance Report 2008* - Department of Environment and Climate Change
- *Better Practice Guide for Waste Management in Multi-unit Dwellings* (2008) – Department of Environment and Climate Change
- *Better Practice Guide for Waste Management and Recycling in Commercial and Industrial Facilities* (2012) – Department of Environment and Climate Change
- *Waste Classification Guidelines* (2008) - Department of Environment, Climate Change and Water.
- *Waste Management Guideline Document: Residential Flat Buildings*
- *Waste Management Guideline Document: Town Houses*
- *Waste Management Guideline Document: Sub-division*

F. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to waste avoidance and management expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls.

Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Reduce the volume of demolition and construction waste going to landfill by 76%;
- b) Demonstrate ongoing commitment to waste avoidance and reduce the volume of waste generated by occupants of the development by:
 - i) Setting a target for commercial uses,
 - ii) Setting a target for industrial uses,
 - iii) Setting a target for residential/domestic uses,
 - iv) Setting a target for Council's buildings/facilities,consistent with targets established in the NSW Waste Avoidance and Resource Recovery Strategy 2007; and
- c) Monitor waste generated, recovered and/or sent to landfill by installing a Building Management System.

5.1. Waste Management Plans

A. 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 for rural, residential, commercial and industrial developments;

- c) Subdivision of land and/or buildings; or
 - 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) The Waste Management Plan must include details of:
 - a) The types and volumes of wastes and recyclables likely to be generated as a result of the development;
 - b) How waste and recyclables will be stored and treated on site;
 - c) How the residual non-reusable or non-recyclable wastes and recyclables are to be disposed of; and
 - d) How ongoing waste management will operate once the development is complete (for the life of the development).

5.2. Development Specific Controls

A. Background

Different types of development have different requirements for waste management. The following controls for specific types of development are additional to the general controls in this Chapter.

B. Objectives

- a) To minimise waste generation for a number of specific development types by providing specific controls for these types;
- b) To maximise re-use and recycling of materials through appropriate provision and design of waste recycling areas for each development type;
- c) To ensure the appropriate storage and collection of waste from each development type; and
- d) To ensure new developments can be serviced efficiently and effectively by Council's standard waste service.

5.2.1. Siting and Design of Waste Bin Storage Areas for Residential Development

- 1) This section provides design requirements for waste bin collection/storage areas for residential development referred to in this Chapter.
- 2) **Waste Bin Storage Area Size:**
 - a) The development must provide a waste bin storage area that is of sufficient size to accommodate all required waste bins associated with the development. This is to be

achieved through the provision of a communal waste storage area. For larger developments, multiple waste bin storage areas may be required.

- b) All waste streams must be catered for, including general waste, bulky waste and recyclable waste.
- c) Sufficient space must be provided onsite to ensure that adequate room is provided to manoeuvre, clean and maintain all waste and recycling bins for the development.
- d) Sufficient space must be provided onsite for any required equipment to manage waste, waste bins (including washing and cleaning) and the waste bin storage area.

3) Waste Bin Storage Area Location:

- The waste bin storage area is to be located within the basement footprint of the residential flat building developments.
- The waste bin storage area is to be located on the ground level for multi-unit housing developments.
- The waste bin storage area is to be located where its use and operation will not adversely impact the amenity of development occupants in terms of noise and odour.
- If the waste bin storage area is to be used as the collection point (for multi-unit housing), it must be located and designed to meet the applicable requirements for servicing.

4) Waste Bin Area Layout

- The layout of the waste bin storage area is to be designed so that the area is free from obstructions so not to restrict the movement and servicing of the bins.
- An aisle space of 1.2m is required to access and manoeuvre the bins.
- In determining the layout and size of the waste bin storage area, consideration should be given to whether waste bins are required to be rotated. If waste bins are to be rotated, additional room size to aisle width will be required to manoeuvre bins.

5) Waste Bin Storage Area Construction

- a) Waste Bin Storage Rooms are to be designed so that they can be constructed to the following:
 - i) Floors must be constructed of concrete at least 75mm thick and graded and drained to a Sydney Water approved drainage fitting.
 - ii) The floors must be finished to a smooth even surface.
 - iii) The walls must be constructed of solid impervious material.
 - iv) The ceilings must be finished with a smooth faced non-absorbent material capable of being cleaned.
 - v) Walls, ceilings and floors must be finished in a light colour.
 - vi) It is to be provided with an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock.
 - vii) A close fitting and self-closing door openable from within the room.
 - viii) Must be constructed to prevent the entry of vermin.
 - ix) Be provided with adequate light and ventilation. The light source must be through controlled light switches located both outside and inside the room.

5.2.2. Residential Development Controls

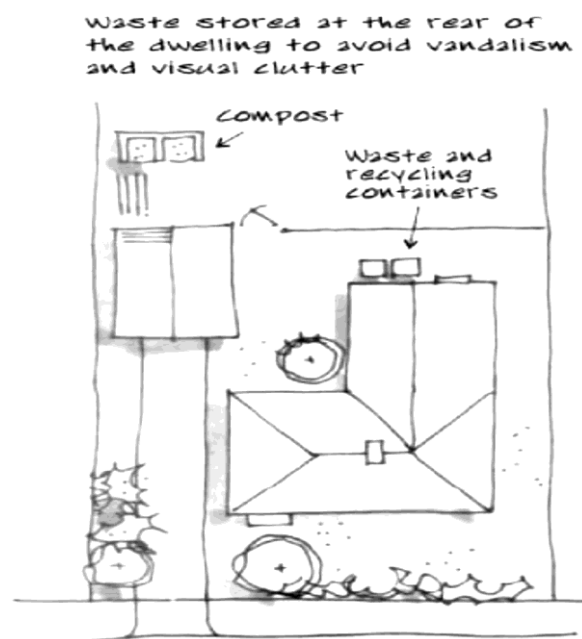
5.2.2.1 Controls applicable to all types of residential development (including dwellings and dual occupancies)

- 1) The kitchen of each dwelling should be designed with sufficient space (or an alternate location) for the interim storage of organic waste, other recyclable waste and non-recyclable waste. It should be of sufficient size to hold at least a single day's waste and to enable source separation of garbage, recyclables and compostable materials.
- 2) The design and location of waste storage areas/facilities should be such that they:
 - a) Complement the design of both the development and the surrounding streetscape;
 - b) Have access to a cold water supply for the cleaning of bins and the waste storage areas; and
 - c) Not be visually prominent from public areas.
- 3) An area for composting is to be provided on site and made available for residents' use. The siting of composting facilities should consider:
 - a) The location and proximity of dwellings (including those adjoining the subject property), to minimise likely odour impacts/nuisance;
 - b) The location of the drainage system;
 - c) Whether the facility is appropriately designed for composting; and
 - d) Provision of signposting to ensure inappropriate waste is not added to the compost.

5.2.2.2 Dwelling houses and dual occupancies

- 1) Waste containers are to be stored in a suitable and easily accessible location on site:
 - a) with unobstructed access to Council's usual collection point; and
 - b) to avoid vandalism, nuisance and visual clutter.

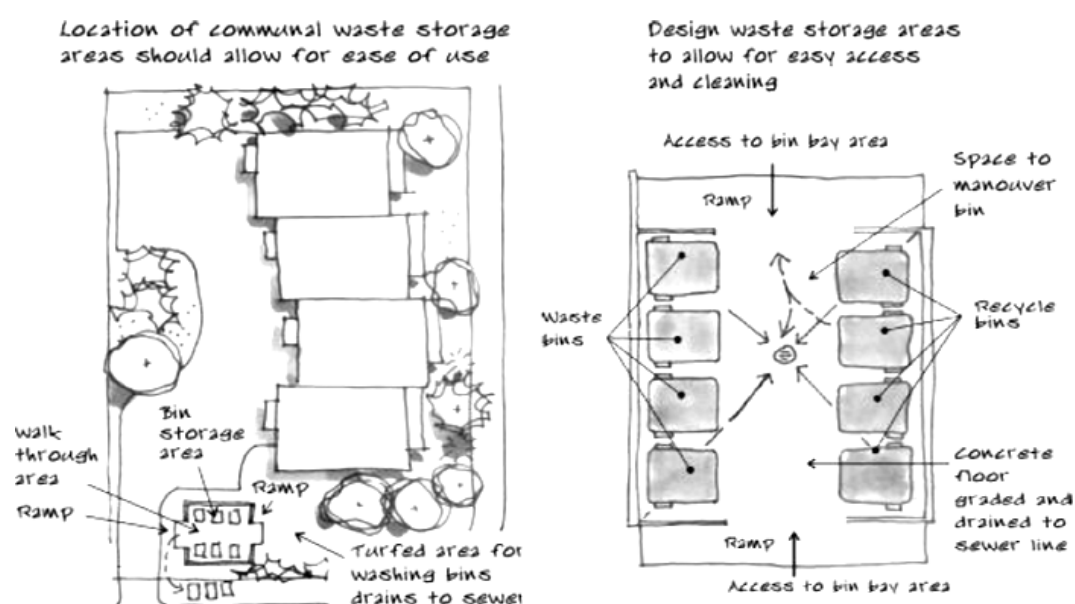
Figure C5.3: Example of location for waste storage area



5.2.2.3 Multi dwelling housing

- 1) The term 'multi dwelling housing' is defined in Penrith LEP 2010.
- 2) For developments comprising up to three dwellings, please refer to the controls applying to "Dwelling houses and dual occupancies" unless the characteristics of the site will restrict or impede access to the collection site. A communal waste storage area must be provided for residential developments in the following circumstances:
 - a) Contain four or more dwellings;
 - b) Include non-residential uses located in the same building (known as 'mixed use developments' and defined in Penrith LEP 2010);
 - c) Where the number of bins would not fit comfortably on the street frontage or where the placement of bins along the nature strip would have a detrimental effect on residential amenity; or
 - d) Where the characteristics of the site restrict or impede access to the collection site.
- 3) The development must provide a waste bin storage/collection area that is of sufficient size to accommodate all required waste bins associated with the development. This is to be achieved through the provision of a waste storage bin area either at ground level or within the basement footprint of the development which:
 - a) Provides direct and convenient access for the occupants of the development;
 - b) Allows for the safe and direct transfer of all waste bins from the waste bin storage area to the collection point;
 - c) Does not impact the amenity of occupants within and adjoining the development in relation to visual amenity, noise and odour; and
 - d) Does not interfere with the car parking (on or off-street), driveways, footpaths, landscaping and any existing trees and vegetation.
 - e) The waste bin storage area is to be designed in accordance with Section 5.2.1 Siting and Design of Waste Bin Storage Areas for Residential Development.
 - f) Swept paths demonstrating adequate manoeuvring area are to be provided with the application.

Figure C5.4: Communal waste storage area location layout



- 4) Where the waste storage area will be secured, the locking mechanism installed must be an Abloy system employed by Council. The installation of the locking system and the supply of keys will be provided by Council at the developer's cost.
- 5) The size and number of the waste bins shall be determined by Council, having regard to the need for either on-site access by collection vehicles or the requirement for bins to be wheeled to the collection point for collection by a contractor. If transferred to the street for collection, the body corporate or a caretaker must be responsible for the movement of bins to their collection point and their subsequent return.
- 6) Where on-site collection is required to service the development, adequate and safe access must be provided for Council's Standard Waste Collection Vehicles and waste collection staff as follows:
 - a) The site must be designed to allow collection vehicles to enter and exit the site in a forward direction with limited manoeuvring and reversing on-site;
 - b) The route of travel (including vehicle manoeuvring areas) for the waste collection vehicle to the collection point is to satisfy the typical dimensions of heavy rigid vehicle. This also includes adequate vehicle clearance for the vehicle. Australian Standard AS2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities provides typical dimensions, turning circles and clearance heights.
 - c) The route of travel for the waste vehicle is to be adequately paved and of sufficient strength to support the waste collection vehicle.
 - d) The grades of entry and exit ramps must not exceed the capabilities of the waste collection vehicle and are to comply with AS2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities.
 - e) The waste collection point and parking area for the waste vehicle is to be clearly nominated with dimensions on the site plan. The collection point is to be of sufficient space to accommodate and safely manoeuvre all required waste bins.
 - f) Access to the nominated waste collection point for the development is to be designed to ensure that Council's standard waste vehicle can safely access and manoeuvre within the site. Typical dimensions (and turning circles) for a heavy rigid vehicle are provided within AS 2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities.
- 7) Where on-site collection is not possible because of topographic or access constraints, and/or restrictive site dimensions, adequate arrangements need to be made for the convenient, safe and direct access between the waste storage room and the collection point. These arrangements need to be discussed at a pre-lodgement meeting with Council.
- 8) For developments where on-site collection is required or where Council collectors are required to enter a site for the purpose of waste collection services, an agreement will be required to be entered into with Council. This agreement is to be entered into with Council giving power and authority to Council to enter the; and for the purpose of waste services. Council is also to be provided with indemnity against any future claims for damage and loss.

5.2.2.4 Residential Flat Buildings

- 1) The development must provide a waste bin storage area that is of sufficient size to accommodate all required waste bins associated with the development. This is to be achieved through the provision of a waste storage bin area located within the basement footprint of the development. For larger developments, multiple waste bins storage areas may be required.
 - a) The waste bin area is to be designed in accordance with Section 5.2.1 Siting and Design of Waste Bin Storage Areas for Residential Development.
 - b) Additional storage space for bulky items is to be provided for the development.
 - c) Swept paths demonstrating adequate manoeuvring area are to be provided with the application.
- 2) For developments comprising three or more storeys, the development is to incorporate a waste chute system that:
 - a) The waste chute system will provide a separate chute for both residual and recyclable material.
 - b) Waste Disposal points are to be provided on each residential level of the development located within a high trafficked area for residential use.
 - c) Larger recyclable goods are to be placed in a separate location identified by the strata management for collection.
 - d) The chute is to be designed to minimise noise and fire risk is reduced.
 - e) The chute is to be completely enclosed and fire-rated and comply with the BCA.
 - f) The chute is to terminate in a garbage and recycling room and discharge directly into a receptacle.
 - g) The waste chute service room must be located directly under where the chute terminates. The room will need to accommodate the entire fleet of bins allocated to the development.
 - h) A separate bin storage room located in the basement will need to accommodate the entire fleet of bins allocated to the development.
 - i) A site caretaker/manager will be required to transfer all bins from the bin storage room to the collection room located on ground floor.
- 3) Council may consider an alternative solution to the waste chute system for developments comprising three or more storeys if the applicant can demonstrate:
 - a) That the alternative system provides a convenient method for the transfer of waste to a centralised location within the basement/ground floor;
 - b) Provides adequate room to cater for the storage and easy access to all waste bins required for the size of the proposed development; and
 - c) Does not require residents to walk to the ground floor with waste and dispose of the waste within designated bins.
- 4) The Waste Services Room is to be provided so that:
 - a) It is accessible for residents on each residential level of the development. The waste services room will include the access to the residual and recyclable chute with provisions for cardboard storage.

- b) The maximum travel distance from any dwelling to the waste services room is not to exceed 75m.
 - c) The waste service room must be of adequate size to accommodate the required access to chutes or waste infrastructure assigned to the development
 - d) The room is to be designed to accommodate waste generation rates projected for the development
- 5) On-site collection is required to service the development. Adequate and safe access must be provided for Council's Standard Waste Collection Vehicles and waste collection staff as follows:
- a) The route must be designed to allow collection vehicles to enter and exit the site in a forward direction with limited manoeuvring and reversing on-site;
 - b) The route of travel (including vehicle manoeuvring areas) for the waste collection point is to satisfy the typical dimensions of heavy rigid vehicle. This also includes adequate vehicle clearance for the vehicle. Australian Standard AS2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities provides typical dimensions and turning circles.
 - c) The route of travel for the waste vehicle is to be adequately paved and of sufficient strength to support the waste collection vehicle.
 - d) The grades of entry and exit ramps must not exceed the capabilities of the waste collection vehicle and are to comply with AS2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities.
 - e) The waste collection point and parking area for the waste vehicle is to be clearly nominated with dimensions on the site plan. The collection point is to be of sufficient space to accommodate and safely manoeuvre all required waste bins.
 - f) Access to the nominated waste collection point for the development is to be designed to ensure that Council's standard waste vehicle can safely access and manoeuvre within the site. Typical dimensions (and turning circles) for a heavy rigid vehicle are provided within AS 2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities.
- 6) The on-site collection point is to be clearly nominated on the site plan which accompanies the development application. The collection point is to only temporarily store waste bins so that they can be serviced. The waste bin holding area is to be located fully within the development site. Consideration will be given to multiple waste bin holding areas for larger developments. The collection point is to be designed so that:
- a) It is of sufficient size to accommodate all required waste bins for the development;
 - b) It is located at ground level away from pedestrian entrances of the development and habitable windows (including both the development and adjoining dwellings);
 - c) It is to be clearly separated from car parking bays (on or off street), footpaths and landscaped areas.
 - d) The bin-carting route is to ensure that bin transfer complies with the requirements of Work Health and Safety legislation.
 - e) The bin-carting route:
 - is to be direct and as short as possible;
 - is to be solid, concrete and non-slip;
 - is to be paved and be a minimum of 2m wide;
 - is to be free from obstructions and is not required to be carried over any steps;

- is to be a maximum of 75m in length and a maximum grade of 7%; and
 - For larger bins (660L & 1100L), the maximum length of the route of travel is 10m.
- 7) Where on-site collection is not possible because of topographic or access constraints, and/or restrictive site dimensions, adequate arrangements need to be made for the convenient, safe and direct access between the waste storage room and the collection point. These arrangements need to be discussed at a pre-lodgement meeting with Council.
 - 8) For developments where on-site collection is required or where Council collectors are required to enter a site for the purpose of waste collection services, an agreement will be required to be entered into with Council. This agreement is to be entered into with Council giving power and authority to Council to enter the site; and for the purpose of waste services. Council is also to be provided with indemnity against any future claims for damage and loss.
 - 9) A separate area should also be provided for the storage and collection of bulky waste (such as old cardboard boxes) and old or discarded furniture/appliances. The sizing of the bulky waste area needs to be capable of holding the bulky waste generated from the development between scheduled pickups. The bulky waste area needs to be located near to the on-site loading bay).
 - 10) Council will consider alternate and innovative waste management systems for high density developments which deliver sound town planning and environmental outcomes for the development and broader community. The applicant is encouraged to discuss the innovative solutions with Council's Waste Management Team and during Council's Pre-DA service.

5.2.3. Mixed Use Development Controls

- 1) Where mixed use developments include a residential component, separate waste management facilities are to be provided, in accordance with the residential controls identified in Section 5.2 above.
- 2) For non-residential uses located in mixed use developments, separate waste management facilities are to be provided for the non-residential uses, in accordance with the controls identified in Section 5.2.4 below.

5.2.4. Non-Residential Development Controls

- 1) These controls will apply to commercial, industrial and any other non-residential development.
- 2) For any building comprising three or more storeys and not containing dwellings, a suitable system for the interim storage and transportation of waste and recyclables from each storey to the waste storage/collection area is to be integrated within the building's design.
- 3) 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.
- 4) 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.
- 5) 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).
- 6) 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.
- 7) Where a communal facility exists, each tenant should have a designated area which is clearly signposted.
- 8) 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.
- 9) The system for waste management must be compatible with the collection service(s) to be used whether Council or private contractor.
- 10) Swept paths demonstrating adequate manoeuvring area are to be provided with the application.

C. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the development specific waste management controls expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Incorporate and install a Building Management System which monitors the ongoing sustainability measures of the building and its occupants, such that it monitors the amount of recyclable waste and other waste being generated/collected as well as the amount that is disposed for recycle/reuse or sent to landfill.
- b) Reduce the volume of demolition, construction and fit out waste, including excavation, going to landfill by 76%.

5.3. General Controls

A. Background

Waste minimisation needs to be an integral component of the design and construction phases of a development. Issues that should be considered early in the development process include:

- a) Ensuring project management of the site includes minimising waste generation, requiring the appropriate storage and timely collection of waste materials, and maximising re-use or recycling of materials;
- b) Selecting materials to maximise re-use and recycling of existing materials;
- c) Ensuring the right quantity of materials are delivered at the right time in the construction process to avoid damage and wastage, and returning unused materials; and
- d) Considering the re-use and recycling of any new materials at the end of the development's life.

Significant reductions in waste to landfill and cost-savings can be made at the demolition, earthworks and/or construction stage of a development by implementing the waste management plan.

B. Objectives

To encourage waste avoidance and resource recovery through planning, re-use and recycling by:

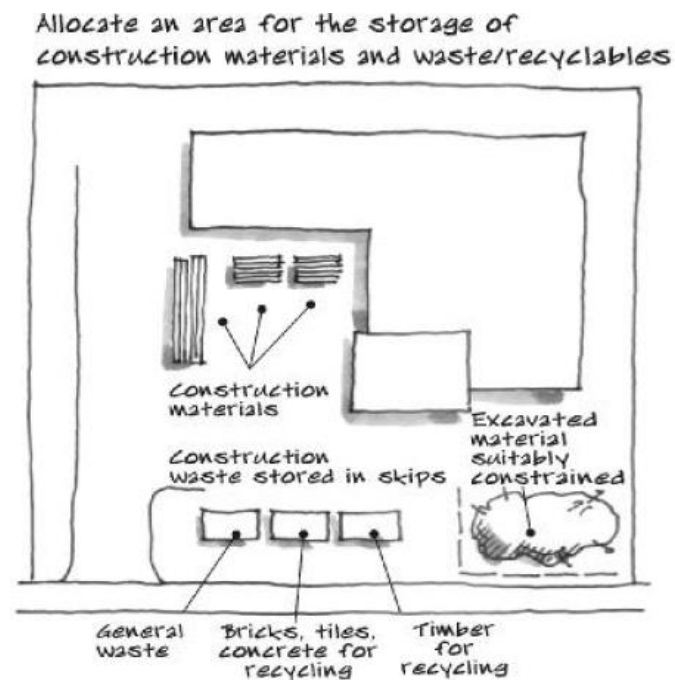
- a) Improving project management of demolition or construction works to facilitate on-site source separation and appropriate collection of waste;
- b) Ensuring that developments are designed to incorporate waste minimisation measures by facilitating source separation on site, the storage and collection of wastes and recyclables and providing maximum opportunities to use recycled materials; and
- c) Minimising the total material resources used and encouraging the selection and use of materials with low environmental impact over the lifecycle of the building.
- d) To ensure new developments are designed to maximise resource recovery through measures and features that promote waste avoidance, source separation and recycling.
- e) To ensure new developments incorporate waste storage and waste collection areas that are accessible, safe and convenient for both occupants and service providers.
- f) To promote measures which will ensure all waste streams are stored and handled appropriately to minimise adverse environmental, health and amenity impacts and which minimise risk to health and safety for all associated with waste collection and handling.
- g) To reduce illegal dumping through providing well designed and appropriate bulky waste storage areas within the development.

5.3.1. Site Management

- 1) Proposals involving demolition and/or construction (including earthworks) are to include a Waste Management Plan which addresses the following issues:
 - a) Minimising site disturbance and eliminating unnecessary excavation;
 - b) Where applicable, stripping topsoil from areas subject to excavation and storing it on site for re-use;

- c) Identifying all waste likely to result from the works on site and opportunities for the re-use or recycling of materials;
- d) Where construction is proposed, determining:
 - i) Opportunities for the use of prefabricated components and recycled materials;
 - ii) Approximate volumes of materials to be used and incorporating these volumes into a purchasing policy so that the correct quantities are purchased;
 - iii) Delivery arrangements of materials so that materials are delivered 'as needed' to prevent the degradation of materials through weathering and moisture damage; and
 - iv) Opportunities to return excess materials to the supplier or manufacturer;
- e) Considering the method of demolition to be utilised so that selective deconstruction is implemented, enabling effective recycling of materials;
- f) Identifying the area(s) on site to be used for the storage of materials, separating the areas for recycling and disposal (giving consideration to access, slope, drainage, location of waterways, stormwater outlets and vegetation);
- g) Ensuring that separated materials are to be kept uncontaminated to guarantee the highest possible reuse value;
- h) Considering where excess fill material will be disposed of, the quantity and quality of the excess material and the method of transport to be used;
- i) Identifying and providing measures to prevent the occurrence of windblown litter, dust and stormwater pollution;
- j) Where applicable, ensuring that:
 - i) Contractors are arranged for the transport, processing and disposal of waste and recycling; and
 - ii) Evidence, such as weighbridge dockets and invoices for waste disposal or recycling services, is retained and available for presentation to Council Officers upon request.

Figure C5.5: Identify areas on site for storage of materials, waste and recyclables



5.3.2. Selection of Building Materials

- 1) Choose materials with low embodied energy properties and/or materials that have been salvaged/recycled for the construction/fit out of the development. Table C5.1 on the following page identifies the building materials that can be reused/recycled.

Examples include:

- a) Concrete that utilises slag and fly ash content.
 - b) Structural and reinforced steel that uses recycled steel content.
 - c) Bulk insulation products that contain recycled content, such as recycled glass in glass-wool.
- 2) Choose certified plantation or engineered timber materials, and avoid unsustainable imported timber (such as western red cedar, oregon, meranti, luan or merbau).
 - 3) Choose low volatile organic compound (VOC) materials, including low/no VOC paints and coatings, floor coverings and underlays, as materials with a high VOC or containing hydrofluoro-carbons can become volatile at room temperature contributing to poor indoor air quality and thus affecting the health of occupants.

Table C5.1: Materials and their Potential for Re-use and Recycling

Material	Re-use / Recycling Potential
Concrete	Re-used for filling, levelling, or road base
Bricks	Can be cleaned for re-use or rendered over or crushed for use in landscaping and driveways
Roof tiles	Can be cleaned and re-used or crushed for use in landscaping and driveways
Hardwood Beams	Re-used as floorboards, fencing or furniture or sent to second hand timber suppliers
Other Timber	Re-used as formwork, bridging, blocking and propping, mulching or sent to second hand timber suppliers
Doors, Windows, Fittings	Sent to second hand building suppliers
Glass	Re-used as glazing or aggregate for concrete production
Synthetic Rubber (carpet underlay)	Reprocessed for use in safety devices and speed humps
Overburden	Power screened and used as top soil
Green waste	Can be used for mulching, composting
Carpet	Can be sent to recyclers or reused in landscaping
Plasterboard	Removed for recycling, returned to supplier
Excavated material	Re-used on site or disposal to approved site
Plumbing and metal fittings	Recycled off-site

5.3.3. Designing for Waste Minimisation

- 1) The design of developments should incorporate principles on how waste can be minimised in the design by:
 - a) Incorporating the use of modular components;
 - b) Minimising excavation and fill (See the “Land Management” section of this Plan);
 - c) Using prefabricated frames, trusses and cladding;
 - d) Using standard material sizes or negotiating with manufacturers for the supply of non-standard material sizes;
 - e) Selecting materials that do not require finishes;
 - f) Grouping wet areas together to minimise the amount of pipe work required;
 - g) Implementing measures to prevent the occurrence of windblown litter, dust and stormwater pollution;
 - h) Incorporating existing trees/shrubs into the landscape plan;
 - i) Designing for de-construction;
 - j) Incorporating facilities for the source separation of wastes and recyclables (both internal and external); and
 - k) Designing waste storage areas complementing the development and the surrounding streetscape.

5.3.4. Siting and Design of Waste Storage and Collection Areas

- 1) Waste storage and/or collection areas (or the required space for these facilities) should be available both on-site and within individual tenancies of all developments for the source separation of waste, recyclables and compostable materials.
- 2) The expected volumes of waste and recyclables generated by the construction and ongoing use of the development, including individual tenancies, must be calculated. The selection of appropriate waste equipment and the floor area requirements for waste storage will need to be an integral element of the design for the development.
- 3) Space must be provided to allow for the storage, access and manoeuvring of waste bins to facilitate ease of use and servicing.
- 4) Waste and recycling containers must be stored at all times on the site unless Council has issued an approval under the *Local Government Act 1993* to store waste in a public place.
- 5) All waste management facilities must comply with the *Building Code of Australia* and relevant Australian Standards.
- 6) The nominated collection area for the development on-site is to be clearly nominated on scaled site plans accompanying the development application.

5.3.4.1 Access to Waste Storage and/or Collection Areas

- 1) The design and location of waste storage and/or collection areas should allow for ease of access for both tenants and waste contractors and should be separated from the car parking area(s) or located away from the circulation path of other vehicles.
- 2) The location of the waste storage and/or collection area(s):

- a) Is to be convenient and accessible to the occupants of all tenancies in the development; and
 - b) Must allow 120/240 litre bins to be wheeled to the street kerb over flat or ramped surfaces with a maximum grade of 7% and not over steps, landscape edging or gutters; or
 - c) Must allow for bulk garbage bin(s) to be wheeled out and be serviced by a front loading garbage truck on a flat surface with a maximum grade of 5%, and not over steps, landscape edging or gutters; and
 - d) Be screened or discreetly located away from public spaces.
- 3) There must be sufficient manoeuvring area on-site to allow collection vehicles to enter and leave the site in a forward direction and service the development efficiently with little or no need to reverse.

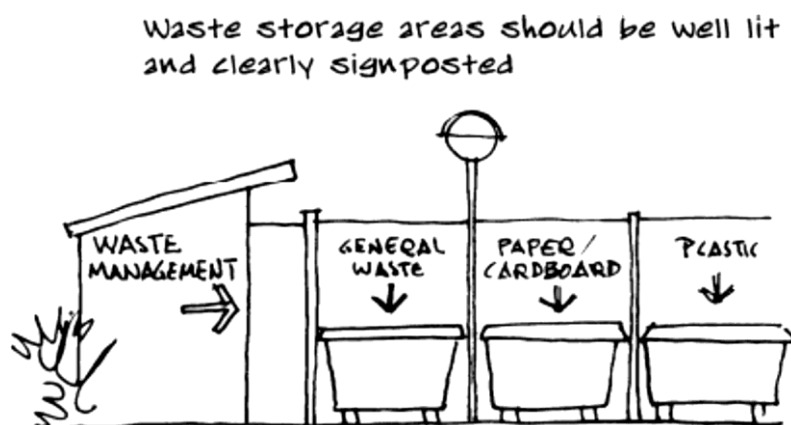
5.3.4.2 Design of Waste Storage and/or Collection Areas

- 1) The design and location of waste storage and/or collection areas are an integral part of the development's design and should complement the public domain by:
 - a) Reducing potential noise and odour impacts;
 - b) Being well lit and well ventilated, with appropriate measures installed so as to prevent vermin; and
 - c) Enhancing public safety.
- 2) Waste storage and/or collection areas must have access to a water outlet for washing purposes, with wash water discharging to an approved sewer outlet.
- 3) Waste equipment should be protected from theft and vandalism.

5.3.5 Management of Waste Storage and Collection Areas

- 1) Administrative arrangements for ongoing waste management must be provided, including signs.
- 2) Waste storage and/or collection areas (including individual containers) should be suitably signposted so as to ensure appropriate use.
- 3) The responsibility for the ongoing management of waste facilities must be determined prior to the commencement of construction work on a development.

Figure C5.6: Waste storage areas should be well lit and clearly signposted



C. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the general waste management controls expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Ensure the design and fit out of the development is above the 4 star rating under Green Star or 4.5 star rating under the Australian Building Greenhouse Rating system, now part of the National Australian Built Environment Rating System (NABERS), depending on the type of development;
- b) Reduce the use of timber from old growth forests, rainforests and forests/plantations which do not have certified environmentally responsible forest management practices. Applicants need to demonstrate that a significant percentage of the timber and composite timber products used in the building and construction works is from Forest Stewardship Council Certification, utilises reused or recycled timber or is specified using the Friends of the Earth 'Good Wood Guide' 9th Edition; and
- c) Reduce the volume of demolition, construction and fit out waste, including excavation, going to landfill by 76%.

5.4. Hazardous Waste Management

The NSW Environment Protection Authority (EPA) generally regulates the management of hazardous waste. Therefore, any applications that will involve hazardous waste may require a licence or permit from the EPA in addition to approval from Council. Please contact Council or the EPA to discuss the requirements for hazardous waste.

5.5. On-Site Sewage Management

The need to provide on-site sewage management is set out in the 'Infrastructure and Services' Section of this Plan.

The location and design of on-site sewage treatment and disposal is regulated by Council. (See Penrith City Council's *On-site Sewage Management and Greywater Reuse Policy*, 2014).

Please contact the Council to discuss the most suitable on-site sewage management system for your development.

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C6 Landscape Design

A. Background

Landscaping can have an impact on the scenic quality of an area. It can complement built forms and enhance the amenity of adjacent spaces and buildings. It can also improve a development's environmental performance in terms of managing water and land impacts.

The process for preparing and submitting landscape designs for development is described in Table C6.1 below. The table also describes the process for the implementation and approval of landscaping works, including the role of landscape design professionals in overseeing and reporting on such works.

Table C6.1

Step No.	Summary	Detail
1	Decision to develop	Determine what landscaping category the proposal falls within.
2	Employment of appropriate landscape professional	Landscape design consultant undertakes design in accordance with the controls outlined in this Section.
3	Lodgement of DA	Development application, including required landscaping information, is lodged with Council.
4	Determination of DA	Council approves or refuses DA.
5	Conditions of consent	If approval is granted, the consent may include conditions relating to one or all of the following issues: <ul style="list-style-type: none">• Requirement for various post approval landscaping reports.• Requirement for a landscaping bank guarantee to be paid.
6	Employment of appropriate landscape contractor to implement proposal.	Approved landscaping works are constructed and implemented in accordance with the consent.
7	Implementation Report	On completion of the landscaping works, an implementation report is to be provided to and approved by Council. This will provide written certification that the works have been completed in accordance with the consent and this section .
8	Occupation certificate	On receipt of an acceptable implementation report and any other non-landscape requirements of Council, the occupation certificate may be issued.

Step No.	Summary	Detail
9	Maintenance Report	A maintenance report is to be provided 12 months after the occupation certificate date. This is to certify that the landscaping works are still in accordance with the consent and that the plant material has established and is thriving.
10	3 year landscaping report	<p>Council may place a condition on consents for larger and more visually prominent developments requiring that a 3 year landscaping report be provided. This report is to be provided 3 years after the issuing of an occupation certificate and is to certify the following:</p> <ul style="list-style-type: none"> • That landscaping has matured and is in accordance with the original landscape approval, or • That landscaping has not matured and is in accordance with the original design philosophy and requires significant restoration. <p>If the latter is the case, restoration plans are to be submitted to Council for approval and implemented at the expense of the property owners.</p>

Legal Qualifier: This Section provides guidance and advice on landscaping and the development process and in some cases minimum acceptable standards which must be met. The provision of this advice, minimum standards and the approval of landscape information with a development application in no way results in Council being legally responsible for the damage that a plant species or landscape element may cause to property or person.

B. Objectives

- To promote landscape design and planning as part of a fully integrated approach to site development;
- To ensure landscape design takes into account the site's context, landscape and visual character, existing landscape features and amenity, both at the local and regional scale;
- To encourage the development of quality landscape design associated with new development that is consistent with industry best-practice;
- To encourage the retention of existing trees and vegetation to enhance landscape character;
- To ensure landscape design adequately complements the proposed built form and minimises the impacts of scale, mass and bulk of the development in its context;
- To encourage landscape design that can be effectively maintained to a high standard for the life of that development; and
- To establish a framework for allowing "Controlled Private Certification" of the landscape design components of new developments.

6.1 Controls

6.1.1. Development Process

1) Development Categories

This section classifies all development in the Penrith local government area into 3 categories (see Table C6.2 below). Each of these categories has different requirements in relation to the landscape design component of the development (i.e. different parts of this section apply to different types of developments).

Table C6.2

Category	Definition
Category 1	<ul style="list-style-type: none">• New single dwelling houses• Alterations and additions to single dwelling houses• Minor alterations and additions to commercial and industrial development as determined by Council• Complying development• Other minor development that in the opinion of Council would not have a significant impact on the amenity of the locality.
Category 2	<ul style="list-style-type: none">• All work below \$2 million that is not listed in category 1• Any development in category 1 which in the opinion of Council would have a significant impact on the amenity of the locality.
Category 3	<ul style="list-style-type: none">• All developments that are above \$2 million in value• Any development that is on a site with significant environmental considerations as determined by Council.• Any development that will have a significant public domain impact as determined by Council.• Any development that involves the alteration or addition to a heritage item or a property in a heritage conservation area.

In Table C6.2, there are several parameters that require an opinion or determination from Council to determine which category applies. In this regard, applicants will need to contact Council's Development Services Department for advice.

2) Submission Requirements

Depending on the type of development proposed, different types of vegetation and landscaping information will be required as part of the development application. Table C6.3 below lists the type of information to be submitted for the various categories of development.

Note: Applicants should also refer to the 'Vegetation Management' section of this Plan where landscaping works involve ringbarking, cutting down, topping, lopping, removing, injuring or wilfully destroying any tree or other vegetation prescribed under that section.

Table C6.3

Required Information	Category 1	Category 2	Category 3
Site Analysis	✓	✓	✓
Tree Survey and Assessment Report/Arboricultural Survey Report	❖	❖	✓
Tree Management Plan	❖	❖	❖
Landscape Concept Plan	❖	✓	✓
Landscape Detail Plan and additional details		❖	✓

✓ Required Information

❖ Information may be required depending on the scale of the project, the site conditions and location. (Please discuss with Council).

- a) Detailed requirements for the information that must be addressed by these reports is set out in Appendix F3 of this DCP. All applicants should review and address these information requirements in their submissions.
- b) If more than one type of information is to be submitted with the development application, it may be appropriate for the information to be combined in the one plan or document. This depends on the scale and complexity of the proposal, and its potential impact on the environment and amenity.
- c) Landscape plans must be prepared by a suitably qualified consultant. Landscape design consultants who are members of accredited organisations should be engaged to ensure professional standards are achieved. Accredited organisations include: Australian Institute of Landscape Architects and Australian Institute of Landscape Designers and Managers.
- d) Landscape construction should be carried out by a qualified landscape contractor to ensure that adequate standards of workmanship are achieved. Landscape contractors who are members of the Landscape Contractors Association of NSW should be engaged where possible.
- e) Development that falls into Category 1 will generally not be required to submit landscaping information; however, landscaping of such development should be designed in accordance with the landscape requirements of this section. In some cases, Council may consider that a proposal in Category 1 warrants a *tree survey and assessment report* (see the 'Vegetation Management' section of this Plan) and/or *Landscape Concept Plan*. If this is the case, this information may be prepared by anyone provided it is of a suitable standard.
- f) On completion of the landscaping works (and prior to an occupation certificate being issued by Council), an *Implementation Report* is to be submitted to Council. This is to provide written certification that the works have been completed in accordance with the consent and the provisions of this DCP (See Appendix F3 for further details).

- g) Twelve months after the date of the occupation certificate, the Implementation Report and the approved landscape design must be submitted with a *Maintenance Report*. This is to certify that the landscaping works are still in accordance with the consent and that the plant material has established and is thriving (See Appendix F3 for further details).
- h) Council may place on consents for larger and more visually prominent developments, a condition requiring that three years after the date of the occupation certificate, an Implementation Report and Maintenance Report and 3 Year Landscaping Report must be submitted (see Appendix F3 for further details). This is to certify one of the following:
 - i) The landscaping has matured and is in accordance with the original landscape approval. (This includes retained vegetation being in good condition); or
 - ii) The landscaping has not matured in accordance with the original design philosophy and requires significant restoration. (This includes retained vegetation declining in condition or has died). If this is the case, restoration plans are to be submitted to Council for approval and implemented at the expense of the property owners.

6.1.2. Protection of the Environment

1) Environmentally Sustainable Design

Council requires that all landscape designs promote best practice Environmentally Sustainable Development principles. Some of these measures are addressed in the controls below and include the following:

- a) Planting deciduous trees - These are best planted on northern and western aspects. This will allow the sun in during winter, and provide shelter from the sun in summer and morning sun year round adding to energy efficiency;
- b) Selecting low water/low maintenance plants, including drought tolerant species;
- c) Planting native or indigenous plants – These plants have lower water requirements and have evolved to cope best with the existing conditions, hence reducing maintenance, fertilising and watering requirements;
- d) Using irrigation systems that utilise drip irrigation systems;
- e) Using recycled and biodegradable products in the landscape design - Such elements could include recycled soils and other hard paving features;
- f) Allowing for composting, mulching and worm farms on site;
- g) Using quality, long lasting materials; and
- h) Using soils and mulches manufactured with recycled waste.

2) Soil Landscapes

Any Landscape Plan or assessment should include a study of the soil profile on the particular site and select plant species accordingly. In this regard, soil landscape maps and accompanying interpretive reports for Western Sydney have been produced (by the former Department of Natural Resources) and may be of assistance.

3) Minimising Soil Erosion

- a) Landscaping works must comply with the 'Erosion and Sedimentation' in the 'Land Management' section of this DCP, including the submission of an Erosion and Sediment Control Plan where required under that section.

- b) Care should be taken when undertaking landscaping works to ensure that soil from the site and any that may be brought to the site is not lost into the drainage system or surrounding environs as this may impact on indigenous flora and fauna and local waterways.
- c) Sediment control measures are to be installed prior to any excavation on site. These measures are to be maintained throughout construction of the landscaping works and until the landscaping is established.

4) Avoidance of Excavation and Filling

- a) Landscape works must comply with the 'Site Stability and Earthworks' controls in the 'Land Management' section of this DCP.
- b) Landscaping works should minimise any earthworks by accommodating the natural landform and utilising designs that require minimal cut and fill, particularly around existing trees to be retained.

5) Conserving Site Soil

- a) Where it is necessary to remove areas of topsoil as a result of cut and fill requirements, this should not be removed from the site but stockpiled in another part of the site for re-use in the landscaping process. This is both beneficial for the environment and saves money.
- b) The following controls apply to topsoil stockpiled on-site:
 - i) Do not store topsoil in any of the tree protection areas (see item 8 below);
 - ii) Ensure that the stockpile is stabilised during the construction period by covering it with hessian, mulch or a cover crop;
 - iii) Ensure that the stockpile will not blow away on windy days by either providing adequate covering or ensuring that it is kept well watered; and
 - iv) Use appropriate sediment and erosion control techniques to ensure that the stockpile is retained and does not leave the site.
- c) The proposed location and management of stockpiles of topsoil should be detailed in the landscape information that accompanies the development application.

6) Species Selection

- a) Plant selection for all landscaping works must consider and will be assessed for its suitability to existing site conditions such as soils, aspect, drainage and micro-climate.
- b) Native species is encouraged for any landscape design.
- c) The use of exotic or introduced species may be considered if they are part of a site's and locality's existing landscape character and there is a low chance of spreading into native bushland.
- d) If a site has remnant native bushland or is located adjacent to native bushland, the plant species that should be used in the landscape design should be those that occur in the bushland, preferably provenance stock.
- e) Species selected should not include those listed in the *Noxious Weeds Act 1993* or on the list of environmental weeds (see Appendix F4 Technical Information to this DCP).
- f) Planting should consist of a variety of trees, shrubs and ground covers to contribute to biodiversity.

7) Bushfire Resistant Species

To determine whether a particular site is 'bushfire prone land', advice should be sought from Council's Development Services Department. In these areas, appropriate landscape design and plant species selection will help reduce the risk of bushfires. While no plant is fire proof or completely fire resistant, some plants are less flammable than others.

Landscape design and plant selection should consider bushfire risk. The recommended list of indigenous species in Appendix F4 has a reference to some plants, which are appropriate to these areas due to their low level of flammability and ability to regenerate after a fire.

8) Protection of Trees and Vegetation on Construction Sites and Adjoining Public and Privately Owned Land

- a) If a Tree Management Plan is required, it must identify the vegetation that is to be retained with the development and how it will be protected during and after construction. Tree protection measures must be in accordance with Australian Standard AS4970-2009 Protection of trees on development sites.
- b) Where existing vegetation is to be retained, that vegetation must be protected from soil compaction, root, trunk and limb damage, soil contamination and changes in surface levels that affect the health of the vegetation.
- c) The Tree Management Plan is to be in place prior to commencement of any site works. "Site works" includes the demolition of existing structures or the entrance onto the site of any machinery for excavation, demolition or large scale rubbish removal. Protection measures are to be installed prior to the commencement of any site work in accordance with Australian Standard AS4970-2009 Protection of trees on development sites.
- d) Trees, vegetation and their root zones on public property and private land adjacent to the development site may also need to be protected during the construction process. A common example of this is the protection of street trees located in the public footpath. These trees and vegetation will also need to be included in the Tree Management Plan and protected in accordance with its recommendations.

9) Vegetation Communities

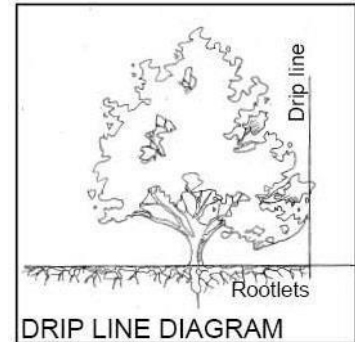
- a) In some cases, there may be sites that contain remnant native vegetation. Where remnant native vegetation exists on a site, a flora and fauna assessment report will be required. (See the 'Vegetation Management' section of this Plan for further details). The purpose of the flora and fauna assessment report is to determine whether the proposed development, including landscaping works, are likely to significantly affect any threatened species, populations or ecological communities or their habitats listed under the *Threatened Species Conservation Act 1995*.

10) Irrigation/Water Consumption

- a) Landscape design should minimise water consumption through selection of indigenous and drought-tolerant species and use of water retaining mulches and soil treatments. It should also include species that can act to establish a micro-climate quickly to assist slower growing species and reduce water consumption.
- b) If additional watering is required, preference is for low water usage irrigation devices, such as drip irrigation systems, during the plant establishment period.
- c) The proposed irrigation system should be detailed in the landscape information submitted as part of the development application.

11) Minimisation of Impervious Surfaces

- a) Where possible, all landscape designs should include permeable paving options. Permeable paving includes the use of permeable/porous paving units, ornamental gravel and paving on a compacted sand bed. The benefits of using permeable paving include:
- i) Ensuring that air and water are available to roots to ensure healthy, secure growth;
 - ii) Providing a safe and stable pedestrian/vehicular surface treatment; and
 - iii) Assisting in the protection and conservation of large, established trees where the root system extends beyond the drip line.
- b) The following minimum areas of permeable surfaces are required to facilitate on-site stormwater infiltration for each land use:
- i) Residential – please refer to controls included in the Residential Development section of this Plan.
 - ii) Industrial - 15% of the site area.



12) Salinity

- a) Landscape designs must take into account the salinity controls in the 'Land Management' section of this Plan.
- b) All landscape designs should consider soil salinity and undertake the following practices:
- i) Select salt tolerant plant species and raise garden beds, ensuring adequate drainage;
 - ii) Use mulch in all garden beds;
 - iii) Minimise the area of lawn as this requires large quantities of water;
 - iv) Use 'water wise' garden design features (including timers, selection of plants with low water needs, grouping plants of similar water usage together, etc);
 - v) Plant native trees and shrubs;
 - vi) Use non-corrosive materials when constructing pipes and channels;
 - vii) Assess current and proposed water storages, artificial lakes and drainage basins as they contribute to groundwater recharge, and minimise where possible;
 - viii) Correct drainage to protect building footings and foundations; and
 - ix) Refer to the Map of Salinity Potential in Western Sydney (DIPNR, 2002) and the accompanying Guidelines for advice on specific ways salinity may affect a particular site.
- c) Soil tests and urban capability mapping are recommended to determine whether salinity is likely to be a problem. If the land is potentially affected by salinity, prevention and monitoring strategies should be employed, such as:
- i) Carrying out soil tests as advised by the Office of Environment and Heritage;
 - ii) Ensuring adequate drainage is located away from buildings and associated infrastructure to avoid ponding;
 - iii) Connecting roof drainage to stormwater systems, rather than sullage pits;
 - iv) Monitoring changes in water table levels and groundwater quality by installing piezometer ('monitoring bore') networks;

- v) Avoiding over-watering of lawns and gardens;
- vi) Selecting plants with low water requirements and applying mulch; and
- vii) Checking and repairing water leaks as soon as possible.

13) Materials Selection

- a) Landscaping works must comply with the controls relating to the use of sustainable materials in the 'Waste Management' section of this Plan.
- b) The use of recycled and biodegradable products is preferred in landscape design, such as recycled on-site soils and recycled hard landscaping materials.

6.1.3. Neighbourhood Amenity and Character

1) Landscape Character

- a) Landscape design should reinforce the identified natural attributes of the site including, but not limited to, watercourses, landmark elements, landforms, views and vistas, significant trees, vegetation patterns and historic buildings.
- b) Remnant native vegetation should be retained, managed and incorporated into landscape designs to conserve the natural biodiversity across the landscape.
- c) Landscape design should enhance the amenity and visual quality of the site. Landscaping solutions are to be used to screen and enhance visually obtrusive land uses or building elements within their setting.

2) Integration of Design

- a) All landscape and building designs should be complementary and aim to achieve similar design outcomes. The design of both buildings and landscaping should utilise the same site analysis drawings and concepts. In this way, the site will be developed with a building design and a landscape design that deliver the best possible development solution for the owners and the community.

3) Streetscape

- a) All sites make a contribution to the streetscape by way of the design of any structures or vegetation. Therefore, any landscape submission must include an assessment of the streetscape.
- b) Generally, Council requires that dominant positive streetscape elements are to be continued in the design of any landscaping works to ensure that the development integrates into and enhances the existing streetscape character. Features that contribute to the existing streetscape include:
 - i) Street trees and vegetation;
 - ii) Pavement materials/details;
 - iii) Architectural character;
 - iv) Setbacks of buildings and other structures;
 - v) Existing uses, e.g. residential/retail/industrial;
 - vi) Heritage items;
 - vii) Traffic – vehicular and pedestrian;

- viii) Car parking – off street, on street, access, etc;
 - ix) Privacy;
 - x) Building heights, mass, material and colour;
 - xi) Links with other spaces;
 - xii) Street dimensions/scale – street width, verge and path treatments;
 - xiii) Lighting;
 - xiv) Maintenance issues, e.g. rubbish collection, letterboxes;
 - xv) Landscape style; and
 - xvi) Street furniture, fences, gates and signage.
- c) Some elements of landscape design and streetscape that should be implemented include the following:
- i) Landscape design should be used to soften the impact of buildings and as a visual element between the street and the development;
 - ii) Fencing that is forward of the building line should be incorporated with the landscape and consistent with that in the street or locality;
 - iii) Landscape design should be used to soften the impact of car parking areas; and
 - iv) In open car parking areas, one large shade tree for every 6 car spaces is to be provided as a minimum to improve visual amenity and reduce the heat island effect.

4) Community Safety

- a) Landscape designs must comply with the safety and crime prevention controls in the 'Site Planning and Design Principles' section of this DCP.
- b) All landscape designs should promote the safety of the community through the maximisation of natural surveillance and appropriate lighting. Such measures include the following:
 - i) Appropriate levels of lighting of public spaces such as driveways, gardens and links through the site;
 - ii) Appropriate lighting and visibility of the entry to dwellings;
 - iii) Provision of appropriate plant species that minimise opportunities for concealment of intruders and do not provide hidden recesses;
 - iv) Dwelling entries that are visible from the street or other public areas;
 - v) Fences or planting that allow glimpses or overview of the street, private courtyards and other open space areas;
 - vi) At driveways, street intersections and other crossing points, landscaping that does not block views between pedestrians and approaching vehicles; and
 - vii) Landscaping that does not prevent surveillance of car parking areas.

5) Fencing and Retaining Walls

- a) Landscape designs must comply with fencing controls required by this DCP.
- b) Fencing and retaining walls are an important part of any landscape design and can alter the style and character of the development and the streetscape. Considerations when designing fencing or screening include:

- i) Rights of access;
 - ii) Community safety;
 - iii) Design;
 - iv) Aesthetics;
 - v) Existing vegetation;
 - vi) Boundaries, easements and emergency access routes - these are not to be compromised;
 - vii) Materials and size relative to the proportions, scale and character of the street, surrounding buildings and landscape; and
 - viii) Maintenance issues to avoid graffiti and vandalism, and life cycle cost (i.e. considering the cost of a product over its entire life span).
- c) Retaining walls are to be kept to a minimum to reduce earthworks. See the 'Land Management' section of this DCP for requirements for excavation and filling.
 - d) All retaining walls are to be constructed of masonry or concrete material. Timber retaining walls are not permitted.
 - e) Development involving earthworks and retaining walls need to have regard for the amenity of any adjoining/surrounding properties and natural flow of water across the land. See Council's *Stormwater Drainage Specification for Building Developments*.

6) Planting on Structures

- a) Landscape designs that propose planting on structures will require a Landscape Concept Plan which must outline how the area of planting on structures will be maintained for the life of the development.

7) Buffer zones

- a) Where buffer zones are provided to help minimise land use conflicts, they must be densely planted in accordance with the requirements of this section of the DCP, using generally native or indigenous species. Council requires that these buffer areas be fully maintained continuously, with failed plants and trees to be replaced immediately with new plantings of the same species.

6.1.4. Site Amenity

1) Contextual Design

- a) Landscape designs should seek to screen development, particularly from the sides and rear of an allotment.
- b) Landscape design should be used to highlight architectural features, define entry points, indicate direction, and frame and filter views into the site. Landscape design should also be responsive to the bulk and scale of the development.
- c) Shrubs and small trees should be used to screen service areas and block unwanted views that reduce privacy.
- d) Plantings should be of advanced species except where it is demonstrated to Council's satisfaction that semi-advanced stock is more suited to soil and/or plant characteristics.
- e) Landscape design should ensure that plantings when mature will not conflict with structures and services.

2) Open Space Requirements

- a) The amount of open space is crucial to the landscape design. This amount will vary depending on:
 - i) The use proposed on the site;
 - ii) The requirements of the occupants;
 - iii) Character of the neighbourhood;
 - iv) Requirements in other sections of this DCP;
 - v) Retention of mature/significant trees/vegetation; and
 - vi) Whether the space is a private or public space.
- b) Communal space/recreational facilities must be located and designed to avoid nuisance or danger to neighbours, residents and visitors. Consideration should be given to the type of activities to be undertaken, hours of use, noise generation and on-going maintenance and safety of the space/recreational facility. Consideration should also be given to:
 - i) Separating conflicting activities (e.g. play spaces away from driveways); and
 - ii) Including equipment such as seating, shade structures and children's play equipment.
- c) Communal open space should generally have access only from within the site. Communal open space for multi dwelling housing should be accessible from all dwellings within the development. Surveillance of this space should be possible from at least 2 dwellings.
- d) The design of a development should maximise solar access to all open spaces.
- e) Trees should be selected and located to regulate solar access to buildings. Deciduous trees are best planted on northern and western aspects to allow solar penetration in winter and shade in summer.

3) Deep Soil Zones

- a) Landscape design should maximise the area of a deep soil zone, especially around existing trees to provide sufficient soil depth for roots.
- b) The following minimum areas for a deep soil zone are required for each land use:
 - i) Residential - please refer to controls included in the Residential Development section of this DCP;
 - ii) Industrial - 10% of the site area.

4) Equal Access

- a) In accordance with the Federal *Disabilities Discrimination Act 1992* and the NSW *Anti Discrimination Act 1977*, and all relevant Australian Standards, the following design elements must be considered when designing any landscape projects to ensure equal access for people with disabilities:
 - i) Pedestrian routes;
 - ii) Tactile warning strips with a strong contrast to adjoining paving;
 - iii) Stairways/steps;
 - iv) Landings;

- v) Ramps;
- vi) Handrails;
- vii) Seating;
- viii) Lighting;
- ix) Signage
- x) Luminance contrast of street and park furniture.

5) Heritage

- a) Landscape designs must comply with any relevant requirements of the 'Culture and Heritage' section of this DCP.
- b) If a site is listed as a heritage item or is within a heritage conservation area, a heritage impact statement may be required. The landscape design is to retain any natural, cultural or architectural features that are essential to the conservation of the heritage significance of the place. The landscape design should respect the importance of these heritage features, be of a sympathetic style and form, and should be influenced by any relevant heritage landscape evidence.

For more information contact Council's Development Services Department.

6) Noise, Vibration and Dust Reduction

- a) Where appropriate, all landscape designs are to incorporate landscape techniques to act as a barrier or buffer to reduce dust, noise and vibration levels from adjoining activities. Examples include fencing and planting adjacent to driveways and the like which can contribute to noise attenuation.

7) Location of Utility Services

The location of utility services, such as gas and electricity, can significantly impact upon existing vegetation and locations for proposed vegetation. As such, the following requirements are applicable:

- a) Common trenching for compatible underground services should be maximised to reduce repeated disturbance to established plantings.
- b) Overhead cabling of services should be placed in allocated easements.
- c) Selected plant species should not obstruct or interfere with infrastructure facilities having regard to:
 - i) The mature height of trees and shrubs beneath overhead services; and
 - ii) The root growth of trees and shrubs and underground services.
- d) Services should be located away from existing and proposed vegetation and their root zones.

8) Utility Areas

- a) Waste and recyclables storage facilities should be located behind the building line and not adjacent to communal outdoor seating/recreation areas.
- b) The storage area is to be suitably screened.

- c) Outdoor clothes drying facilities are to be hidden from the street.

9) Landscaping and Above Ground On-Site Stormwater Detention

- a) Landscape works must comply with the stormwater management and drainage requirements in the 'Water Management' section in this DCP.
- b) All landscape works are to include provision for adequate drainage including collection or dispersal of stormwater runoff, prevention of ponding of water on pavements or discharge of runoff onto adjoining properties or public areas.
- c) Above ground detention structures should be suitably landscaped to improve the visual amenity of the development.
- d) Detention structures should be suitably integrated into the landscaping for the whole site, including common open space areas. Ideally, such structures should appear as a feature as opposed to an engineered structure or element.
- e) Plant species used in these areas must be capable of withstanding periodic inundation and must not impact upon the functioning of the area as a detention structure.
- f) Where above ground storage of detained water is proposed, the landscape design will be required to accommodate this through the following:
 - i) The maximum allowable depth of ponding in residential areas is 300mm, and in industrial/business areas is 1.2m;
 - ii) Subsoil drainage is to be installed around the outlet to prevent the area remaining saturated during wet weather;
 - iii) The maximum batter slope around a landscaped area is to be 1 in 4, with 1 in 6 being preferable;
 - iv) Mulching with wood or bark chip in storage areas subject to inundation in more frequent storm events (i.e. up to and including the 20% Annual Exceedance Probability (AEP) storm) is not considered desirable. Weedmat or similar should be used in these areas;
 - v) Those areas of the basin subject to inundation up to and including the 5% AEP storm are to be turfed. Trees may be planted in the turfed area. Shrubs and/or groundcovers may be planted above the 5% AEP water level; and
 - vi) Careful consideration should be given to the types of planting within the basin to ensure the area can be maintained and the storage volume is not reduced to an unacceptable level. If substantial planting is proposed within the basin, the storage volume is to be increased to accommodate this. Refer to the Landscape Technical Specifications in Appendix F4 Technical Information for a plan relating to some of the above details.

10) On-Site Effluent Disposal and Landscaping

- a) As sewer is not available to some areas of Penrith, some developments may need to consider on-site effluent disposal, and in particular, land application areas for the disposal of treated effluent. If this is the case, specific vegetation will be required that can cope with this treated effluent. Appendix F4 provides a list of species which are appropriate for such land application areas. Additional requirements for on-site sewage management are included in the 'Infrastructure and Services' section of this DCP.

11) Car Wash Bays

- a) Where appropriate, landscape designs should incorporate an area with a permeable surface where a car can be washed.
- b) The car wash bay may be turfed or gravel and should prevent contaminants from entering the stormwater system.

6.1.5. Construction

All landscaping construction is to meet the minimum 'Landscape Technical Specifications' in Appendix F4 Technical Information to this DCP.

C. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the landscape principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Landscape irrigation/watering systems should, where possible, utilise recycled grey-water/stormwater or water from on-site detention systems to avoid use of potable drinking water for this purpose; and
- b) 'Greening' of all suitable roof spaces in order to reduce energy needs for cooling and create more sustainable roof designs.

D. Other Information

It is recommended that applicants seeking to address this issue also refer to other relevant information including:

- Centre for Architectural Ecology - Collaborations in Green Roofs and Living Walls: BCIT School of Construction and the Environment at <http://commons.bcit.ca/greenroof/case.html>
- Green Roofs Australia at <http://greenroofs.wordpress.com/>
- Penrith City Council's *Landscape Character Strategy* (2006)
- Penrith City Council's *Sustainability Blueprint for urban release areas* (June 2005)
- SEDA: Solar Access for Lots, Available at www.energysmart.com.au/brochures/Solar_Access_for_Lots_Guide.pdf.

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C7 Culture and Heritage

A. Background

Overview of Controls

This DCP applies to 'heritage items', 'heritage conservation areas' and 'archaeological sites' listed in Schedule 5 of Penrith Local Environmental Plan (LEP) 2010. It also applies to land within the vicinity of heritage items and heritage conservation areas. In addition, the DCP applies to Aboriginal places of heritage significance and land on which Aboriginal objects are located. (Penrith LEP 2010 includes the definitions of these terms). This section of the DCP supplements Penrith LEP 2010, particularly clause 5.10 Heritage conservation, by providing controls to manage the heritage of Penrith City.

Controls include guidelines to conserve the heritage significance of the natural and built environment and ensure new development is sympathetic with the identified heritage values. The controls address design, streetscapes, site planning, fences, gates and landscaping. Heritage controls aim to ensure that future development takes place in a way that does not detract from the heritage values of the Penrith area.

Heritage Significance

The concept of heritage significance is based upon an idea that a building, relic or place may have historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance for past, present and future generations. The Heritage Council has established widely accepted criteria to be used in ascertaining heritage significance. An item or area will be considered to be of heritage significance if it meets one or more of the following Heritage Council criteria:

- 1) **Criterion (a):** An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);
- 2) **Criterion (b):** An item has strong or special association with the life or works of a person, or a group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);
- 3) **Criterion (c):** An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
- 4) **Criterion (d):** An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;
- 5) **Criterion (e):** An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);
- 6) **Criterion (f):** An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);
- 7) **Criterion (g):** An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's):
 - 1) Cultural or natural places; or
 - 2) Cultural or natural environments.)

It is important to note that a heritage building does not have to be completely intact or in good condition for it to be of heritage significance. Rather, it is the building's ability to demonstrate the above criteria and historical themes that is important.

Before any alterations or new works are proposed to a heritage item or within a conservation area there must be a thorough understanding of its heritage significance. Once this is known

decisions about the future of the site, such as new works, can be more easily and appropriately determined.

The concept of heritage significance is explained more fully in the Australia ICOMOS (International Council on Monuments and Sites) Burra Charter, 2013 and the document entitled 'Assessing heritage significance' prepared by the NSW Heritage Office, 2001.

B. General Objectives

- a) To promote the wise management, development and conservation of the heritage assets of Penrith;
- b) To conserve the environmental heritage of Penrith;
- c) To conserve the heritage significance of the existing fabric, relics, settings and views associated with heritage items and heritage conservation areas;
- d) To ensure that alterations, additions and infill development are sympathetic and respectful of the values of the heritage place;
- e) To promote the protection of places which have the potential to have heritage significance but are not identified as heritage items, places or heritage conservation areas;
- f) To ensure that the heritage conservation areas throughout Penrith retain their heritage significance;
- g) To provide guidance on the range and application of available conservation incentives;
- h) To control the demolition of heritage items and archivally record a heritage place in circumstances of demolition;
- i) To ensure archival records of heritage items and potential heritage places are undertaken in certain circumstances to a prescribed standard; and
- j) To ensure that proposals for development of environmental heritage are undertaken in a sustainable and appropriate way that conserves its values.

C. Other Information

People seeking further information on heritage places or preparing development applications may wish to refer to the following:

- 1) Penrith City Council - *Heritage Study Volume 2: Thematic History May 2006* prepared by Paul Davies Pty Ltd
- 2) Penrith City Council - *Heritage Study Volume 3: Locality Profiles November 2007* prepared by Paul Davies Pty Ltd
- 3) *The Burra Charter* (Australia ICOMOS, 2013)
- 4) *Assessing Heritage Significance* (NSW Heritage Office, 2001)
- 5) *How to carry out work on heritage buildings and sites* (NSW Heritage Office, 2002)
- 6) *Statements of Heritage Impact* (NSW Heritage Office and Department of Planning, 1996)
- 7) *Local Government Heritage Guidelines* (NSW Heritage Office, 2002).
- 8) *Conservation Management Documents* (NSW Heritage Office and Department for Planning, 2002).
- 9) *Maintenance Series*, NSW Heritage Office.

7.1. European Heritage

A. Background

Heritage provides both physical and cultural links to a locality's identity and assists in the creation of a sense of place and community. Heritage items are an integral part of Penrith's setting and need to be protected for the benefit of future generations. European heritage includes built items and relics, areas of conservation value due to past associations and natural environments.

7.1.1. Determining the Impact on Heritage Significance

- a) Where a proposed development could affect the heritage significance of a heritage item or heritage conservation area, the applicant is required to lodge a *Heritage Impact Statement* or *Conservation Management Plan* (as required).
- b) A proposed development could affect the heritage significance of a heritage item or heritage conservation area if it is either in that item, place or conservation area or it is in the vicinity of that item, place or conservation area.
- c) Impact on a heritage item, place or conservation area can include, but is not limited to:
 - i) Affecting the item, place or area itself;
 - ii) Affecting a significant view to or from the item;
 - iii) Affecting the setting or heritage curtilage, including any landscape or horticultural features of the item;
 - iv) Overshadowing of the item;
 - v) Affecting the form of any historic subdivision pattern;
 - vi) Undermining or otherwise causing physical damage to the item; or
 - vii) Otherwise having an adverse impact on its heritage significance.
- d) A Heritage Impact Statement or Conservation Management Plan must be prepared by a qualified Heritage Consultant.
- e) A Heritage Impact Statement must address the issues set out in this section of the DCP and the Submission Requirements for applications in Appendix F3 of this DCP.

7.1.2. Heritage Items

A. Background

Heritage items comprise buildings, sites, places, archaeological sites and landscapes of both State and local significance, and are identified on the State Heritage Register and/or in Schedule 5 of Penrith LEP 2010.

Any proposals for development involving a heritage item must achieve a reasonable balance between protecting the heritage significance of the item and adaptation to meet amenity and contemporary needs.

B. Objectives

- a) To encourage the retention of existing heritage items and their significant elements;
- b) To ensure development is based on the understanding and conservation of the heritage significance of the item;

- c) To encourage heritage items to be used for purposes that are appropriate to their heritage significance;
- d) To maintain the setting of the heritage item including the relationship between the item and its surroundings;
- e) To encourage the removal of inappropriate alterations and additions, and the reinstatement of significant missing details and building elements; and
- f) To protect and conserve built heritage in accordance with the principles of the Burra Charter.

C. Controls

1) Development Application

- a) Any Heritage Impact Statement for development that may impact on a heritage item must address the following (at a minimum):
 - a) The heritage significance of the item as part of the environmental heritage of Penrith;
 - b) The impact that the proposed development will have on the heritage significance of the item and its setting, including any landscape or horticultural features;
 - c) The measures proposed to conserve the heritage significance of the item and its setting;
 - d) Whether any archaeological site would be adversely affected by the proposed development;
 - e) The extent to which the carrying out of the proposed development would affect the form of any significant subdivision pattern; and
 - f) The issues raised by any submission received in relation to the proposed development in response to the notification or advertising of the application.
- b) Development of a heritage item must:
 - a) Be consistent with an appropriate Heritage Impact Statement or Conservation Management Plan;
 - b) Be consistent with the information on the State Heritage Inventory for that heritage item;
 - c) Protect the setting of the heritage item;
 - d) Retain significant internal and external fabric and building elements;
 - e) Retain significant internal and external spaces;
 - f) Remove unsympathetic alterations and additions;
 - g) Reinstatement missing details and building elements; and
 - h) Use materials, finishes and colours that are appropriate to the significant periods of development or architectural character of the item.
- c) Alterations to the room layout of heritage items are to ensure that the original room configuration remains discernible and can be interpreted.
- d) If there is any likelihood of an impact on any significant archaeological relics from a period prior to the current building, development must ensure that the impact is managed according to the assessed level of significance of those relics.

7.1.3. Heritage Conservation Areas

A. Background

In some instances, individual built or landscape items are not listed, but rather a heritage conservation area is listed. Heritage conservation areas are listed in Schedule 5 of Penrith LEP 2010.

Each conservation area is important for different reasons and therefore any changes which are proposed must take into account the nature of the heritage significance of the particular area (embodied in its statement of significance found on the State Heritage Inventory).

B. Objectives

- a) To ensure that any development within a heritage conservation area is compatible with the important or significant characteristics of the conservation area as a whole.

C. Controls

- 1) Any Heritage Impact Statement for development that may impact on a heritage conservation area must address the following (at a minimum):
 - a) The heritage significance of the heritage conservation area and the contribution which any building, work, relic, tree or place affected by the proposed development makes to this heritage significance;
 - b) The impact that the proposed development would have on the heritage significance of the heritage conservation area;
 - c) The compatibility of any proposed development with nearby original buildings and the character of the heritage conservation area, taking into account the size, form, scale, orientation, setbacks, materials and detailing of the proposed development;
 - d) The measures proposed to conserve the significance to the heritage conservation area and its setting;
 - e) Whether any landscape or horticultural features would be affected by the proposed development;
 - f) Whether any archaeological site would be adversely affected by the proposed development;
 - g) The extent to which carrying out of the proposed development would affect any historic subdivision pattern; and
 - h) The issues raised by any submission received in relation to the proposed development in response to the notification or advertising of the application.
- 2) New development within a heritage conservation area is to be sited and designed so as not to adversely impact upon the existing or original landscape and spatial qualities of the area.
- 3) New buildings are to complement existing buildings of significance with respect to bulk, scale and façade geometry, and be of a simple, contemporary design that avoids 'heritage style' replication of architectural or decorative detail.

7.1.4. Design Guidelines

A. Background

This section provides guidance to applicants for any proposed development associated with heritage items. It is for guidance only and not intended to be prescriptive. The individual

circumstance of the heritage place will influence the design solution. Applicants are strongly advised to seek professional advice from a heritage architect to create a site responsive design solution.

B. Objectives

- a) To conserve and maintain established setbacks to streets;
- b) To ensure adequate curtilage and landscape setting for the item;
- c) To ensure the integrity of the heritage item and its setting, or the conservation area, is retained by the careful siting of new buildings and alterations and additions to existing buildings;
- d) To ensure that the subdivision of land on which a heritage building is located does not isolate the building from its setting or context, or adversely affect its amenity or privacy;
- e) To ensure that the development of land or a building in the vicinity of a heritage item is undertaken in a manner that complements the heritage significance of the site;
- f) To ensure that new development is carefully sited so as to avoid causing physical damage to any heritage item especially where sited within the same curtilage as the heritage item;
- g) To ensure that new development, including alterations, additions, extensions, additional buildings or structures, are designed to minimise any potential impacts to adjoining heritage items;
- h) To protect the heritage significance of heritage items and items within heritage conservation areas;
- i) To conserve and protect significant items of European heritage that are located in the industrial areas of the City;
- j) To prevent the demolition of heritage items or items within heritage conservations areas; and
- k) To ensure that new development located within the curtilage of a heritage item is in keeping with the context and setting of the heritage item.

C. Controls

1) Site Planning

Any new development should be positioned to ensure that the visual prominence, context and significance of the existing heritage item and its setting are maintained.

Front and side boundary setbacks are a major contributor to the character and significance of a heritage item or heritage conservation area. Existing patterns should be maintained in new development to continue the established rhythm of buildings and spaces.

- a) Development should conform to the predominant front setbacks in the streetscape.
- b) Development should respect side setbacks and rear alignments or setbacks of surrounding development.
- c) Front and rear setbacks should be adequate to ensure the retention of the existing landscape character of the heritage item or conservation area and important landscape features.
- d) Any significant historical pattern of subdivision and lot sizes is to be retained. Subdivision or site amalgamation involving heritage items or contributory buildings should not compromise the setting or curtilage of buildings on or adjoining the site.

2) Alterations and Additions

This section includes general provisions for alterations and additions to heritage items.

- a) Single storey additions may comprise the following forms:
 - i) Linked pavilions;
 - ii) Attached wings;
 - iii) Detached pavilions; and
 - iv) Attached L-shaped wings.
- b) Additions should not extend beyond side boundary setbacks.
- c) Attached additions shall have wall indentations to clearly separate the old from the new and articulate wall length.

3) Subdivision and Site Analysis

The subdivision of land upon which a heritage building is located has the potential to isolate the building from its setting thereby reducing its cultural or historical significance.

The setting of a heritage building is often referred to as the curtilage and may include the immediate garden, mature trees, original allotment boundaries, paddocks, fencing, outbuildings, archaeological sites, views/vistas or any other feature or space which allows a greater understanding of its historical context. The curtilage is therefore essential for retaining and interpreting the heritage significance of that building.

- a) Proposals for subdivision should define an appropriate setting or 'curtilage' for the heritage building as part of the Heritage Impact Statement or Conservation Management Plan.
- b) In determining the curtilage of a heritage building, consideration is to be given to the following:
 - i) The original form and function of the heritage building: The type of structure that constitutes 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 than that of a suburban building;
 - ii) Outbuildings: A heritage building and its associated outbuildings should be retained on the same allotment; and
 - iii) 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.
- c) New development shall be of a scale and form that does not detract from the historical significance, appearance and setting of the heritage item. In this way, the following elements require specific consideration:
 - i) The height of new development near heritage items shall be less than the subject item. Increases in height shall be proportional to increased distance from the items and will be considered on merit;
 - ii) Views and vistas to the heritage item from roads and other prominent areas are key elements in the landscape and shall be retained;
 - iii) If the development site can be viewed from a heritage item(s), any new development will need to be designed and sited so that it is not obtrusive when it is viewed from the heritage item(s); and
 - iv) Curtilages shall be retained around all listed items sufficient to ensure that views to them and their relationship with adjacent settings are maintained.

4) Gardens, Landscaping and Fencing

In many circumstances it is important to protect, not only the heritage item or conservation area itself, but also the land around it which contributes to its setting, therefore enhancing its heritage significance.

Curtilages shall be established by evaluating the components of a site relative to the building. Key aspects of a property's curtilage include any gardens, entrances, fencing and outbuildings.

The curtilage shall maintain the relationship between these elements so as to allow the heritage item and its site to be understood. As a result, these elements shall be used in determining a suitable curtilage and shall be retained where suitable.

- a) 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.
- b) Development proposals, which involve large scale 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.
- c) 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 a heritage item.
- d) 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.
- e) 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 or careful inspection of remaining fabric can often reveal the original fence type.
- f) 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.
- g) 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.
- h) Vegetation around a heritage item shall be assessed for its value to the item and retained where required.

5) Garages and Carports

This section includes general provisions for garages and carports on properties containing heritage items.

- a) Garages and carports may comprise the following forms:
 - i) Double garage or carport at the rear of the lot; and
 - ii) Carport set behind the building line at the side of a dwelling.
- b) Garage and carport roof forms will depend on the setting and context of the property.
- c) Carports are appropriate beside a dwelling. They are to be flat roofed with fringing pergola elements which suggest a garden structure form.

7.1.5. Development in the Vicinity of a Heritage Item or Conservation Area

A. Background

A development in the vicinity of a heritage item or a heritage conservation area must be assessed to determine whether it will have any impact on the significance and visual setting of that item or conservation area.

B. Objectives

To ensure that the development of land or a building in the vicinity of a heritage item or heritage conservation area is undertaken in a manner that complements the heritage significance of the site or area.

C. Controls

- 1) A Heritage Impact Statement shall be lodged with a development application for buildings or works in the vicinity of a heritage item or heritage conservation area. This clause extends to development that:
 - a) May have an impact on the setting of a heritage item or conservation area, for example, by affecting a significant view to or from the item or by overshadowing; or
 - b) May undermine or otherwise cause physical damage to a heritage item; or
 - c) Will otherwise have any adverse impact on the heritage significance of a heritage item or any heritage conservation area within which it is situated.
- 2) The following issues must be addressed in the Heritage Impact Statement:
 - a) The impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item;
 - b) Details of the size, shape and scale of, setbacks for, and the materials to be used in, any proposed buildings or works; and
 - c) Details of any modification that would reduce the impact of the proposed development on the heritage significance of the heritage item.

7.1.6. Archaeological Sites

A. Background

This section of the DCP provides guidance to applicants regarding development that involves archaeological sites. For the purposes of this section an archaeological site means the site (as listed in Schedule 5 – Environmental Heritage of Penrith LEP 2010) of one or more relics.

B. Objectives

- a) To ensure that development is undertaken in a manner that acknowledges and protects sites of archaeological significance.

C. Controls

- 1) Any application which proposes the disturbance or development of an 'archaeological site' listed in Schedule 5 – Environmental Heritage of Penrith LEP 2010 is to undertake an archaeological assessment and to submit that assessment as part of the Heritage Impact Statement or Conservation Management Plan.

- 2) The archaeological assessment is to:
 - a) Evaluate the probable extent, nature and integrity of the site and determine its significance;
 - b) Define appropriate management measures for the site having regard to its significance; and
 - c) Is to be prepared in accordance with guidelines contained within the document entitled "Assessing Significance for Historical Sites and 'Relics'" (Heritage Branch, Department of Planning, 2009).
- 3) Where the development or disturbance of an archaeological site is proposed, the applicant will be required to liaise with the Heritage Division of the Office of Environment and Heritage to ensure any related statutory requirements of the *Heritage Act, 1977* are complied with prior to the submission of the development application. For example, any proposal to disturb or excavate land which will or is likely to result in a relic (whether or not that relic is listed as an archaeological site under Penrith LEP 2010) being discovered, exposed, moved, damaged or destroyed requires an excavation permit to be obtained from the Heritage Council (Heritage Division of the Office of Environment and Heritage).
- 4) If relics are discovered during construction or operation, works should cease immediately and the Heritage Division contacted. At that time, the Heritage Division may request an archaeological assessment before any further work can commence.

7.1.7. Potential Heritage Items

A. Background

This section provides guidance to applicants wanting to lodge an application that involves a building, relic or structure that is more than 50 years old.

B. Objectives

To protect buildings that may have heritage significance, but are not listed in Schedule 5 – Environmental Heritage of Penrith LEP 2010.

C. Controls

- 1) Where it is proposed to develop or demolish a building, relic or structure not listed in Schedule 5 – Environmental Heritage of Penrith LEP 2010 that is older than fifty years, Council may require the submission of a Heritage Impact Statement that addresses those issues referred to in Clause 5.10 of Penrith LEP 2010 or in this DCP, so as to enable it to fully consider the impact of the development upon the significance of the building, relic or structure.

7.1.8. Demolition

A. Background

While a key objective of heritage conservation is the preservation of heritage items, occasionally, there will be circumstances where it is not possible to preserve a heritage item on its original site, and where applications for demolition are received.

Applicants must demonstrate that all possible options for retention of the heritage item have been exhausted prior to applying for a demolition permit, and that if a demolition permit is issued, the item will be adequately documented, made available for salvage and commemorated, where appropriate.

B. Objectives

- a) To ensure that adequate consideration is given to the significance of a heritage item and any alternative options, where the demolition of a heritage item is proposed.

C. Controls

- 1) The demolition of a heritage item is contrary to the intent of heritage listing and is considered a last resort option that will only be considered where:
 - a) All other alternatives have been investigated and ruled out;
 - b) It can be satisfactorily demonstrated that the item does not satisfy the criteria for listing established by the NSW Heritage Council, nor provide physical evidence of one of the historical developmental themes established by the Penrith Heritage Study; or
 - c) The structure is considered incapable of repair.
- 2) Where consent is issued for demolition, a comprehensive diagrammatic and photographic archival record is to be made of the structure to be demolished (refer to 7.1.9). This must be undertaken to Council's satisfaction prior to commencement of any demolition works.

7.1.9. Archival Recording

Archival Recording Requirement

Council shall require an archival recording as a condition of development consent for development involving the demolition or partial demolition of a heritage item or a place within a heritage conservation area.

Standard of Recording

The minimum standard for preparing archival records is available from the Heritage Division of the Office of Environment and Heritage (please refer to the documents entitled 'How to Prepare Archival Records of Heritage Items' and 'Photographic Recording of Heritage Items Using Film or Digital Capture'). A heritage consultant experienced in preparing archival records should be engaged to undertake this task.

Deferred Commencement Consent

A development consent issued by Council for the demolition or partial demolition of a heritage item or a place within a heritage conservation area shall be in the form of a deferred commencement. This is to ensure that the archival recording is completed to Council's satisfaction before the consent becomes operable.

7.1.10. Business, Office and Retail Buildings

A. Background

Due to the prominent function that frontages can play for the economic viability of business, office and retail premises, they are frequently subject to pressures for alteration. Where unsympathetic alterations occur to the ground floor frontages of heritage items used for business, office and retail premises, these can result in the loss of an integral element of their character or heritage significance.

B. Objectives

- a) To retain and conserve the heritage significance of heritage protected business, office and retail buildings; and

- b) To protect the distinctive and characteristic elements of business, office and retail buildings and ensure the integration of these features into subsequent uses.

C. Controls

- 1) Ornamental parapet detailing (such as pediments, urns and finials) are important elements of business, office and retail heritage items as they help to establish what period they were erected in. As such, their removal negatively impacts on the architectural significance of such buildings and is not permitted.
- 2) Structural alteration of interior features of heritage protected business, office and retail buildings is not permitted without prior consent from Council.

7.1.11. Conservation Incentives and Fee Concessions

A. Background

In recognition of the needs of heritage items, Council provides conservation incentives to help conserve Penrith's heritage for the community's benefit.

B. Objectives

To provide incentives to owners/applicants for development applications involving heritage items.

C. Controls

- 1) Subclause 5.10(10) 'Conservation incentives' of LEP 2010 allows Council to consider an application for the use for any purpose of a building that is a heritage item or within a heritage conservation area even though the use would otherwise not be permitted under the LEP. In assessing such an application, Council shall consider the matters listed in this subclause, and may require a detailed long term maintenance plan for the building.

Fee Concessions

An applicant may apply, in writing, to Council to have fees refunded (partially or fully) for a development application, construction certificate or building compliance certificate for approved development for buildings or works to a heritage item or a place within a heritage conservation area under the following circumstances:

- 1) Sympathetic restorations, alterations and additions to original buildings used for residential purposes;
- 2) Sympathetic restorations, alterations and additions to original buildings to accommodate community facilities, home activities and home businesses; or
- 3) Sympathetic restorations of non-building places.

Requests for application fee refunds will be assessed in accordance with the following criteria:

- 1) Overall scale of the development;
- 2) Compliance with a development consent and any consent conditions;
- 3) Compliance with a construction certificate and any consent conditions;
- 4) Compliance with the provisions of this section;
- 5) Conservation of the original building fabric and landscape elements; and
- 6) Any other relevant heritage conservation matter.

Other Concessions

In relation to an application for the use for any purpose of a building that is a heritage item or within a heritage conservation area, an applicant may apply in writing to Council to have waived the following contributions or requirements associated with undertaking an approved development:

- 1) Section 94 Developer Contributions under the *Environmental Planning and Assessment Act 1979*;
- 2) On-site car parking requirements; or
- 3) Other development requirements of Council which ordinarily would be applied to the type of proposal.

To obtain a concession, applicants will need to demonstrate that their development proposal will:

- 1) Ensure the long-term conservation and management of the heritage values of the building or place;
- 2) Result in the conservation of the original building fabric, landscape elements or archaeological resources;
- 3) Ensure that the concession sought maintains the public interest and that the development proposal will on balance result in a net public benefit; and
- 4) Not result in any significant adverse impacts on the amenity of adjacent properties or the surrounding environment.

Requests to obtain a concession will be assessed on their merits and reported to Council for determination.

7.2. Aboriginal Culture and Heritage

A. Background

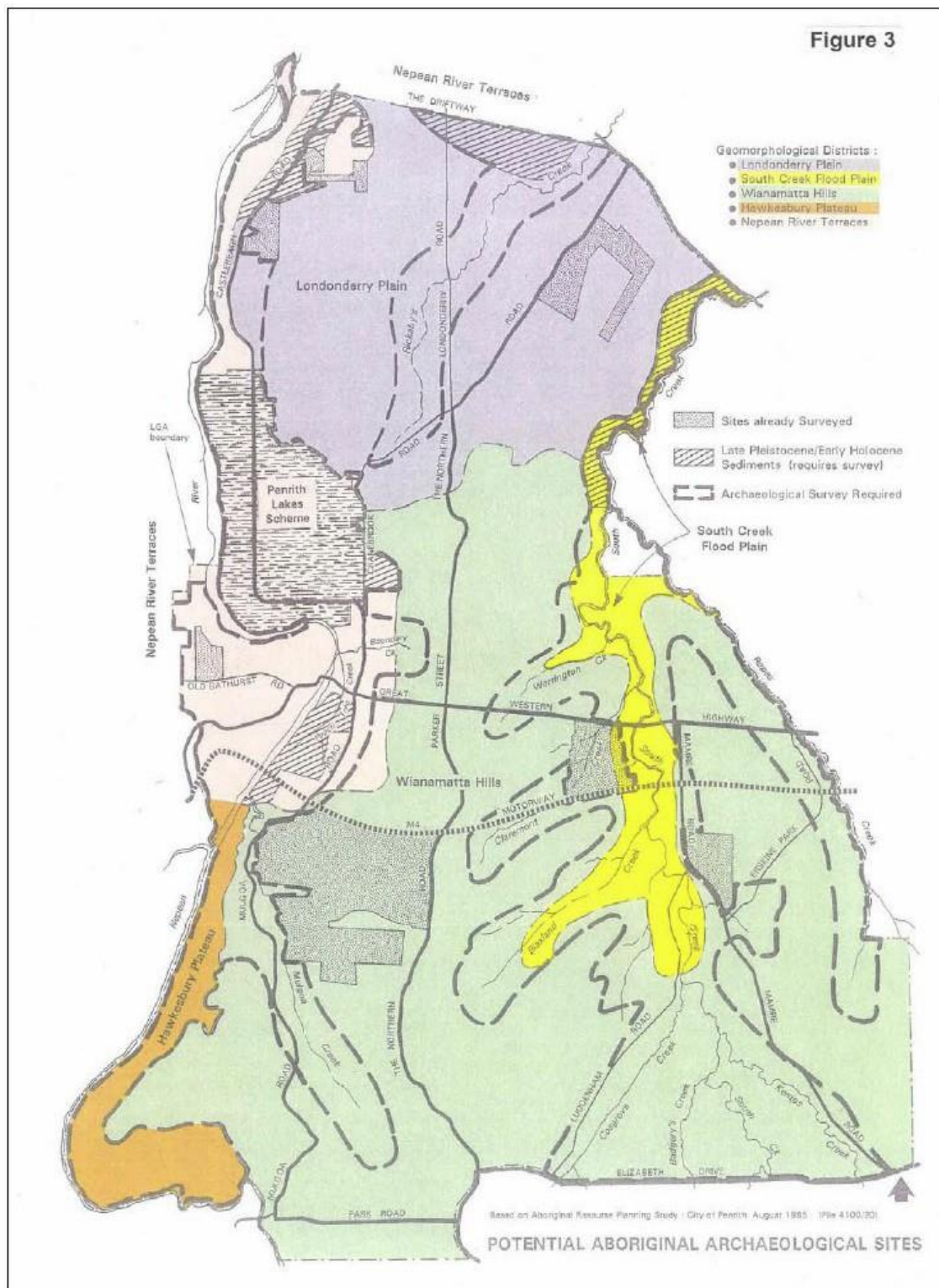
Aboriginal heritage consists of objects and places that are of significance to Aboriginal people because of their traditions, observances, lore, customs, beliefs and history. It may comprise of physical or non-physical elements. For example, it includes items made and used in traditional societies, such as stone tools, art sites and ceremonial or burial grounds, as well as more contemporary items such as places of spiritual importance. 'Aboriginal object' is defined in Penrith LEP 2010. Aboriginal places are areas of land that have no Aboriginal objects, but instead have special significance to Aboriginal culture because of their spiritual, natural resource usage, historical, social, educational or other type of significance.

Aboriginal people are the cultural owners and managers of information about their heritage. Aboriginal culture has existed for over 50,000 years. Aboriginal people have strong spiritual and cultural ties with places throughout NSW. It is vital to indigenous people that these important spiritual and cultural links to land are maintained. This is achieved by continuing traditional practices and beliefs and preserving and protecting places of cultural significance. It is equally important that indigenous heritage and culture is properly recognised and preserved.

Given Penrith's history of Aboriginal settlement, some land within the City may have archaeological potential. It is important to preserve and/or record any remaining archaeological resources.

Figure C7.2 depicts which parts of the City have the potential to be archaeologically sensitive.

Figure C7.2



The Office of Environment and Heritage keeps a register of notified Aboriginal objects and declared Aboriginal places in NSW. This register is called the Aboriginal Heritage Information Management System (AHIMS). Applicants can search AHIMS to determine if an Aboriginal object has been recorded, or an Aboriginal place declared, on a parcel of land.

As indicated in Figure C7.2, surveys for Aboriginal objects have not been done in many parts of the City. Aboriginal objects may therefore exist on a parcel of land even though they have not been recorded in AHIMS.

Aboriginal heritage should be considered in any site selection and site analysis. The site analysis should identify the more obvious items, such as landforms, scarred trees and middens, and establish their significance.

At the planning and design stage, more detailed survey work may need to be undertaken, especially in areas where minimal disturbance by agriculture or other previous land uses has occurred. In some cases, an archaeological investigation may be necessary. The purpose of the archaeological investigation is to learn about past human societies through the study of material remains and historical, oral and environmental sources. The 'Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW' specifies the minimum standards for such an investigation. It is also likely that information will also need to be sourced from the Local Aboriginal Community. (See 'Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010').

If Aboriginal items are present on the site, the development should be designed, wherever possible, to ensure there is no disturbance or impact on their significance or setting. In areas where there has been minimal disturbance, items may not be noticed or evident until site works commence. If Aboriginal items are discovered during construction or operation, works should cease immediately and the Office of Environment and Heritage contacted. Prior to further disturbance occurring to Aboriginal items, an approval will be required from the Office of Environment and Heritage.

B. Objectives

To preserve items and sites of Aboriginal archaeological significance located within the City of Penrith.

C. Controls

- 1) If the development, including subdivision, but not strata subdivision, is on land identified as potentially archaeologically sensitive, an archaeological investigation is required with the development application. The Office of Environment and Heritage should be contacted for advice on survey needs and requirements.
- 2) Despite (a) above, an archaeological assessment is required if the site area is 5 hectares or more. The archaeological assessment should determine whether or not Aboriginal archaeological resources are present on the site, and where appropriate, identify management principles to be implemented.
- 3) The requirements stated in (a) and (b) above will not apply to developments where there is no:
 - a) disturbance of the soil, or
 - b) construction works on the land. For the purposes of this section, any internal or external works to an existing building is not deemed to be construction work.

7.3. Significant Trees and Gardens

A. Background

Major components of our heritage are the trees and gardens found throughout the City of Penrith. This vegetation contributes markedly to a greater understanding of the history and development of the City.

Penrith LEP 2010 provides protection to significant trees and gardens located within Penrith from unsympathetic or indiscriminate development. Applicants should consult with Council's Tree Management Officer for advice.

B. Objectives

- a) To promote greater public awareness of the significant trees and gardens in the City of Penrith;
- b) To ensure that existing and future landowners are made aware of the significant trees and gardens, which may be located on their properties;
- c) To ensure that development adjacent to and in the vicinity of any significant tree or garden does not affect the ongoing viability of that tree or garden; and
- d) To ensure that those qualities intrinsic to the significance of a garden be retained and protected from unsympathetic future development.

What is a Significant Tree or Garden?

The significance of trees or gardens may be determined by an assessment in line with the following broad categories:

- Cultural significance;
- Historical significance;
- Scientific significance;
- Aesthetic significance.

Cultural Significance

The cultural value of a tree, garden or natural vegetation community may:

- mark important cultural town features such as reserves, showgrounds and stockyards;
- reflect different periods in a towns development.

Historical Significance

Trees or gardens may be of significance when associated with important eras, buildings, events or people and fall within the following categories:

- an example of a specific era of landscape design;
- association with historic buildings;
- commemorate an important historical event;
- plantings which were the result of famous persons.

Scientific Significance

Trees or gardens may be valuable for a range of scientific reasons. These may include trees or components of gardens that are poorly known, rare, vulnerable or endangered species.

Aesthetic Significance

Trees or gardens are of aesthetic significance if they comprise important features in a townscape, screen unattractive buildings or are exceptionally beautiful. Aesthetic qualities of trees or gardens include qualities of flower, colour, shape, fragrance, texture, shade or seasonal qualities.

These broad categories may be further refined into more specific categories including:

- 1) Any tree notable for its height, trunk circumference or canopy spread;
- 2) Any tree associated with Aboriginal activities;
- 3) Any tree or garden that occurs in a unique location or context and so provides a contribution to the landscape;
- 4) Any tree of a species or variety that is rare or of very localised distribution;
- 5) Any tree of horticultural or general value that could be an important source of propagating stock;
- 6) Any tree which exhibits a curious growth form.

C. Controls

Owner's Responsibility

If a tree, or trees, has been identified as significant, the owner or any person proposing to do any work on that defined area has the following responsibilities:

- 1) The owner shall not ringbark, cut down, top, lop, or wilfully destroy any tree, except with the consent of Council.
- 2) Development in the vicinity of a significant tree or garden should not result in the destruction or damage of that tree or garden.
- 3) The owner of any property, which has a tree or garden located on the site, should take into consideration the significance of the tree or garden and design development accordingly.

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C8 Public Domain

A. Background

The public domain comprises the shared urban area and spaces, the structures that relate to those spaces and the infrastructure that supports and serves them. Penrith's public domain includes:

- The space/area that is publicly owned and commonly accessed/used by the community without restriction (e.g. parks and public squares, road verges);
- Spaces on private property that invite public access and use (e.g. connections within a site, hotel lobbies);
- Contested spaces where an ebb and flow naturally occurs between the public and a private activity (e.g. outdoor eating and/or trading areas); and
- Private spaces that are visible but physically inaccessible to the general public.

The public domain incorporates elements such as footpaths, street furniture, including signage and lighting, vegetation, fences, bridges, artworks, amenities and seating.

In general, the controls in this section relate primarily to commercial areas or areas where there is a high degree of interaction between the public domain and the private domain.

Additional provisions relating to public domain in the St Marys Town Centre are contained in the St Mary section of this Plan. There are also provisions relating to public domain in the Penrith City Centre in Penrith City Centre section of this Plan.

B. General Objectives

- a) To enhance the quality of the public domain;
- b) To enhance the natural setting and landscape character of Penrith;
- c) To ensure that the public domain is attractive, safe, interesting, connected, comfortable, readily understood and easily accessed;
- d) To ensure that the public domain is enhanced by the built form adjoining it; and
- e) To ensure that the principles of Universal Design are considered when designing the public domain.

C. Controls

Design Principles

Public access (either physically or visually) to the public domain is to be maximised by incorporating one or a combination of the following design elements:

- 1) The location of building entrances and glazing should provide natural surveillance to the public domain without compromising passive solar design principles;

- 2) The built form should provide, where it is appropriate, a visual transition to the public space by avoiding continuous lengths of blank walls and high fences at the interface between the public and private space;
- 3) Views into and from the public domain are to be protected as they increase opportunities for natural surveillance. Where appropriate, ground floor areas abutting public space should be occupied by uses that create active building fronts with pedestrian flow, and contribute to the life of the streets and other public spaces; and
- 4) Accessibility should be provided for all members of the community, particularly those with a disability, and should occur across all areas of the public domain. This includes designing for durability, adaptability, maintenance and replacement.

D. How to Use this Section

This DCP is a multi-layered document. It is important to appreciate the overlap between the public domain and other inter-related issues addressed in this DCP including, but not limited to, the remaining sections in Part C of this DCP. Part D relates generally to land uses/activities while additional provisions may apply to sites located in a key precinct (as listed in Part E of this DCP).

8.1. Pedestrian Amenity

A. Background

Pedestrian amenity incorporates all those elements of individual developments that directly affect the quality and character of the public domain. The pedestrian amenity provisions are intended to achieve a high quality of urban design and pedestrian comfort in those spaces that are publicly accessible. The pedestrian environment should provide a wide variety of opportunities for social and cultural experiences.

These controls apply to all business zones, recreation zones and to industrial sites where a high level of pedestrian activity is expected. They also apply to the RU5 Village zone.

B. Objectives

In addition to the general objectives for Public Domain, the objectives of this section are to:

- a) Encourage future links through sites at ground level, as new development occurs;
- b) Improve the permeability of large sites when they are redeveloped for more intensive uses;
- c) Ensure active street frontages address the street that will promote pedestrian activity, safety and passive surveillance in the public domain;
- d) Ensure that all forms of personal mobility, excluding cycling and cars, are considered when designing access routes;
- e) Ensure the provision of awnings and street furniture to facilitate pedestrian movement;
- f) Identify the location for and encourage provision of street tree planting in the City; and

- g) Ensure that landscaping, public art and place-making principles have an integrated approach and are incorporated in the design of the public domain.

C. Controls

1) Active Street Frontage and Address

Active street frontages promote an interesting and safe pedestrian environment, while buildings that address the street contribute positively to the streetscape.

- a) Active street frontages are to be located on the ground/street level of all buildings, being one or a combination of the following:
 - i) A shop front or entrance to a retail premises or public building with the entrance visible from the street;
 - ii) A café or restaurant, if accompanied by an entry from the street;
 - iii) Active office uses, such as a reception area, if visible from the street; or
 - iv) Activation of the secondary frontage of a corner site; e.g. continuing glazing around the corner.
- b) Glazed entries to commercial or residential lobbies are to occupy less than 50% of the street frontage and have a maximum frontage of 12m. The remainder of the street frontage is to be active.
- c) Active street frontages are to be at the same level as the adjoining footpath and directly accessible from the street.
- d) 'Street address' is defined as:
 - i. Entries, lobbies and habitable rooms that have clear glazing to the street not more than 1.2m above the street level, not including car parking areas; and
 - ii. That are located on the ground level of buildings; and
 - iii. Have direct 'front door' access into the building.
- e) Opportunities to establish active street frontages and/or street address may be specifically identified in a number of locations in key precincts within the City (refer to Part E of this DCP).

2) Permeability

'Through site links' provide access connections between the long sides of street blocks for pedestrian and vehicular access at street level, resulting in a more permeable pedestrian environment along laneways, shared zones, arcades and pedestrian paths.

- a) Through site links for pedestrians are to be designed with accessible paths of travel that are:
 - i) A minimum width of 4m for the full length and clear of any obstruction, including columns, stairs etc.;
 - ii) Direct and fully publicly accessible thoroughfares for pedestrians; and

- iii) Open-air for the full length, with active street frontages or a street address at all ends.
- b) Arcades are to be an accessible path of travel that:
 - i) Have a minimum width of 4m for the full length, clear of any obstruction, including columns, stairs etc.;
 - ii) Are direct and publicly accessible thoroughfares for pedestrians during business/trading hours;
 - iii) Have active frontages on either side for the full length;
 - iv) Where practicable, have access to natural light for at least 30% of the length;
 - v) Where enclosed, have clear glazed entry doors to at least 50% of the entrance; and
 - vi) Where security gates are in operation, designed to be visually permeable.
- c) Lanes are to be designated pedestrian routes that:
 - i) Are accessible paths of travel, with a minimum width of 6m for the full length and clear of any obstruction; and
 - ii) Appropriately lit and sign-posted to indicate the street(s) to which the lane connects.
- d) Opportunities to increase a site's permeability, particularly in the form described above, should be provided:
 - i. for sites comprising 5 hectares or more in area; or
 - ii. at locations identified in particular Key Precincts under this DCP.
- e) The principles of Crime Prevention through Environmental Design (CPTED) (as identified in Site Planning and Design Principles Section of this Plan) should be incorporated into a site's permeability to create a safe and secure environment and encourage activity along these areas.

3) Awnings

Awnings increase the useability and amenity of footpaths, including the pedestrian linkages within the public domain, by providing weather protection to pedestrians. As a feature, awnings provide an interface between the public domain and buildings in the same way as entrances into buildings.

- a) Awnings should be an integral component of new developments (including alterations and additions) and where appropriate, stepped to accommodate sloping streets.
- b) Awning dimensions should generally be:
 - i) Set back from the face of the kerb to allow for clearance of street furniture including street trees;

- ii) A minimum depth of 2.8m where street trees are not required, otherwise a minimum depth of 2.4m; and
- iii) A minimum soffit height of 3.2m and maximum 4m.
- c) For corner sites, awnings are to wrap around the building up to 6m along the secondary street frontage.
- d) Awnings are to be provided at specific locations identified within key precincts in the City (refer to Part E – Key Precincts of this DCP).
- e) The provision of under awning lighting should be recessed into the soffit of the awning or mounted to the building façade to facilitate pedestrian movement at night and improve public safety.
- f) Where the awning is to encroach over the road reserve, including the footpath, a separate approval to erect the awning over the road reserve is to be obtained under the *Roads Act 1993* and the *Local Government Act 1993*.

4) Landscape in the Public Domain and Street Tree Planting

Landscaping plays an integral role in streetscape character and contributes significantly to the amenity of an area. Street tree planting can improve legibility in the urban environment by reinforcing the hierarchy of streets and enhancing a sense of place. The placement of trees and landscaping generally affects light and shadow, colour and views, and contributes to the quality of the pedestrian experience.

The controls in this section apply to all industrial and commercial zones, and to the RU5 Village zone.

- a) The landscape design for the development should incorporate the public domain, including those areas of the site not physically accessed but visible from the street and other locations.
- b) Street trees should not compromise water and energy conservation measures or the accessibility, safety and security of the development and public domain.
- c) Street trees are to be shown on the landscape plan and should include details of the species and be appropriate to the streetscape. Required street trees for the public domain must be at an advanced growth stage, minimum 25 to 45 litre pot size and generally a minimum of 1.5m in height.
- d) Landscape plans accompanying the development application will be required for certain types of development.

8.2. Street Furniture

A. Background

Furniture should provide a good level of amenity and useability without causing clutter. Where other elements such as built form, street trees, lighting or public art define the character of the street, furniture should take second place.

Certain areas of the City are strategically important or unique, allowing for custom designed or individually selected furniture.

B. Objectives

In addition to the general objectives for Public Domain, the objectives of this section are to:

- a) Provide street furniture that improves the amenity and streetscape of the City; and
- b) Ensure that street furniture considers the principles of Universal Design, where relevant.

C. Controls

1. The location and design of street furniture and paving shall take into account the needs of people with a disability, particularly where it abuts the building's elevations (shorelining).
2. Where appropriate, the design of street furniture may be an expression of public art.
3. The design and selection of materials should be low maintenance and resistant to graffiti and vandalism.
4. Street furniture should respond to and enhance the visual character of the streetscape and the public domain.
5. Secure bicycle parking is to be included in the public domain and should be conveniently located.

8.3. Lighting

A. Background

Lighting plays a vital role in crime prevention and personal safety, encouraging night-time activity in places that are lit.

These controls apply to all commercial and industrial areas, and to land zoned RU5 Village.

B. Objectives

In addition to the general objectives for Public Domain, the objective of this section is to provide lighting that improves the amenity and public domain of the City.

C. Controls

1. Council's adopted Public Lighting Policy and the implementation of an energy efficient lighting system should be incorporated into any design. Other factors for consideration of the design and location of lighting are:
 - a. The location of all entrances into the building and its relationship to the street and public domain;
 - b. The future uses of the public domain, particularly those sections that will be used at night, to ensure appropriate levels of visibility;

- c. The location and type of vegetation within the public domain;
 - d. The likelihood for vandalism of the lighting and its maintenance requirements;
 - e. The appropriateness of movement sensitive and diffused lights at specific locations; and
 - f. Potential for lighting spillage onto neighbouring properties as this can cause nuisance and reduce opportunities for natural surveillance (refer to AS 4282 Control of the obstructive effects of outdoor lighting).
2. As a minimum, the requirements of AS 1158 Lighting for roads and public spaces should be used for street lighting. AS 1158 may also be used for the lighting of pathways, laneways and access routes provided the lighting design allows:
- a. A wide beam of illumination to reach the beam of the next light, or the perimeter of the site or area being traversed; and
 - b. The faces of users travelling along the path/laneway/arcade up to a distance of 15m are clearly illuminated.

8.4. Outdoor Dining and Trading Areas

A. Background

This section of the DCP applies to outdoor dining or trading areas that require development consent from Council. If an outdoor dining area is proposed with a food and drink premises, the development application will need to comply with the provisions of this section relating to an outdoor dining area. Similarly, if an outdoor trading area is proposed with retail premises (not including a retail premises retailing in firearms, restricted premises or sex services premises), the development application will need to comply with the provisions of this section relating to an outdoor trading area.

Outdoor dining areas on private land and land owned or managed by Council that are not Exempt under the *State Environmental Planning Policy (Exempt and Complying Development)* 2008 require consent and should consider the following Objectives and Controls.

On land owned or managed by Council, that is Exempt and Community Classified, an Outdoor Dining Permit is required under Council's Outdoor Dining Policy.

B. Objectives

In addition to the general objectives for Public Domain, the objectives of this section are to ensure that:

- a) The outdoor dining area operates in conjunction with a food or drink premises;
- b) The outdoor trading area operates in conjunction with a retail premises (but not a retail premises retailing in firearms, restricted premises or sex services premises);
- c) Outdoor dining or trading areas do not obstruct pedestrian movement, the function of the public domain or access into buildings;
- d) The outdoor dining area does not appear to privatise the public domain.

- e) The furniture provided in association with outdoor dining or trading areas does not pose a hazard to pedestrians or patrons.
- f) Outdoor trading areas contribute to street amenity and landscape character.

C. Controls

1) Outdoor Dining or Trading Area

Distance from Street Furniture and Surrounding Uses

- a) The arrangement and location of the outdoor dining or trading area should consider the location of an existing street furniture and services, including the circulation path that will be required between the outdoor area and associated premises/buildings. A location map, drawn to scale, is to be submitted with the development application showing the location of:
 - i. The proposed outdoor dining or trading area;
 - ii. All existing street furniture and services, such as seating, bins, service pits, telegraph poles, bus stops (including associated seating) and the like; and
 - iii. The main entrance to the premises associated with the outdoor dining or trading area.
- b) Minimum distances must be provided to street furniture or services that have been provided by authorities other than Council. The setback between the street furniture and the outdoor dining or trading area is to allow sufficient access and clearance for pedestrians and to the street furniture/services. The minimum distances are provided in Table 1.
- c) The outdoor dining or trading area must not:
 - i. Intrude into the frontage of another premises without approval from adjoining landowners;
 - ii. Encroach or obstruct access to another premises; or
 - iii. Interfere with the circulation of pedestrians around the frontage of the adjacent premises.
- d) Any existing Council-provided street furniture may be relocated at the applicant's expense. Any request to relocate furniture should be detailed in the development application.

Table 1: Summary of numeric standards for outdoor dining areas

Minimum footpath width	3.5m
Minimum unobstructed footpath width	2.0m
Minimum distance of tables & seating / display stands from:	
Doorway of the premises	0.5m
Post box	1.5m
Phone box	1.5m

Pedestrian crossing	3.0m
Bus stop (including associated seating)	3.0m
Taxi stand	3.0m
Other utilities	Sufficient to provide access for maintenance and repair.
Hours of operation	7.00 am – 10.00 pm OR as specified in the existing approval
Eating areas	
Minimum height for separation barrier	0.6m
Maximum height of separation barriers	0.9m

Owner's Consent to Occupy Land

The owner's consent must be obtained to locate the outdoor dining or trading area on the land, including land owned or managed by Council (such as the footpath area of the road reserve). This consent must accompany the development application submitted to Council.

If outdoor trading areas are to be located on Council land, including the footpath, you should also refer to the section below entitled "Trading Areas located on land owned or managed by Council").

Approvals

Copies of outdoor dining and trading approvals are required to supplement any development application.

Outdoor Dining

NSW legislation sets out the following approvals required for a premise to have outdoor dining:

- a) Outdoor dining on the public footway requires an approval under the Roads Act 1993.
- b) Outdoor dining on community land, such as a park of reserve requires approval under the Local Government Act 1993.
- c) Outdoor dining that is on Crown land requires an approval under the Crown Land Management Act 2016.

Outdoor Trading

Approval under the Roads Act 1993 is also required for use of a public road, including footpaths, for outdoor trading (street vending).

This enables Council to ensure that the position of the outdoor trading or dining area will not endanger passing pedestrians or vehicles. Where Council owns a footpath, it also enables Council to control the use of the footpath or the space above or below a road.

2) Outdoor Dining Areas

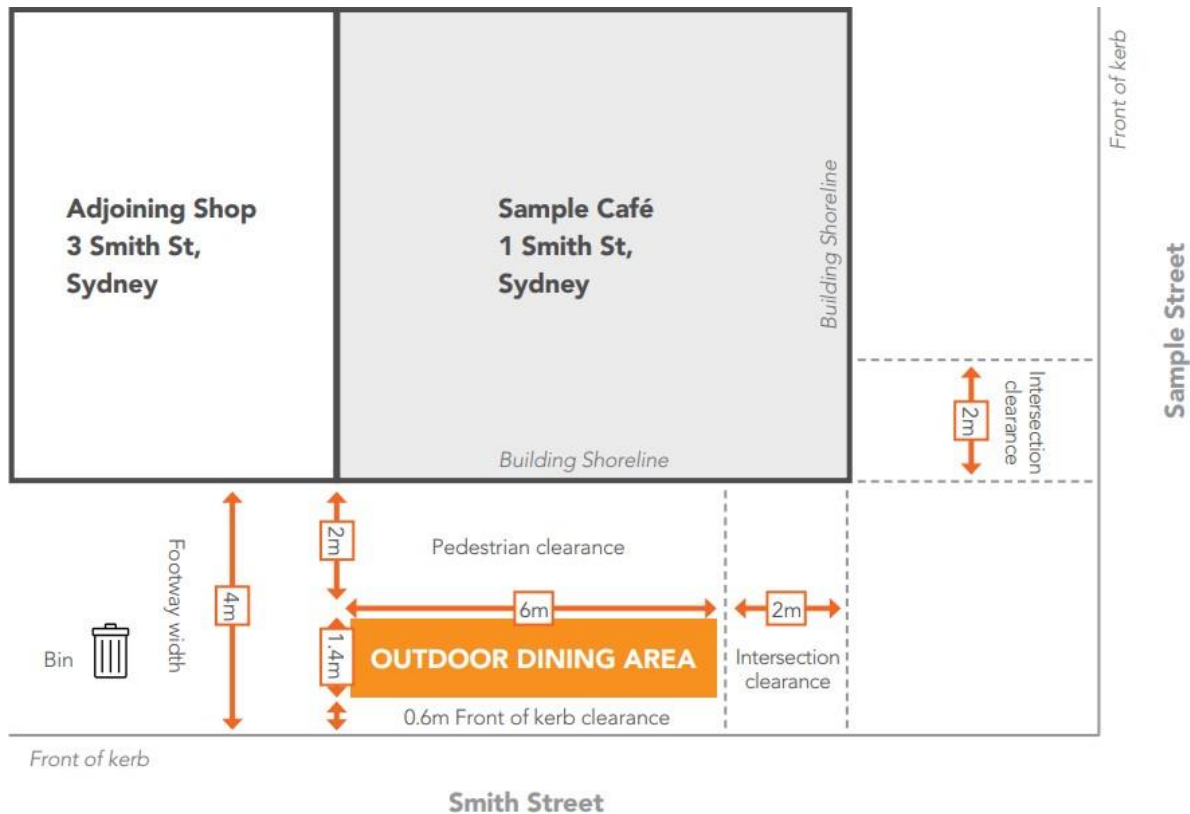
- a) The outdoor dining area must operate in conjunction with a food and drink premises including hours of operation. Where alcohol is to be sold or served within the outdoor dining area, the liquor licence issued for the food and drink premises must include this area.
- b) The outdoor dining area must be located in that part of the public domain that is immediately in front of the food and drink premises.
- c) If the outdoor dining area is located wholly within the development site and:
 - i. The floor area of the outdoor dining area exceeds 30m²; or
 - ii. The furniture is fixed to the ground (unable to be removed at the close of each operating day);

The floor area occupied by the outdoor dining area will be included in the calculation for the total floor space of the food and drink premises. This will be used for the purposes of calculating car parking and amenities (including parenting facilities) only.

- d) The outdoor dining area must:
 - i. Be set back a minimum of 1.8 metres from the building to provide unobstructed continuous clearance along the building shoreline. In those circumstances where there is insufficient width to accommodate kerbside dining, Council may consider alternative arrangements where it can be demonstrated that access and safety for all users of the space (including pedestrians, employees and customers) can be accommodated.
Shoreline means the property or natural building line where the building recedes. There should be no obstructions or projections from this line in order to provide the best possible guidance line for all users. People who are blind or vision impaired use what is known as 'overlining' to way find or navigate the transport environment. This process involves the use of a long white cane to sweep in a sideways arc to detect tactile surfaces and features to maintain a direction of travel and/or to identify hazards.
 - ii. Not be on land that is used for vehicular access, circulation or parking, or a designated loading/unloading area;
 - iii. Not be immediately in front of an ingress/egress, including fire exist(s);
 - iv. Be set back from street furniture;
 - a. Where an outdoor dining area is located forward of the building line, a clear distance of at least 1.8 metres must be maintained adjacent to the seating area for pedestrian circulation, exclusive of any obstruction or street fixture.
 - b. Where an outdoor dining area is located behind the building shoreline, pedestrian circulation arrangements will be considered on merit.
 - v. The preferred location for furniture in an outdoor dining area is away from the building edge. This preferred configuration is shown in figure C8.1 below. Alternative configurations can be considered based on their merit and the principles contained in this DCP. The merit assessment will also depend on the space available and other relevant site constraints.
 - vi. Provide a predictable clear path of travel and be consistent along the same part of the footway for the length of the block.

- vii. Not cause obstruction to any existing access points to shops, arcades and pedestrian access ways.
- viii. Present an open, inviting image and be easily accessible from the public way. Full height and solid screens and any type of enclosure including public screens, are not permissible. Direct physical contact with the outdoor environment is an integral part of the experience and a safe, amenable microclimate can be created through proper siting and furniture layout.

Figure C8.1: Preferred configuration for outdoor dining areas



- e) The outdoor dining area must be:
 - i. Defined by a barrier that is of sturdy construction and is a minimum of 60cm high with no sharp edges or protruding feet that may cause a trip hazard to pedestrians or patrons; and
 - ii. Complimentary in colour to the seating.
- f) If waiter service is not provided, a bin must be placed where it is visible to patrons in the outdoor dining area and is positioned so it does not cause an obstruction to pedestrians.
- g) No food is to be prepared or stored outside. No hot food counters, boilers or urns shall be placed on public areas or areas external to the premises.
- h) The area must maintain a neat and tidy appearance at all times. This includes ensuring furniture is clean and well maintained, and that the area is not left in disarray after patrons have departed.

Furniture in Outdoor Dining Areas

- a) Overhead structures for weather protection may be placed in the outdoor dining area so long as they:
 - i. Are a minimum height of 2 metres, have vents at the pinnacle to reduce wind loading and are appropriately anchored (if anchored on the ground and the outdoor dining area is located on Council land including the footpath, then this will require Council approval by lodging a Road Reserve Opening Permit);
 - ii. Are set back a minimum of 0.6 metres from the face of the kerb;
 - iii. Do not overhang the carriageway or obstruct pedestrians; and
 - iv. Do not present potential trip hazards. That is, they use flat plate anchor bases rather than raised types.
- b) The following furniture may be located in the outdoor dining area subject to Council approval:
 - i. Heating appliance(s), either movable or affixed; and
 - ii. Shade structure(s), including umbrella(s), which require anchoring on the ground.

In this regard, details of the:

- i. Type, number and location of the heating appliance(s);
- ii. Dimensions, location and appearance, including materials, of the shade structure(s); and
- iii. Where any furniture is temporarily anchored to the ground, the anchoring system;

are to be submitted with the development application. Applicants need to apply for a Road Reserve Opening Permit prior to any opening being made in the footpath surface in a road reserve.

- c) If the furniture is not affixed to the ground, the furniture must be put away inside the premises when it is closed. No furniture is to be left outside when the food and drink premises is closed.

Design of Furniture

- a) Furniture must be of sturdy construction and suitable for outdoor use. Furniture must be of high structural and aesthetic quality and must be kept clean and well maintained. Furniture in general and seats should be of metal frame construction and so as not to move in strong winds. Domestic style plastic furniture will not be permitted.
- b) Applicants should select a colour scheme for outdoor furniture that complements the streetscape character.
- c) Outdoor furniture should make a positive contribution to the street environment. A furniture style that is durable, high quality and uniform appearance that integrates well within the surrounding streetscape is required.

- d) Outdoor furniture must be compatible with the existing urban character, heritage and street quality and function.

Signage in Outdoor Dining Areas

- a) Signage may be permitted on umbrellas or barriers only. Signage must include only one business name or product which is a core part of the business and is supplied by the restaurant to its customers.
- b) The name of the premises may be displayed on any boundary furniture that defines the outdoor dining area, or umbrellas only.
- c) The name, logo and other branding of the food or drink premises or an associated product may be placed on an umbrella or barrier only if it:
 - i. Is as a minor and ancillary element of the design, comprising no more than one third of the surface area; and
 - ii. Does not have an adverse impact on the appearance of the seating area of the streetscape.
- d) No incidental advertising including A-frame signs will be permitted.

3) Outdoor Trading Areas

- a) The outdoor trading area must operate in conjunction with a retail premises, including hours of operation, (provided it is not a retail premises that retails in firearms, restricted premises or sex services premises).
- b) The outdoor trading area must be located in that part of the public domain that is immediately in front of or adjacent to the retail premises. This may involve the footpath area of the road reserve.
- c) The outdoor trading area must:
 - i. Be set back a minimum of 1.8 metres from the building to provide unobstructed continuous clearance along the building shoreline;
 - ii. Not be on land that is used for vehicular access, circulation or parking, or a designated loading/unloading area;
 - iii. Not be immediately in front of an ingress/egress, including fire exit(s), arcades and pedestrian access ways;
 - iv. Be set back from street furniture (refer to the section entitled “Outdoor Dining or Trading Areas - Distance from Street Furniture and Surrounding Uses” below);
 - v. Display stands be separated from the kerb by a minimum of 0.6m with no goods or parts of the display impeding this space; and
 - vi. Provide a predictable clear path of travel and be consistent along the same part of the footway for the length of the block or outdoor area, preferably along the building shoreline.
- d) If the outdoor trading area is located wholly within the development site and:
 - i. The floor area of the outdoor trading area exceeds 10m²;
 - ii. The width of the outdoor trading area exceeds 1.5m; or

- iii. The goods displayed in this area are unable to be removed at the close of each operating day;

the floor area occupied by the outdoor trading area will be included in the calculation for the total floorspace of the retail premises. This will be used for the purposes of calculating car parking and, if required, amenities including parenting facilities only.

- e) If the outdoor trading area is located on a classified road, the application will be referred to the RMS as part of the assessment process.
- f) The area must be kept clean and tidy at all times, including ensuring that any furniture or goods displayed are well maintained, not left in disarray after patrons have left the area or cause nuisance or obstruct pedestrian movement.

Display in Outdoor Trading Area

- a) Display stands may be used within the outdoor trading area provided:
 - i. Display stands do not exceed the dimensions of 1.2 metres high and 60cm wide, with a minimum ground clearance of 20cm;
 - ii. Display stands are of sturdy construction with no sharp edges;
 - iii. Any goods in the display stands are stacked so they do not overhang and there is minimal risk of them falling;
 - iv. Any goods that have fallen off the display stands are immediately picked up; and
 - v. The display stands are put away inside the premises when it is closed.
- b) Details of the type of furniture used to display products, either display stands that can be removed at night or stands that may be affixed to the ground, are to be submitted with a development application.
- c) Displays, including goods, must provide a clear line of sight by ensuring goods do not exceed a height of 1.2 metres.
- d) Displays, including stand and goods, must not;
 - i. Obstruct pedestrians;
 - ii. Overhang the carriageway; or
 - iii. Present potential trip hazards.

Trading areas located on land owned or managed by Council (additional requirements)

- a) As the development will occupy land owned or managed by Council, adequate protection must be provided to Council (as the land owner) against claims that may arise as a result of the operation of an outdoor dining or trading area.
- b) The applicant/proprietor of the premises must have a current public liability risk insurance policy for the sum of \$20 million which indemnifies Penrith City Council from any public liability action between the front property boundary of the premises and, if in the case of occupying the footpath, the kerb line of the street for the full frontage of the

premises. The applicant/operator is to keep this policy current at all times and shall provide Penrith City Council with a copy of the policy prior to commencing any footpath dining or trading. For those location other than footpath areas, the area defined in the indemnity may be extended depending on the location and type of land to be occupied by the outdoor area. (In this instance, please liaise with Council's Property Development Department to confirm the description of the area to be included in the indemnity.)

- c) An initial licence will need to be obtained from Council to operate an outdoor dining or trading area on lands owned or managed by Council. This licence will need to be renewed on an annual basis, at which time the operation of the outdoor dining or trading area will be monitored during the first 12 months to ensure that the amenity of the surrounding area is not adversely affected by the outdoor dining or trading area.
- d) Part of the annual licence renewal will include a fee to use/occupy Council's footpath or other lands owned by Council. Fees will be charged in accordance with Council's adopted Fees and Charges.

8.5. Public Art

A. Background

Place making is a comprehensive approach to the planning, design and management of public spaces with the intention of creating public spaces that supports and generates economic sustainability, social connection and well-being.

Public art is implemented through place making principles and refers to all manner of artworks from traditional forms to the utilisation of new technologies.

These creative works are located in and around interfaces with the public domain rather than in galleries and museums. Public art may have an integrated function within street furniture, street infrastructure and or free standing icon and or integrated into the architectural building designs that interface with public spaces.

B. Objectives

In addition to the general objectives for Public Domain, the objectives of this section are to:

- a) Encourage the role that place making and public art plays in the life of the City and its communities in contributing to its creative cultural life, liveability and accessible amenity;
- b) Provide public art through place-making principles that contributes to the development of vibrant destinations in the City's public domain; and
- c) Encourage new developments and redevelopments to facilitate and integrate high quality place making and public art into the development framework which adds to the cultural development of the City.

C. Controls

- 1) Council will identify locations in the City's commercial and employment areas where it considers place making and public art should be integrated into the public domain, regardless of land ownership.

- 2) Applicants are to liaise with Council's appointed officers overseeing place making and public art for recommendations and direction before developing a Place Making and Public Art Strategy.
- 3) For significant developments as outlined in Council's Place making and Public Art Policy with an estimated cost of \$5 million or more to include place making and public art as an integrated approach for public spaces/domain.
- 4) The style of public art proposed can utilise traditional art forms through to the utilisation of new technologies platforms. These creative expressive works can be integrated and interface with the public domain within the architectural building designs, street furniture, street infrastructure and or free standing icon works where appropriate. Place making and public art is to offer creative site specific responses.
- 5) The development of place making and public art strategy will require the engagement and commissioning of professionals within the areas of place making and public art.
- 6) The Landscape, Urban Design and/or Architectural designs/plans are to support the development of place making and public art to ensure high quality integrated outcomes.
- 7) The Place Making and Public Art Strategy is to be submitted as part of the Development Application.

The application must address how the proposed place making and public art meets the following selection criteria:

- a) Standards of excellence, originality and innovation;
- b) Relevance and appropriateness of the creative works in relation to the site;
- c) Its contribution to creating a sense of place, and integration into the built form;
- d) Where possible, engagement and consultation with local community and key stakeholder groups including, for example, young people and Aboriginal people;
- e) Consideration for public safety and public's use of and access to public spaces;
- f) Consideration of maintenance and durability requirements of public art, including potential for vandalism and graffiti;
- g) Where applicable, consistency with current planning, heritage and environmental policies and plans of management;
- h) All artworks to have appropriate insurances and to be accompanied by a public art maintenance manual and schedule with a decommissioning process outlined;
- i) The Place making and Public Art Strategy is to cover the nature and style of the place making and public artworks, the method, approach, scale, locations, community engagement process and to utilise themes that reflect the local heritage and or local environment to contribute to a sense of place, pride and identity;
- j) All public artworks are to be maintained and any repairs required to be carried out in a professional and timely manner by the developer until handover signoff by Council.

- 8) Public art is to be designed and implemented in accordance with Council's Place Making and Public Art Strategy. A copy can be found on Council's website at www.penrithcity.nsw.gov.au.

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Advertising and Signage

Introduction

A. Background

Advertisements and advertising structures are an important element of the built environment and a fundamental component of business communications. These provisions are intended to protect the significant characteristics of buildings, streetscapes, vistas and skyline and to encourage well designed and well positioned signs which contribute to the vitality and legibility of Penrith and which respect the amenity of residents and pedestrians and the safety of motorists.

In considering innovative design proposals for signs not envisaged by these provisions or where there are issues of interpretation, Council will consider the design of the proposal and the degree to which it meets the objectives of this section. Signs must not provide a distraction to motorists or be highly visually intrusive.

B. Application

This Section applies to land within the City of Penrith where an advertisement requires Council's consent. Applicants intending to erect a sign should first consult the relevant environmental planning instrument applying to the subject property to determine whether consent is required.

C. General Objectives

- a) To permit the appropriate display of information concerning the identification of premises, name of the occupier and the activity conducted on the land; and
- b) To ensure that all advertising achieves a very high level of design quality in terms of graphic design, its relationship to the architectural design of buildings and the character of streetscapes, landscapes and vistas.
- c) To permit the appropriate display of information concerning the identification of premises, name of the occupier and the activity conducted on the land;
- d) To provide a consistent approach to the control, location and design of advertisements;
- e) To promote and encourage an integrated design approach to all signage which is in character with the locality, together with its architectural and landscape features and results in a high quality advertising sign and structure;
- f) To ensure that all signage to be displayed on a building's facade complements the architectural features, colour scheme and external finish of the building;
- g) To prevent the proliferation of signage;
- h) To ensure that signage does not constitute a traffic hazard to motorists and pedestrians; and
- i) To foster a consistent approach to the design and assessment of advertising signs and structures within the City.

In seeking to apply these objectives, the full impact of advertising signage in its wider context should be taken into account. Council encourages applicants to consider advertising and signage as one element of a broader range of subliminal factors that influence attraction of business patronage (i.e. building form, landscaping, overall image, impact on adjoining properties, etc).

9.1. General Requirements for Signs

A. Background

The purpose of this Section is to provide details and requirements for advertising and signage within the City of Penrith in order to protect the amenity of the environment, minimise visual clutter and reduce the proliferation of signs throughout the City. More specifically, this section has been written to positively contribute to:

- the identification of businesses;
- informing and engaging the public and the community;
- promoting economic development; and
- protecting urban character, streetscape and the natural environment.

B. Objectives

- a) To recognise the legitimate need for clear business identification and promotion through appropriate advertising signs;
- b) To limit the overall amount of advertising through the provision of fewer, more effective signs, to avoid the creation of visual clutter on buildings and streetscapes;
- c) To promote signs that add character to the streetscape and assist with direction and the pedestrian useability of the City;
- d) To consider the amenity of residential development and the visual quality of the public domain;
- e) To promote signs, including corporate logos and colours, that achieve a high degree of compatibility with the architectural features, colour scheme and external finish of the building; and
- f) To ensure that the location and design of signs are consistent with road safety principles.

C. Controls

1) General

- a) Signs are to be designed and located to:
 - i) relate to the use of the building;
 - ii) be visually interesting and exhibit a high level of design quality;
 - iii) be constructed of high quality, durable materials;
 - iv) be wholly contained within the property;
 - v) have only a minimal projection from the building;
 - vi) be integrated and achieve a high degree of compatibility with the architectural design of the supporting building having regard to its composition, fenestration, materials, finishes and colours, and ensure that architectural features of the building are not obscured;
 - vii) have regard to the view of the sign and any supporting structure, cabling and conduit from all angles, including visibility from the street level and nearby higher buildings and against the skyline; and

- viii) be sympathetic to the existing character of the area and the particular architectural/urban design utilised in any improvements scheme.
- b) Signs that contain additional advertising promoting products or services not related to the approved use of the premises or site (such as the logos or brands of products; e.g. soft drinks, brewers, photographic film, etc) are not permitted.
- c) Signs painted or applied on the roof are prohibited;
- d) Corporate colours, logos and other graphics are encouraged to achieve a very high degree of compatibility with the architecture, materials, finishes and colours of the building and the streetscape.
- e) Flat standing signs are only permissible where the main building is set back 3 metres or more from the street alignment.
- f) In considering applications for new signs, Council must have regard to the number of existing signs on the site and in its vicinity; whether that signage is consistent with the provisions of this section; and whether the cumulative impact gives rise to visual clutter.
- g) Signs must not involve damage, removal or pruning to trees or other vegetation and must not result in pruning or removal for visibility purposes.
- h) The dominant design of any sign must relate to business identification rather than product advertising.

2) Signs and Road Safety

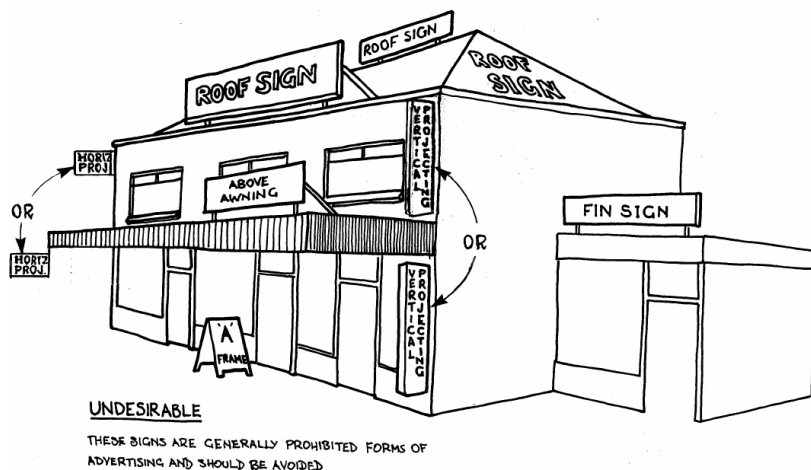
- a) Signs are regarded as prejudicial to the safety of the travelling public and are therefore prohibited if they:
 - i) Obscure or interfere with road traffic signs and signals or with the view of oncoming vehicles or pedestrians;
 - ii) Obscure or interfere with the view of a road hazard or an obstruction which should be visible to drivers or other road users;
 - iii) Give instructions to traffic by use of the word 'stop' or other directions, which could be confused with traffic signs;
 - iv) Include variable messages or intensity of lighting sufficient to impair drivers' vision or distract drivers' attention; or
 - v) Are located in places where drivers' require greater concentration, such as at major intersections or merging and diverging lanes.

3) Inappropriate Signs

- a) Council will not support an application for an advertisement of a form, type or size described below (see Figure C9.1 for example illustrations):
 - i) Roof signs;
 - ii) Sky signs controlled from the land;
 - iii) Signs painted on or applied on the roof;
 - iv) Flashing signs;
 - v) Signs made of canvas, calico or the like (other than a temporary sign);
 - vi) Signs displayed on an awning blind or external window blind;
 - vii) Hoardings (excluding those required during construction);
 - viii) Billboards;

- ix) Bulletin boards;
- x) Signs in the nature of posters attached directly onto walls, roof surfaces or any street furniture;
- xi) Signs mounted on parked or stationary motor vehicles, trailers (both registered and unregistered) where the principal purpose of the vehicle or trailer is not for the transportation of goods or people but is parked in a location and position as an advertising medium;
- xii) A-frame or sandwich board signs (except where specific controls have been prepared and adopted by Council);
- xiii) Pole or pylon signs, except for industrial, business park, service station or shopping centre uses which are permitted one pole or pylon signs with the maximum height not in excess of 7.0m;
- xiv) Signs that are located on land which advertises businesses that are not being conducted on that land;
- xv) Vertical or horizontal projecting signs;
- xvi) Fin signs; and
- xvii) Above awning signs.

Figure C9.1 Examples of undesirable signage

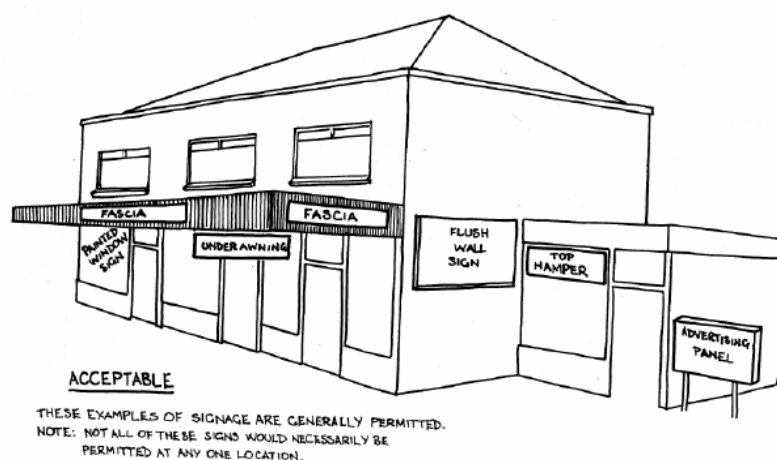


4) Desirable Signage Design

- a) The following signs are permitted by Council (see Figure C9.2 for example illustrations):
 - i) Fascia signs;
 - ii) Under awning signs;
 - iii) Flush wall signs;
 - iv) Top hamper signs;
 - v) Painted window signs; and

- vi) Advertising panel signs.

Figure C9.2: Examples of desirable signage



9.2. Signs in the Vicinity of Heritage Items

A. Background

Heritage items include buildings, structures and places. Heritage items and heritage conservation areas are listed in Schedule 5 – Environmental Heritage of Penrith LEP 2010 and may also be listed under the *Heritage Act 1977* as an Item of State Significance. If the building is listed on the State Heritage Register, additional approval under the *Heritage Act 1977* may be required from the NSW Heritage Council.

The design and location of signs on or near heritage items or within heritage conservation areas must be carefully considered to achieve a very high degree of compatibility with the heritage character, qualities and significance of the building, structure or place. In some cases, the heritage significance of an item may not allow for any signage or allow only limited signage opportunities.

See the Culture and Heritage Section for more information on heritage items.

B. Objectives

- a) To permit the adequate display of information concerning the identification of premises, name of the occupier and the activity conducted on the land.
- b) To ensure that the design, form, siting and size of the sign does not detract from the heritage significance of the item or the scenic quality of the area.
- c) To ensure that the design, form, siting and size of the sign do not detract from the heritage significance of heritage items or heritage conservation areas.

C. Controls

- 1) Applicants intending to erect a sign should consult Penrith LEP 2010 (Schedule 5 Environmental Heritage) to determine whether or not the property is an heritage item, or in a heritage conservation area, or in the vicinity of a heritage item ('In the vicinity' is defined in Appendix F1 – Definitions of this Plan). If the proposed signage is on or in the vicinity of a heritage item, or in a heritage conservation area, the impact must be

addressed in the application. In some cases, Council may require a *Heritage Impact Statement* (see the Culture and Heritage Section of this Plan).

- 2) A sign, generally, should not be fixed to a heritage item unless the building had traditionally displayed an advertisement.
- 3) Any sign shall be appropriately designed and located to ensure that the architectural details of the building and/or the heritage character of the site are not obscured or diminished.

D. Other Relevant Information

It is recommended that applicants seeking to address this issue should also refer to other relevant information including:

- Guidelines and Information Sheets of the Heritage Branch of the NSW Department of Planning and Environment.

9.3 Residential, Rural and Environmental Zones (E3 and E4)

A. Background

Council recognises rural and residential zones support a range of non-agricultural and non-residential uses that require advertising. However, advertising and signage in rural and residential zones need to protect the desired rural scenic and landscape character of these areas.

B. Objectives

- a) To enable approved and permissible uses to be appropriately identified;
- b) To ensure that the amenity, landscape and character of rural and residential areas are maintained; and
- c) To minimise roadside clutter.

C. Controls

- 1) A sign that is erected on a property must relate to an approved activity being conducted on that property.
- 2) A sign that is erected on the property must be located wholly within the property and positioned so as not to impede pedestrian access or result in a traffic hazard.
- 3) The siting and design of the sign on the property should ensure that amenity and visual impacts to adjoining properties are kept to a minimum.
- 4) The siting and design of the sign on the property should be sympathetic to the existing character of the area.
- 5) Only one building identification sign is to be erected on the property in association with the approved business or activity being conducted on the land.
- 6) The building identification sign is not to exceed 3m² or one-third of the length of the building elevation that faces the street, whichever is the lesser, and must not be illuminated.
- 7) Only one business identification sign is to be erected on the property in association with the approved business or activity being conducted on the land.

- 8) In residential zones, the business identification sign is not to exceed 3m² and must not be illuminated.
- 9) In rural zones, the business identification sign is not to exceed 3m², must be no higher than 2m above the ground, must not be located in a position that would intrude into the skyline, and must not be illuminated.
- 10) In rural zones, signage, where permissible, shall relate to the style, character and function of the building or activity, and reflect the area's landscape and character.
- 11) In rural zones, signage shall not be freestanding in the landscape, but shall relate to walls, fences or buildings.
- 12) A real estate sign may comprise of a double sided or 'V' sign and must not exceed 4.5m² in area per sign face. The sign must be removed within 14 days of the property being sold or let.
- 13) A sign advertising an exhibition home or village must not exceed 10m² in area. The sign must be removed on expiration of the development consent for the 'exhibition home'.
- 14) Illuminated signs are generally not permitted. External lighting of a sign, however, will be considered where it can be demonstrated that no adverse impact will result.

9.4. Commercial, Mixed Use and Industrial Zones

A. Background

Industrial and commercial zones can easily be dominated by signage due to the large number of businesses and a competitive environment. Buildings and sites with limited street frontage and multiple occupants are common, and poor coordination of signage can result in profuse and irregular signage. Too much advertising can also result in an area with poor visual aesthetics and pedestrian amenity.

Managing the design and location of signs is one way that individual businesses, as well as the area, can be more effectively advertised, and the visual quality and amenity enhanced.

B. Objectives

- a) To promote an integrated design approach to all signage in character with the locality and its architectural and landscape features;
- b) To prevent the proliferation of advertising signs.
- c) To permit the adequate display of information concerning the identification of the premises, the name of the occupier and the activity conducted on the land.
- d) To encourage a coordinated approach to advertising signs where multiple occupancy of buildings or sites occurs.
- e) To prevent distraction to motorists and road users, and minimise the potential for traffic conflicts.
- f) To ensure signage does not create conflicts or safety problems for pedestrians.

C. Controls

- 1) Applicants intending to erect a sign (advertisement) should first consult the relevant environmental planning instrument applying to the subject property to determine whether or not an advertisement requires development consent.
- 2) All advertising is to be –

- a) constructed of high quality, durable materials;
 - b) considered in conjunction with design and construction of buildings;
 - c) restricted to one sign identifying the name of the occupants and/or products manufactured or produced on the site; and
 - d) contained wholly within the site.
- 3) Signs 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 (see Figure C9.3 below).
- 4) The sign is to be contained fully within the confines of the wall or awning to which it is mounted.
- 5) 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 (see Figure C9.4 below). Multiple freestanding signs will not be supported;
 - b) Only one sign is to be placed on the face of each premises either located on or over the door of the shop, unit, office, suite, etc.;
 - c) One under awning sign shall be permitted for each shop, unit, office, suite, etc. (see Figure C9.5). In the case where the shop, office, suite etc. has more than one street frontage, one under awning sign may be permitted to each street frontage;
 - d) The minimum distance between under awning signs shall be 3m (see Figure C9.6); and
 - e) Where possible, multiple tenancies in the same building should use consistent sign size, location and design to avoid visual clutter and promote business identification.
- 6) Projecting wall signs, generally, will not be supported unless it can be demonstrated to be of an architectural style which is particularly suited to that building in relation to its design.

Figure C9.3: Signage appropriate to scale and location of building

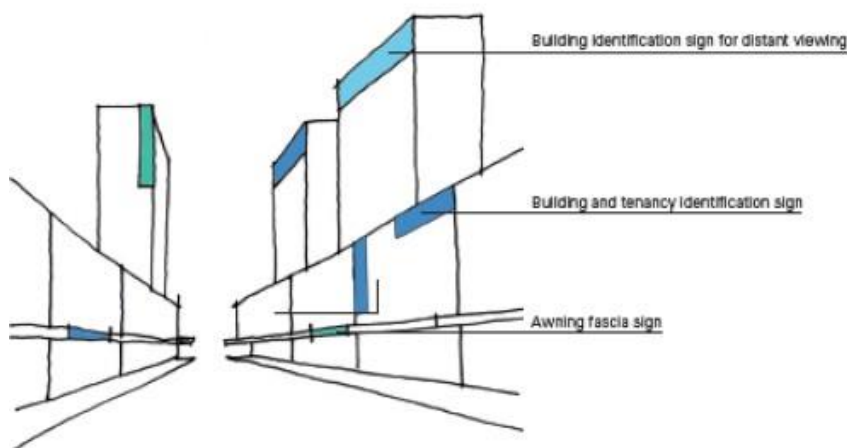


Figure C9.4: Directory Board Signage



Figure C9.6: Under Awning Signage

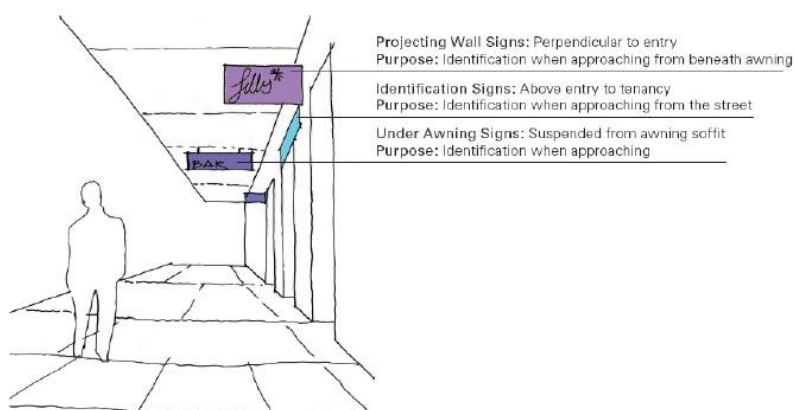
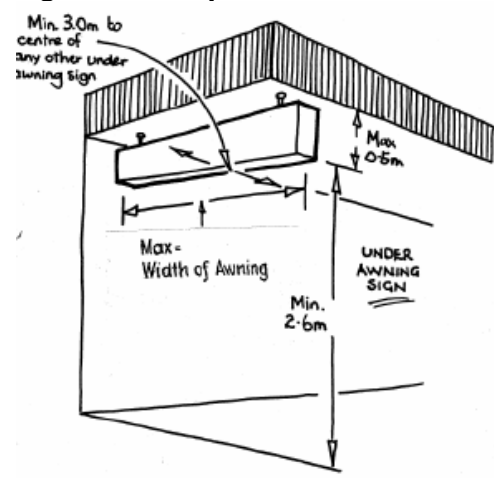


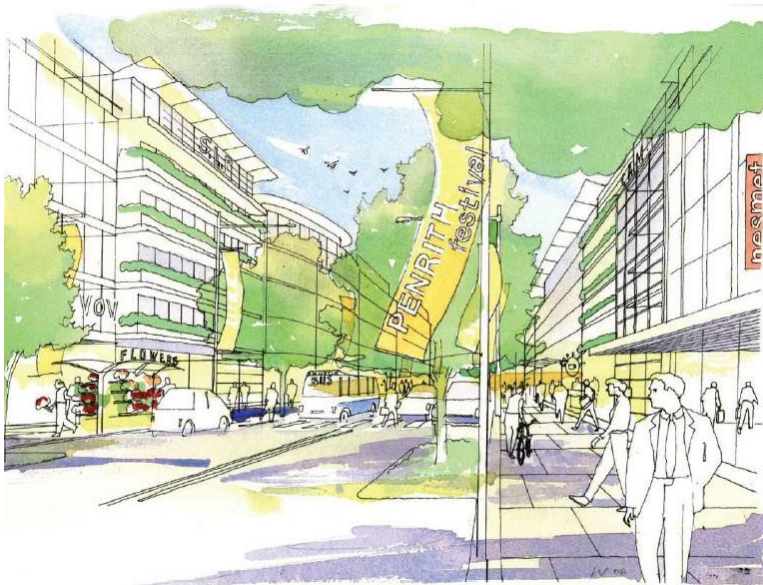
Figure C9.6: Specifications for Under Awning Signage



Illuminated signs

- 7) Illuminated signs are not to detract from the architecture of the supporting building during daylight.
- 8) Illumination (including cabling) of signs is to be:
 - a) Concealed; or
 - b) Integral with the sign; or
 - c) Provided by means of carefully designed and located remote or spot lighting.
- 9) The ability to adjust the light intensity of illuminated signs is to be installed where Council considers it necessary.
- 10) A curfew may be imposed on the operation of illuminated signs where continuous illumination may impact adversely on the amenity of residential buildings, serviced apartments or other tourist and visitor accommodation, or have other adverse environmental effects.
- 11) Up-lighting of signs is prohibited. Any external lighting of signs is to be downward pointing and focused directly on the sign and is to prevent or minimise the escape of light beyond the sign.

Figure C9.7: Well-placed and scaled signage can complement the streetscape



9.5. Open Space Zones (Public and Private Recreation)

A. Background

This Section of the DCP provides guidance to applicants wanting to erect signs in open space zones (including RE1 Public Recreation, RE2 Private Recreation and W2 Recreational Waterways). It is important that signage does not adversely impact upon the amenity of an open space zone.

B. Objectives

- a) To ensure that the signage reflects the nature and scale of the activity conducted on the land; and
- b) To ensure that the amenity and character of the open space area is maintained.

C. Controls

- 1) Applicants intending to erect a sign (advertisement) should first consult the relevant environmental planning instrument applying to or any plan of management for the land to determine any requirements for an advertisement.
- 2) The siting and design of the sign on the property should ensure that amenity and visual impacts to adjoining properties are kept to a minimum.
- 3) The siting and design of the sign on the property should be sympathetic to the existing character of the area and the particular architectural/urban design utilised in any improvements scheme.
- 4) Signs on recreation reserves that are visible from beyond the site should generally not be permitted except for signs identifying the name of the recreation reserve and/or the name of sporting clubs or other associations occupying the site (and other 'public interest' information pertaining to the club or association).
- 5) Signs identifying the sponsors of clubs or associations occupying reserves are generally not permitted if they are visible from beyond the site. However, favourable consideration may be given to no more than 20% of the total area of the main identification sign being used for sponsor recognition.
- 6) Signs should be generally low key in appearance, taking into consideration their shape, colour, materials, construction and the character of the surrounding area.
- 7) Any sponsorship advertising signage must not be visible outside the site.

9.6. Special Event Advertising

A. Background

This Section of the DCP, whilst allowing the erection of short term event signs, aims to limit the locations where the signs can be erected, the number of signs to be erected and the length of time the sign remains on display. It is intended to facilitate the dissemination of community information whilst maintaining the amenity of the public domain, and limiting any risks involved with their installation.

B. Objective

- a) To provide guidance to applicants on the erection of temporary signage which may promote a business, cultural, sporting or educational event.

C. Controls

1) Number of Signs

- a) A maximum of two temporary advertising signs will be permitted at any one location at any one time. This will be determined at the discretion of Council with regard to the type and size of signs proposed at each location.
- b) Applicants may request more than one location for temporary advertising signage to promote an event.

2) Duration of Signage

- a) Each piece of temporary advertising signage will be permitted to remain at its approved location(s) for a maximum of 28 days prior to the event and 14 days following the event.

3) Erection and Removal of Signage

- a) Applicants are responsible for the erection and removal of signage within the time frame approved by Council.

4) Size of Signage

- a) Each piece of advertising signage will be permitted to have a maximum area of 5m².

5) Insurance of Signage

- a) Applicants are responsible for obtaining appropriate Contents and Public Liability Insurance to cover any temporary advertising signage. Public Liability Insurance must specifically indemnify Penrith City Council.

6) Penalties for Non-Compliance with this Section

- a) Unapproved temporary advertising signage erected on any Council-owned or Council-managed property will be removed and impounded by Council. Unapproved signage includes signage that is erected prior to the approved date or signage that is not removed by the required date.
- b) Repairing damage caused by signage:
 - i) The applicant organisation will be responsible for the costs of repairing any damage caused by the erection or removal of any temporary advertising signage placed on Council-owned or Council-managed property.
 - ii) Damage includes broken underground irrigation systems, holes in a reserve which could be a hazard after the removal of temporary advertising signage or damage caused by vehicles during the erection or removal of temporary advertising signage.

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C10 Transport, Access and Parking

A. General Objectives

- a) To integrate transport planning and land use to promote sustainable development and greater use of public transport systems;
- b) To minimise the impacts of traffic generating developments and manage road safety issues;
- c) To ensure that access paths and driveways are integrated in the design of developments and minimise impacts on road systems;
- d) To provide appropriate parking for all development whilst promoting more sustainable transport use;
- e) To facilitate connections and accessibility for those using non vehicle transport by providing appropriate facilities to improve amenity and safety;
- f) To facilitate bicycle connections and provide appropriate bicycle facilities to improve amenity and safety; and
- g) To ensure that access is provided for all people with diverse abilities.

B. Other Relevant Sections of this DCP

This section should be read in conjunction with all other relevant sections of this DCP. In particular, the following sections cover issues which overlap with transport, access and parking.

C. Other Relevant Information

Other relevant information includes:

- Planning Guidelines for Walking and Cycling (December 2004) NSW Department of Infrastructure, Planning and Natural Resources; Roads and Traffic Authority
- Improving Transport Choice – Guidelines for planning and development (August 2001) NSW Department of Urban Affairs and Planning; Transport NSW; Roads and Traffic Authority
- Healthy By Design: a planners' guide to environments for active living (June 2004) National Heart Foundation (Victorian Division).
- Guide to Traffic Generating Developments (2002) Roads and Traffic Authority (as updated). The Roads and Maritime Services (RMS) Technical Direction (TDT 2013/04a) Guide to Traffic Generating Developments Updated Traffic Surveys.
- Australian Standards AS2890, AS1428, AS1158 and AS4287. The Roads and Maritime Services (RMS) Australian Standard Supplement to Australian Standard AS2890 Parking Facilities Part 1 – 6.

- State Environmental Planning Policy (Infrastructure) 2007
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
- Final Draft Penrith Integrated Transport and Land Use Strategy (2008) Penrith City Council
- Penrith Accessible Trails Hierarchy Strategy (PATHS)
- Draft Interim Guidelines: Transport Management and Accessibility Plans, Ministry of Transport and Roads and Traffic Authority - www.transport.nsw.gov.au

10.1. Transport and Land Use

A. Background

This section of the DCP seeks to maximise the benefits to the community of an effective and well-used public transport system by promoting planning and development outcomes that will support and sustain public transport use, improve community health, and which will achieve the more effective integration of land use and public transport infrastructure.

B. General Objectives

- a) To develop a coherent urban system of compact walkable neighbourhoods with relatively intense, mixed use town centres;
- b) To provide a highly-interconnected street network that clearly distinguishes between arterial routes and local streets, establishes good internal and external access for residents, maximises safety, encourages walking and cycling, supports public transport and minimises the impact of through traffic;
- c) To reduce travel demand including the number of trips generated by development and the distances travelled, especially by car;
- d) To promote and facilitate the use of public transport as a more sustainable alternative to the private car for personal travel;
- e) To ensure that transit infrastructure is effectively integrated with other development, to maximise safety, security and convenience for transit users; and
- f) 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.

C. Controls

- 1) A *Transport Management and Accessibility Plan* (TMAP) is to be prepared for all significant developments (see Appendix F3 – Submission Requirements for further details). The TMAP is to address the objectives and controls in this section.
- 2) New development that will have potential significant public transport patronage (especially residential, commercial and employment generating uses) is to be located close to existing or proposed transport nodes or networks.
- 3) A range of uses are to be provided or integrated in mixed-use areas to provide a range of services in a single location and minimise the need for additional travel.
- 4) Public transport use is to be enhanced by providing good pedestrian connections from places of residence or employment to transport networks or nodes.

10.2 Traffic Management and Safety

A. Objectives

- a) To provide safe and efficient travel routes for all vehicles in the Penrith LGA;
- b) To reduce the number of vehicle and pedestrian accidents per capita;
- c) To ensure the safety of cyclists, pedestrians and passing traffic during construction of development;
- d) To cater for current and future growth of vehicle traffic usage;
- 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; and
- g) To avoid new direct access to and from arterial, sub-arterial and other major roads.

B. Controls

1) Traffic Studies

Traffic studies may be required for some developments. Check with Council about whether a traffic report is required to support your proposal.

- a) Development applications for major development proposals should be accompanied by an appropriate *Traffic Report* (see Appendix F3 – Submission Requirements for further details). The Traffic 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.
- b) A Traffic Report must be provided for applications required to be referred to the Roads and Maritime Services (RMS) under Column 2 and a *Traffic Impact Statement* for Column 3 of SEPP (Infrastructure) 2007.
- c) Depending on the scale, type and nature of the use proposed, Council may determine that a Traffic Report or Traffic Impact Statement is required for certain development which is not listed under Column 2 or 3 of SEPP (Infrastructure) 2007.
- d) Any Traffic Report or Traffic Impact Statement is required to address the following issues:
 - i) The objectives of this section relating to transport and land use;
 - ii) The objectives of this section relating to traffic management and safety;
 - iii) The objectives and controls of this section relating to traffic generating developments; and
 - iv) The issues set out in Appendix F3 – Submission Requirements of this DCP.

- e) Any development identified in Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007* is either referred to RMS (Column 2 developments) or Council's Local Traffic Development Committee (Column 3 developments) for assessment and conditions as required.

2) Road Safety

- a) Each development should demonstrate how it will:
 - i) Provide safe entry and exit for vehicles and pedestrians which reflect the proposed land use, and the operating speed and character of the road;
 - ii) Minimise the potential for vehicular/pedestrian conflicts, providing protection for pedestrians where necessary;
 - iii) Not restrict traffic flow or create a hazard to traffic on roads in the vicinity of the development;
 - iv) Provide suitable off-street parking facilities to accommodate vehicles generated by the development; and
 - v) Identify the need, where apparent, for any additional on-street traffic facilities or road works which may be required to maintain the safe and efficient movement of vehicles and pedestrians.
- b) Where feasible, vehicle access for developments should be from service roads/lanes.
- c) The design of direct vehicular access to developments should consider the traffic impacts on the surrounding road network. This may require the provision of deceleration, acceleration, right turn lanes and road widening, as necessary.
- d) Provision must be made for all vehicles to enter and leave properties in a forward direction other than for single dwellings.
- e) The layout and design of parking areas must minimise vehicle to pedestrian impacts, especially where heavy vehicle access to loading docks is proposed.

3) Traffic Generating Development

- a) New access points off arterial, sub arterial or other major roads is to be avoided where alternate access opportunities exist.
- b) Any development identified in Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007* is either referred to RMS (Column 2 developments) or Council's Local Traffic Development Committee (Column 3 developments) for assessment and conditions as required.

10.3. Key Transport Corridors

A. Background

This section seeks to identify key transport corridors in the City of Penrith that have specific functions, character or requirements that need to be protected when approving development along those corridors. Section C1 'Site Planning and Design Principles' provides more guidance on what is required in areas with particular scenic and landscape values.

Key transport corridors that need to be protected include:

- Andrews Road
- Castlereagh Road
- Cranebrook Road
- Christie Street
- Dunheved Road
- Elizabeth Drive
- Erskine Park Road
- Gipps Street/Werrington Road
- Great Western Highway
- Greendale Road
- Londonderry Road
- Luddenham Road
- Mamre Road
- Mulgoa Road
- Park Road
- Richmond Road
- The Northern Road
- Lenore Drive
- Main Western Railway Corridor.

B. Objectives

- a) To protect the character of certain transport corridors in the City of Penrith; and
- b) To ensure that development is appropriately setback from transport corridors.

C. Controls

1) Character of Key Transport Corridors

- a) Applicants need to ensure that the proposed development is in character with each of the key transport corridors.
- b) Access driveways and development in proximity to the key transport corridors need to protect the landscape character and any heritage values, and ensure traffic safety.

2) Development Setbacks from Transport Corridors

- a) A minimum setback of 100m is required from Mulgoa Road where development is proposed in rural or environmental zones.
- b) A minimum setback of 30m is required from all other key transport corridors where development is proposed in rural or environmental zones.

10.4 Roads

A. Objectives

- a) To regulate the key characteristics of new streets to provide traffic safety and efficient traffic flow, appropriate parking provision, appropriate pedestrian and cycle provision, and suitable verge and road reserve widths in accordance with each road's function and use within the general road hierarchy;
- b) To ensure public safety from criminal elements by considering the NSW Police 'Safer by Design' or 'Crime Prevention Through Environmental Design' principles and protocols;
- c) To minimise construction and maintenance costs, and avoid the need for future property acquisition;
- d) To maintain flexibility to allow for future changes in land use patterns;
- e) To ensure noise from all sources is within acceptable limits; and
- f) To incorporate appropriate traffic calming measures.

B. Controls

1) Controls for all roads

- a) Proposed roads must comply with the road configurations set out in Table C10.1. These configurations apply to private and community title roads as well as all public roads.
- b) In special circumstances where it can be clearly demonstrated that the road configurations in Table C10.1 are not appropriate, then the following key principles must be applied to any alternative proposal:
 - i) 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;
 - ii) Verge widths must consider requirements for utilities, street tree planting, footpaths, shared paths and urban design outcomes;
 - iii) Adequate on-street parking must be provided;
 - iv) Adequate turning paths must be provided for all design vehicles at intersections and for property access;
 - v) Road widths must be set to minimise kerbside restrictions and regulatory signage;
 - vi) Sufficient width must be provided for specialist drainage functions; and
 - vii) Life cycle costs for construction and maintenance must be minimised.

Table C10.1: Road Configurations

Street/Road Type	Parking Lane Provision (m)	Width of Dedicated Travel Lanes – Both directions (m)	Verge widths (m)	Road Reserve (m)	Concrete Pathway 1.5m wide
Local	2 x 2.5	3	2 x 3.8	15.6	Both sides ⁽⁹⁾
Collector	2 x 2.5 ⁽⁴⁾	7 ⁽⁴⁾	2 x 4.8	21.6 ⁽⁴⁾	Both sides ⁽⁴⁾
Distributor	2 x 3.95 ⁽⁶⁾	7 ⁽⁶⁾	2 x 4.8	24.5	Both sides
Industrial	2 x 3.0 ⁽⁴⁾	7 ⁽⁴⁾	2 x 3.8	20.6 ⁽⁴⁾	Both sides ⁽⁴⁾
Rural	n/a	7	2 x 6.0 ⁽⁷⁾	19	n/a

Notes:

- 1) *It is not intended that this table address all road configurations. The characteristics and requirements for other roads will be assessed on merit as part of any development proposal. Special consideration will need to be given to other road configurations such as laneways, access ways, commercial precincts and roads fronting schools.*
- 2) *Road configurations shall allow for widening at horizontal curves and intersections to allow for the turning paths of design vehicles without encroachment upon nominal centrelines of the road network.*
- 3) *Additional widening will be required for the provision of specialist drainage functions within the road reserve.*
- 4) *Additional widening may be required on collector and industrial roads to provide for cyclists in accordance with the Australian Road Design Guidelines. Provision for cyclists will be dependent on Penrith City Council's cycleway strategy and the surrounding cycle network.*
- 5) *Where required additional widening will be required for the provision of central medians, indented bus bays and Planning for Bushfire Protection requirements.*
- 6) *Parking and travel lanes for distributor roads allow for on-road cycle ways.*
- 7) *Rural residential roads for lots less than or equal to one hectare will generally be treated as local roads without the requirement for pedestrian pathways.*
- 8) *Verge widths adjacent to open space shall be a minimum of 3.8m.*
- 9) *Pathways are required on the dwelling side only.*
- 10) *Kerb types shall be consistent with Penrith City Council's Engineering Design Guidelines.*

Local road means a road or street used primarily for property access. Local roads include laneways, access ways and rural residential roads for lots typically less than or equal to 1 hectare.

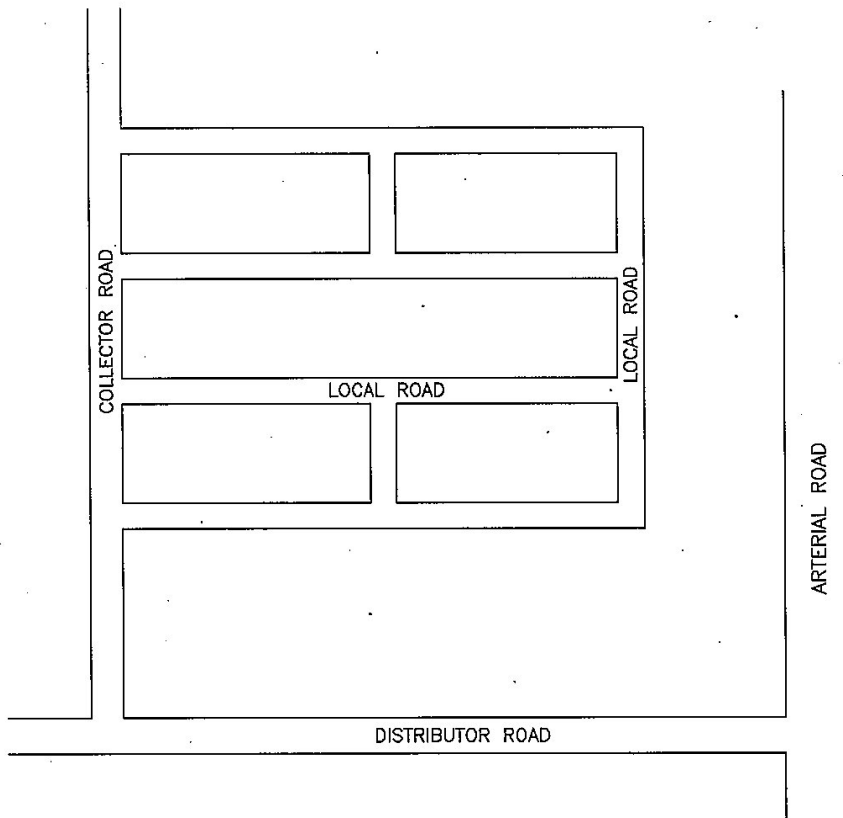
Collector road means a road which collects and distributes traffic in an area, as well as providing direct property access.

Distributor road means a road connecting arterial roads to areas of development.

Industrial road means a road providing access to industrial zoned land and for other development which generates frequent truck movements.

Rural road means a road providing access to rural areas and properties typically exceeding one (1) hectare.

Figure C10.1: Road Hierarchy



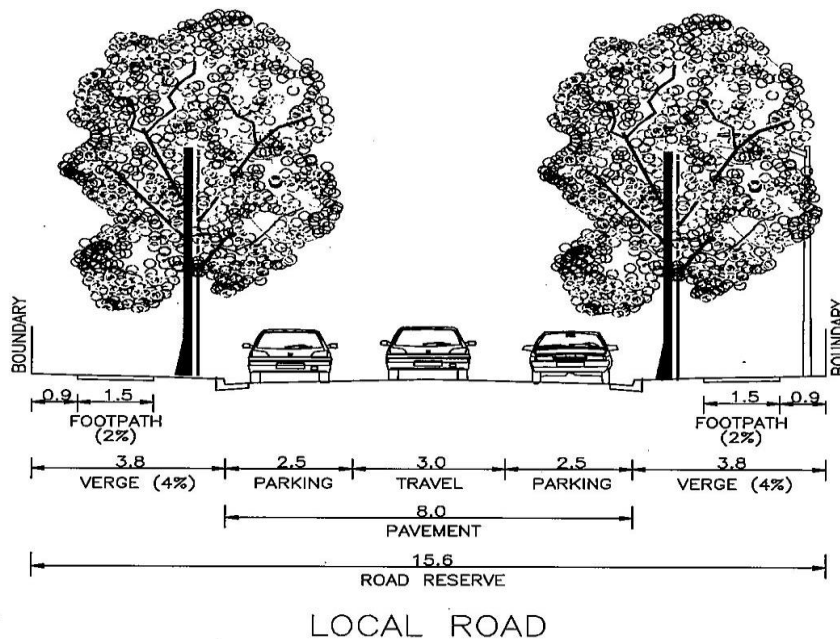
2) Local roads

a) Local roads are to achieve the following performance objectives:

- i) Direct access to residential properties and interconnectivity with other local roads and collector roads;
- ii) Provide for heavy vehicles and emergency vehicles, including circulation and manoeuvring of garbage trucks;
- iii) Ensure only occasional, minor delays or the need for driver co-operation due to vehicles parking on both sides of the road;

- iv) Provide adequate on-street parking;
 - v) Provide pedestrian pathways on both sides of the road; and
 - vi) Provide lighting in accordance with relevant Australian Standards.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.2.
- c) 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.

Figure C10.2: Local Road

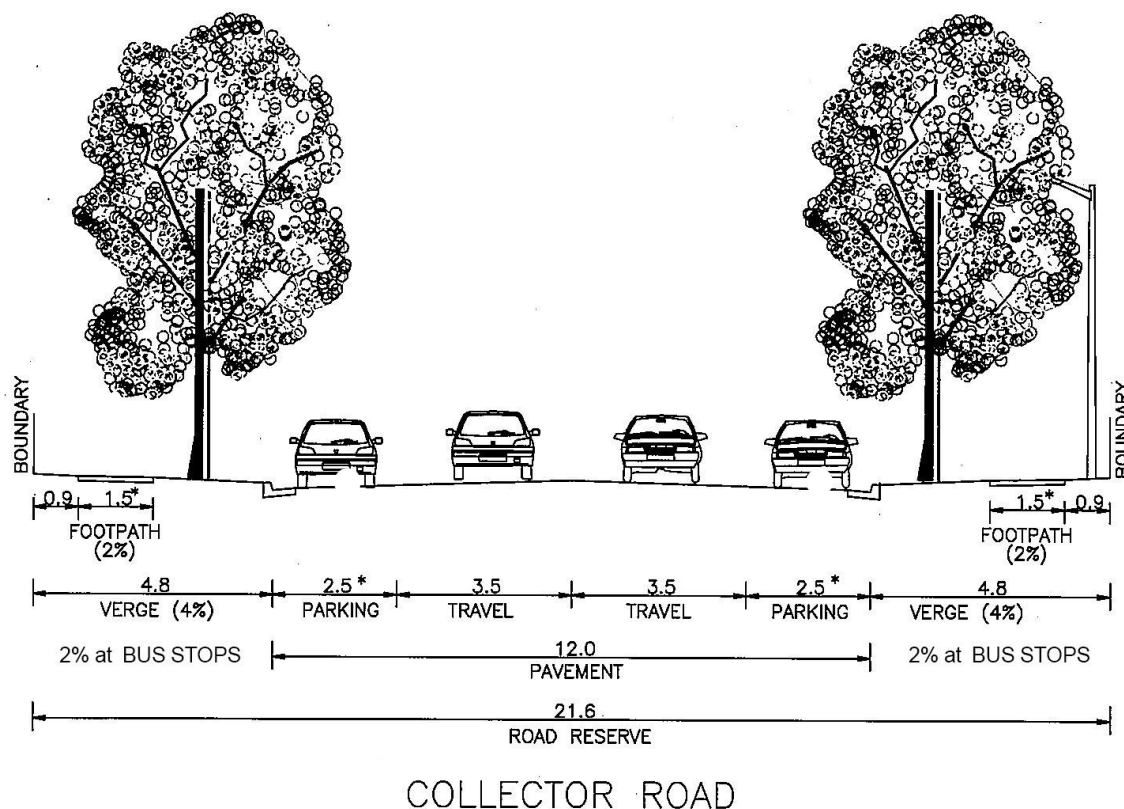


3) Collector roads

- a) Collector roads are to achieve the following performance objectives:
- i) Provide high accessibility for all road users;
 - ii) Be at a scale consistent with the higher order role these roads play in the overall road network;
 - iii) Provide for local bus services within the road lane widths;
 - iv) Provide an off-road shared path. On road cycle ways will be considered in some circumstances;
 - v) Provide pedestrian pathways on both sides of the road with safe crossing points;
 - vi) Integrate pedestrian and cycle pathways with the surrounding network;
 - vii) Provide lighting in accordance with relevant Australian Standards;
 - viii) Provide for turning paths of heavy vehicles at intersections;

- ix) Provide dedicated on-street parking on both sides of the road; and
 - x) Be able to comfortably accommodate the co-location of on-street bus stops, DDA compliant boarding points, bus shelters and pathways.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.3.
- c) 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.

Figure C10.3: Collector Road

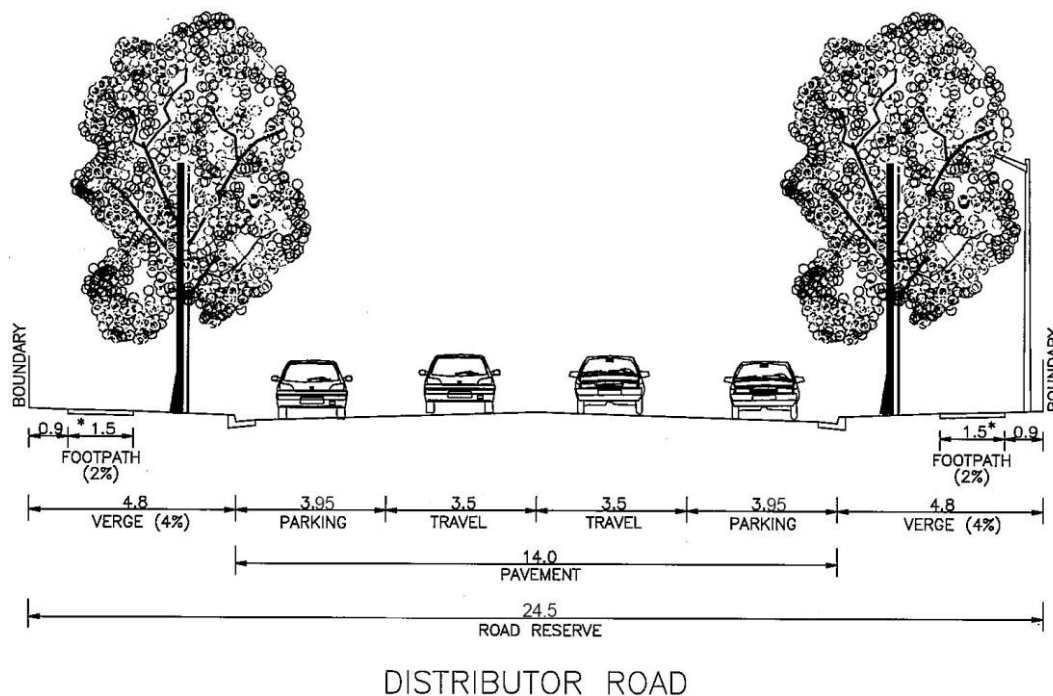


4) Distributor roads

- a) Distributor roads are to achieve the following performance objectives:
- i) Provide high accessibility for all road users;
 - ii) Be at a scale consistent with the higher order role these roads play in the overall road network;
 - iii) Provide for heavy vehicles and buses within the road lane widths;
 - iv) Provide on-road cycle ways (cycleway widths are to be designed from the lip of gutter);

- v) Provide pedestrian pathways on both sides of the road;
 - vi) Provide for turning paths of heavy vehicles at intersections;
 - vii) Provide dedicated on-street parking or additional lanes dependant on traffic volumes; and
 - viii) Be able to comfortably accommodate the co-location of bus shelters and pathways.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.4.
- c) 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.

Figure C10.4: Distributor Road

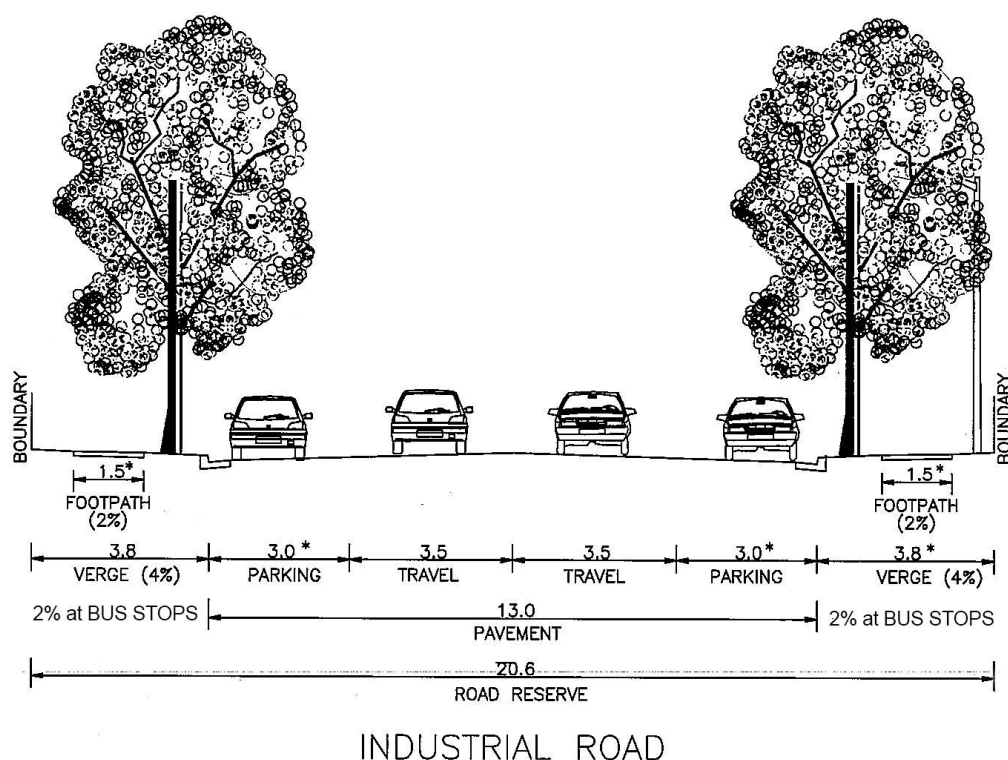


5) Industrial roads

- a) Industrial roads are to achieve the following performance objectives:
- i) Provide direct access to industrial properties and interconnectivity with the adjoining road network;
 - ii) Provide for all classes of heavy vehicles and appropriate circulation;
 - iii) Provide dedicated on-street parking on both sides of the road;
 - iv) Provide a shared path or on road cycle ways; and
 - v) Provide lighting in accordance with relevant Australian Standards.

- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.5.
- c) 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.

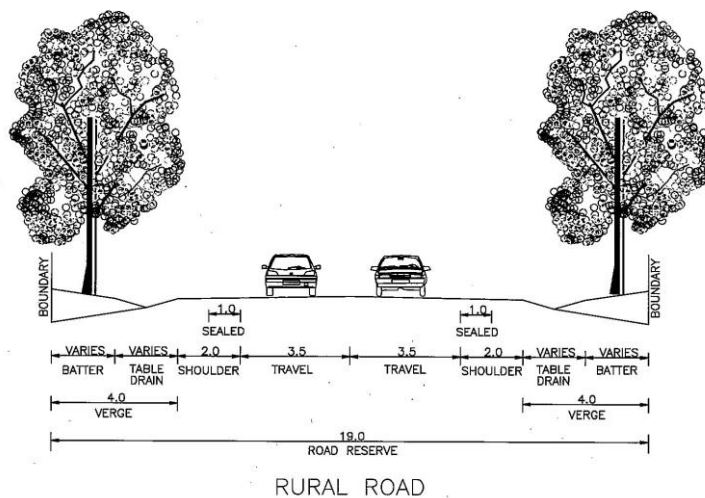
Figure C10.5: Industrial Road



6) Rural roads

- a) Rural roads are to achieve the following performance objectives:
 - i) Provide direct access to residential/rural properties and interconnectivity with the adjoining road network;
 - ii) Provide for all classes of heavy vehicles; and
 - iii) Provide lighting in accordance with relevant Australian Standards.
- b) Roads are to be designed in accordance Penrith City Council's Engineering Design Guidelines and conditions of development consent with reference to Figure C10.6.
- c) 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.

Figure C10.6: Rural Road



10.5. Parking, Access and Driveways

10.5.1. Parking

A. Background

This section of the DCP provides a set of principles to be used when assessing the need for car parking requirements in the City of Penrith. Minimum parking requirements have been set by Council to ensure that development functions efficiently and there is limited impact on street parking and congestion.

Car parking required by this DCP must be provided for onsite unless the consent authority is satisfied that adequate car parking is provided elsewhere.

Council owned public car parking is not to be included as part of a building's gross floor area.

B. Objectives

- To ensure the provision of an appropriate number of vehicular spaces having regard to the activities present and proposed on the land, the nature of the locality and the intensity of the use;
- To require parking areas to be designed and constructed in accordance with the Australian Standards for efficient and safe vehicle circulation and parking;
- To reduce pedestrian and vehicle conflicts on development sites.
- To facilitate an appropriate level of on-site parking provision to cater for a mix of development types;
- 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 enable the conversion of above ground parking to other future uses; and
- h) To support the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

C. Controls

1) Provision of Parking Spaces

- a) Parking provided on site is to meet AS 2890 and where appropriate, AS 1428.
- b) For any proposed development, Council will require the provision of on-site car parking to a standard appropriate to the intensity of the proposed development as set out in Table C10.2 below.
- c) Within rural zones, the range of possible uses of land is very broad. Car parking is to be provided in accordance with Table C10.2: Car Parking Rates. If parking rates for the use is not listed, it will be the applicant's responsibility to demonstrate that adequate parking is provided.
- d) For commercial developments providing employment for 20 people or more, bicycle parking is to be in secure and accessible locations, and provided with weather protection. The following associated facilities are to be provided:
 - i) Change and shower for cyclists and are to be conveniently located close to the bicycle storage areas.
 - ii) Where the building is to be strata-titled, the bicycle storage facilities and shower/change facilities are to be made available to all occupants of the building.
- e) For existing developments, a new use must not commence or the floor area increased until the required car park spaces have been provided on the site, corresponding to the land use outlined in Table C10.2.
- f) 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.
- g) Where relevant, development shall provide on-site loading facilities to accommodate the anticipated heavy vehicle demand for the site.
- h) Stacked parking will not be permitted for visitor spaces for any development.
- i) Stacked parking in commercial or industrial development may be permitted for employee spaces only, provided the number of stacked spaces does not account for more than 10% of the total required parking spaces.
- j) 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.

- k) 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.
- l) Where possible, natural ventilation is to be provided to underground parking areas with ventilation grilles and structures that are:
 - i) integrated into the overall façade and landscape design of the development;
 - ii) located away from the primary street façade; and
 - iii) oriented away from windows of habitable rooms and private open space areas.
- m) Proposals for basement parking areas are to be accompanied with a geotechnical report prepared by an appropriately qualified professional and any other supporting information to the Development Application.
- n) For all residential development at least one car parking space for each dwelling shall be covered the second space may be "stacked" or "tandem" or located on a driveway.

Table C10.2: Car Parking Rates

Type of Development	Parking Requirement
Residential	
Dwelling House	2 spaces per dwelling – stack or tandem parking acceptable
Dual Occupancy	2 spaces per dwelling (2 or more bedrooms) – stack or tandem parking acceptable
Multi Dwelling Housing	<p>On-site resident parking for each dwelling:</p> <p>1 car space per 1 bedroom</p> <p>1.5 car spaces per 2 bedrooms or part thereof</p> <p>2 car spaces per 3 or more bedrooms</p> <p>In addition, visitor parking is to be provided for developments that have 5 or more dwellings: 1 space for every 5 dwellings (or part thereof)</p>
Residential Flat Buildings	<p><u>On-site resident parking for each dwelling:</u></p> <p>1 space per 1 or 2 bedrooms</p> <p>2 spaces per 3 or more bedrooms</p> <p>1 space per 40 units for service vehicles</p> <p>In addition, visitor parking is to be provided for developments that have 5 or more dwellings: 1 space per every 5 dwellings, or part thereof.</p> <p>1 space for car washing for every 50 units, up to a maximum of 4</p>

Type of Development	Parking Requirement
	spaces per building.
Commercial	
Bowling Alleys, Squash Courts	3 spaces per lane or court
Bulky Good Premises	1 per 50m ² of gross floor area
Business and office premises	<p>St Marys Town Centre– 1 space per 60m² GFA</p> <p>Penrith City Centre –1 space per 100m² GFA</p> <p>(Please see “Other Site Specific Requirements” at the end of this table for additional requirements for parking provision in the Penrith City Centre.)</p> <p>All other areas – 1 space per 40m² GFA.</p>
Child Care Centres/Pre Schools	<p>1 space per 10 children plus 1 per employee plus provision for any dwelling.</p> <p>Note: Where a child care centre/pre-school is not located in or immediately adjoining a residential area, a submission to vary the above parking rates will be considered.</p>
Entertainment Facilities/Function Centres	1 space per 3.5 seats or 1 space per 3.5m ² of gross floor area, whichever is the greater
Fitness Centre including Gym	7 spaces per 100m ² GFA
Health Consulting Rooms/ Medical Centres	3 spaces per health care professional practising at any one time plus 1 space per receptionist/support staff, plus 1 space per associated dwelling.
Hospitals	1 space per 3 beds plus 1 space per 2 employees
Hotel or motel accommodation	1 space per unit plus 1 space per manager plus 1 space per 6 employees
Place of public worship	1 space per 4 seats or 1 space per 6m ² of gross floor area, whichever is the greater
Pubs/Registered Clubs	1 space per 4m ² of bar floor area plus 1 per 6m ² lounge and dining room
Restaurants, reception and function rooms	1 space per 6m ² of seating area, plus 1 space per employee
Retail Premises	Penrith City Centre and St Marys Town Centre – 1 space per 30m ² GFA

Type of Development	Parking Requirement
	(Please see “Other Site Specific Requirements” at the end of this table for additional requirements for parking provision in the Penrith City Centre.)
Retail Premises Shop	Supermarkets – 1 space per 10m ² of floor area that is to be used for retailing activities Other neighbourhood and specialty shops – 1 space per 30m ² GFA
Service Stations and Convenience Stores	6 spaces per work bay plus 4 spaces per 100m ² of gross floor area of convenience store
Vehicle Sales or Hire Premises	1 space per 100m ² of display area plus 1 space per employee, plus 6 spaces per work bay
Industrial	
Freight Transport Facilities	1 per transport vehicle present at peak vehicle accumulation plus 1 per 2 employees
Industries, including ancillary office	1 space per 75m ² of gross floor area or 1 space per 2 employees, whichever is the 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
Warehouses or distribution centres, including ancillary office	1 space per 100m ² of gross floor area (except as otherwise specified in this Table)
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 the document ‘Planning Guidelines for Walking and Cycling’ (NSW Government 2004). Bicycle parking spaces should comply with AS2890.3:1993 Bicycle Parking Facilities.	
Other Site Specific Requirements	

Type of Development	Parking Requirement
<p>Penrith City Centre – A maximum 60% of the total number of commercial parking spaces required by a development, other than for service vehicles, car washing bays and parking spaces allocated to people with a disability, are to be provided on-site.</p> <p>The balance of the total required number of spaces not provided on-site would need to be subject to a contribution under an adopted Contribution Plan or as set by the terms of a Voluntary Planning Agreement.</p> <p>Oakdale South Industrial Estate</p> <p>Car parking shall be provided in accordance with the following rates (unless evidence is provided in accordance with Part C10, Section 10.5.1, C1) f) of the Penrith DCP:</p> <ul style="list-style-type: none"> • 1 space per 300m² of warehouse gross floor area (GFA); • 1 space per 40m² of office GFA; and • 2 disabled spaces for every 100 car parking spaces. • Underground / basement car parking is not permitted at Oakdale South Industrial Estate. 	

2) Additional Controls for Developments within the Commercial Core and Mixed Use zones

- a) On-site parking is to be accommodated in basement parking except to the extent provided for below:
- Up to 25% of the required parking can be provided above ground, where: it is located at least 16 metres behind a building alignment that addresses a public street or public space and/or fronting a service lane with appropriate screening (refer to Figure C10.7 and C10.8).
 - Any additional parking provided above ground will count towards gross floor area for the purposes of calculating Floor Space Ratio.

Figure C10.7: Aboveground parking must be screened by an active edge to the public domain

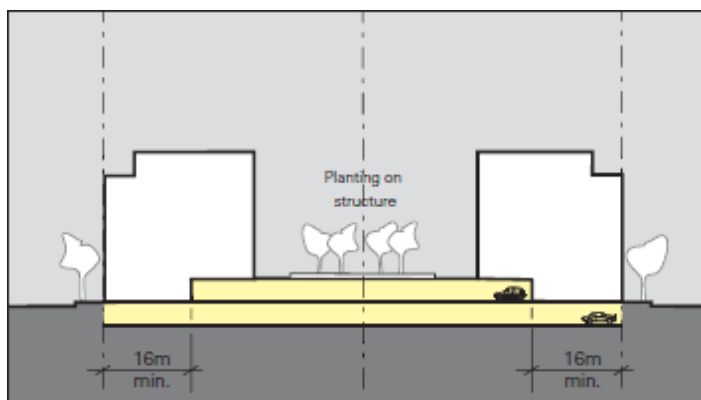
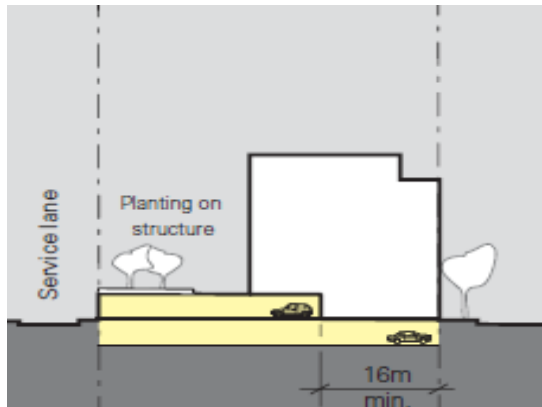


Figure C10.8: Aboveground parking may be located adjacent to a lane, with appropriate screening to reduce the impact on the public domain



3) Additional Controls for Residential Developments

- a) On-site parking for residential developments, including the residential component in a mixed use development, is to be accommodated wholly in a basement parking area unless the applicant can demonstrate to Council's satisfaction that the site's unique conditions prevent the parking from being located in a basement structure.
- b) If on-grade car parking is proposed, the location and adequacy of the parking area must not adversely impact on the amenity of the adjoining neighbourhood. The parking area is to:
 - i) be located on the side or rear of the site, and is not visible from the street and street frontage;
 - ii) be landscaped or screened so that cars parked in the parking area are not visible from adjoining buildings or the street/ street frontage; and
 - iii) allow safe and direct access to the building entry points.

4) Waiver or Reduction of Parking Spaces

- a) Council has the discretion to waive or reduce the number of car spaces required for a particular site if the reduced provision can be justified in a Traffic Impact Statement, in terms of:
 - i) Proximity to public transport nodes;
 - ii) Opportunity to share parking with another use; or
 - iii) An empirical assessment of car parking.
- b) Council may consider a monetary contribution in lieu of parking shortfall in certain circumstances where a waiver or reduction of parking spaces cannot be justified. All such cases will be considered on their individual merit and the contribution will be based on the current parking rate in respect of off-street parking demand generated by the development but not satisfied on the site. The parking contribution will be based on the actual cost of providing additional parking off site.

5) Design of Parking and Manoeuvring Areas

- a) Car space dimensions must comply with the relevant Australian Standards.
- b) 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.
- c) Provision of parking spaces for disabled persons should be in accordance with the Access to Premises Standards, the Building Code of Australia and AS2890.
- d) Council will require all car parking areas to be constructed of hard standing, all weather material, with parking bays and circulation aisles clearly delineated.
- e) Vehicle access is to be integrated into the building design as to be visually recessive.
- f) It will be necessary for the method of treating and minimising runoff from parking and access areas to be addressed as part of any development application (See the section entitled 'Stormwater and Drainage' in the Water Management Section).
- g) For development in the R4 High Density Residential zone, use semi-pervious materials for all uncovered parts of driveways and parking areas to assist with stormwater infiltration.
- h) Large car parking areas (more than 5 vehicles) should be visually separated from access roads and from the buildings they serve by planting and other landscaping and should not be visually prominent from public roads, either through separation or screening.
- i) 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.
- j) Council may require the provision of internal directional signs to assist site visitors in locating parking areas.
- k) For residential development, other than a single residence, the minimum space width shall provide for full door opening in accordance with Table B1 of AS2890.1 – 2004.
- l) 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.
- m) 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.
- n) Provision should be made for all vehicles to enter and exit a secure (i.e. boom-gated) area in a forward direction.
- o) Visitor parking should be provided outside the secured parking areas.
- p) The design of car parks should ensure adequate separation of staff/visitor parking and loading dock circulation areas for heavy vehicles.
- q) 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 AS2890.

- r) Access ways to underground parking should be sited to minimise noise impacts on adjacent habitable rooms, particularly bedrooms.
- s) Loading docks associated with the development shall be provided on-site, with all loading and unloading activities occurring on-site.
- t) All loading and unloading areas are to be:
 - i) integrated into the design of developments,
 - ii) separated from car parking and waste storage and collection areas,
 - iii) located away from the circulation path of other vehicles,
 - iv) provided separately for commercial/retail and residential uses, where part of a mixed use development, and
 - v) designed for commercial vehicle circulation and access complying with AS 2890.2.
- u) Vehicular access to the loading / unloading area(s) is preferred off rear lanes, side streets and right of ways. Where appropriate, consider a single vehicular access point for the loading/unloading area(s) and waste collection area(s).
- v) Secure multi-deck car parks should incorporate communication devices such as:
 - i) Intercoms at boom gates;
 - ii) Public address systems;
 - iii) Telephones; or
 - iv) Emergency alarms.
- w) 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.
- x) All surfaces in the car park should be painted in light coloured paint or finished in light grey concrete to reflect as much light as possible.
- y) All potential entrapment points should be avoided, e.g. under stairs, blind corners and wide columns. Adequate lighting and mirrors should be used when certain design features are unavoidable.
- z) Access, parking, manoeuvring and loading facilities for commercial and industrial development shall be in accordance with AS 2890.2 - 2004 and accommodate vehicle types as outlined in Table C10.3.
- aa) Council may require a development to cater for vehicles larger than the minimum specified above where the development is for uses such as a transport depot, warehouse, etc. All service vehicles must enter and exit the development site in a forward direction.

Table C10.3: Minimum design vehicle requirements for commercial and industrial developments - minimum design vehicle requirements

Site Area	Design Vehicle
Up to 1,500m ²	Medium Rigid Vehicle (MRV)
1,500m ² to 4,000m ²	Heavy Rigid Vehicle (HRV)
Greater than 4,000m ²	Articulated Vehicle

Additional guidelines for the design of car parking areas can be found within the Policies, Guidelines and Procedures for Traffic Generating Development published by the RMS.

10.5.2. Access and Driveways

A. 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;
- c) To 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 minimise stormwater runoff from uncovered driveways and parking areas;
- f) To ensure that access ways and driveways provide safe access from a property to a public road; and
- g) To ensure driveways do not negatively impact on pedestrian mobility.

B. Controls

1) General Requirements

- a) The road access to the site should provide for safe entry to and exit from the site. All vehicles must enter/exit the site in a forward direction. (This does not apply to single dwellings).
- b) 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.
- c) The design of the development driveway should take into consideration the traffic volumes of the surrounding road network.
- d) Driveways should be:

- i) Provided from lanes and secondary streets rather than the primary street, wherever practical;
 - ii) Located taking into account any services located within the road reserve, such as power poles, drainage inlet pits and existing street trees;
 - iii) Setback a minimum of 6m from the perpendicular of any intersection of any two roads; and
 - iv) Located to minimise noise and amenity impacts on adjacent residential development.
- e) 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.
- f) Driveway widths must comply with the relevant Australian Standards.
- g) Driveway grades, vehicular ramp width/grades and passing bays must be in accordance with the relevant Australian Standard (AS2890.1).
- h) Access to basement parking shall have an entry threshold a minimum of 300mm above the top of the kerb. The threshold shall be increased within areas of flooding or local overland flows to a minimum of 300mm above the flood level. The design of the development shall ensure that floodwater cannot enter the car park in a 1% Annual Exceedance Probability (AEP) flood event.
- i) The required threshold should be set within the property to prevent cross fall greater than 4% within the footway area.
- j) No direct access will be permitted to the M4 Western Motorway.

2) Design

- a) For rural subdivisions, the width of sealed surface shall be determined at the time of subdivision taking into consideration the intensity of use, landscaping proposals, servicing requirements and drainage design. Roads should be designed to enhance the rural character and long stretches of straight road should be avoided.
- b) All driveways (including in rural and environmental zones) are to be sealed from the point of the public road up to and including the hard-stand parking areas.
- c) The design of rural driveways shall ensure that stormwater is not impounded, concentrated or redirected onto adjoining properties.

3) Construction Standards

- a) 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'.
- b) Design drawings should be accompanied by details of the erosion and sediment control measures that are to be implemented during construction.

4) Dedication

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

5) Access to Allotments Created in Subdivision

- a) New allotments must have direct access to dedicated public roads.
- b) Where battle-axe subdivision is supported, the following controls apply:
 - i) The battle-axe width is generally to be a minimum of 10m. Where two battle axe developments adjoin reciprocal rights-of-carriage way may be permitted;
 - ii) The battle-axe handle is to be stabilised or sealed depending on the anticipated intensity of use; and
 - iii) The line of any sealed or stabilised area within the battle-axe handle should be varied and landscaped where appropriate to avoid a 'gunbarrel' appearance.
- c) Passing bays will be required for the following:
 - i) Entry/exit of all properties;
 - ii) Access handles;
 - iii) More than one allotment; and
 - iv) Change in direction of the access handle.
- d) 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.

6) Responding to Topography

- a) 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.
- b) 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.

10.6. Pedestrian Connections

A. Objectives

- a) To provide a safe, convenient and legible movement network for people with diverse abilities, including those using wheelchairs, mobility scooters, people with prams, small children, elderly people and people with temporary injuries, between residences and points of attraction within and beyond the development;

- b) To design street networks to optimise personal mobility access to centres, schools, public transport stops and stations, and other destinations;
- c) To design major routes as 'integrator arterials' with extensive and frequent opportunity for pedestrians to move safely along and across them;
- d) To design and detail new developments to promote and support personal mobility to daily activities;
- e) To provide pedestrian pathways through parks for recreation purposes wherever practicable; and
- f) To provide walking routes along predictable pathways of travel, including approaches to schools, parks and shopping precincts.

B. Controls

- 1) 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.
- 2) Street lighting in accordance with the provisions of AS1158 should be present in all urban streets, while on rural traffic routes in general only intersections will be lit. Refer to Section C8 'Public Domain, for further information about lighting.
- 3) Pedestrian crossing distances in local streets should be shortened through kerb extensions and tight turning radii, which can cause vehicular traffic to slow to negotiate the tighter corners.
- 4) To enable comfortable passage for all people with diverse abilities, footpaths must be:
 - i) Provided on both sides of the road in urban areas;
 - ii) A minimum of 1.5m wide along collector and all lower order streets; and
 - iii) A minimum of 2.5m on approach routes to predictable destinations such as schools, parks and shopping precincts. (Three metre paths or wider are preferred).
- 5) Where street trees are not required to provide protection from passing cars for people on footpaths, a minimum outer nature strip of 0.5m on both sides of the street should be provided. Kerbs should be 'barrier' not 'rollover' design.
- 6) 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.
- 7) 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.
- 8) Gradients and ramps must be aligned with desired paths of travel for pedestrians and cyclists.
- 9) 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.

- 10) Reconstructed driveways/pathways are to achieve a useable cross slope for a width of 915mm. Cars must slow to negotiate the two steeper ramps on either side of the pathway crossing, but will not 'bottom out' at these angles. (Source: Preiser. W and Ostroff E (2001) *Universal Design Handbook* McGraw-Hill).

10.7 Bicycle Facilities

A. Objectives

- a) To encourage bicycle use by providing sufficient number of secure and accessible bicycle parking spaces with new developments.

B. Controls

1. Cycleways

- a) 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-marking, signage and logos and Council policies regarding bicycle access.
- b) The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m on local routes with a minimum of 3m on major connector routes.
- c) 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.
- d) 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.

2. Provision of Bicycle Parking Spaces

- a) For commercial developments providing employment for 20 people or more, bicycle parking is to be in secure and accessible locations, and provided with weather protection, in accordance with AS2890.3:1993 Bicycle Parking Facilities.
- b) The following associated facilities are to be provided:
 - i) Change and shower facilities for cyclists are to be conveniently located close to the bicycle storage areas; and
 - ii) Where the building is to be strata-titled, the bicycle storage facilities and shower/change facilities are to be made available to all occupants of the building.
- c) 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).

3. Design of bicycle spaces

a) Bicycle parking spaces must:

- i) Be provided in accordance with AS2890.3:1993 Bicycle Parking Facilities;
- ii) Be located to provide convenient access from surrounding bicycle routes and main building entrances;
- iii) Not interfere with reasonable access to doorways, loading areas, access covers, furniture, services and infrastructure;
- iv) Not cause a hazard; and
- v) Be adequately lit during periods of use.

4. Bicycle Rails, Storage and Signage

a) A bicycle rail must:

- i) Be securely fixed to a wall or to the floor or ground;
- ii) Be in a highly visible location for bicycle security (when not in a compound);
- iii) Be of a shape that allows a cyclist to easily lock the bicycle frame and wheels; and
- iv) Be located to allow easy access to park, lock and remove the bicycle.

b) A bicycle compound or a bicycle locker must:

- i) Be located to provide convenient access to other bicycle facilities including showers and change rooms;
- ii) Be fully enclosed;
- iii) Be able to be locked; and
- iv) If outside, provide weather protection for the bicycle.

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C11 Subdivision

A. Background

During the past decade, the City of Penrith has experienced rapid and sustained urban growth. To a large extent, Penrith's development has resulted from the release of new residential areas but some has also come from standard subdivisions of rural, industrial and residential land. The combination of continued population growth, an ageing population and pressures of housing affordability will create a demand for new and varied types of development sites.

After rezoning, the subdivision of land is one of the first steps in the development process, which has the potential to significantly impact the environment, society and culture, infrastructure and the amenity of an area.

This section of the DCP should be read in conjunction with the 'Sustainability Blueprint for New Release Areas'.

B. General Objectives

- a) To consider and address the principles of sustainable development in determining the location, design and future use of subdivided land;
- b) To address the objectives and controls in this DCP relating to social, economic, environmental and built form principles to maximise sustainable development outcomes; and
- c) To provide efficient subdivision layouts that meet the needs of the proposed land uses and activities, and market requirements for those land uses/activities.

C. Other Relevant Sections of this DCP

Applicants should read this Section of the DCP in conjunction with other relevant sections.

11.1. General Subdivision Requirements

A. Objectives

- a) To address site planning principles in the design of the subdivision layout;
- b) To preserve and retain significant environmental and cultural features of the site, such as waterways, riparian corridors and heritage items.
- c) To address environmental constraints, including flooding, drainage, slope, erosion and land within, or adjacent to, natural resource sensitive land and to ensure that any future development will not be subject to an unacceptable level of risk from natural hazards;
- d) To encourage the retention of significant existing vegetation;
- e) To adequately provide services to, and mechanisms for, the effluent disposal from any proposed allotment(s); and

- f) To address any access and traffic constraints and maximise vehicle and pedestrian safety.

B. Controls

1) Engineering Works

- a) Where roads and other engineering works are required to support a proposed subdivision, details must be included in the development application. Applicants are advised to consult with Council's Development Services Unit in relation to any subdivision proposal.

2) Site Planning

- a) Any proposed subdivision must demonstrate how the proposed subdivision design has taken into account the principles set out in Section C1 'Site Planning and Design Principles' of this DCP. This includes, but is not limited to:
 - i) Site analysis and response to the site context;
 - ii) Social impact of the proposed subdivision;
 - iii) Economic assessment of the proposed subdivision;
 - iv) Environmental assessment of the proposed subdivision;
 - v) Urban design assessment of the proposed subdivision;
 - vi) Compliance with the provisions of this DCP relating to specific land uses;
 - vii) The allotment size, shape and orientation;
 - viii) The alignment of roads with the natural topography;
 - ix) Potential energy and water savings from subdivision design and allotment orientation; and
 - x) The ability of proposed allotments to operate efficiently for the proposed use and potential future development.
- b) As part of any site analysis, the proposed subdivision must demonstrate its integration with the natural and physical features of the site including, but not limited to:
 - i) Slope and orientation of land;
 - ii) Opportunities for solar and daylight access to dwellings (if applicable);
 - iii) Design of roads and access ways (individual site access);
 - iv) Retention of special qualities or features such as trees or views;
 - v) Availability of utilities;
 - vi) Provision of adequate site drainage;

- vii) Possible need to retain the existing subdivision character;
 - viii) Heritage and archaeological conservation;
 - ix) Adequacy of each allotment considering relevant development standards for the proposed future use of the land;
 - x) Relationship to adjacent subdivision patterns; and
 - xi) Potential land use conflicts with adjacent lands.
- c) Existing vegetation and natural drainage lines should be retained and enhanced, wherever possible.
 - d) Existing dams should be retained, where possible.
 - e) Long and narrow allotments should be avoided. Allotments should have a maximum of 4:1 depth to width ratio.
 - f) 'Battle-axe' allotments are discouraged by Council. No more than two allotments shall be served by a shared access corridor. Where a corridor is shared, reciprocal rights of way and easements for drainage shall be granted over the access corridor for the benefit of both allotments.
 - g) Applications for subdivision need to demonstrate that each of the proposed allotments can support the proposed development/buildings by providing a *Potential Development Area Plan*. This Plan (based on a survey diagram) shall show the potential development area of each allotment (after taking into account setbacks that may be required to meet built form or environmental controls in this DCP).
 - h) Applications should be accompanied by landscape plans indicating proposed landscaping (including streets and how they are positioned so as not to compromise the effectiveness of street lighting) and parking arrangements.
 - i) New allotments should be located so as to protect, enhance or conserve areas of high scenic or recreational value. Council may consider subdivisions/buildings in these higher value areas where ridgelines, vistas and other geographic features are not interrupted or where building materials that blend with the environment are to be used.

3) Subdivision of Natural Resources Sensitive Land

- a) Where applicable, applicants are required to address the environmental impacts of any proposed subdivision of land where the proposed allotment(s) are within or adjacent to land shown on the Natural Resources Sensitivity Land Map of the LEP.
- b) Council will generally not support the subdivision of land within or adjacent to the land noted on the Natural Resources Sensitivity Land Map where the subdivision will result in fragmentation that will make control of environmental outcomes difficult to achieve.
- c) Council may require dedication of conservation easements, where necessary, over land adjacent to land shown on the Natural Resources Sensitivity Land Map to protect areas identified to be of significance.

4) Vegetation Management

- a) Any subdivision proposal is required to address the objectives and controls set out in the Vegetation Management and Landscape Design sections with particular focus on the protection of existing vegetation.
- b) Not more than 10% of the vegetation on any site shall be cleared (or required to be cleared) as a result of any subdivision proposal.
- c) The design of any subdivision layout must ensure that the potential development pattern supported by the proposed subdivision design will be consistent with the existing landscape character of the area.
- d) A subdivision application on land identified as or adjacent to 'bushfire prone land' will need to address the controls set out in the Vegetation Management Section relating to bushfire protection and the provision of asset protection zones. Where possible, removal of significant vegetation is to be minimised.
- e) Tree protection measures must be provided in accordance with Australian Standard AS 4970-2009 Protection of trees on development sites.

5) Water Management

- a) Any subdivision proposal is required to address the objectives and controls set out in the Water Management Section. The subdivision design should consider the following and incorporate measures to address:
 - i) The potential impacts of any future development on water catchments and surface water quality;
 - ii) The potential impacts of any future development on watercourses, riparian corridors and wetlands or other environmentally sensitive areas. Lot design may need to facilitate the fronting onto riparian land to facilitate surveillance and prevent degradation of these areas;
 - iii) The potential for flood risk and damage to life and property and the need to provide safe emergency access/egress from the site;
 - iv) Issues arising from stormwater and drainage requirements; and
 - v) The potential for the site design to incorporate features of water sensitive urban design.
- b) Council will not approve any subdivision of lots where it is evident that a flood free building envelope and safe internal access from/to the public road cannot be provided. The building envelope for any dwelling should be flood free in a 1:100 Average Recurrence Interval (ARI) flood. Evidence of this must be provided as part of any application.
- c) Council will not support the subdivision of any land located in a floodway or areas of high flood hazard.
- d) Subdivision of land below the flood planning level in rural zones creating additional allotments will generally not be supported. However, Council may consider a subdivision application where the applicant can demonstrate that:

- i) the flood hazard is low;
 - ii) flood free access can be provided; and
 - iii) a minimum of 1,000m² within each allotment is flood free, allowing for a dwelling and all ancillary works;
- e) Generally, land situated within existing residential, commercial and industrial zones may only be subdivided to enable its development for urban purposes where the level of the existing land to be developed is not lower than the 1:100 ARI flood. All lots created by such subdivision shall have the portion of the lot that can be built upon filled to a level at least 0.5m above the 1:100 ARI flood.
- f) Significant filling of flood planning land will not be supported. If minor filling is required on flood planning land, the provisions relating to flood liable lands will apply (refer to the Water Management section).

6) Land Management

- a) Any subdivision proposal is required to address the objectives and controls set out in the Land Management section with particular focus on ensuring that the proposed subdivision is appropriate taking into consideration:
- i) Site instability due to geology, slope or landfill;
 - ii) The need for excavation and fill to create developable allotments;
 - iii) The potential for erosion and sedimentation; and
 - iv) The potential for salinity.
- b) Any subdivision application must address whether the proposed site has any potential for contamination (in accordance with the *Contaminated Land Management Act 1997*), other than by normal grazing activities. If required by Council, the land will need to be remediated in accordance with legislative requirements before subdivision can be permitted.

7) Culture and Heritage

- a) Subdivision of a heritage item or in the vicinity of a heritage item or where there is the likelihood of an Aboriginal archaeological heritage item must address the objectives and controls set out in the Culture and Heritage section. The proposed subdivision must minimise:
- i) The impact on Aboriginal or European archaeology on the site; and
 - ii) The impact on Aboriginal objects and places.

8) Access and Transport

- a) Any subdivision proposal is required to address the objectives and controls set out in the Transport, Access and Parking section with particular focus on ensuring that the proposed subdivision is appropriate taking into consideration:
- i) The appropriate location of land uses to minimise transport requirements;

- ii) Likely traffic generation;
 - iii) Safe access and egress to the site; and
 - iv) Appropriate lot sizes to provide facilities for cars, pedestrians and bicycles.
- b) Council will not approve any subdivision of new lots in situations where each lot cannot be provided with a safe access point to an existing public road.
 - c) Council may not approve subdivision of allotments where access is to a Crown Road only.
 - d) Site frontage must be sufficient to permit vehicular and pedestrian access to the site.
 - e) A minimum allotment frontage of 25m must be provided when the allotment has a vehicle access point to a collector or major road.
 - f) Council and the Roads and Maritime Services (RMS) require that access points are grouped at existing or limited access points whenever feasible to minimise the traffic impact and risk on additional access points to road networks.
 - g) Where an internal road system is proposed to a new subdivision, the application must demonstrate a distinctive and hierarchical network of roads with clear physical distinctions between each type of road, based on function, capacity, vehicle speeds and public transport.
 - h) Any proposed road system must provide acceptable levels of access, safety and convenience for all road users, while ensuring acceptable levels of amenity and protection from the impact of traffic.
 - i) Council may levy a road contribution or require road upgrading for all proposed lots whether the lots are accessed by sealed or unsealed roads. The amount of the contribution will depend on the current standard of the road and the increased levels of traffic to be generated.

9) Noise and Vibration

- a) Any subdivision proposal is required to address the objectives and controls set out in the Noise and Vibration section with particular focus on designing lots so sensitive buildings (especially dwellings) will have sufficient setbacks or noise mitigation measures to minimise noise and vibration impacts.

10) Infrastructure and Services

- a) Council will not approve of any subdivision of new lots where requirements for effluent/waste water disposal cannot be adequately met on each individual lot.
- b) Council will not approve of any subdivision of new lots where the provision of services, such as electricity, telephone and other centralised services, would result in additional costs not paid for by the applicant.
- c) Satisfactory arrangements will be required to be made with Sydney Water in conjunction with the submission of the subdivision application. Documentary evidence will be required of the consultation which has been undertaken.

C. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this Plan. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- 1) Consolidation of allotments:** Where an applicant is proposing substantial works that require a development application on rural or industrial properties across a number of allotments with a single use, an applicant should review the potential to consolidate those allotments as part of the development application.
- 2) Natural Resources Sensitive Land:** Where a proposed subdivision is either within or immediately adjacent to land on the Natural Resources Sensitivity Land Map in the LEP an applicant should discuss with Council the potential to dedicate part of the subdivision as a buffer to that sensitive land.
- 3) Water Sensitive Urban Design:** Where a subdivision involves more than 10 allotments or an area greater than 5 hectares, the applicant should demonstrate to Council how the proposed subdivision layout will incorporate water sensitive urban design mechanisms both at the entire subdivision level and for each site.

11.2 Rural Subdivision

A. Objectives

- a) To promote the continued use of agricultural land, particularly prime crop and pasture land, for commercial agricultural purposes, where that form of land use is sustainable in the long term;
- b) To allow subdivision which will maintain the rural character of the locality;
- c) To avoid land use conflicts by preventing incompatible development in or adjacent to agricultural land;
- d) To create a diversity of rural living opportunities in appropriate locations to provide scope for development in rural areas;
- e) To provide a capacity to effectively cater for a range of agricultural developments;
- f) To ensure that allotments are compatible in size and shape with the physical nature of the land, adjoining land uses and the likely use of the land in the future; and
- g) To ensure satisfactory arrangements are made for access, servicing and landscaping.

B. Controls

1) Land Capability

- a) As part of any subdivision application for rural lands, an applicant must address the impact that the proposed subdivision will have on the agricultural capability and

sustainability of the proposed allotments as well as the impact on agriculture in the surrounding area.

- b) This must also address social, economic and environmental factors.

2) Avoiding Land Use Conflicts

- a) The application will need to address how any potential land use conflicts (including, but not limited to, noise, dust, odour, traffic, light, etc.) will be minimised if any proposed subdivision is located within 1km of:
 - i) An existing approved or licensed intensive agricultural operation;
 - ii) A waste or resource management facility;
 - iii) A noxious, offensive or hazardous land use; or
 - iv) A sensitive land use.
- b) Site locations must ensure such existing land uses will still comply with the EPA Odour Control Guidelines and other relevant publications.
- c) Use of building envelopes, buffer zones and planting will be considered in helping to mitigate these issues.

3) Subdivisions for Dwellings

- a) Applications for subdivision that will include a new dwelling should be accompanied by a proposal for siting of a dwelling.
- b) In some circumstances, the building envelope (ground area and height) and/or design guidelines specifying the proposed building location/height must be registered on the Certificate of Title as part of the subdivision approval process.
- c) The building envelope must comply with the relevant setbacks from roads, watercourses, other buildings and side boundaries in the Rural Land Uses Section of this Plan.

11.3. Residential Subdivision

A. Introduction

This plan applies to all subdivision proposals where land is zoned for residential purposes.

B. Objectives

- a) To provide greater diversity of housing choice;
- b) To enhance and protect the amenity of new and existing residential areas by:
 - i) Providing design controls for a variety of forms of residential subdivision;

- ii) Setting reasonable environmental standards for solar access, road network, vehicular access, parking, landscaping, servicing and drainage; and
- iii) Providing adequate environmental controls to protect the natural environment and systems in the construction/establishment of subdivisions.

B. Controls

1) General Requirements

Subdivision is generally the first stage of development in residential zones. Different development approval processes apply, depending on the form of development proposed.

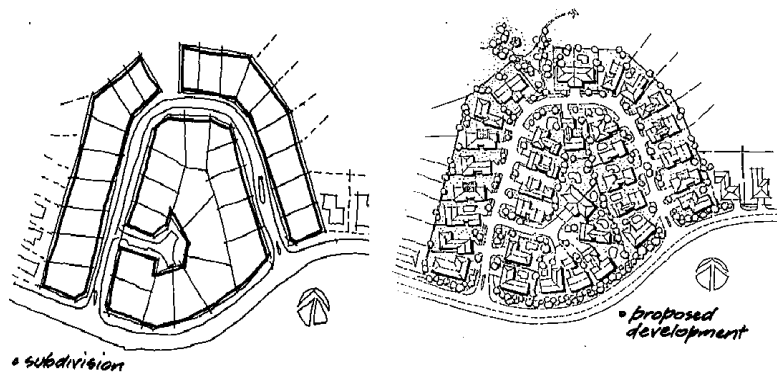
- a) Where development applications for subdivision meet the minimum lot size requirement, a development application may be made for subdivision alone.
- b) In the R1 General Residential zone, where subdivision into allotments of area less than 400m² is permitted (subject to the requirements of the LEP), a development application must be made for both subdivision and the development (e.g. detached dwelling) proposed.

2) Design Principles

- a) In determining the suitability or otherwise of any subdivision application, consideration of the following matters, together with those specified in Section 79(C) of the *Environmental Planning and Assessment Act 1979*, will be taken into account:
 - i) slope and orientation of land;
 - ii) opportunities for solar and daylight access to future dwellings;
 - iii) design of road and access ways (individual site access);
 - iv) retention of special qualities or features such as trees and views;
 - v) availability of utilities;
 - vi) provision of adequate site drainage;
 - vii) provision of public open space;
 - viii) possible need to retain existing subdivision character;
 - ix) heritage and archaeological conservation;
 - x) adequacy of each allotment considering relevant development standards such as setbacks, car parking, landscaping etc.;
 - xi) the relationship of the subdivision layout to adjacent land suitable for subdivision;
 - xii) the enhancement of existing or future subdivision character;
- b) Subdivision should only occur where the land is suitable for its intended use.
- c) Subdivision of land should not result in steep slopes or high retaining walls.

- d) In cases where subdivision is proposed on land with steep slopes, details of cut and fill including proposed retaining walls are to be provided at the time of subdivision.

Figure - C11.1: Examples of subdivision



11.3.1. Allotment Orientation

A. Objectives

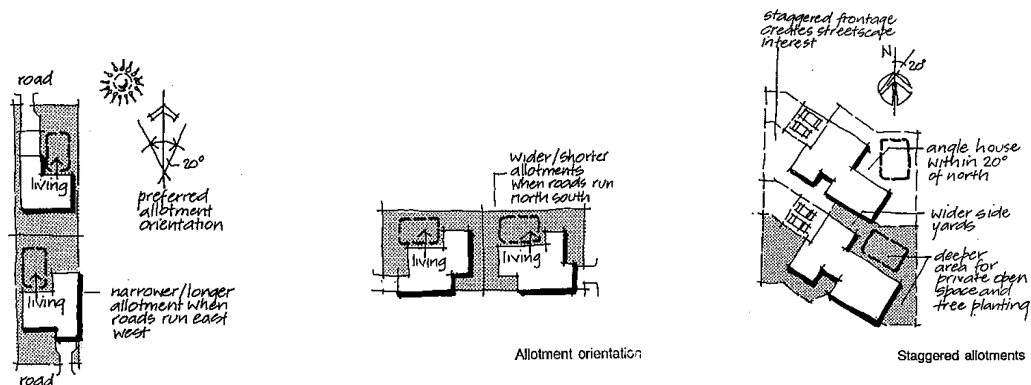
- a) To achieve comfort for future users by considering prevailing climatic factors in subdivision layout;
- b) To meet user requirements for daylight and solar radiation;
- c) To enable, where practical, the application of energy conservation principles;
- d) To ensure that the site layout of a subdivision does not preclude a northerly aspect to any dwelling located on that site;
- e) To wholly consider the design of roads and allotments to create variety and interest in the streetscape and to preserve significant natural features; and
- f) To encourage energy efficient subdivision design which maximises solar access, meets requirements for daylight and solar radiation and makes efficient use of roads; and services.

B. Controls

- 1) Staggering of allotments and extensive use of landscaping are encouraged to reduce adverse wind impacts and achieve maximum exposure to cooling breezes in summer, and create streetscape variety and interest.
- 2) The allotment orientation shall take into account:
 - a) The various types of dwellings which may be constructed on them. In this regard, potential living and private open space areas of any dwelling can be oriented to the north.
 - b) The possible overshadowing impact on existing and/or future adjoining buildings.

- c) Road orientation, which is an important factor in influencing allotment orientation to achieve energy efficient subdivision.
 - i) Roads running close to east-west provide for good orientation of allotments for solar access to dwellings and private open space, while maintaining a narrow allotment frontage. This will contribute to minimising the street length and reduce lengths of utility and service related infrastructure.
 - ii) On roads running north-south, allotments may need to be widened to provide solar access and prevent overshadowing of dwellings and private open space.
- 3) Where land slopes are generally greater than 5%, road and allotment design should provide for dwellings to be generally parallel with the contours to minimise earthworks. Special care should also be taken in the configuration of roads and allotments to:
 - a) Minimise boundary retaining walls, particularly associated with building to boundary;
 - b) Minimise potential overlooking; and
 - c) Maintain solar access, where slopes face south. A greater distance between dwellings will generally be required to achieve the same solar access as on level sites or north facing slopes.

Figure - C11.2: Examples of Allotment Orientation



11.3.2. Site Frontage

A. Objective

- a) To allow the development of small sites without the need for site amalgamation.

B. Controls

- 1) Site frontage shall be sufficient to permit vehicular and pedestrian access to the site.
- 2) Access to major roads may be restricted and can potentially affect the proposed subdivision layout.
- 3) Along collector and major roads, it is desirable to reduce the number of vehicle access points. In such situations, a minimum allotment frontage of **25m** is preferred.

- 4) Alternatively, a service road running parallel to the main road may be required. (See Section 11.3.5 Road Design and Construction.)
- 5) While minimum frontage requirements are not specified in this section, each new lot created shall have satisfactory depth-to-frontage ratio and long narrow lots will be discouraged.
- 6) Allotments with double road frontage (i.e. front and rear) are discouraged.

11.3.3 Allotment Dimensions

A. Objectives

- a) To encourage variety and choice in housing forms by providing for a broad range of dwelling sizes;
- b) To meet the projected requirements of people with different housing needs;
- c) To provide sufficient area and dimensions for each allotment to enable siting and construction of a dwelling and ancillary outbuildings; and
- d) To provide sufficient area and dimensions for each allotment for the provision of private outdoor space with regard to solar and daylight access and convenient vehicle access parking (where required).

B. Controls

Allotment Size

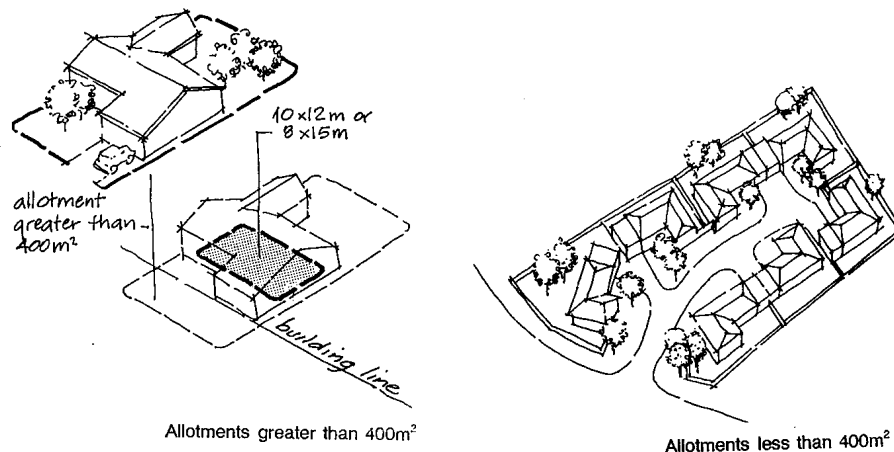
Residential lots greater than 400m²

- 1) Allotment dimensions shall be capable of containing a rectangle suitable for building purposes measuring 10m x 12m or 8m x 15m behind the building line.

Residential lots less than 400m²

- 2) In determining the suitability of any subdivision application for small lots (i.e. less than 400m²), special consideration of the following matters will also be taken:
 - a) Cost of providing services and the capacity of existing services;
 - b) The advantages of building to a boundary and using attached and semi-detached forms of housing;
 - c) That adequate privacy can be assured for each proposed dwelling; and
 - d) That adequate provision is made for access to natural light for each proposed dwelling.

Figure C11.3: Examples of allotments greater and less than 400m²



Battle-Axe Lots

- 1) Battle-axe lots must be greater than 400m².
- 2) Battle-axe allotments are generally discouraged. Where battle-axe allotments are proposed the access corridor will not be included in the site area calculation for battle-axe allotments.
- 3) Requirements for access corridors are:
 - a) Minimum width of 4m;
 - b) Minimum width for shared corridor of 5m;
 - c) Maximum length of 60m.
- 4) No more than 2 allotments shall be served by a shared corridor.
- 5) Where a corridor is shared, reciprocal rights of way and easements for drainage shall be granted for the benefit of both allotments.
- 6) Council will not be responsible for the maintenance of access corridors.

11.3.4 Road Network

A. Objectives – road network

- 1) To provide a distinctive and hierarchical network of roads with clear physical distinctions between each type of road based on function, capacity, vehicle speeds, and public safety.
- 2) To provide acceptable levels of access, safety and convenience for all road users in residential areas, while ensuring acceptable levels of amenity, and protection from the impact of traffic.
- 3) To establish a road network which provides:

- a) the basis for cost effective-design and construction of roads;
- b) efficient and accessible bus routes;
- c) safe and convenient movement of pedestrians;
- d) integrated natural drainage and open space systems;
- e) efficient provision of public utilities networks;
- f) roads within any residential neighbourhood which do not function as through traffic-roads for externally-generated traffic; and
- g) to provide for safe on-street parking of vehicles.

B. Controls – road network

- 1) The road network shall conform to a strategic plan for the area showing an existing and proposed major road network above the level of collector which satisfies projected district and regional travel.
- 2) The road network shall provide for access to bus routes within acceptable walking distance from all dwellings. Unless prescribed otherwise, no more than 10% of allotments shall be more than 250m straight line or 400m walking distance from a proposed bus route.

11.3.5 Road Design and Construction

A. Objectives

- a) To provide roads consistent with their function within the road network, having regard to their safety and visual impact.
- b) To provide sufficient road reserve, carriageway and verge width to allow roads to perform their designated functions within the road network.
- c) To allow all users of the road – motorists, pedestrians and cyclists – to proceed safely, conveniently and without delay.
- d) To provide access for emergency and service vehicles to all dwellings.
- e) To accommodate sufficient on-street parking.
- f) To accommodate public utility services and drainage systems.
- g) To provide road pavements and edges that are appropriate for the control of vehicle movements, perform any required drainage function, are structurally adequate and use materials that reinforce the residential function of the street.
- h) To minimise road construction and life cycle costs without compromising other objectives.

B. Controls

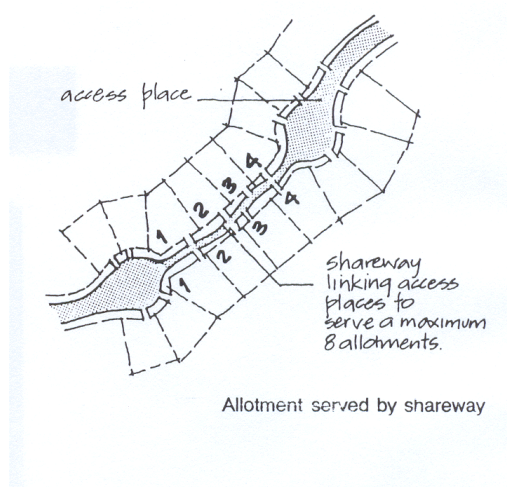
1) Connections between roads

- a) The minimum distance from an access place or road to a collector road shall be 60m if the junction is on the same side of the road or 40m if the junction is staggered on opposite sides of the road.
- b) Intersections shall be either T junctions or roundabouts.

2) Controls – road capacity

- a) A share-way shall serve a maximum of 8 single dwelling allotments, or 6 single dwelling allotments if it is a cul-de-sac.
- b) An access place serving allotments greater than 400m² shall serve a maximum of 24 single dwelling allotments.
- c) An access place serving allotments less than 400m² shall serve a maximum number of 30 allotments.
- d) An access street shall serve a maximum of 200 single dwelling allotments or generate no more than 1,500 vehicle movements per day based on an average of 7 vehicle movements per dwelling unless a lower rate can be demonstrated. Lower rates may be applied to multi dwelling housing.

Figure C11.4: Examples of allotments which is served by a share-way



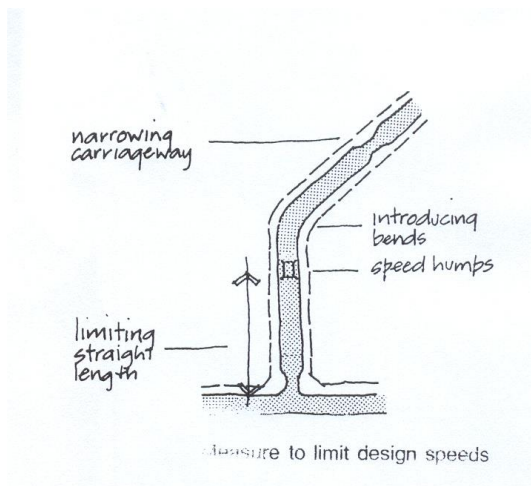
Controls – design speeds

- 1) Design speeds shall be a maximum of:
 - a) 15km per hour – share-way, access place.
 - b) 40km per hour – access street.
 - c) A combination of measures may be required to limit design speeds by:
 - i) limiting street length

- ii) introducing bends
- iii) introducing slow points, bends and other traffic management measures such as constriction of carriageway width, speed humps etc. These may not be appropriate in all situations.

2) Design shall conform to Council's guidelines. Speed profiles are required for each road.

Figure C11.5: Examples of allotments which reduce speed



Control - road reserves

- 1) Where a subdivision adjoins a collector road of a standard less than Council's current standard, adequate half-width road pavement construction, kerbing and footpath along the full length of the frontage shall be provided to approved standards.
- 2) Rear fences of a subdivision fronting collector roads are discouraged. Where there is no alternative greater verge widths may be required to provide for landscaping against fences taking into account intersection sight distance requirements.

11.3.6. Landscaping and Site Design

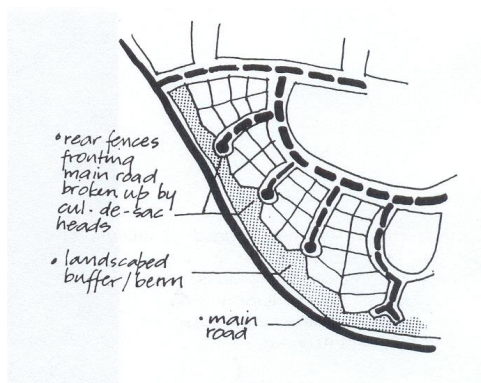
A. Objectives

- a) To maintain and enhance the existing streetscape and landscape character;
- b) To enhance the settings of buildings;
- c) To provide for acoustic and visual privacy;
- d) To reinforce and define vehicle speed control design elements;
- e) To provide shade for buildings and areas of open space; and
- f) To preserve mature trees and significant landscape elements.

B. Controls

- 1) Landscaping shall be designed to enhance the natural features of the site and adjoining areas. Existing landscape elements such as rock formations, vegetation or water courses shall, where possible, be preserved.
- 2) In established areas, landscaping shall relate to the scale of other elements of the streetscape and the landscaping of adjoining development. Where possible, landscaped areas shall adjoin landscaped areas of adjoining allotments.
- 3) Rear fences fronting public roads are discouraged. Where they are unavoidable, the following may be required:
 - a) Greater setbacks for landscaping against fences, consistent with acoustic and road design standards.
 - b) Building frontages to face road by provision of parallel access road separated by acoustic and landscaped buffer.
 - c) Landscaped berms and other planting, particularly where a minimal amount of rear fencing is provided such as with cul-de-sac heads abutting the major road boundary.
- 4) For all subdivisions, street tree planting or a contribution for street tree planting at the following rate shall be provided:
 - a) For allotments greater than 400m², a contribution for one (1) super advanced tree per 10m road frontage.
 - b) For allotments less than 400m², to be in accordance with an approved landscape plan for the entire development.
- 5) Subdivision design shall maintain existing mature trees where possible. Council has in force a Tree Preservation Order which requires Council's consent to the removal or lopping of any tree.
- 6) The slope from any proposed dwelling to a street shall be such as to allow recreational use and the provision of a footpath where required.

Figure C11.6: Landscaping on streets



11.3.7 Services

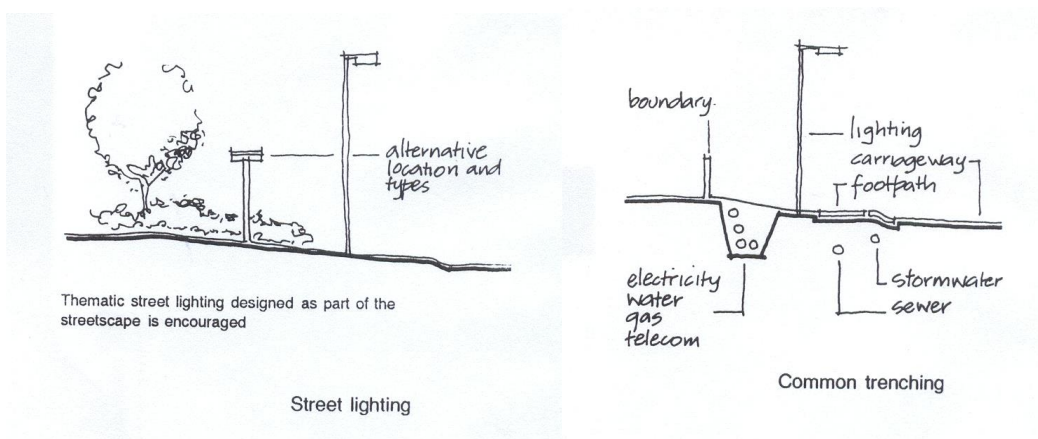
A. Background

- To provide for the location of public utilities to each allotment and within road reserves in an efficient and cost-effective manner;
- To maximise the opportunities for shared (common) trenching and reduced restrictions on landscaping within road reserves; and
- To ensure residential areas are adequately serviced in a timely, cost-effective, coordinated and efficient manner.

B. Controls

- The design and construction of utility services shall conform to the specific standards of the relevant servicing authority.
- Where possible, compatible public utility services shall be coordinated in common trenching to maximise cost-effectiveness.
- In access places and streets, the design of street lighting as part of a thematic streetscape is encouraged.

Figure C11.7 Location of services



11.3.8. Drainage

A. Objectives

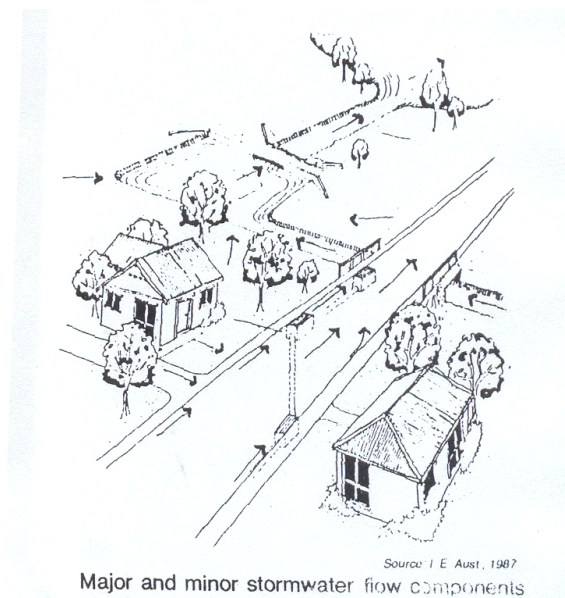
For minor stormwater flows, the objectives are to:

- a) prevent damage by stormwater to the built and natural environment;
- b) reduce nuisance flows to a high level which is acceptable to the community.
- c) provide a stormwater system which can be maintained economically;
- d) provide a stormwater system which utilises open space in a manner compatible with other uses;
- e) control flooding and enable access to allotments, stabilise the land form and control erosion; and
- f) minimise urban run-off pollutants to watercourses.

The objectives for major stormwater flows are to:

- a) prevent both short and long term inundation of habitable dwellings;
- b) control flooding and enable access to allotments; and
- c) stabilise the land form and control erosion.

Figure C11.8: Major and Minor Stormwater Flow Components



B. Controls

- 1) The piped drainage system shall be designed to control minor stormwater flows under normal operating conditions for an Average Recurrence Interval (ARI) of five (5) years.

- 2) The drainage system shall be designed to control major stormwater flows under normal operating conditions for an ARI of 100 years.
- 3) The design of the drainage system shall comply with the NSW Environment Protection Authority standards for urban run-off.
- 4) Allotment drainage shall discharge to the roadway gutter wherever possible.
- 5) Where easements are required over downstream property, Council requires the submission of the adjoining owner's consent with the development application.

11.3.9. Public Open Space

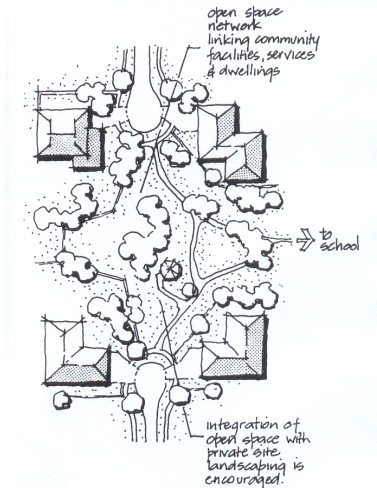
A. Objectives

- a) To ensure adequate provision and distribution of public open space in convenient locations and of a quality to meet the recreation needs of the community;
- b) To encourage dual use of open space for recreation and major drainage networks, provided the land is suitable for both purposes;
- c) To encourage opportunities to link open space networks, community facilities and public services of dwellings;
- d) To encourage the retention of significant existing vegetation with open space areas, and integration with private site landscaping and natural bushland areas; and
- e) To provide for the absorption/on-site detention of stormwater to aid in slowing the rate of run-off.

B. Controls

- 1) Open space shall accord with the relevant Council Section 94 Contributions Plan and other Section of this Plan or open space plan based on a needs assessment for the vicinity.
- 2) Council will consider the dual use of suitable open space for recreation and major stormwater drainage in accordance with the principles and requirements of the WSROC handbook "Dual Use of Drainage Open Space in Western Sydney" (1989).
- 3) On-site provision of open space (such as for integrated housing development) may only satisfy passive recreation. Council may require a contribution for the provision of, or enhancement of, active recreation space elsewhere.
- 4) In established areas, and where Council determines that the public open space component of a subdivision shall be located elsewhere, a contribution to Council will be required for acquiring or improving more suitable open space in the vicinity.

Figure C11.9: Example of public open space



11.3.10 Environmental Site Management

A. Objectives

- a) To avoid environmental degradation as a consequence of alterations to natural systems.
- b) To improve, where possible, the environmental amenity of residential development.
- c) To enhance the physical appearance of residential development by retention of significant natural features, including established trees and vegetation.

B. Controls

- 1) Development shall comply with the provisions of the Vegetation Management Section Management of this Plan and current soil erosion, sediment and water quality control requirements.
- 2) A detailed site plan shall be prepared by a suitably qualified consultant, identifying significant trees and vegetation and other physical constraints, such as watercourses.
- 3) A site management plan shall be prepared and submitted with the development application showing arrangements for the control of stormwater runoff and erosion control, during and after completion of the development, site restoration and other mitigation measures required prior to the development being undertaken, stockpile position, and all vegetation/trees to be removed and/or retained.
- 4) Council may require a performance bond or bank guarantee to be submitted to secure performance of works in accordance with an approved site management plan.

11.4. Industrial Subdivision

A. Objectives

- a) To ensure that access for all industrial lots will not significantly affect the function, efficiency and safety of all classified roads in Penrith; and
- b) To rationalise and consolidate landholdings where appropriate.

11.4.1. Subdivision – Lot Standards

A. Background

This section provides complementary objectives and controls to ensure that industrial lots operate efficiently and appropriately for their land use.

B. Objectives

- a) To provide opportunities for parcels of land of varying size and dimensions to satisfy market demand and the needs of industry;
- b) To ensure that access for all industrial lots will not significantly affect the function, efficiency and safety of classified and other major roads; and
- c) To rationalise and consolidate landholdings where appropriate.

C. Controls

1) Minimum Lot Width

- a) Minimum lot sizes are indicated on the Penrith LEP 2010 Lot Size Map.
- b) The minimum lot width of each lot is to be in accordance with the controls set out in Table C11.1 below.

Table C11.1: Minimum Lot Width

Location	Minimum Lot Width
Lots fronting Castlereagh Road	60m
Lots fronting: <ul style="list-style-type: none">• Andrews Road• Mulgoa Road• Old Bathurst Road	50m
Lots within:	20m

Location	Minimum Lot Width
<ul style="list-style-type: none"> • South Penrith (Precincts 6)* • St Marys (Precincts 1, 2 and 3)* 	
Lots within 'Lambridge Estate' (Precinct 4)	See Precinct 4 Plan below
All other lots (not specified above)	20m

* For precinct boundaries, see Section D4 'Industrial Development'

2) Allotment Shape

- a) Subdivision of land fronting Castlereagh Road, Great Western Highway, Mulgoa Road and Parker Street shall not result in the creation of battle-axe or hatchet-shaped allotments unless in accordance with clause b) below.
- b) Council may agree to a subdivision which creates battle-axe or hatchet-shaped allotments in the following circumstances:
 - i) Where the access handle has a minimum width of 15m and the proposed allotment(s) of land does not directly access Castlereagh Road, Great Western Highway, Mulgoa Road and Parker Street; or
 - ii) In Precincts 1 and 2 (St Marys), where it can be demonstrated that satisfactory access and manoeuvring areas for vehicles can be provided.
- c) Subdivisions creating more than 5 lots shall provide:
 - i) A variety of lot sizes; and
 - ii) At least 20% of the lots with dimensions greater than the specified minimum for that precinct.

3) Lot Consolidation

- a) Where industrial development involves two or more existing allotments, consolidation of those lots must occur. Evidence of such consolidation must be submitted to Council prior to occupation of the approved use.
- b) Land within Precinct 4 - Lambridge Estate must be consolidated prior to development. Consolidation shall occur in accordance with Figure C11.10.

Figure C11.10: Precinct 4 – Lambridge Estate Consolidation Plan



11.4.2. Subdivision – Access Roads

A. Objectives

The objective of this section is to ensure safe and efficient conditions for the movement of vehicles, cyclists and pedestrians into and within the industrial precincts.

B. Controls

- 1) All roads and intersections within any internal road network shall incorporate traffic facilities that promote safe and efficient traffic movement, speed control and maximise landscape opportunities.
- 2) The design of roads and traffic facilities shall comply with Council's engineering standards and accompanying Guidelines, and any Roads and Maritime Services requirements.
- 3) New industrial subdivisions should incorporate road designs that:
 - a) Provide a distinctive and hierarchical network of roads, with clear physical distinctions between each type of road, based on function, capacity, vehicle speeds and safety;
 - b) Utilise interesting, varied street patterns and avoid long 'gunbarrel' effects; and
 - c) Incorporate cycle links adjacent to existing and proposed cycle and pedestrian networks.

- 4) Newly created lots, resulting from the subdivision (but not strata subdivision) of land that has frontage to Castlereagh Road shall not have direct access onto Castlereagh Road. Access into these new lots shall be incorporated into the design of the subdivision by providing a new road off Castlereagh Road.

11.4.3. Subdivision – Other Requirements

A. Objectives

- a) To implement measures to promote high quality of discharge to the sewer and drainage system that will result in improving the water quality of the Hawkesbury-Nepean River system and tributaries; and
- b) To preserve Aboriginal archaeological resources located in the industrial areas of the City.

B. Controls

- 1) Newly created lots are to drain directly to a piped drainage system, and not to the kerb and gutter.
- 2) If the land has an area of 5ha or greater, then the subdivision proposal is to incorporate the specific water quality treatment measures detailed in the Catchment Management and Water Quality part of the Water Management Section of this Plan. Information on the water quality treatment for the subdivision is to be submitted with the application for subdivision.
- 3) The likelihood of Aboriginal archaeological items being present on the land must also be considered with the creation of new industrial lots. The Culture and Heritage Section of this Plan details the necessary documentation to be submitted with the application for subdivision.

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C12 Noise and Vibration

A. Background

This section of the DCP provides objectives and controls for controlling environmental noise in relation to:

- a) Road traffic noise;
- b) Rail traffic noise;
- c) Aircraft noise;
- d) Industrial and commercial development;
- e) Rural development;
- f) Open air entertainment; and
- g) Vibration from development.

Generally, the controls in this Plan will only be applied to new development or substantial alterations and additions to existing development. In this case, new development may also include development applications for new land uses in existing buildings.

The controls in this Section will be applied at the discretion of Council where it is considered necessary or appropriate.

B. General Objectives

The objective of this section is to ensure that future development that generates noise or vibration does not adversely affect the amenity of surrounding land uses.

C. Other Relevant Sections of this DCP

Any applicant seeking to propose a development that has the potential to cause excessive noise or vibration impacts should consider the provisions not just of this Section of the DCP, but also the relevant provisions in other sections of this DCP.

Council will consider each development application on its merit, having regard to this section, other relevant sections of the DCP and relevant environmental planning instruments, contributions plans or Council policies. Compliance with this section alone does not guarantee that consent will be granted to an application.

In cases where Council determines that an acoustic report is required, applicants should refer to the DA Submission Requirements Appendix of this Plan, which sets out the requirements for preparing a *Noise Impact Statement*.

D. Other Relevant Sources of Information

Some additional sources of information, including relevant legislation, Australian Standards and guidelines, include, but are not limited to:

- a) *Protection of the Environment Operations Act 1997*
- b) *State Environmental Planning Policy (Infrastructure) 2007.*
- c) Development Near Rail Corridors and Busy Roads – Interim Guideline, Department of Planning, 2008
- d) Industrial Noise Policy, Environment Protection Authority, Environment Protection Authority, 2000
- e) Noise Guide for Local Government, Environment Protection Authority, 2013
- f) NSW Road Policy, Department of Environment, Climate Change and Water NSW, 2011
- g) Environmental Noise Management Manual, Roads and Traffic Authority, 2001
- h) Interim Construction Noise Guideline, Department of Environment, Climate Change NSW, 2009.

12.1. Road Traffic Noise

A. Background

Currently, road traffic is the most widespread source of environmental noise. The controls below seek to minimise the impact of road traffic noise.

This Section of the DCP applies to all development that generates a significant level of traffic noise (as determined by Council) that has potential to impact upon residential and other sensitive land uses.

This Section is also applicable to any residential development, subdivision or other sensitive land uses, which propose to locate near existing areas of significant road traffic noise.

B. Objectives

- a) To ensure that the amenity of all residential development and other sensitive land uses is not significantly affected by road traffic noise;
- b) To ensure that the traffic associated with development does not significantly impact upon the amenity of surrounding land uses;
- c) To ensure that the traffic associated with development does not have a significant noise impact on the existing road network; and
- d) To ensure that any subdivisions are designed to minimise the impact of road traffic noise on any residential development or other sensitive land uses.

C. Controls

1) Road traffic noise criteria including sensitive land uses

- a) Council will not grant consent to development, particularly residential development, including subdivisions, unless the impact of traffic noise from freeway, arterial, designated or collector roads complies with the standards and guidelines for road traffic noise prepared by the relevant State Government authorities or agencies, as well as relevant Australian Standards.
- b) Council will not grant consent to development for sensitive land uses unless it complies with the provisions and standards for road traffic noise prepared by the relevant State Government authorities or agencies, as well as relevant Australian Standards.
- c) Sensitive land uses subject to road traffic noise criteria referred to in b) above include educational establishments (including schools), places of public worship, hospitals, and passive and active recreation areas.

Noise Impact Statements - Specific Requirements

- a) Where a site is likely to be affected by unacceptable levels of road traffic noise, the applicant is required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in the DA Submission Requirements Appendix of this DCP.
- b) The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with EPA and Department of Planning Criteria, as well as relevant Australian Standards.

NOTE: To determine whether your site is likely to be exposed to levels of road traffic noise that exceed residential standards:

- a) Contact Council regarding main road frontages known to exceed residential noise standards; and
- b) Obtain detailed advice from a qualified acoustic consultant regarding appropriate planning and design measures.

12.2. Rail Traffic Noise and Vibration

A. Background

Penrith is serviced by the Main Western Rail Line. With the population spreading further away from the Sydney metropolitan area, the Western Rail Line has experienced an increase in the number of passenger trains, both suburban and inter-urban. Freight train movements along the Main Western Rail Line are also considerable. To reduce congestion on commuter lines and to improve efficiency, the number of wagons per train has been increased which has resulted in an increase in average noise levels (or the LAeq) because pass-by times increase correspondingly.

The extent of properties affected by rail traffic noise is far more concentrated than noise due to road traffic owing to the single rail corridor. This Section of the DCP applies to all development in the vicinity of the rail corridor as defined by Council.

B. Objectives

- a) To ensure that the amenity of all development, including residential development and other sensitive land uses is not adversely affected by rail traffic noise; and
- b) To ensure that the amenity of all development, including residential development and other sensitive land uses is not significantly affected by the vibration of rail traffic.

C. Controls

1) Rail noise and vibration

- a) The siting and design of developments on land sited on, or within, 80m of an operating rail corridor or land reserved for the construction of a railway line is to address the matters raised in the *Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008)* and, where appropriate, incorporate any recommendations into the design of the development.
- b) Council will not grant consent to residential development, residential subdivision or other sensitive land uses on land in the vicinity of a rail corridor unless it complies with the relevant standards and criteria set by the EPA and Department of Planning, as well as any relevant Australian Standards.
- c) Council will not grant consent to any development which potentially has sensitive occupancies (such as residential, office or laboratory premises) and is proposed to be constructed within 20m of the rail line unless an assessment of the vibration impacts from the rail line has been carried out. This is to be undertaken by a recognised acoustic consultant to demonstrate that the impact of vibration from the rail corridor will not significantly impact upon the future occupants of the development.
- d) Sensitive land uses subject to rail noise and vibration criteria referred to in (b) above include educational establishments (including schools), places of public worship, hospitals, nursing homes, mixed use development, offices/workplaces, and passive and active recreation areas.

Noise Impact Statements - specific requirements

- a) Where a site is likely to be affected by unacceptable levels of rail noise or vibration, the applicant is required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in Appendix F3 – Submission Requirements of this DCP.
- b) The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with EPA and Department of Planning criteria, as well as relevant Australian Standards and Clause 87 – Impact of Rail Noise or Vibration on Non-Rail Development of *SEPP (Infrastructure) 2007*.

NOTE: To determine whether your site is likely to be exposed to levels of rail noise and vibration that exceed residential standards:

- a) Contact Council; and
- b) Obtain detailed advice from a qualified acoustic consultant regarding appropriate planning and design measures.

12.3. Aircraft Noise

A. Background

To date, the City of Penrith has not been subject to significant numbers of commercial aircraft operations, with the exception of light aircraft movements, periodic helicopter activity and RAAF overflights.

The LEP contains provisions to ensure that incompatible development does not occur in the vicinity of the site reserved for a second Sydney airport.

The controls below supplement the provisions of the 'Development of land in the flight paths of the site reserved for the proposed Second Sydney Airport' clause of the LEP. The controls seek to ensure that any new development in the Penrith LGA is not significantly affected by any potential future aircraft noise.

This section applies to all development that is located within the vicinity of the proposed second Sydney airport as defined by Council.

B. Objective

The objective of this section is to ensure that all development is not significantly affected by aircraft noise.

C. Controls

1) General

- a) Council will not grant consent to any development unless it is demonstrated to Council's satisfaction that:
 - i) The building site is considered acceptable for the proposed development based upon ANEF (Australian Noise Exposure Forecast) zones in accordance with Australian Standard 2021-2000.
 - ii) Where a building site is classified by AS 2021-2000 as 'conditionally acceptable', an assessment of the proposed development is to be conducted by an accredited acoustical consultant in accordance with the procedures set out in Australian Standard 2021-2000 to ensure that the indoor design sound levels of the Standard are achieved within the various areas of occupancy.

2) Determination of Noise Levels

- a) Assessment of site acceptability shall be determined by means of the most recent ANEF contour map available for the Second Sydney Airport (see Figure C12.1).
- b) Determination of maximum noise levels due to aircraft flyovers at the site shall be conducted in accordance with the procedures laid down in Australian Standard 2021-2000.

Figure C12.1: Land affected by ANEF contours for the proposed Second Sydney Airport



3) Noise Impact Statements - specific requirements

- a) Any development classified as 'conditionally acceptable' in Australian Standard 2021-2000 is to include a Noise Impact Statement which is to be prepared in accordance with the minimum requirements set out in Appendix F3 of this DCP. In addition, the following additional specific information is to be provided:
 - i) The site acceptability classification based upon ANEF zones in accordance with AS 2021-2000;
 - ii) The maximum noise level due to aircraft flyover at the site and the method used for determination (i.e. in accordance with AS 2021-2000, or based upon information supplied by the relevant Government Aviation Authority);
 - iii) The indoor design sound level for aircraft flyovers in accordance with AS 2021-2000;
 - iv) The aircraft noise reduction(s) (ANR) required to be incorporated in the building envelope;
 - v) Details of building components and construction techniques required to provide sufficient noise reduction;
 - vi) A map clearly indicating the location of the development site in relation to the most recent ANEF contour map produced for the second Sydney airport;
 - vii) Sketch plans of the site illustrating building locations and any other relevant details, together with detailed floor plans and elevations;

- viii) Any other significant or relevant acoustic information concerning the project; and
- ix) A statement of opinion confirming compliance with the acoustical design criteria requirements.

12.4. Industrial and Commercial Development

A. Background

This Section of the DCP applies to all industrial development, commercial development (including recreation facilities) and licensed premises which, in the opinion of Council, will impact upon the amenity of surrounding developments.

Industrial Development

There are industrially zoned precincts in Penrith City, extractive industries and employment zones at North Penrith, Erskine Park and within a number of new urban release areas. With this new development for industrial and employment related uses, there are likely to be conflicts between noise created in industrial areas and adjoining sensitive land uses.

Commercial Development

The main source of noise generated by commercial development is from the operation of machinery and equipment. In particular, noise generated from air conditioning, exhaust and refrigeration systems have been major sources of noise complaints received by Council.

The other major source of noise generated from commercial development is often of a transient nature, for example, when an entertainment facility, such as a cinema, closes.

B. Objectives

- a) To ensure that industrial development does not adversely impact on the amenity of neighbouring residential development and other sensitive land uses; and
- b) To ensure that the amenity of development surrounding commercial development and licensed premises is not adversely impacted.

C. Controls

1) General

- a) Council will not grant consent to any noise generating industrial development, commercial development or licensed premises unless it can be demonstrated that:
 - i) The development complies with the relevant State Government authority or agency standards and guidelines for noise, as well as any relevant Australian Standards;
 - ii) The development is not intrusive (as defined in the EPA's Industrial Noise Policy);
 - iii) Road traffic noise generated by the development complies with the provisions of Section 12.1 Road Traffic Noise of this Section;
 - iv) The development complies with rail noise and vibration criteria (refer Section 12.2 Rail Traffic Noise and Vibration of this Section); and

- v) The development does not adversely impact on the amenity of the area or cause sleep disturbance.

Noise Impact Statements - specific requirements

- a) All development applications where the above controls are relevant are required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in the DA Submission Requirements Appendix of this DCP.
- b) The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with relevant noise criteria, as well as relevant Australian Standards.

NOTE: Council considers all forms of recreation facilities, as commercial development. Any applications for these land uses would be subject to the above provisions.

12.5. Rural Development

A. Background

Noise from rural developments, such as poultry farms, piggeries, animal boarding establishments, etc have the potential to cause significant disturbance to neighbouring properties due to the nature of the noise emitted and the times at which it occurs.

The controls below seek to reduce the noise impact of rural developments to a reasonable level.

This Section particularly focuses on the following uses:

- Dog boarding, training and breeding establishments;
- Piggeries;
- Poultry farms;
- Cattle feed lots; and
- Bird scare guns.

B. Objectives

- a) To promote the acoustical amenity of rural properties by controlling noise emissions from rural development; and
- b) To reduce the exposure of properties to noise from road traffic.

C. Controls

1) Dog Boarding, Training and Breeding Establishments

- a) Council will not grant consent to applications for dog boarding, training and breeding establishments unless it can be demonstrated that:
- i) The development complies with the relevant State Government authority or agency standards and guidelines for noise, as well as any relevant Australian Standards;
 - ii) The development complies with the following locational criteria:
 - Kennels are located a minimum distance of 150m from any existing dwelling or potential dwelling site;
 - Kennels, which are located 150m from existing or future dwellings, are limited to cater for 10 dogs;
 - Council may permit a proportional increase in the number of dogs as the distance from existing or future dwellings is increased, to a maximum of 40 dogs for 300m;
 - iii) Road traffic noise generated by the development complies with the provisions of Section 12.1 Road Traffic Noise of this Section;
 - iv) The development manages and mitigates noise so as to not adversely impact on the amenity of surrounding rural properties. This is to be demonstrated in a Noise Impact Statement. The DA Submission Requirements Appendix sets out the minimum requirements for a Noise Impact Statement.
- b) All development applications for dog boarding, training and breeding establishments shall also demonstrate the following noise mitigation measures in the design and management procedures:
- i) All kennel buildings to be of masonry construction, concrete floors and incorporate screening measures to adequately restrict external stimulation;
 - ii) Kennels to be separated by a solid divider of adequate height;
 - iii) Sound-proofed kennels to be provided, incorporating internal absorptive lining to reduce reverberant sound, for particularly noisy dogs. A minimum of one sound-proofed kennel shall be provided for every 10 dogs accommodated;
 - iv) Dogs to be housed and exercised singly or in compatible pairs;
 - v) Feeding to be restricted to late afternoon or early evening;
 - vi) Lights to be extinguished after evening feeding; and
 - vii) No animals permitted in the run areas between the hours of 8.00pm to 7.00am Monday to Friday and 8.00pm to 8.00am Weekends and Public Holidays.

Noise Impact Statements - specific requirements

- a) All development applications for dog boarding, training and breeding establishments are required to provide a Noise Impact Statement prepared by a qualified acoustic consultant in accordance with the requirements set out in this DCP.

The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve an indoor environment meeting residential standards, in accordance with relevant noise criteria, as well as relevant Australian Standards.

NOTE: The above noise controls should be read in conjunction with the specific development controls for dog boarding, training and breeding establishments in the Rural Land Uses Section of this Plan.

2) Piggeries, Poultry Farms, Cattle Feed Lots, Bird Scare Guns

- a) Council will not grant consent of any new piggeries, poultry farms, cattle feed lots or bird scare guns unless it can be demonstrated that:
- i) The development complies with the relevant State Government authority or agency standards and guidelines for noise, as well as any relevant Australian Standards;
 - ii) Road traffic noise generated by the development complies with the provisions of Section 12.1 Road Traffic Noise of this Section; and
 - iii) The development manages and mitigates noise so as to not adversely impact on the amenity of surrounding rural properties. This is to be demonstrated in a management plan for the development.

Noise Impact Statements - specific requirements

- a) Council may require a Noise Impact Statement to be submitted, depending on the scale and location of sheds or external structures to residential and other sensitive land uses. Information on the requirements of a Noise Impact Statement is provided in Appendix F3 – DA Submission Requirements of the DCP.

NOTE: The above noise controls should be read in conjunction with the specific development controls for piggeries, poultry farms and cattle feed lots in the Rural Land Uses Section of this Plan.

12.6. Open Air Entertainment

A. Background

Open-air entertainment events, such as concerts or motor racing, have the potential to significantly impact upon the amenity of surrounding areas. Consequently, these activities usually require the consent of Council.

This Section of the DCP focuses on the following uses:

- Motor sport;
- Open air concerts; and

- Sporting activities.

B. Objectives

The objective of this section is to minimise the likelihood of disturbance to the surrounding community as a result of open air entertainment or outdoor facilities.

C. Controls

1) Motor Sport

- a) Council will not grant consent to a motor sport event unless it can be demonstrated that the motor sport event or facility will operate between the following hours:
 - i) Monday to Friday – 7.00am to 10.00pm;
 - ii) Weekends and Public Holidays – 8.00am to 10.00pm; and
 - iii) The event occurs only once in a twelve month period.
- b) Council will not grant consent to a motor sport event unless it can be demonstrated that the event or facility will operate within the following criteria:
 - i) LAeq noise level not exceeding 55 dBA when measured in the immediate vicinity of the external structure of any residential premises; and
 - ii) The maximum noise level when measured at 30 metres from any vehicle shall not exceed 95 dBA.

2) Open Air Concerts

- a) Council will not grant consent to open air concerts unless it can be demonstrated that the concert will operate within the following criteria:
 - i) The LAeq noise level measured over any 5 minute period during the broadcasts of amplified music does not exceed 55 dBA when measured in the immediate vicinity of the external structure of any residential premises; and
 - ii) The event is completed by 10.00pm.
- b) In cases of special cultural or social significance, Council may permit an exceedance of the above criteria subject to the preparation of a Noise Impact Statement which must address the following:
 - i) Stage orientation;
 - ii) Fold back monitors;
 - iii) Speaker stack height; and
 - iv) Location, orientation and implementation of noise control measures.
- c) In these special cases, all open air entertainment must operate so that:

- i) The maximum permissible noise level measured in the immediate vicinity of the external structure of the nearest and most potentially affected residential premises does not exceed 70 dBA LA_{max}; and
- ii) A warning is issued to the mixing desk when the maximum level reaches 65 dBA at the nearest or most potentially affected residential premises.

3) Outdoor Sporting Activities

- a) Outdoor sporting activities are to operate between the hours of:
 - i) Monday to Friday – 7.00am to 6.00pm; and
 - ii) Weekends and Public Holidays – 8.00am to 6.00pm.
- b) Outdoor sporting activities are permitted provided the LA_{eq} noise level, measured over a representative period, does not exceed the background LA₉₀ sound level by more than 10 dBA when measured in the vicinity of the external structure of any residential premises.

4) Noise Impact Statement - specific requirements

- a) Council may require a Noise Impact Statement to be submitted, depending on the scale, nature and location of the development to residential areas and other sensitive land uses. Information on the requirements of a Noise Impact Statement is provided in the DA Submission Requirements Appendix of the DCP.

12.7. Vibration and Blasting

When development may have a vibration impact on neighbouring premises, a Vibration Impact Assessment is to be prepared by a suitably qualified consultant and submitted with the development application. This assessment is to be carried out with consideration of the *Assessing Vibration: a technical guideline* (Department of Environment and Conservation NSW, 2006) and demonstrate that there will be no impact or recommend suitable mitigation measures.

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C13 Infrastructure and Services

A. Background

This Section seeks to address a number of issues relating to the provision of infrastructure and services, and the design and construction of engineering works. These issues relate to all development. However, the issues are particularly important in areas where there is limited access to infrastructure or services/utilities such as in rural areas or new release areas.

B. General Objectives

- a) To ensure existing infrastructure and services, including easements, are taken into account in siting and designing any proposed development;
- b) To ensure there is adequate provision of utilities and services to allotments to support any proposed development without significant additional burden on Council and utility providers;
- c) To ensure on-site sewage management systems in the City's unsewered areas are sited, designed, constructed, operated and maintained to prevent risks to public health and the environment;
- d) To achieve set engineering and construction standards for infrastructure, which is provided either by Council or a private developer; and
- e) To ensure social facilities are provided in a manner appropriate to the proposed development.

C. Other Relevant Sections of this DCP

Penrith DCP 2014 is a multi-layered document that recognises the relationship of a number of issues to achieving sustainable outcomes. Therefore, in order to address infrastructure and services, it is important to read all relevant sections of this DCP.

13.1. Location of Easements for Infrastructure

A. Background

A number of properties within the City of Penrith are encumbered with major infrastructure that may affect the potential development opportunities for the site.

B. Objectives

The objective of this section is to ensure existing infrastructure and services, including easements, are taken into account in siting and designing any proposed development, and relevant service authorities are consulted.

C. Controls

- 1) Applicants should identify the type and location of infrastructure (including the easement) that is on the site and consult with the relevant service authority to determine whether the easement will be a constraint to development of the site.
- 2) Applicants should consider the likely impacts of locating adjacent to or on an easement and the likely land uses/activities proposed on the site. Buildings (including swimming pools) or the storage of flammable or explosive materials or flammable liquid carriers must not be located within easements.
- 3) Proposals that encroach into the easement will require the approval of the relevant service authority. It is recommended that applicants consult with the relevant service authority as part of the initial stages of the development concept.

13.2. Utilities and Service Provision

A. Background

An integral part of determining whether certain land uses are suitable for a site involves assessing whether the appropriate utilities and services are available on the site to service the proposed development, and whether they have sufficient capacity to meet the demand of the proposal (and any future increase in demand) in the area.

This issue is particularly relevant in rural areas and in new release areas where services may not exist. Even in urban areas, existing services may not be capable of meeting further demands placed by new development.

This section aims to ensure that development consent is only granted where a proposal can be appropriately serviced, either through the existing system having sufficient capacity or being upgraded, or an alternative system being provided. In most cases, the developer will be required to fund necessary system upgrades or alternatives.

B. Objectives

- a) To ensure that development will not place unreasonable pressure on servicing authorities in terms of timing and extent of supply;
- b) To ensure that development will take place only where satisfactory arrangements are made with the servicing authorities; and
- c) To ensure that adequate consultation is carried out with the relevant servicing authorities during the formulation of development proposals.

C. Controls

1) General

- a) Any site analysis (see the Site Planning and Design Principles Section) should address the existing and proposed provision of services/utilities to a property and whether there is satisfactory capacity to address the required demand of the proposal.
- b) Satisfactory arrangements should be made with the servicing authorities for the provision of services to the property.
- c) Where possible, services (including easements) should not be located in areas where vegetation will be removed or damaged.

2) Infrastructure Delivery Plan for New Release Areas

- a) The preparation and submission of an *Infrastructure Delivery Plan* (IDP) is required for all new release areas. The IDP is required to identify all infrastructure, including civil works, utility services and community, social, cultural and recreational facilities, to service a new release area and establish a framework for its timely provision.
- b) The IDP should include associated costing (including on-going operating and maintenance costs) and estimated delivery timeframes for all infrastructure, with a commitment to providing services up front where they are required early in the life of new estates. Where possible, the IDP should demonstrate efficient use and/or extension of existing infrastructure. The IDP should explore opportunities for the delivery of innovative and sustainable infrastructure, services, facilities and networks with adherence to the principles of social justice, equity and accessibility.
- c) The IDP shall provide an accurate costing for all infrastructure to be provided and a delivery program with key pre-planning design and construction phases identified. It shall also incorporate relevant apportionment of costs where it is agreed those will be shared with other providers. The IDP will form the basis for the development of Section 94 Contributions Plans and/or Development Agreements, as well as agreements required to be entered into with the State Government and its agencies for the delivery of regional based facilities.
- d) For further details on what should be addressed in the IDP, see Appendix F3 – DA Submission Requirements.

3) Water

- a) Sydney Water should be contacted regarding its requirements in conjunction with discussions with Council about development, subdivision and building applications.
- b) For some developments, it will be necessary to provide evidence to Council that consultation has been carried out when building and development applications are submitted. For most developments, provision of evidence that consultation with Sydney Water has been carried out will be a condition of consent. Please discuss this with Council's Development Services Department.
- c) Council is unlikely to grant consent to applications for developments which place unreasonable pressure on Sydney Water's supply capacity.
- d) It will generally be the applicant's responsibility to pay for or construct any increase in capacity of services.

4) Electricity

- a) Applicants are required to make satisfactory arrangements with Endeavour Energy for the provision of electricity and/or lighting to the site.

5) Telecommunications

Applicants are required to make satisfactory arrangements with Telstra for the provision of telephone and data cables.

Telecommunication infrastructure in new release areas should provide the following:

- a) Multiple telecommunication services including high speed internet (including broadband), voice and data systems;
- b) Cabling for all telephone lines, cable TV and internet, built into all buildings from the outset;
- c) Underground telecommunications infrastructure; and
- d) Consideration of the provision of a centralised (C.A.T.V) system rather than individual antennae or dishes particularly for multi dwelling housing and residential flat buildings.

6) Gas

Natural gas supplies are not available to many parts of Penrith's rural areas. Applicants are advised to discuss the provision of gas supplies with AGL Energy or the local gas delivery company.

13.3. On Site Sewage Management

A. Background

On-Site Sewage Management Systems (OSSM system)

The City of Penrith consists of both sewerred and unsewerred areas. The main systems used in unsewerred areas are aerated wastewater treatment systems (AWTS), pump-out systems and absorption trench disposal systems.

Issues with OSSM systems

The predominant soil landscape groupings in Penrith are Wianamatta group shales and clays. These soil types characteristically have poor permeability due to their clay content. In many cases, effluent from failing OSSM systems diffuses into the surrounding environment rather than being adequately treated by the system through absorption, evaporation and plant uptake. Improved regulation, operation and maintenance of OSSM systems can address these issues. This section has been developed to help applicants assess the selection, design, installation, operation and maintenance of domestic OSSM systems and draws from Council's 'On-site Sewage Management and Greywater Reuse Policy'.

This section applies to development proposals involving new domestic OSSM systems or changes to existing domestic OSSM systems on unsewerred land in the City of Penrith. It includes requirements for subdivision and development proposals that intend to rely on OSSM systems.

B. Objectives

- a) To guide applicants and landholders towards sustainable on-site management of sewage and waste water;
- b) To protect and enhance the quality of public health and the environment within the Penrith LGA.
- c) To assist Council to prioritise resources for the efficient regulation and monitoring of OSSM systems within the City.
- d) To prevent risk to public health – wastewater may contain bacteria, viruses, parasites and other disease-causing organisms. OSSM systems should be selected, sited, designed,

constructed, operated and maintained so that contact with effluent is minimised or eliminated, particularly for children; residuals, such as composted material, are handled carefully; and treated sewage is not used on edible crops that are consumed raw.

- e) To protect land and vegetation – OSSM systems should not cause the deterioration of land and vegetation quality through soil structure degradation, salinisation, water logging, chemical contamination or soil erosion;
- f) To protect surface and ground waters – OSSM systems should not contaminate surface and ground waters as a result of flows from treatment systems and land application areas;
- g) To conserve and reuse resources - the resources in domestic wastewater (including nutrients, organic matter and water) should be utilised as much as possible within the bounds posed by the other performance objectives; and
- h) To protect community amenity – OSSM systems should not unreasonably interfere with the quality of life and, where possible, should add to local amenity.

These objectives reflect the objectives of Council's On-site Sewage Management and Greywater Reuse Policy.

C. Controls

1. New OSSM Systems

- a) Approvals are required for the installation and operation of all new OSSM systems. Installation and operational approvals will initially be assessed together.
- b) The installation and operation of OSSM systems are to be in accordance with Council's On-Site Sewage Management and Greywater Reuse Policy.
- c) A Wastewater Assessment Report is required to be submitted with an application for the installation of a new domestic OSSM system when the criteria of Council's On-Site Sewage Management and Greywater Reuse Policy have been met.
- d) A Wastewater Assessment Report is also required with an application for all commercial systems, in accordance with Council's On-Site Sewage Management and Greywater Reuse Policy.

D. Lifting the Bar

The following represents some ways in which applicants can demonstrate additional commitment to on-site sewage management principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Adopting the latest techniques/technology for on-site sewage management to maximise treatment and minimise any environmental impacts from run-off and land management.
- b) Design of all OSSM systems to allow for reuse of treated wastewater for non-drinking purposes, such as irrigation and toilet flushing (in accordance with NSW Health, Department of Water and Energy and NSW Office of Water requirements).
- c) Treatment of on-site effluent to a secondary or tertiary level before it enters any centralised sewage management system.

E. Other Relevant Information

This DCP recommends that applicants seeking to address this issue should also refer to other relevant information including:

- a) Penrith City Council's *On-site Sewage Management and Greywater Reuse Policy*, 2014
- b) *Local Government (General) Regulation 2005*.
- c) Standards Australia/Standards New Zealand (2000) AS/NZS 1547:2012 On-site domestic wastewater management
- d) Department of Local Government, NSW Environment Protection Authority, NSW Health, Department of Land and Water Conservation and Department of Urban Affairs and Planning (1998) *Environment and Health Protection Guidelines – On-site Sewage Management for Single Households*.
- e) *Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River (No.2 - 1997)*.

13.4 Engineering Works and Construction Standards

A. Introduction

The purpose of this section is to ensure that engineering works, such as earthworks, roads, traffic management devices, footpaths, stormwater and drainage systems, are designed and constructed to appropriate standards, and in accordance with sound engineering practice.

B. Objectives

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

C. Controls

All engineering works shall be undertaken in accordance with the provisions of Council's:

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

Copies can be obtained from Council.

13.5 Development Adjacent to the Sydney Catchment Authority Controlled Areas – the Warragamba Pipelines

A. Objectives

- a) To ensure the Warragamba Pipelines are taken into account in siting, designing and constructing in any proposed development adjoining or in the vicinity of the pipelines.
- b) To ensure that development adjacent to the Warragamba Pipelines corridor does not impact on the continued operation and maintenance of the water supply infrastructure.

B. Controls

- 1) Where major development (including subdivision) is proposed adjacent to the Warragamba Pipelines corridor, applicants shall consult with the Sydney Catchment Authority (SCA) as part of the process of preparing the development application. Development is to be consistent with the SCA publication "*Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines*". Any written requirements of the SCA shall be submitted with the DA and the DA documentation shall show how the requirements have been addressed.
- 2) Prior written approval shall be obtained from the SCA for any access that may be required to the Warragamba Pipelines corridor during the investigation and construction phases.
- 3) Access points to the Warragamba Pipelines corridor for SCA staff and contractors to carry out inspections and maintenance shall be retained or provided in accordance with SCA requirements.
- 4) Stormwater systems serving development adjacent to the Warragamba Pipelines shall be designed to ensure that stormwater does not enter the Warragamba Pipelines corridor.
- 5) Appropriate security fencing shall be provided, or existing security fencing retained along the length of development boundaries that directly adjoin the Warragamba Pipelines corridor, in accordance with SCA requirements.
- 6) Road crossings of the Warragamba Pipelines shall be minimised and located and designed in accordance with SCA requirements.
- 7) Where possible, a local road or shareway shall be provided between development and the Warragamba Pipelines corridor.
- 8) Earthworks (excavation or filing) and landscaping works carried out adjacent to or crossing the Warragamba Pipelines shall avoid damage to the infrastructure in accordance with SCA requirements.

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C14.1 Urban Heat Management

A. Background

The Western Parkland City has been experiencing a trend of reduced rainfall, increasing temperatures and an increasing duration of extended periods of heat.

In addition to the above impacts, the Western Parkland City has experienced increased heat in developed areas, when compared with the temperatures in nearby areas with less development. This is called an Urban Heat Island Effect. This effect results from the impacts of increased urbanisation including the increase in hard, dark surfaces which retain heat and prevent the absorption of water. It is further exacerbated by loss of vegetation.

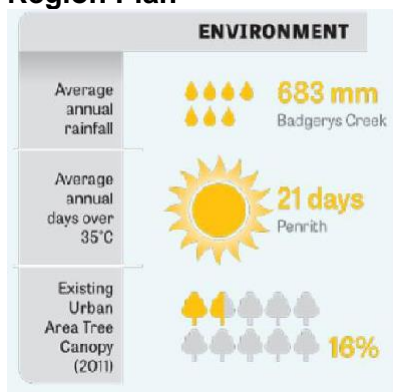
Land in the Western Parkland City is susceptible to urban heat impacts due to the region's existing climate, topography, and geographic position, as well as a large and growing residential population and rapid urban development.

The intensity of urban heat is also influenced by the flow of warm air into Penrith through:

1. Hot winds from the desert (west, south-westerly and north-westerly) which carry and exacerbate heat; and
2. Cool winds from the sea (north-easterly) which do not reach Western Sydney.

As our city grows and becomes more urbanised, reducing and removing heat from the urban environment is critical to achieving an environment that has high amenity, provides opportunities for active, healthy, and safe activities and is comfortable throughout summer.

FIGURE 1: Western Parkland City environment context Source: Greater Sydney Region Plan



Poorly designed development contributes to the impact of the Urban Heat Island Effect by reducing vegetation, preventing rainwater infiltration, using materials which absorb heat and producing buildings which are not designed to mitigate the impacts of hot weather, thus increasing the risk to the Penrith community.

B. Other Relevant Sections of this DCP

This section should be considered in conjunction with other relevant chapters of the Penrith DCP 2014, to achieve sustainable outcomes and reduce the impacts of the urban heat

island effect. Council will consider each development application on its merit, and in conjunction with consideration of other relevant instruments outlined in Part E, Application.

C. Aims of this Section

This section is intended to support Penrith Local Environmental Plan 2010 Part 7 Additional Local Provisions, clause 7.30 the Penrith Local Strategic Planning Statement, and the Penrith Cooling the City Strategy and Penrith Resilience Action Plan in managing and mitigating the Urban Heat Island Effect.

D. Definitions

Cool refuges: provide temperatures of no more than 27°C on extreme heat days and should also aim to achieve between 40% to 60% relative humidity. Principally through passive design for thermal comfort.

Efficient/Efficiency: The operational effectiveness of the subject is maximized by its design and location and any impacts on the effectiveness of the subject are managed or mitigated.

Extreme Heat: days where maximum air temperatures exceed 40°C.

Green roof: A green roof is vegetation covering at least 30% of available rooftop space -that is, space which is not occupied by structures housing plant, equipment, or stairway accesses. A green roof should provide measurable environmental benefits. The green roof includes a vegetated layer, growing medium, and a waterproof membrane. Plants grown in sectioned lots are acceptable, however, potted plants/planter boxes which cover less than 30% of available rooftop space are not considered as a green roof. Additional to the minimum 30% vegetation cover, a green roof can include facilities for renewable energy, water collection infrastructure, walkways, furnishings, and the like.

Green wall: Green walls are either free standing or part of a building that is partially or completely covered with vegetation. The wall may incorporate soil and/or inorganic material as the growing medium. There are two main types of green wall: green façades and living walls. Green façades are made up of climbing plants either growing directly on a wall or on specially designed supporting structures. The plant's shoot system grows up the side of the building while being rooted in the ground. With a living wall, modular panels are affixed to the wall and geo-textiles, irrigation and a growing medium combine to support a dense network of plants.

High Albedo: high solar reflectance

High thermal emittance: materials that release heat quickly.

Hot days: where maximum air temperatures exceed 35°C.

Solar Reflectance Index: (SRI) measures a surface's ability to reflect solar heat, as shown by a small temperature rise caused by the materials reflectance and emittance properties. It is defined so that a black surface is 0 and a white surface is 100.

Thermal comfort/thermally comfortable: temperatures of between 22°C to 27°C, with a relative humidity of 40% to 60%.

Urban Heat Island Effect: increased heat in developed areas, when compared with the temperatures in nearby areas with less development.

E. Application

This chapter of the DCP applies to all development within the Penrith LGA except for development within the following land use zones:

Zone Type	Does not apply to:
Waterway Zones	All zones
Conservation	C1 National Parks and Nature Reserves, C2 Environmental Conservation, C3 Environmental Management
Rural	RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots

Development involving heritage items

For development involving heritage items or conservations areas identified under Penrith Local Environmental Plan 2010, a merit assessment will be undertaken to ensure the outcomes sought under this chapter are balanced with heritage conservation outcomes.

Development in bush fire prone areas

Development on land identified as bush fire prone must address the bush fire protection measures set out in *Planning for Bush Fire Protection 2019 (PBP)*. Section 2.3 Bushfire Management in Chapter C2 Vegetation Management provides further details. While applicants should seek to achieve the outcomes sought in this chapter, where there is an inconsistency between the PBP provisions and the controls in this chapter, the PBP provisions prevail.

Excluded Development

Certain development may be subject to State Environmental Planning Policies (SEPP) that contain provisions that prevail over some of the controls within this chapter. Applicants are to ensure that the outcomes sought within this chapter are achieved to the extent that they are consistent with applicable SEPPs.

F. Development Controls

14.2 Cooling with Landscaping

1.1 Landscape Design

A. Objectives

- To ensure outdoor areas incorporate cooling design elements to provide cool refuge during hot weather events.
- To reduce the contribution of development on the Urban Heat Island Effect in Penrith through:
 - integration of grey, green, and blue infrastructure in development,
 - adequate and appropriate provision of landscaping, and
 - Incorporating permeable materials into landscape design.
- Retain and enhance existing vegetation and canopy coverage to reduce the impact of urban heat on the community.

- d) Deliver appropriate quality and quantity of vegetation as green infrastructure with an integrated design approach to reduce development's contribution to the urban heat island effect.
- e) To ensure development provides long term solutions to address the Urban Heat Island Effect in Penrith by:
 - i) Delivering green infrastructure which positively contributes to the amenity of the locality, while recognising the context and existing development patterns.
 - ii) Ensuring adequate and appropriate vegetation and conditions for healthy growth are provided, including vegetation that contributes to increasing the amount and health of the local tree canopy.
 - iii) Supporting passive design principles with landscaping to deliver landscaping that contributes to the conservation of energy and supports thermal comfort.

B. Controls

- 1) All required Landscape design plans are to be prepared in accordance with appendix F3. Plans are to demonstrate that:
 - a) Trees are supported by understorey planting.
 - b) Internal and external passive solar access is managed through tree and vegetation selection and location.
 - c) Shading is provided to exposed Western façades.
 - d) Adequate solar access has been provided to the dwelling and any proposed or future solar panels.
 - e) Where feasible, there is shading to parking spaces and paved surfaces.
 - f) Vegetation is co-located with existing trees, and/or clustered to improve its cooling effect, where this is not in conflict with other controls such as planning for bushfire prevention.
 - g) Plantings include drought tolerant and heat resilient varieties and contribute to canopy coverage.
 - h) Where feasible, permeable materials such as dry laid paving, permeable pavers, unbound aggregate, or bound paving are utilised and are appropriate for site conditions.
- 2) Developments are to be designed to ensure that existing mature trees including street trees can be retained.
- 3) Tree species selection and location must demonstrate consideration of the Landscape Design and Vegetation Management sections of this DCP, the List of Appropriate Trees, as well as the following:
 - a) Shading effect, including location and maximisation of possible canopy size and density,
 - b) Heat and extreme heat resilience,
 - c) The character and constraints of the locality,
 - d) Planting density,
 - e) Nearby services, public authority requirements, easements, and hardstand areas,
 - f) The availability of tree stock and species that are locally endemic and appropriate to the site,
 - g) Tree pot sizes and mature growth sizes are appropriate for the site and ensure longevity,
 - h) The site conditions, including soil type and salinity,

- i) NATSPEC “Specifying Trees – a Guide to Assessment of Tree Quality’ (Clark, R. 2003),
- j) Australian Standard AS2303,
- k) Council’s Street and Park Tree Management Plan,
- l) any disruption of solar access for solar panels on existing or adjoining present and future development should be minimised, and
- m) Any services or utilities infrastructure within the road reserve, such as power poles, overhead wires, drainage inlet pits, existing street trees and any existing driveways.

1.2 Green roofs and walls

A. Objectives

- a) Deliver appropriate quality and quantity of vegetation that will contribute to green infrastructure with an integrated design approach to reduce development’s contribution to the urban heat island effect.
- b) To ensure development provides long term solutions to address the Urban Heat Island Effect in Penrith by:
 - i) Delivering green infrastructure which positively contributes to the amenity of the locality, while recognising the context and existing development patterns.
 - ii) Ensuring adequate and appropriate vegetation and conditions for healthy growth are provided, including vegetation that contributes to increasing the amount and health of the local tree canopy.

B. Controls

- 1) Where the use of green walls and roofs is proposed, developments should demonstrate consistency with technical guidelines provided in Appendix F4 of this DCP, and ensure:
 - a) Roofs and walls include appropriate load bearing and waterproofing to support installation of green features.
 - b) Plants selected provide coverage and are resilient to extreme heat and drought if provided outside buildings.
 - c) Automatic watering systems are installed to irrigate green roofs and walls, and are connected to sustainable, non-potable water supplies.
 - d) The cooling benefit of green walls should be maximised by co-locating functions within the site that benefit from the cooling effect of the green infrastructure to reduce reliance on mechanical cooling systems.
 - e) Green walls and roofs must be delivered by a landscape architect or designer with experience in successfully delivering this type of infrastructure. Examples of the landscape architect or designer’s previous work should be supplied with the landscape design.
 - f) The landscape architect or designer should demonstrate in their plans how wind exposure, local temperature variations and rainfall have been considered in the designs.
 - g) A maintenance plan must be supplied with applications which include green roofs or walls that demonstrates long-term viability and access for maintenance.

1.3 Soil Volumes

A. Objectives

- a) To ensure development provides long term solutions to address the Urban Heat Island Effect by ensuring the longevity of tree plantings through provision of adequate and appropriate conditions for healthy growth, including sufficient deep soil area and structure.

B. Controls

- 1) Minimum soil volume and planting area to be provided is to be based on minimum tree sizes, in accordance with Table 1:

TABLE 1: Tree size and planting site area

Maximum tree size at maturity	Planting site area required	Planting site depth required	Soil Volume per tree
Small (less than 8m tall or under 4m wide)	Less than 9.5m ²	1.0 to 1.3m	30m ³
Medium (9-12m tall or under 4-8m wide)	9.5m ² to 18.5m ²	1.3m to 2.5m	35m ³
Large (Taller than 13m or wider than 8m)	More than 18.5m ²	>2.5m	80m ³

Guidance on tree sizes is provided in the List of Appropriate Trees.

1.4 Tree Planting Specifications

A. Objectives

- a) To ensure development provides long term solutions to address the Urban Heat Island Effect in Penrith by:
 - i) Delivering green infrastructure which positively contributes to the amenity of the locality, while recognising the context and existing development patterns.
 - ii) Ensuring adequate and appropriate vegetation and conditions for healthy growth are provided, including vegetation that contributes to increasing the amount and health of the local tree canopy.
 - iii) Delivering appropriate quality and quantity of vegetation as green infrastructure, with an integrated design approach to reduce development's contribution to the urban heat island effect.

B. Controls

- 1) Tree Planting location and numbers are to be provided in accordance with development type as detailed in Table 2:

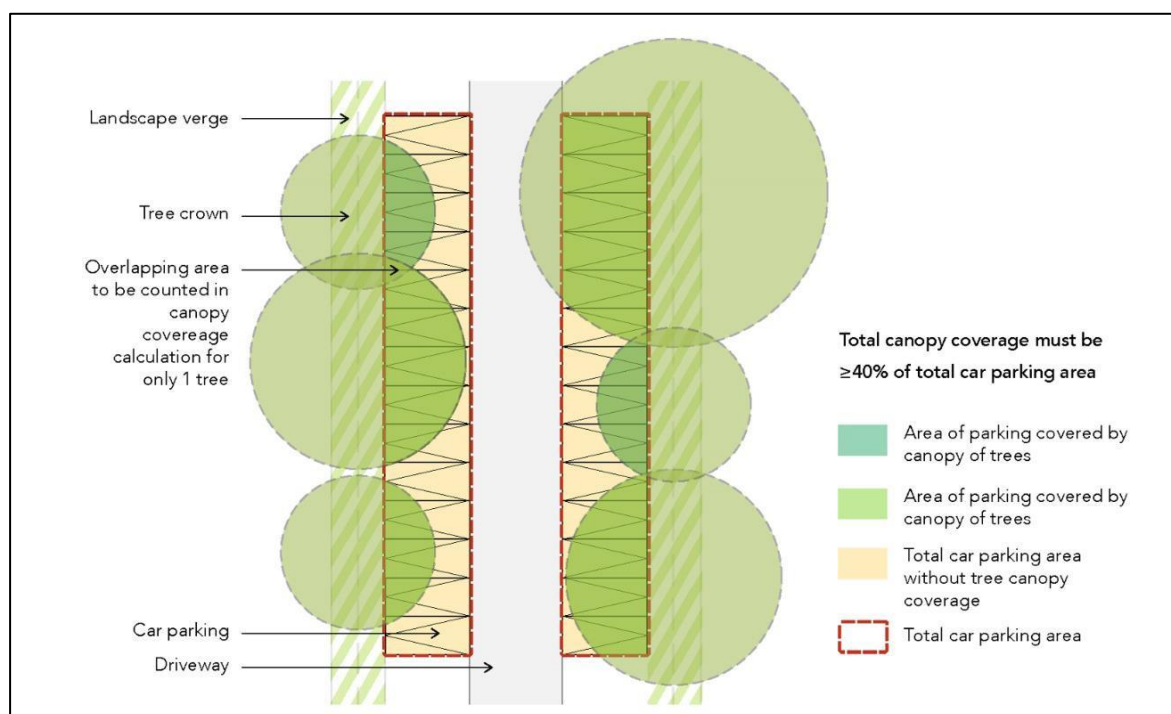
TABLE 2: Minimum tree canopy cover by development type

Development type	Tree canopy and planting
Single and Secondary Dwellings	<p><i>Front Setback</i></p> <p>At least 1 small tree positioned to provide summer shade to the dwelling or hard surfaces.</p> <p><i>Side Setback</i></p> <p>Where a side setback of 3m or more is proposed, planting alongside boundaries is to provide small-to medium trees for sun-shading.</p> <p><i>Rear Setback:</i></p> <p>At least 3 trees situated to provide an interlocking canopy of small and medium trees and shrubs: predominantly species indigenous to the soils of Penrith City.</p>
Dual Occupancies	<p><i>Front Setback</i></p> <p>At least 1 small tree positioned to provide summer shade to the dwelling or hard surfaces.</p> <p><i>Side Setback</i></p> <p>Where a side setback of 3m or more is proposed, planting alongside boundaries is to provide small-to medium trees for sun-shading.</p> <p><i>Rear Setback:</i></p> <p>At least 3 trees situated to provide a corridor of habitat with an interlocking canopy of low to medium-height trees and shrubs.</p>
Multi Dwelling Housing, Boarding Houses, Manor Houses and Group Homes	<p><i>Front Setback</i></p> <p>At least 1 small tree positioned to provide summer shade to the dwelling or hard surfaces.</p> <p><i>Rear Setback:</i></p> <p>At least 3 trees are to contribute to an interlocking canopy of low to medium-height trees and shrubs.</p> <p><i>Alongside boundaries:</i></p> <p>At least 1 small-to medium height canopy tree per dwelling for sun-shading.</p> <p><i>Parking Spaces:</i></p> <p>Open parking spaces that are to be lined by an "avenue" of shady, overhanging trees</p>

Residential Flat Buildings or equivalent	<p><i>Front Setback</i></p> <p>At least 3 small to medium trees positioned to provide summer shade to dwellings or hard surfaces.</p> <p><i>Along driveway verges and surrounding parking basements</i></p> <p>Screen plantings of small to medium trees</p> <p><i>Side Setback</i></p> <p>Planting alongside boundaries is to provide small-to medium trees for sun-shading.</p> <p><i>Rear Setback:</i></p> <p>At least 3 trees to contribute to an interlocking canopy of low to medium-height trees and shrubs:</p>
Industrial, Business, Tourism and Commercial development	<p><i>Open car parks on private land</i></p> <ul style="list-style-type: none"> a) A minimum of 40% tree canopy cover must be provided over the total combined area of all car parking spaces, where car parking is to be provided on the development site. b) Canopy cover is to be calculated by finding: The percentage of the specified area covered by the anticipated canopy at 2/3 of the selected species total maximum width, when fully grown. Figure 2 provides an example of how canopy cover should be calculated. c) Trees should be provided across the car park area and can be located within landscaped setbacks and deep soil zones. d) Where tree roots are expected to grow beneath car parking spaces, engineered tree pits or vaults and aeration infrastructure must be provided and designed in accordance with design guidance provided in engineering design guidelines, the Penrith Street and Park Tree Management Plan and this DCP. e) Wherever possible, canopy trees are to be orientated to the north, east or west of parking spaces to maximize shade during the day. f) Trees and woody plants above 200mm high should be planted a minimum of 600mm back from the wheel stop, measured from their trunks. Low planting should be provided in this space.
Additional controls for Industrial, Business, Commercial and Tourism development where landscaped setbacks are required.	<ul style="list-style-type: none"> a) Landscape setbacks must provide adequate soil area for tree planting and be filled with as many large trees as possible. <p>Canopy from large trees should be supported with medium and small trees and vegetation to provide a collective cooling effect, where they will not obstruct views, signage, or impact safety.</p>

- 2) All trees, including street trees, should be located to consider:
- a) integration with development design to produce improved cooling effects through measures such as maximisation of shade provided to exposed building walls, hard surfaces, and pedestrian walkways,
 - b) any disruption of solar access for solar panels on existing or adjoining present and future development should be minimised,
 - c) whether there is appropriate soil area for root volume,
 - d) any services or utilities infrastructure within the road reserve, such as power poles, overhead wires, drainage inlet pits, existing street trees and any existing driveways, and
 - e) requirements in the Penrith Street and Park Tree Management Plan.

FIGURE 2: Canopy cover to be achieved over car parking spaces



1.5 Irrigation

A. Objectives

- a) To reduce demand on potable water resources through an appropriate and sustainable supply of non-potable water for irrigation for cooling.
- b) To ensure vegetation is irrigated, enabling it to better withstand urban heat impacts and enable the cooling effects of evaporation and evapotranspiration.

B. Controls

- 1) All development not covered by the State Environmental Planning Policy – BASIX is to provide drip irrigation or passive irrigation to private vegetated landscaped areas, that are:

- a) serviced by sustainable supply of non-potable water that is of a scale that sufficient to supply a minimum of 80% of non-potable demand for the development, including indoor and outdoor use, toilets and laundry,
- b) designed to be gravity fed, and
- c) passive irrigation must be provided to turfed areas, street trees and landscaping where a drip irrigation system is not feasible.

1.6 Cooling with water

A. Objectives

- a) To reduce the contribution of new development on the urban heat island effect by minimising impermeable surfaces to increase rainwater infiltration and allow improved cooling effects of evaporation.
- b) To retain and provide design elements that retain water in landscapes to support cooling and allow for increased rainwater infiltration and evaporation.

B. Controls

- 1) All development must consider and incorporate features to store water in the landscape. These features must be incorporated into Landscape Plans to create cool zones and support vegetation. This can include:
 - a) swimming pools, subject to controls in this DCP and state legislation,
 - b) fountains and bird baths,
 - c) water play features, subject to Council agreement and asset maintenance requirements when on public land,
 - d) rain gardens, wetlands, ponds, or
 - e) shallow trenches or swales within or near garden beds, where erosion is not an issue.

The selected feature/s should be of an appropriate scale to maximise retention of rainwater on the site without affecting operation.

1.7 Street Trees

A. Objectives

- a) To ensure development provides long term solutions to address the Urban Heat Island Effect in Penrith by:
 - i) Delivering green infrastructure which positively contributes to the amenity of the locality, while recognising the context and existing development patterns.
 - ii) Ensuring that there is adequate and appropriate provision of trees and that conditions for healthy growth and canopy are provided.
 - iii) Delivering appropriate quality and quantity of vegetation as green infrastructure.

B. Controls

- 1) Street trees are to be provided at a rate of one tree for every 10m of site frontage, rounded down to the nearest 10m. At least one tree must be provided. Where possible, trees should be of a scale sufficient to produce interlocking canopies, unless specific requirements are provided elsewhere in this DCP.

- 2) Street trees planted on the streets running in an East to West direction are to be native trees and trees planted on streets running from North to South are to be deciduous.

14.3 Cool Colours and Materials

A. Objectives

- a) To ensure new development provides long term solutions to the Urban Heat Island effect.
- b) Design and construct roofs and exterior walls and hardscaping with consideration of the impacts of material selection on urban heat.
- c) Limit negative impacts of heat absorption by demonstrating that materials used are appropriate for the climate and their intended use, such as using green roofs/walls or cool roofs/walls and materials of low Solar Reflectivity Index to ensure high reflectivity and/or high thermal emittance, and that design responses are the most effective for the site.

B. Controls

- 1) A materials and finishes schedule is to be provided, and must include:
 - a) product specifications where certain materials are relied upon to address the criteria of BASIX, Section J of the NCC or this DCP.
 - b) Product specifications should include energy efficiency properties, such as:
 - i) thermal mass,
 - ii) effect on air flow,
 - iii) appropriate colour and reflectivity, and
 - iv) material permeability in landscape design.
- 2) Dark coloured roofs which retain heat will not be supported. All buildings and ancillary development are to minimise their contribution to the urban heat island effect by meeting the following requirements for cool roofs:
 - a) Achieve the nominated Solar Reflectance Index (SRI) minimums:
 - i) for roof pitches less than 15, a SRI minimum of 64, with a minimum 3 year manufacturer guarantee.
 - ii) for roof pitches greater than 15, a SRI minimum of 34, with a minimum 3-year manufacturer guarantee.
 - iii) for rooftop terraces a SRI minimum of 28, with a minimum 3-year manufacturer guarantee.
 - b) At least 75% of the roof area is to meet nominated SRI values and/or be designed as a green roof. Areas where solar panels (PV) are mounted flat on a roof are excluded, all other roof areas with PV count toward the Cool Roof area calculation.
 - c) Buildings in Mixed Use, Business, Tourism, and Industrial zones are to provide roof product cut sheets to confirm the materials used are within the required SRI. Other buildings may demonstrate consistency by illustrating materials and colours to be used within plans and design drawings and providing this information in their Schedule of Materials and Finishes. Assessing officers may request further product information, if required.
 - d) Roofs that are 'downslope' from the publicly accessible places, such as in hilly areas, scenic areas or which are in view from taller adjacent buildings should avoid reflective white or very light-coloured finishes that could cause glare.

- e) Thermally massive surfaces such as concrete should be avoided as a roofing material where shade or other coverage is not provided, or where roofs are not light in colour.
 - f) Roof tiles may be used, providing that the roofing is insulated in addition to ceiling insulation and provides a sufficient gap between insulation layers to allow for access and air movement. This is to be certified on any plan showing materials and finishes.
- 3) Walls, car parking spaces, driveways and landscaping materials should have a high albedo (be as light as possible) so that heat can be reflected into the landscape and absorbed, or where shade is provided.
 - 4) Medium colours and materials with high thermal emittance (which release heat quickly) and/or permeable materials should be used in pedestrian areas where no shade is provided to minimise heat reflection and to mitigate heat retention.

14.4 Cooling through Building Design

A. Objectives

- a) To ensure development in zones which are vulnerable to urban heat island impacts incorporates additional design responses to effectively manage increased heat loads on hot and extreme heat days.
- b) To reduce carbon emissions from the development, considering both construction and operational emissions.
- c) Design buildings for high passive thermal performance, to reduce reliance on energy for cooling and heating.
- d) To ensure buildings are thermally comfortable by designing:
 - i) Floor plans that respond to the site and building use and orientation,
 - ii) Climate appropriate windows and glazing and the appropriate location of windows,
 - iii) Thermal mass orientated and situated to retain cool temperatures,
 - iv) Improved air movement and ventilation, particularly to encourage the flow of cool north-easterly breezes and night air and to extract hot air,
 - v) Passive cooling features,
 - vi) Improved insulation and management of air exchanges,
 - vii) Appropriate shading, and
 - viii) Efficient operation of mechanical cooling systems.
- e) To deliver internal spaces within every new development where temperatures remain thermally comfortable all year round.

B. Controls

Air circulation

- 1) Building design must demonstrate how it responds to the following considerations affecting air movement and ventilation:
 - a) Capture and direction of north-easterly prevailing cool breezes (north-easterly) and internal circulation should be prioritised for window and door design, number, size, and location, and considered in building orientation.
 - b) Shading devices and/or window glazing should be provided to support:
 - i) Minimisation of solar heat gain during summer, and

- ii) optimisation of solar heat gain during winter.
- c) Minimising air gaps by ensuring all openings can be closed and sealed when necessary, and that the building is well insulated. Window and door seals should be provided.
- d) The ability to isolate spaces through zoning sections of the floor area and building services to provide individual control of heating and cooling, particularly where mechanical systems regulate temperature.
- e) Security screens or fly screens should be provided over openings, where feasible and consistent with safety and fire controls.
- f) Promoting air circulation.
- g) Support for any other passive design elements.

External Building Design

- 2) Buildings should be designed on passive solar design principles which:
 - a) Respond to orientation to maximise the northerly aspect and solar access in the cooler periods. Where the site permits, designs should deliver long, thin buildings with increased northern and southern exposure and limited exposure on eastern and western-facing facades and moderate depths.
 - b) Reduce overheating in summer and promote solar gain in winter.
- 3) Development below 3 storeys must provide eaves with a minimum of 450mm overhang (measured to the fascia board) and a minimum 600mm overhang on western-facing elevations, except where any walls are permitted to be built to the boundary. Alternative solutions to eaves may be considered, where it can be demonstrated that these provide appropriate sun shading and are integrated with the design of the development and have architectural merit.
- 4) Design for moderate size and number of openings with the majority to the north.
- 5) Where east and west facing residential walls are proposed to be brick or concrete and are exposed to summer sun, these walls should either be double brick or wall insulation should be provided and walls should be shaded.
- 6) Where concrete is used for walls in industrial, business, and commercial development and western walls are exposed, at least 50% of western elevations must be shaded from summer afternoon sun using either design features or vegetation. Where there is a zero-lot setback, this control does not apply.
- 7) Ensure roof design maximises opportunities for future installation of solar power and hot water adaptation through the consideration of:
 - a) North-facing surface,
 - b) Overshadowing, and
 - c) Structural support.

Internal Building Design

- 8) Cool Refuges for certain buildings are to be provided in accordance with Table 3, and must be identified on floor plans:

TABLE 3: Cool Refuge Requirements

Development Type	Cool Refuge Requirements
Residential development	<ul style="list-style-type: none"> • At least one habitable room on the ground floor of each dwelling or in the lobby and common rooms of

	<p>residential flat buildings/ Apartments, should be provided as a cool refuge in summer, and at least one habitable room as a warm refuge in winter.</p> <ul style="list-style-type: none"> • These spaces may be the same or separate.
Publicly accessible buildings (amenity buildings excluded)	<ul style="list-style-type: none"> • A cool refuge which may accommodate a minimum of 20 people.
Business, industrial, and commercial development (excluding shopping centres)	<ul style="list-style-type: none"> • Provide indoor and outdoor staff break areas that act as cool refuges. • Where feasible, workspaces should be designed to maintain thermal comfort. This is of particular importance to high density workplaces and commercial spaces.

9) In addition to the ability to be mechanically cooled (i.e., air conditioned), a cool refuge must demonstrate the following design criteria have been addressed to support thermal comfort:

- a) Use of passive shading principles that considers the location of the refuge within the dwelling and use of moveable shade structures, window boxes or wider eaves,
- b) Use of insulation and type in the walls, floor, and ceiling with the highest r-value appropriate for the site, or that the materials provide sufficient insulative properties so that insulations are not required,
- c) Use of cross-ventilation is focused to channel cool north-easterly breezes through the space and provide optimal cooling effects,
- d) Minimising air exchanges so that spaces can also be enclosed when required.

10) At least three of the following design measures are to be provided in a cool refuge:

- i) be located on the southern side of the building.
- ii) have increased shade on walls or windows that are exposed to the north or west.
- iii) have thermal mass levels appropriate to the amount of passive cooling available (cool north-easterly breezes, consistent diurnal variations) and use thermal mass to delay peak cooling needs until after the peak demand period.
- iv) have appropriate glazing of windows.
- v) provide efficient mechanical cooling or ceiling fans.
- vi) have space that is zoned to reduce air exchange.
- vii) use of photovoltaic, solar, biomass or wind-powered cooling mechanisms to regulate air temperatures and movement, such as solar chimneys, evaporative cooling or earth coupling.

11) If a cool refuge is provided as an ancillary structure, roofing must be insulated.

14.5 Optimising Mechanical Heating and Cooling

A. Objectives

- a) To minimise excess power usage and heat gain from mechanical heating and cooling systems.
- b) To reduce the impact of heat rejection from heating, ventilation, and cooling systems from contributing to the urban heat island effect and prevent impacts to thermal comfort.

- c) To reduce peak demand on the electricity grid and support a robust electricity network, by improving energy efficiency.

B. Controls

- 1) To mitigate the impact of heat rejection from mechanical cooling, units should not vent into areas where they may result in the heating of the public or private domain. This includes venting onto outdoor recreation spaces, windows of adjoining properties and hard surfaces that may retain heat including, paths, balconies, and courtyards.
- 2) Where it cannot be demonstrated that heat rejection cannot be achieved without venting into these spaces, this area must be excluded from any calculation of private and communal open space.
- 3) Mechanical cooling systems must be sited so that:
 - a) airflow isn't impeded from and around units,
 - b) there is ease of maintenance access, and
 - c) any structure complies with controls for cool roofs and finishes.
- 4) Mechanical cooling systems must be shaded by:
 - a) an awning or shade structure, or
 - b) locating the unit on the southern side of a dwelling where possible.

Note: Shading structure must comply with other controls within this DCP.

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D1 Rural Land Uses

A. Background

Overview

The location of Penrith at the western fringe of Sydney and at the foothills of the Blue Mountains escarpment provides it with a unique countryside setting. Its urban areas are flanked by the Ropes Creek corridor, the Nepean Valley flood plains and significant bush land areas.

The surrounding countryside covers a large percentage of the City's area and comprises productive rural lands to the north and south, natural reserves, riparian environments and rural villages. These rural areas form an integral part of the character of the City. This character is valued by the community and is one which Council is committed to preserving.

The rural areas that are covered by this section of the DCP include land zoned RU1 (Primary Production), RU2 (Rural Landscape), RU4 (Primary Production Small Lots), RU5 (Village) and other zones where rural land uses may occur including the E3 (Environmental Management) and E4 (Environmental Living) zones.

B. General Objectives

- a) To reinforce Penrith's urban growth limits and promote a compact City by identifying and promoting the intrinsic rural values, character and functions of the City's rural lands;
- b) To sustain healthy and diverse rural lands in Penrith by conserving their biodiversity, maintaining the integrity of their ecosystems, maintaining their natural capital, and promoting the social well being of rural communities;
- c) To promote agriculture and other rural land uses that are sustainable in the longer term, through the use of appropriate resource and environmental management policies, plans, guidelines and practices;
- d) To promote a sustainable economic environment that fosters economically viable rural development, employment, transport and future investment opportunities;
- e) To increase the awareness of ecologically sustainable rural land use practices amongst landholders, land users and the community generally, and promote responsible stewardship of Penrith's rural lands;
- f) To consider the impacts of development on sustainable agriculture and ensure development will not unreasonably increase agricultural land values or incrementally reduce the size of agricultural holdings;
- g) To consider the potential for conflicts between various land uses, including rural living allotments, small holding subdivision, tourism, extensive and intensive agriculture and mining;
- h) To consider land capability, including soils, erosion potential, slope, and hazards (contamination, salinity, bushfire and flooding);
- i) To consider water resources, including impacts on water catchments, adequacy of water supply, access to water entitlements, and location of effluent disposal;
- j) To maintain and improve the water quality of watercourses within the City;
- k) To minimise the impacts of development on biodiversity, including threatened species, habitat, natural ecosystems and wildlife corridors;

- l) To consider existing infrastructure, including the capacity of the existing road network and utility services to meet the expected needs of proposed development;
- m) To promote rural residential development where it is consistent with the conservation of the rural, agricultural, heritage and natural landscape qualities of the area; and
- n) To ensure that traffic generating developments are suitably located so that the safety and efficiency of roads is not adversely affected by development on adjacent land.

C. Other Relevant Sections of this Plan

Penrith DCP 2014 is a multi layered and integrated document that recognises the inter-relationships between a number of issues, all of which contribute to sustainable outcomes. It is therefore important to read all parts of this DCP.

Council will consider each development application on its merit, having regard to this section and other relevant sections of the DCP, and other relevant environmental planning instruments, contributions plans or Council policies. Compliance with this Chapter alone does not guarantee that consent will be granted to an application.

D. Other Information

People seeking further information on rural land uses or preparing development applications may wish to refer to the following:

- Penrith Rural Lands Study (Penrith City Council, 2001)
- Penrith Rural Lands Strategy (Penrith City Council, 2003)
- Policy for Sustainable Agriculture in New South Wales (NSW Agriculture, 1998)
- State Environmental Planning Policy (Rural Lands) 2008
- NSW Biodiversity Strategy (National Parks and Wildlife Service, 1999).

1.1. Rural Character

A. Background

Protecting the character of Penrith's rural lands is a key driver for this DCP. Rural character is primarily visual – it is the overall impression of our rural lands viewed by people visiting them or driving through them. Consequently, the provisions aimed at protecting rural character focus on ensuring that the visual impact of development is in keeping with rural areas, and does not unnecessarily intrude on the landscape. The Penrith LEP 2010 Scenic and Landscape Values Map identifies land which is particularly sensitive to visual impact. Although the visual impact of development will be considered for every application, it is particularly critical in these areas.

The key components that contribute to Penrith's rural character are the rural landscapes, agricultural lands, native vegetation, biodiversity and riparian corridors, areas of mixed rural uses and rural living areas.

B. General Objectives

- a) To preserve the rural character of the City of Penrith, including its scenic and landscape qualities;
- b) To retain and protect each of the elements that make up the rural character of Penrith; and

- c) To address the visual impact assessment requirements for major applications, as required.

C. Controls

To preserve the rural character of the City of Penrith, all major development should seek to retain and protect the scenic, landscape and rural character of the City (where the relevant land uses are permissible within the zone and in accordance with the controls in Penrith LEP 2010 and this DCP).

Major development applications may be required to provide more detailed studies including, but not limited to, a Visual Impact Assessment (See section on 'Site Planning and Design Principles' and Appendix F3 'Submission Requirements').

1.2 Rural Dwellings and Outbuildings

A. Background

Rural Dwellings

Penrith's rural areas contain a diverse range of housing types. The style, size and location of dwellings are, in many areas, typical of specific eras and social influences.

Some localities, for example, are typified by small scale fibro or brick cottages within a tapestry of agricultural activities. Other, more recently developed, areas contain more residential development and smaller scale agricultural activities, where the separation between buildings is reduced.

All development should take into account the inherent rural character of a locality and be responsive to that character and the local landscape qualities.

Outbuildings

Outbuildings are an integral part of rural life and activities. They include carports, garages, garden sheds, small-scale storage sheds for non-agricultural purposes, gazebos, etc. Outbuildings should be designed and sited to complement rural character. Inappropriate uses and activities are not permitted.

In some cases, outbuildings may be exempt or complying development under State Environmental Planning Policy (Exempt and Complying Development Codes) or Penrith LEP 2010. If an outbuilding does not meet the relevant criteria specified in the SEPP or LEP, then development consent will be required.

B. General Objectives

- a) To ensure that development does not detract from the rural landscape, scenic quality, heritage value, nature conservation significance or agricultural productivity of rural areas;
- b) To provide separation between residential uses and noise generating sources;
- c) To provide buffers between residential buildings and land uses to minimise the potential for land use conflict and additional pressure on agriculture or other rural activities;
- d) To ensure that external finishes used have minimal detrimental impact on the visual amenity of an area;
- e) To encourage consideration of all the rural components of development such as fencing, outbuildings, driveways and landscaping in the design of the proposed development; and
- f) To encourage a diversity of interesting rural dwellings and outbuildings, which respect the inherent character of the locality.

1.2.1. Siting and Orientation of Dwellings and Outbuildings

A. Background

This section aims to ensure the siting of dwellings and outbuildings takes into account the principles of site planning, landscape/scenic character and the environmental qualities of the area and site.

B. Objective

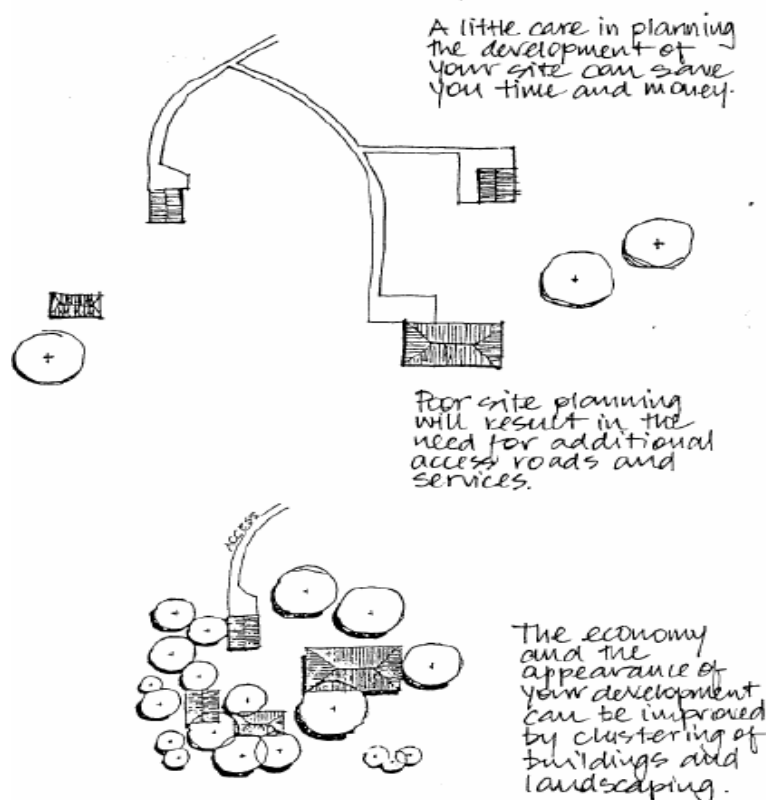
The objective of this section is to ensure dwellings and outbuildings are sited in accordance with the general objectives listed above.

C. Controls

1) Site Planning

- a) Dwellings and associated buildings should be sited to maximise the natural advantages of the land in terms of:
 - i) Protecting the privacy of proposed and existing buildings;
 - ii) Providing flood-free access to the dwelling and a flood-free location for the dwelling itself;
 - iii) Minimising risk from bush fire by considering slope, orientation and location of likely fire sources;
 - iv) Maximising solar access;
 - v) Retaining as much of the existing vegetation as possible; and
 - vi) Minimising excavation, filling and high foundations by avoiding steep slopes (greater than 1 in 6).
- b) The design of the development must consider all components including fencing, outbuildings, driveways and landscaping.
- c) Where practical, all buildings on a site, including dwellings and outbuildings, should be clustered to improve the visual appearance of the development in its landscape setting and reduce the need for additional access roads and services.

Figure D1.1 Site Planning - Consider the natural advantages of the land, and cluster buildings where possible.



2) Landscape / Scenic Character

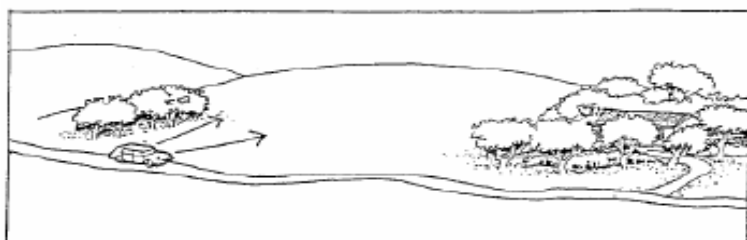
- a) Buildings on sloping land should be sited (where natural features permit) so they do not intrude into the skyline.
- b) Buildings should not be placed on the ridgeline or peak of any hill unless there are no alternative locations possible.
- c) Where practical, buildings should be sited to take advantage of existing vegetation to provide privacy from passing traffic and public places, screening from winds and a pleasant living environment.
- d) Roads should be designed and located to run with the contours of the land.
- e) Rooflines and ridgelines should reflect the setting of the dwelling, incorporating simple shapes to step a building down with a sloping site or level change.
- f) Simple rooflines should be used to minimise the likelihood of twigs and leaves building up in valleys and presenting a bushfire hazard.

Figure D1.2 Scenic Character - Set buildings below the ridgeline or behind vegetation to reduce visual impact and enhance privacy.

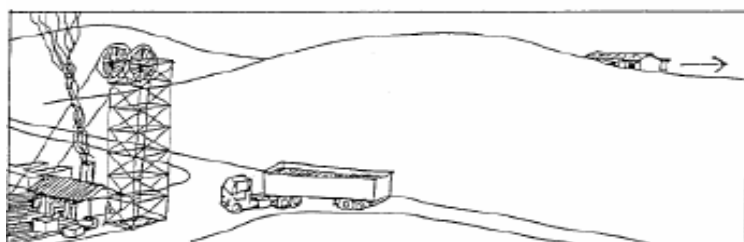
SITING OF HOUSES

Often, with a little thought you can choose a site for your house which is private, sheltered from winds or noise yet has good views.

A little effort in selecting your house site may save you later problems.



New plantings or existing vegetation can give you privacy from passing traffic.

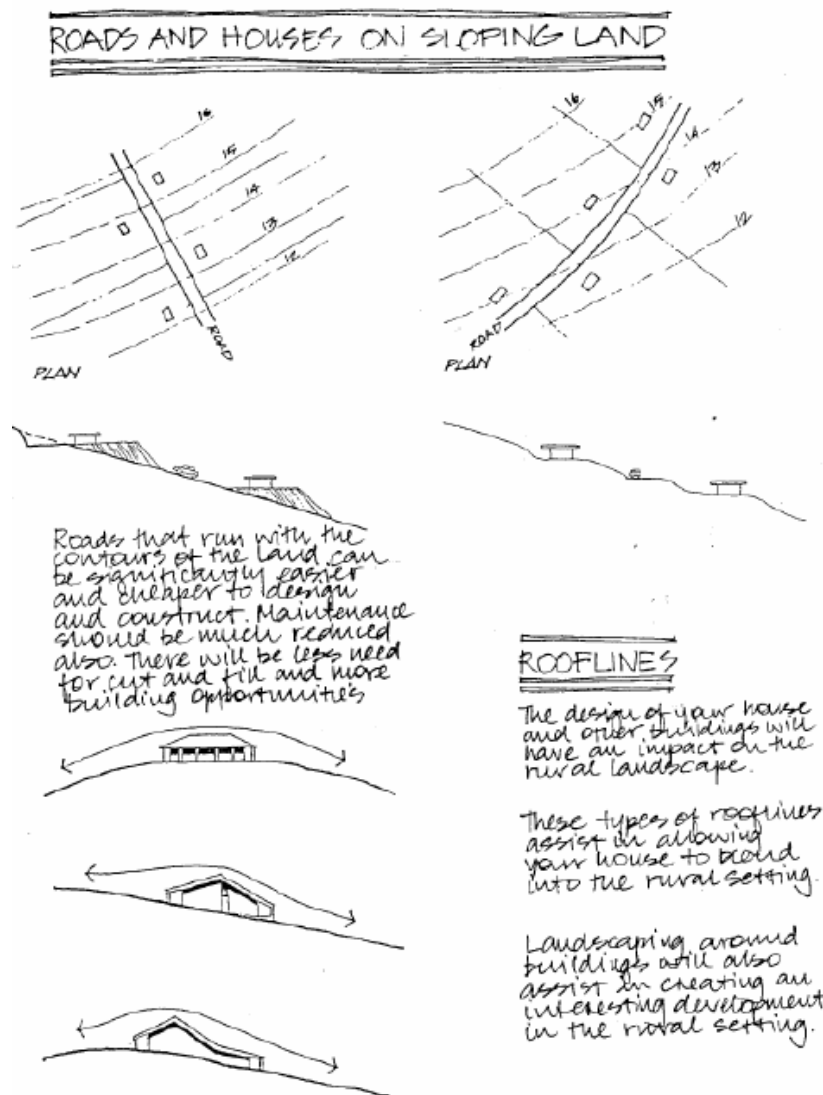


Sitting the house over the crest of the hill minimizes the impact from nearby development.



Houses in a developed landscape will be private, screened from winds and will provide a pleasant living environment.

Figure D1.3 Roads and houses on sloping land and rooflines



1.2.2. Setbacks and Building Separations

A. Background

This section aims to maintain visual and acoustic amenity for dwellings by requiring setbacks from public roads and dwellings and other buildings on adjacent allotments. Setbacks from watercourses protect both the dwelling and outbuilding in the event of a flood, and the riparian corridor, associated vegetation and water quality.

B. Objectives

Dwellings and outbuildings are to be sufficiently setback from roads, property boundaries and watercourses:

- To maintain sight distances for vehicular safety; and
- To preserve trees and other vegetation, and provide adequate areas for landscaping.

C. Controls

1) Setbacks from Roads

- a) A minimum setback of 15m from public roads is required for all dwellings and outbuildings. Formal parking areas are not permitted within the setback.
- b) A variety of setbacks will be encouraged to prevent rigidity in the streetscape.
- c) A minimum setback of 30m is required to all classified roads (except Mulgoa Road), Luddenham Road, Greendale Road and Park Road (except in the villages of Londonderry, Wallacia and Luddenham). Please contact Council to discuss.
- d) A minimum setback of 100m is required to Mulgoa Road for all dwellings and outbuildings (except in the Mulgoa Village).

2) Setbacks from Watercourses

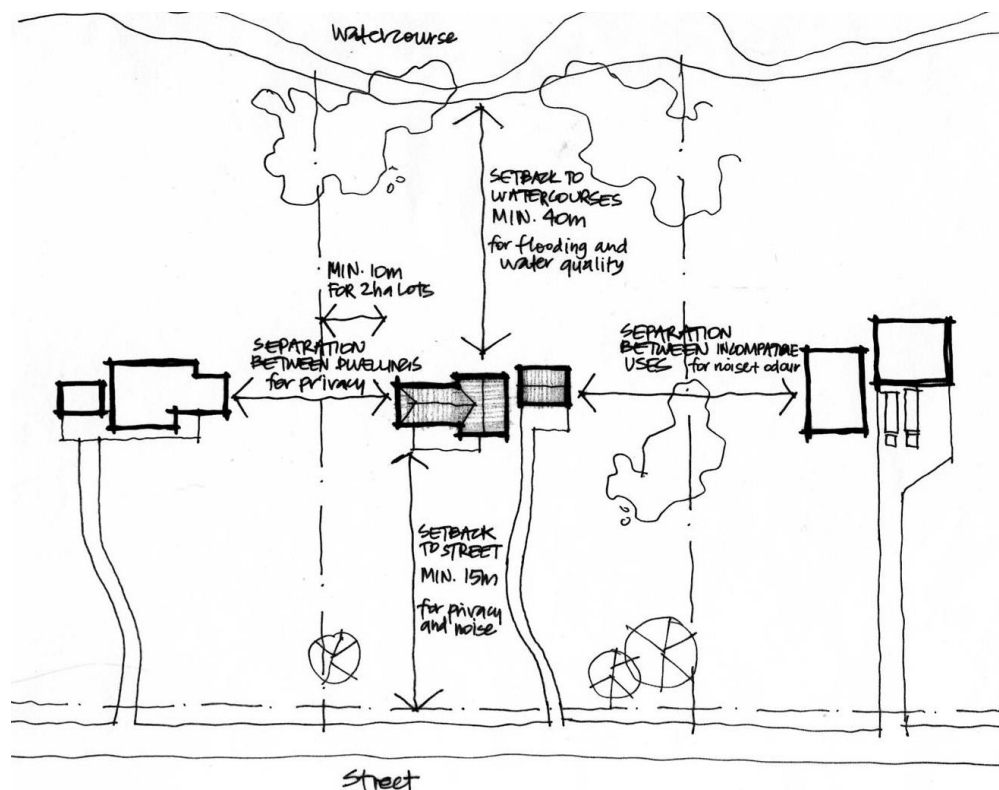
- a) A minimum setback of 100m is required from the Nepean River. This is measured from the top of the bank. The river includes all elements, such as lagoons and backwaters. Council will determine the minimum setback required if the “bank” is difficult to define.
- b) A minimum setback of 75m is required from South Creek for all dwellings and outbuildings.
- c) A minimum setback of 40m is required from any other natural watercourses for all dwellings and outbuildings to minimise impacts on the watercourse.

3) Building Separations and Side Boundary Setbacks

- a) Dwellings on adjacent properties should be considered when determining the location of a proposed dwelling to ensure that separation distances are maximised as far as is reasonably possible to maintain amenity for each dwelling and minimise noise and privacy intrusions.
- b) The minimum side setback for dwellings is 10m where the allotment is 2 hectares or larger.
- c) The minimum side setback for dwellings is 5m where the allotment is less than 2 hectares.
- d) Dwellings on one allotment should be separated as much as reasonably possible from any farm buildings or other buildings on adjacent allotments where there is potential for noise generation from those farm buildings/other buildings.

Minimum separations depend on the nature of the farm buildings/activity occurring on the adjacent allotment. Minimum setbacks are set out in other sections of this chapter for agricultural and other types of development.

Figure D1.4: Setbacks for rural dwellings and outbuildings



1.2.3 Site Coverage, Bulk and Massing

A. Background

This section aims to ensure that rural developments adopt a suitable level of development and site coverage that is in keeping with the rural landscape and character.

B. Objectives

- a) To ensure the size of rural dwellings is appropriate considering the size of the site and the character of the area; and
- b) To ensure the area of the site covered by rural dwellings and associated structures and facilities is appropriate considering the size of the site and the character of the area.

C. Controls

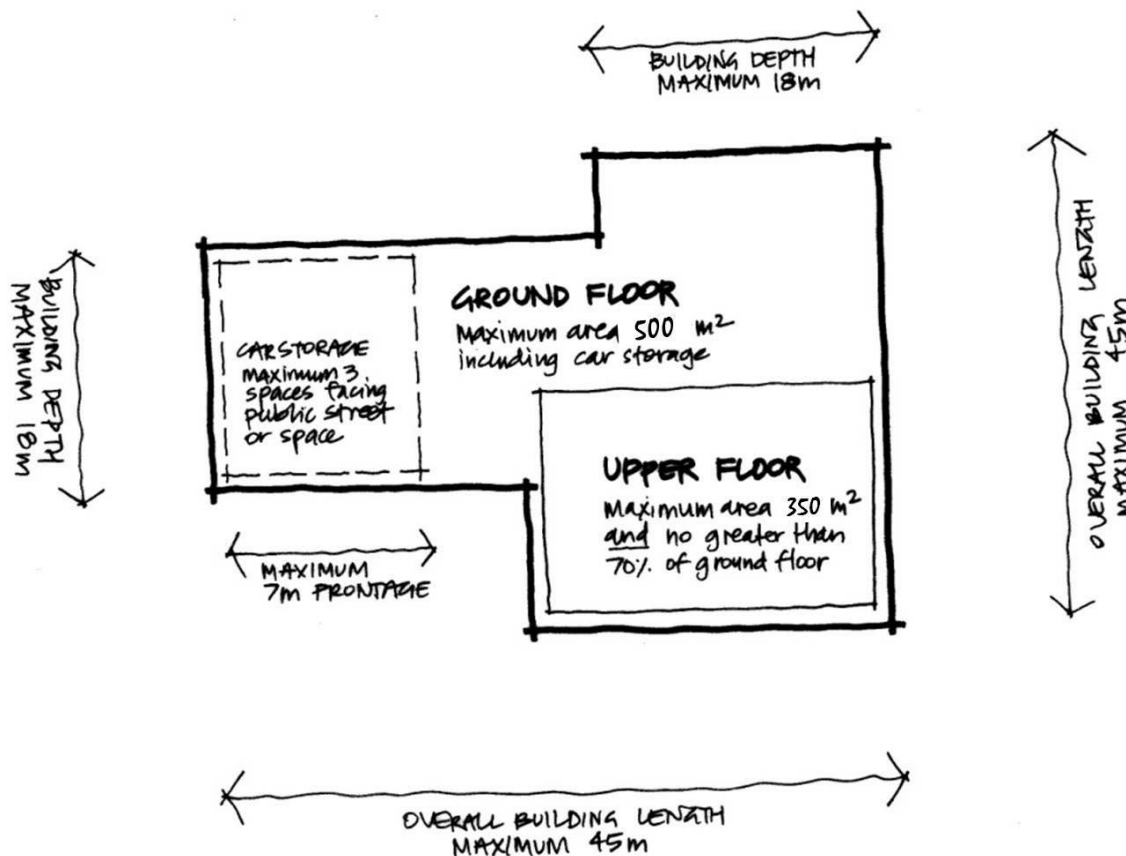
- 1) Dwellings shall have a maximum ground floor footprint of 500m² (including any undercover car parking areas).

Note: 'Ground floor footprint' is the area measured from the external face of any wall of any dwelling, outbuilding (other than a farm building), dual occupancy dwelling, garage or undercover car parking area, animal house or garden shed.

- 2) Dwellings shall have a maximum overall ground floor dimension of 45m, with a maximum of 18m at any one point.
- 3) The maximum floor space of any second storey is to be 70% of the floor space of the lower storey of the dwelling.

- 4) No more than three (3) undercover car parking spaces shall face towards a public road or place. Any additional garages shall be setback behind the building line and screened.
- 5) A maximum ground floor footprint of 600m² will be permitted on any one allotment, including the dwelling and all associated structures, but excluding 'farm buildings' and any 'agricultural or non-agricultural development' referred to other parts of this chapter.

Figure D1.5: Maximum site coverage and building lengths for dwellings



1.2.4 Height, Scale and Design

A. Background

This section aims to ensure that rural dwellings and outbuildings adopt an appropriate height, scale and design suited to the rural landscape and character of the area.

B. Objectives

Dwellings and outbuildings are to adopt:

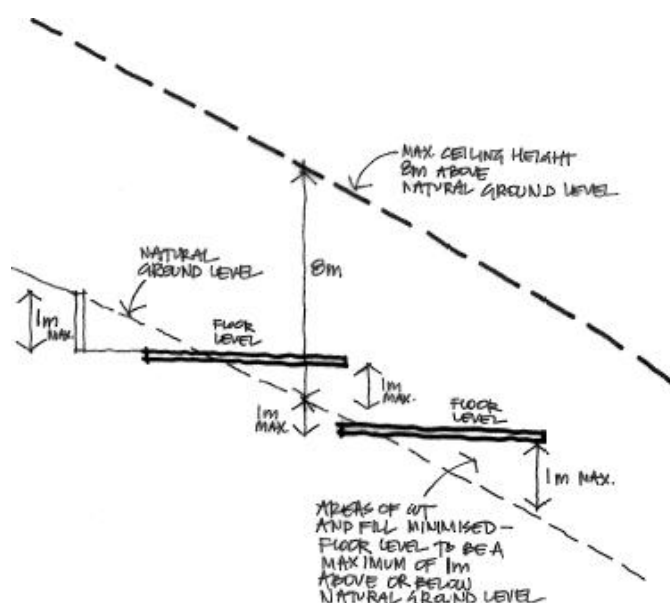
- a) An appropriate height and scale for the size of the site and character of the area; and
- b) A high quality of design that is sympathetic to the rural character but also promotes innovation.

C. Controls

1) Height and Scale

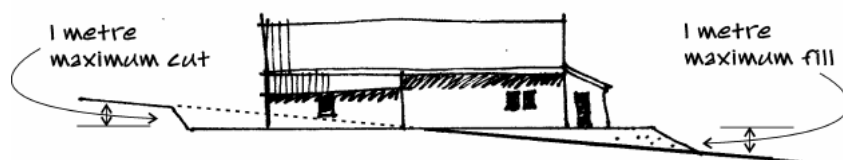
- a) Dwellings shall be no more than two storeys in height, including garage and storage areas.
- b) If liveable rooms are located in the area immediately below the roof then this level will be counted as a storey.
- c) The maximum height of the ceiling of the top floor of all buildings should not exceed 8m above natural ground level.

Figure D1.6: Maximum height on sloping land



- d) On sloping sites, split level development is preferred. The floor level of the dwelling at any point should not be greater than 1m above or below the natural ground level immediately below the floor level of that point. Cut and fill should be limited to 1m of cut and 1m of fill as shown in Figure D1.7.

Figure D1.7: Maximum permitted cut and fill



2) Design and Quality

- a) The design of dwellings and associated structures should be sympathetic to the rural character of the area.

- b) Fencing is to be of an open rural nature consistent in style with that normally found in rural areas. Internal courtyard fencing or entry fencing should be sensitive to the rural environment.

1.2.5. Dual Occupancy Dwellings

A. Background

Development of rural land for dual occupancy dwellings needs to be carefully designed and implemented to mitigate any potential impacts of the increased density of this form of development on local character and landscape.

The concept of a dual occupancy is to have the second dwelling either as an addition to the house or a separate building smaller than the main dwelling. This protects the traditional rural streetscape of residential buildings and farm buildings separated by large spaces.

Any application for dual occupancy will need to address issues of size, design, location and environmental impacts to ensure that the desired rural character is maintained.

As a general rule, dual occupancy must comply with the requirements for rural dwellings relating to:

- Siting and orientation;
- Setbacks and building separations;
- Bulk and massing (excluding site coverage); and
- Height, scale and design.

B. Objectives

The objective of this section is to permit dual occupancy development which:

- a) Is in close proximity to and associated with the existing dwelling on the site; and
b) Adopts a similar or sympathetic design to the existing dwelling on the site.

C. Controls

These controls apply to dual occupancies in the RU1, RU2, RU4, E3 and E4 zones only.

1) Design

- a) Dual occupancies should be designed in accordance with the policies in this DCP for dwellings and dwelling design.
- b) The second dwelling should take into account the principles in the sections on 'Site Planning and Design Principles', 'Vegetation Management' and 'Landscape Design' (with particular attention to protecting existing trees and vegetation on the site) of this DCP.
- c) The second dwelling should be located within the curtilage (proximity) of the existing dwelling house on the same lot (and preferably within its garden area).
- d) The second dwelling must be located behind the building line of the existing dwelling house.
- e) The preference is for the second dwelling to be detached from the first dwelling with a minimum separation of 10m.
- f) If the dwellings are attached then the second dwelling should be located behind the existing dwelling and should adopt an 'L' shape.

- g) The second dwelling must be significantly smaller than the existing dwelling house (approximately 50% in floor area).

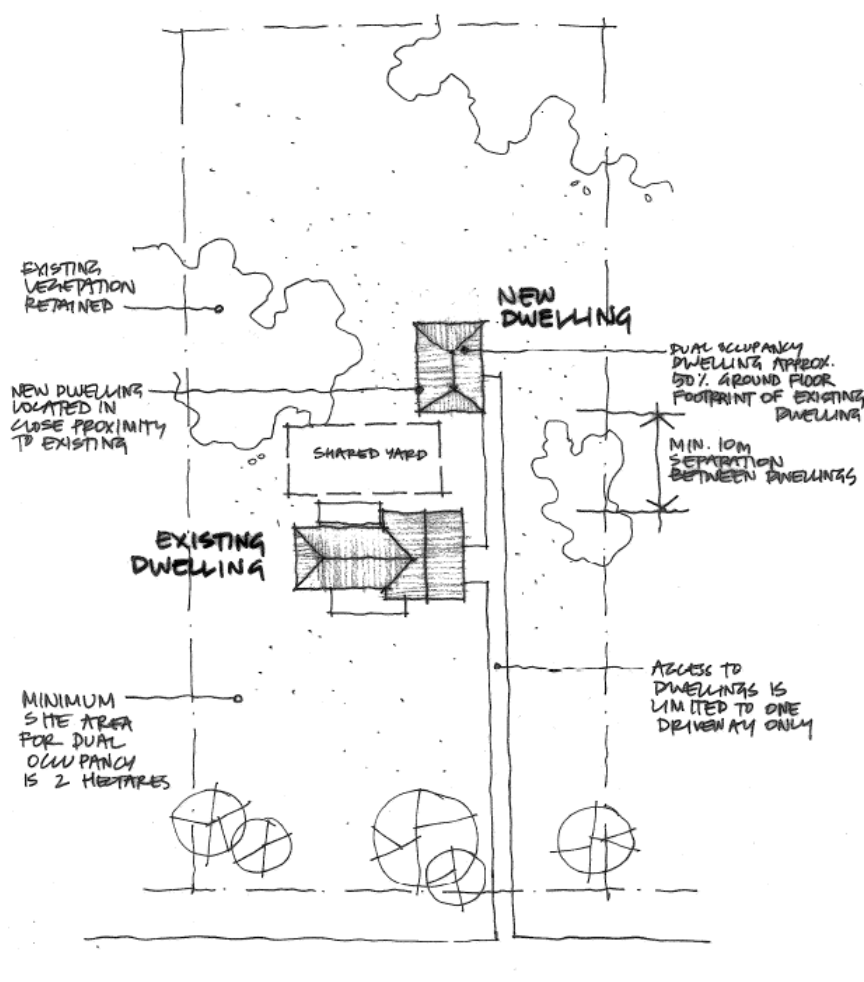
Consideration, however, will be given to varying this control where the existing house has a floor area of less than 200m².

- h) The development should be designed so that the dwellings complement each other and the rural character. In this regard, external finishes should be similar or compatible. Council may require upgrading of the existing dwelling where considered necessary.

2) Access, Parking and Services

- a) Access to dual occupancies is to be via a common driveway to both dwellings.
- b) At least one accessible and covered off-street parking space shall be provided on site behind the building line for each dwelling.
- c) There should only be one electricity line and meter on the property servicing both dwellings.

Figure D1.8: Key principles for dual occupancy development



1.2.6 Secondary Dwellings

A. Background

Subject to meeting certain criteria, secondary dwellings (or granny flats) are generally permissible with consent in rural zones, though some exclusions apply (refer to Penrith LEP 2010).

Secondary dwellings may be considered either upfront as part of building a new dwelling or as an addition to an existing dwelling. As a general rule, secondary dwellings must comply with the requirements for rural dwellings and dual occupancy development.

B. Objectives

The objective of this section is to permit secondary dwellings which:

- a) are part of, attached to or in close proximity to the existing dwelling on the site;
- b) are limited in their size; and
- c) adopt a similar or sympathetic design to the existing dwelling on the site.

C. Controls

- 1) With the exception of floor area, the controls applying to dual occupancy development apply to secondary dwellings.
- 2) Clause 5.4 of Penrith LEP 2010 sets the maximum floor space of secondary dwellings at 60 m² or 10% of the total floor area of the principal or main dwelling, whichever is the greater.
- 3) Secondary dwellings may be located on a lot of less than 2 hectares in size, where it can be demonstrated that the effluent disposal system has sufficient capacity for both dwellings.
- 4) Secondary dwellings shall have a maximum of two bedrooms.

1.2.7. Materials and Colours

A. Background

This section aims to ensure that the materials and colours for any rural dwellings and associated structures (including outbuildings) are of a high quality and are sympathetic to the character of rural areas.

B. Objectives

The objective of this section is to ensure that dwellings and outbuildings:

- a) Use materials that are durable and of high quality; and
- b) Use colours that are sympathetic to the rural character and minimise any visual impact from the development.

C. Controls

- 1) Colours of external finishes should be in keeping with the natural surroundings, be non-reflective and utilise earthy tones, unless it can be demonstrated that the proposed colours and finishes will have no visual impact or will complement the rural character.

- 2) Building materials with reflective surfaces such as large expanses of glass, unpainted corrugated iron, concrete blocks, sheet cladding or similar finishes should be avoided. Where these materials are unavoidable, they should be screened with landscaping to minimise visual impact.
- 3) Re-sited dwellings may be considered in rural areas, however, the external finishes may be required to be upgraded to Council's satisfaction.

1.2.8. Land in the Vicinity of Proposed Second Sydney Airport

A. Background

This section relates to land which may be under the flight path of the proposed second Sydney airport as identified in the Department of Aviation's Environmental Impact Statement (1985).

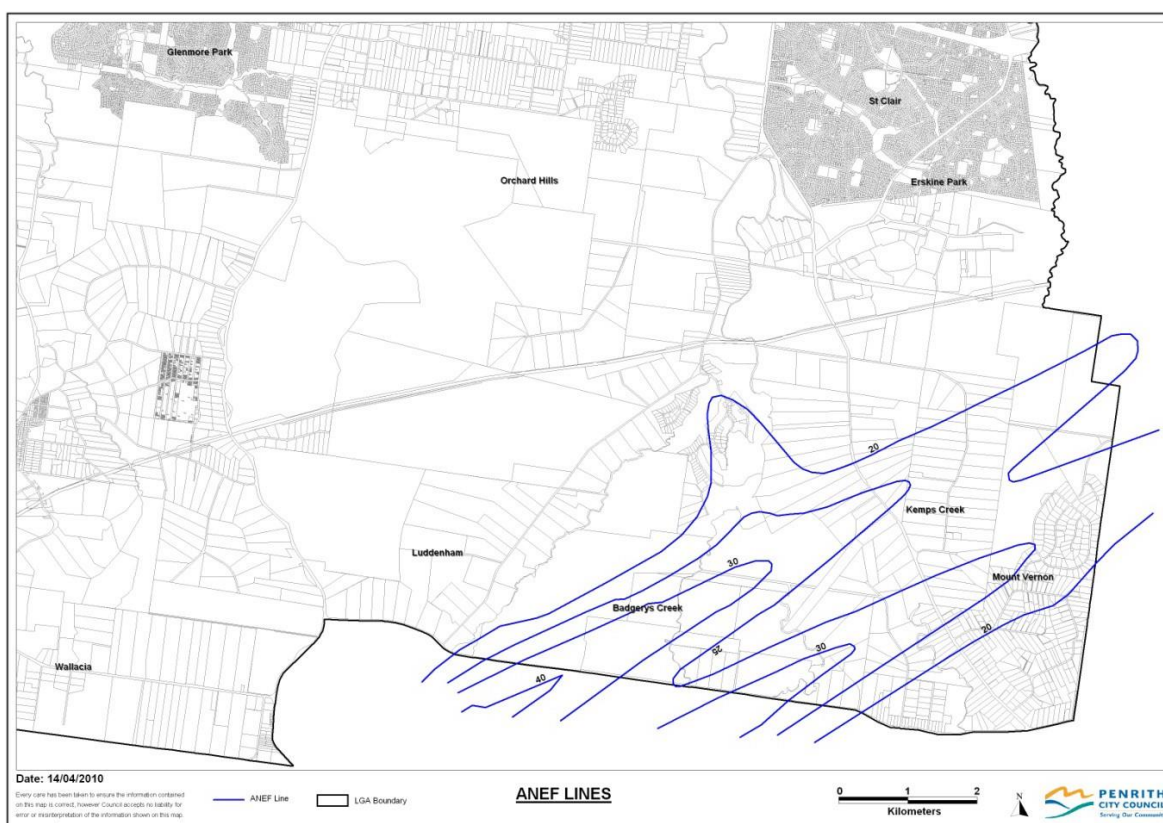
B. Objectives

- a) To allow development which is compatible with the predicted noise levels; and
- b) To prevent the approval of dwellings in areas where noise levels may be unacceptable.

C. Controls

- 1) New dwellings (or significant alterations and/or additions to existing dwellings) within the 20-25 Australian Noise Exposure Forecast (ANEF) zone shall be designed to achieve the requirements discussed in the section on 'Aircraft Noise' in the 'Noise and Vibration' section of this Plan.
- 2) New dwellings (or significant alterations and/or additions to existing dwellings) will not be permitted on land where the ANEF exceeds 25.

Figure D1.9: Land affected by ANEF contours for the proposed second Sydney airport



D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in the 'Rural Dwellings and Outbuildings' section of this Plan will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- 1) Improved sustainability outcomes including vegetation management and landscaping, water management, land management and waste management in accordance with this DCP;
- 2) Consideration of larger dwellings where it demonstrates:
 - a) High quality architectural design;
 - b) Innovation;
 - c) Integration into the landscape design;
 - d) Consideration of the visual catchment and the rural and scenic character of the area;
 - e) Articulation to reduce building scale and bulk; and
 - f) Minimisation of hard surfaces.
- 3) Inclusion of the top ten features of a 'Universally Designed' home in designing dwellings:
 - a) Easy access to the entrance;
 - b) Level entry;

- c) Essential living areas on entry level;
- d) Bathroom capable of future adaptation;
- e) Reinforcement of bathroom walls;
- f) Easy access to and within the kitchen;
- g) Easy access doors and corridors;
- h) Consistent installation of switches, power points and window controls;
- i) Easy operable door and window hardware; and
- j) Straight stairways.

1.3 Farm Buildings

A. Background

As the nature of agricultural activities changes, there has been an increase in the number and size of farm buildings and a corresponding increase in their impacts on the surrounding area. For this reason, it is necessary to provide controls for all developments involving farm buildings.

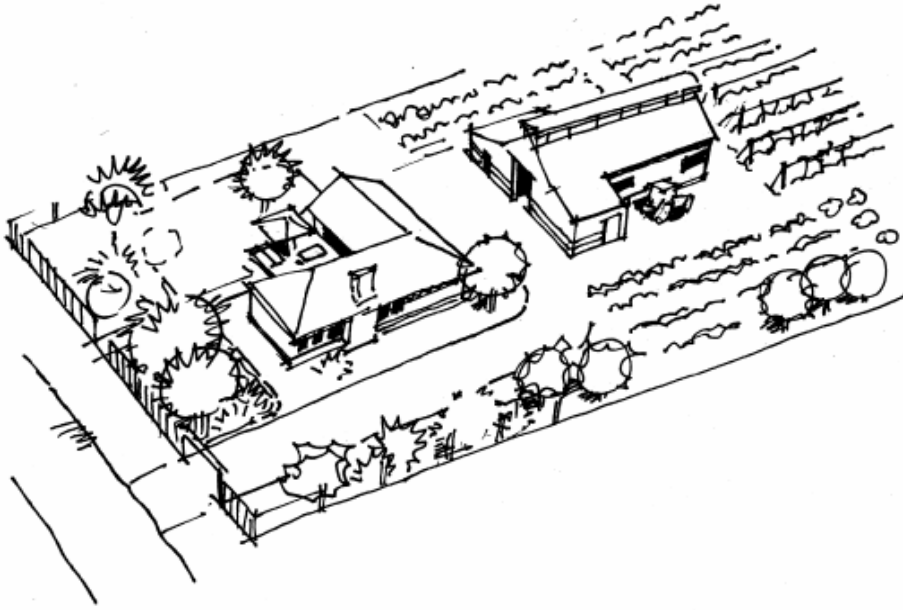
Unless specifically stated, the controls for farm buildings also apply to all sheds and outbuildings ancillary to any permissible use of rural land (specific to the relevant zone), whether or not that use is considered an agricultural use.

In some cases, there are additional controls for particular buildings, such as greenhouses and poultry farms. These controls are included in other relevant sections of this chapter. Where there is an inconsistency between this section and the other relevant part of this chapter, the controls in the latter should be applied.

B. General Objectives

- a) To establish the rationale and controls for environmentally appropriate development;
- b) To ensure the siting, size, design, external appearance and uses of farm buildings do not detract significantly from the rural and environmental qualities of the locality;
- c) To ensure that farm buildings promote and support sustainable agriculture and other permissible rural land uses in the rural areas of the City; and
- d) To ensure farm buildings are sited with regard to good site planning principles.

Figure D1.10: Siting of a farm building



1.3.1. Siting and Orientation

A. Background

These controls aim to ensure that farm buildings are appropriately sited and oriented having regard to the rural character, environmental qualities and agricultural potential of the site and the local area.

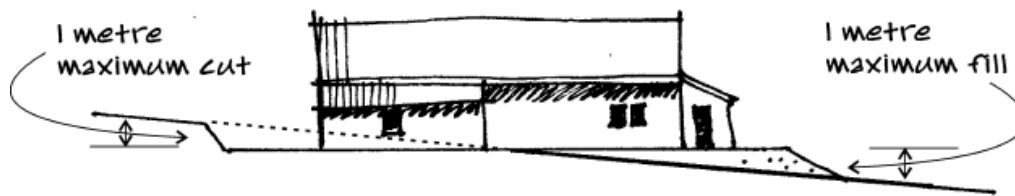
B. Objectives

- a) To integrate farm buildings with the landscape so they complement the rural character of an area and are not visually dominant;
- b) To ensure that farm buildings are located to have minimum adverse impact on the environment and on the potential use of the land for agriculture;
- c) To provide separation between potential noise generating sources; and
- d) To provide areas for landscaping between buildings.

C. Controls

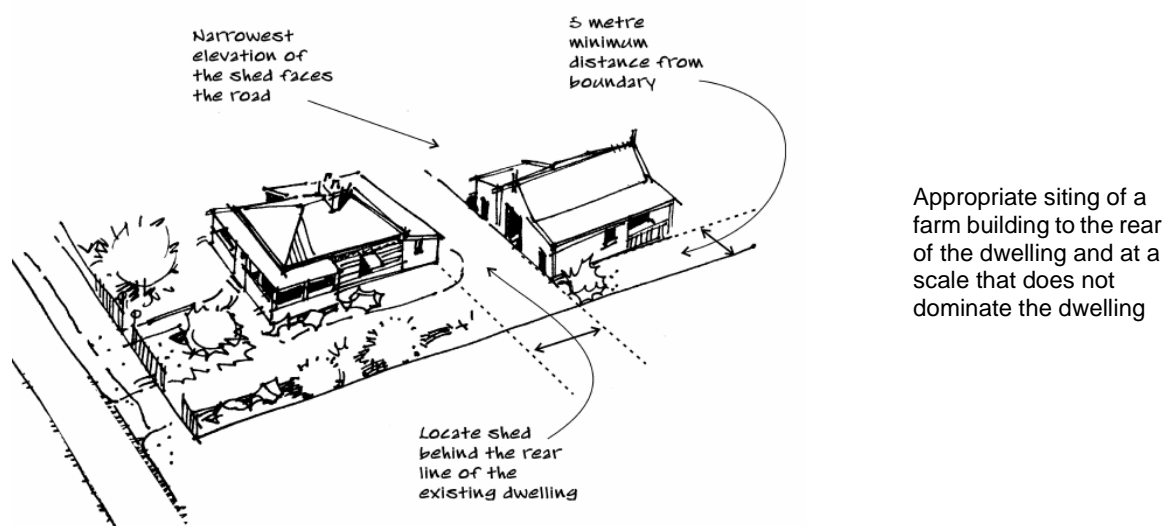
- 1) Farm buildings and outbuildings should be clustered in one location on properties. Where possible, this should be close to dwellings, but not where this will result in land use conflict.
- 2) Farm buildings should have complementary colours and finishes to the dwelling house and surrounding environment.
- 3) Farm buildings should not be erected on land having a slope in excess of 15%. Cut and fill for farm buildings should be limited to 1m of cut and 1m of fill as shown in Figure D1.11.

Figure D1.11



- 4) Farm buildings should be sited on the land so any disturbance to native vegetation is minimal.
- 5) The narrowest elevation of farm buildings should face the road.
- 6) Farm buildings shall be set back a minimum of 40m from any watercourse.
- 7) Farm buildings should be setback behind the building line of the existing dwelling house on the property.
- 8) Farm buildings should be a minimum distance of 10m from a dwelling located on the same allotment as the farm building.
- 9) Farm buildings should be a minimum distance of 20m from a dwelling located on an adjacent allotment to the farm building.
- 10) Landscape buffers should be provided, where possible, between farm buildings and nearby dwellings to minimise the visual impact of the farm building.
- 11) Farm buildings should be a minimum distance of 5m from the side boundaries.

Figure D1.12



1.3.2. Floor Space, Height and Design

A. Background

The size of a farm building can have a significant impact on the visual amenity of an area. These controls seek to strike a reasonable balance between the use of the farm building, the use of the land and the size of the property.

B. Objectives

- a) To control the size and height of farm buildings to minimise their visual impact on the landscape;
- b) To ensure that the size of farm buildings is consistent with the intended use and the size of the property;
- c) To encourage improved design of farm buildings so they enhance the rural landscape and character of an area; and
- d) To ensure that farm buildings use a range of design measures to suit individual circumstances.

C. Controls

- 1) For allotments 3 hectares in size or less, the maximum accumulative building footprint of all farm buildings on an allotment shall not exceed 200m² (see Figure D1.13).
- 2) For allotments between 3 hectares and 10 hectares in size, the maximum accumulative building footprint of all farm buildings on an allotment shall not exceed 400m².

Note: 'Accumulative building footprint' means the total sum of the ground floor area of all of the farm buildings on a single property. (The floor area under an awning may also be included as part of the accumulative building footprint, depending on the circumstances).

- 3) For allotments more than 10 hectares in size, the maximum accumulative building footprint of all farm buildings on an allotment shall not exceed 600m².
- 4) Intensive agricultural uses may require larger accumulated building footprints than those specified above. Variation will be considered but must be justified in the application.
- 5) A farm building should not be more than 8m high.
- 6) The maximum external wall height of a farm building shall be 5m. External wall height means the distance from the natural ground level to the underside of the eaves.
- 7) Where a farm building is higher than the dwelling on the land, the building must be located behind the dwelling and screened from view by vegetation (or similar).
- 8) The design of farm buildings should comprise traditional roof shapes to provide visual relief to the building, reduce the buildings dominance over its setting and to provide interest and character to the locality.
- 9) Farm buildings should have a maximum external wall length of 15m between distinct corners or significant features such as awnings.
- 10) Farm buildings shall have a minimum roof pitch of 15° and a maximum roof pitch of 25°.
- 11) All elevations of farm buildings that face the street are to present a suitable level of detailing to minimize their visual bulk. Features which can be used include windows, awnings and verandahs.

Figure D1.13

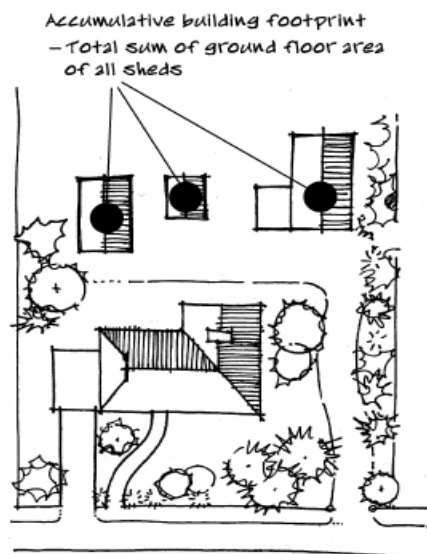


Figure D1.14

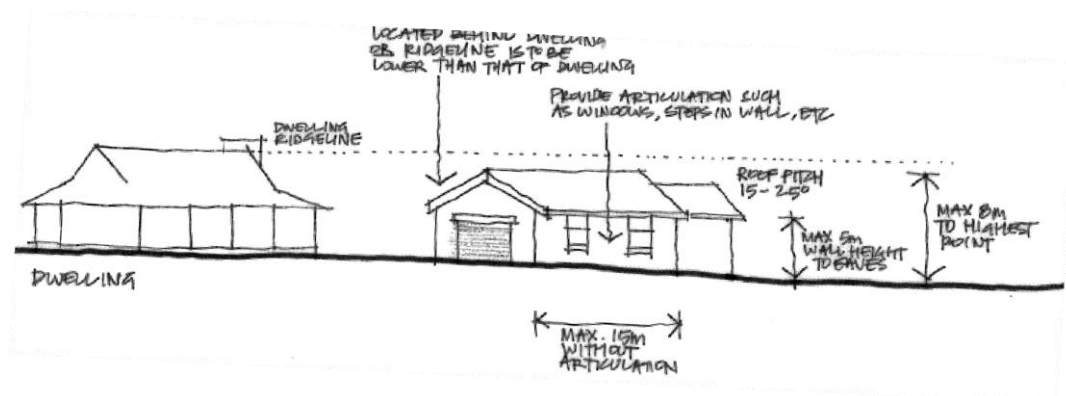
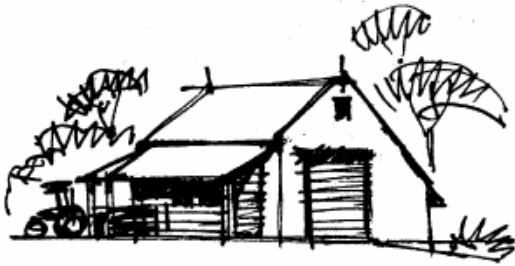


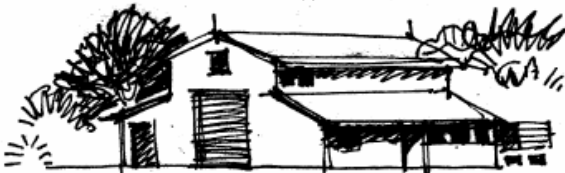
Figure D1.15



Farm building with rounded higher roof element and awning



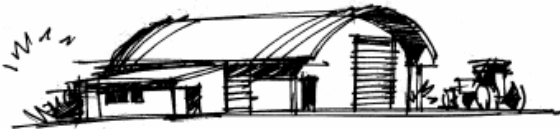
Simple gabled roof with awning - note farm building size and roof are in proportion



Farm building with gabled higher roof element and awning



Simple farm building with gabled roof and lean-to additions which assist in articulating the building form



A farm building of contemporary design that achieves articulation and interest to the form through a lean-to addition and rounded roof form

1.3.3 Materials and Colours

A. Background

It is important that farm buildings are constructed of appropriate materials and colours, which are present in the agricultural or natural environment of the locality. This is not intended to reduce innovative designs or use of materials as long as they are sympathetic to the rural landscape character of the area.

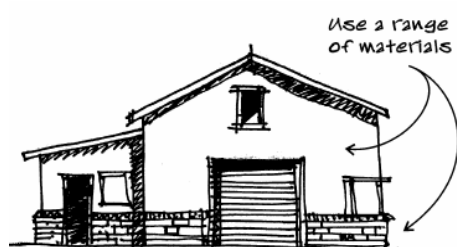
B. Objectives

- To ensure that the colours used in the construction of farm buildings are consistent with the prevailing colours of the locality; and
- To ensure that building materials used in farm building design reflect the rural setting and consist of traditional materials that are present in the locality.

C. Controls

- 1) The colour of farm buildings shall complement the colours of the natural vegetation and background of the property, such as grey, brown, beige and green.
- 2) Farm buildings shall be constructed of non-reflective materials. Where traditional materials, such as unpainted corrugated iron, are used, the building must be screened by landscaping to minimise its visual impact.
- 3) The construction of farm buildings should utilise a range of materials to aid in the articulation of the building form.
- 4) Where farm buildings are below the 1:100 ARI flood level, they are to be constructed of materials that can withstand flooding.

Figure D1.16



E. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in the 'Farm Buildings' section of this Plan will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Where farm buildings include large roof surfaces that are oriented towards the north, solar cells are placed on farm building roofs to capture solar energy for electricity generation or hot water systems;
- b) Where farm buildings include large roof surfaces, guttering systems and water tanks are connected to capture rainwater and store for re-use;
- c) Farm buildings are designed to allow natural ventilation for cooling to avoid the need for mechanical ventilation; and
- d) Where farm buildings involve substantial construction, they are designed to allow future reuse for other agricultural-related uses.

1.4. Agricultural Development

A. Background

The aim of this section is to provide appropriate controls for a range of agricultural land uses.

One of the key conflicts regarding agricultural development is between the retention of viable agricultural lands and the demand for and expectations of large lot residential allotments.

This pressure is most acute when residential allotments are in close proximity to intensive agricultural uses, which may have a number of off-site impacts.

In addition to conflicts that exist between agriculture and other land uses, land use conflicts also exist between different forms of agriculture, such as intensive and extensive (broadacre) forms of agriculture, or organic and non-organic enterprises. Issues include chemical spray drift, dust, odour and noise. Traditional agricultural activities may also conflict with sensitive environmental areas.

B. General Objectives

- a) To encourage sustainable land use practices;
- b) To retain viable agriculture lands;
- c) To avoid land use conflicts;
- d) To adopt appropriate water management practices including water consumption patterns to maintain and improve water quality and flows;
- e) To ensure protection of biodiversity values and natural vegetation; and
- f) To ensure protection of heritage values and landscape values in rural areas.

1.4.1. Extensive Agriculture

A. Background

Extensive agriculture is permissible without consent in the RU1, RU2, RU4 and E3 zones. It does, however, require consent on some sites, which are listed in Schedule 1 Additional permitted uses of Penrith LEP 2010.

It should be noted that permitting extensive agriculture without consent does not automatically permit the clearing of native vegetation. If any clearing is required to carry out extensive agriculture, consent must be sought prior to clearing. In this regard, applicants should refer to the section on 'Vegetation Management' for further details.

Existing extensive agriculture requires a level of protection from rural residential development to remain viable both in terms of sizes of allotments and avoidance of land use conflicts that limit farming operations. In most cases, the allotment sizes in Penrith are not large enough to support new extensive agricultural businesses. Therefore, there is a need to protect the existing large allotments and agricultural enterprises, where possible.

In general terms, as there are fewer impacts from extensive agriculture, this form of agriculture does not require as comprehensive an assessment for consent as more intensive forms of agriculture.

All buildings associated with extensive agriculture should comply with the controls for farm buildings in Section 1.3 'Farm Buildings' of this Plan.

B. Objectives

- a) To support extensive agriculture where it is viable;
- b) To avoid environmental impacts from agricultural practices; and
- c) To restore native plant communities and increase the use of native grasses in grazing.

C. Controls

- 1) Any proposal for extensive agriculture should comply with the controls set out in the other sections of this DCP.

- 2) Agricultural practices shall give consideration to:
 - a) Obligations under the Noxious Weeds Act 1993,
 - b) NSW Department of Primary Industries guidelines at www.dpi.nsw.gov.au; and
 - c) Use of native grasses for grazing.
- 3) Use of chemicals (including pesticides and herbicides) should be in accordance with:
 - a) Agricultural and Veterinary Chemicals Act 1994; and
 - b) Agricultural and Veterinary Chemicals (NSW) Regulation 2000.

1.4.2 Intensive Livestock Agriculture

A. Background

Intensive livestock agriculture has the potential to impact on surrounding properties and the environment. Some of the key issues are:

- a) Impacts on the amenity of surrounding areas, especially in relation to odour, dust, noise and insects;
- b) Impacts on surface and groundwater, as well as land degradation, resulting from poor management practices;
- c) Availability of suitable land areas for managing effluent and manure sustainably;
- d) Availability of suitable water supplies for stock water, cleaning (e.g. washing out dairies) and, depending on effluent volume and quality, for dilution of effluent for irrigation;
- e) Management of other wastes (e.g. dead carcasses); and
- f) Impacts on rural landscape character.

All buildings associated with intensive livestock agriculture should comply with the controls for farm buildings in Section 1.3 Farm Buildings of this Plan. Where there is an inconsistency between Section 1.3 Farm Buildings and this section (Agricultural Development), the controls in this section should be applied.

B. Objectives

- a) To ensure that an appropriate water supply is available for the proposed use and sustainable water management practices are adopted;
- b) To allow intensive livestock production where satisfactory arrangements are made for the containment and disposal of wastes;
- c) To ensure adequate drainage for the site, whilst avoiding contamination of waterways or land;
- d) To provide dust, odour, pest and vermin control to minimise the impact on the amenity of neighbouring properties and users;
- e) To minimise traffic impacts and provide appropriate access and parking facilities for the size of the facility; and
- f) To minimise visual impact on the landscape and scenic qualities of rural areas.

C. Controls

These controls apply to all types of intensive livestock agriculture. More detailed controls for specific types of intensive livestock agriculture are set out later in this section.

1) Location

- a) Farm buildings and animal holding areas shall not be located in floodways to prevent loss of stock and pollution of waterways during flood events.
- b) The size and location of the intensive livestock agricultural use must take into account the distance of the proposed site to the nearest sensitive land use (including residential zones, educational establishments or groups of five or more dwellings) to minimise the impact of noise and odour.
- c) Intensive livestock agriculture shall be located so as to not impact on natural resources sensitive land identified on the Penrith LEP 2010 Natural Resources Sensitivity Land Map.

2) Water Supply

- a) Council will not grant consent for any new or substantially expanded intensive livestock agricultural use unless it is satisfied that the supply of water to the property is adequate. This may include pre lodgement consultation with Sydney Water.
- b) Council's consent is required to construct or form a dam, pond or water retention basin. Specific advice on the construction of dams can be obtained from NSW Department of Primary Industries. See also controls in the chapter on 'Water Management' relating to water retention basins/dams.

3) Waste Management

- a) Development applications must specify the method by which wastes, including the disposal of dead carcasses of animals and effluent, will be managed.
- b) On-site disposal of manure is generally not acceptable. On-site waste disposal may be considered where the allotment is of sufficient size and potential runoff is limited.
- c) The burning of animal carcasses is prohibited. Removal by waste contractors is preferred.
- d) No liquid or solid wastes from the intensive livestock agricultural use shall be allowed to enter into any stream, watercourse or groundwater or to contaminate land so as to render it unfit for future farming or other relevant activities.

4) Control of Pests and Vermin

- a) Adequate vermin control shall be carried out with a regular fly and pest control program.
- b) The control program shall comply with the requirements of NSW Department of Primary Industries and shall be maintained to the satisfaction of Council officers.
- c) Development applications must include information on how the requirements of the Noxious Weeds Act 1993 will be met.

5) Pesticides

For any new or substantially expanded intensive livestock agricultural use, the applicant should incorporate, in any development application, a schedule of all pesticides and other toxic chemicals likely to be stored and used on the site. The schedule should stipulate the purpose/s for which such chemicals are to be used, the manner of application and the extent of knowledge or experience that the person has had in using such chemicals.

6) Dust Control

- a) All areas of vehicular access are to be stabilised and treated in a manner to minimise dust nuisance caused by traffic generation.
- b) To eliminate dust as a nuisance, grass cover should be maintained and grown, wherever practical.
- c) Landscape buffers that will minimise dust transfer should be provided around all outdoor holding areas for hoofed animals.

7) Noise and Odour Control

- a) If the use is likely to produce odours that will impact on adjacent properties, the application must include an outline of management protocols to minimise impacts, considering prevailing winds, timing of cleaning, timing of effluent application, etc.
- b) If the use is likely to produce substantial noise (or noise during night hours), the application must include an outline of management protocols to minimise impacts, considering timing of operations, ways to minimise noise generation and travel, etc.

8) Drainage

- a) Development applications should be accompanied by details of the proposed method of draining the site.
- b) Drainage should be designed to incorporate treatment of wastewater to the standards of the NSW Office of Environment and Heritage.

9) Soil Erosion

- a) An Erosion and Sediment Control Plan will be required in conjunction with any development application for a new or substantially expanded intensive livestock agricultural use. This plan should be prepared in consultation with the NSW Department of Primary Industries and comply with all relevant sections of this DCP (especially the section on 'Land Management').

10) Landscaping

- a) All structures are to be screened by landscaping to minimise visual impact. A landscaping buffer should be established around the perimeter of all development.
- b) Plant species should include those which will grow to over 7m in height with a large canopy as well as smaller intermediate shrubs. Species that occur locally should be included in the landscaping plan. A list of appropriate species can be obtained from Council's Development Services Department.
- c) Planting should be adequately protected from damage by livestock or native animals during its establishment; e.g. using tree guards, or staking and wire.

11) Access, Traffic and Parking

- a) The frequency and intensity of traffic associated with all intensive livestock agriculture should be addressed in terms of the capacity of the road system.
- b) Access to the site should be provided from a main or secondary arterial road which is constructed to a standard to take articulated vehicles. Access should only be provided from a local road where it is not practicable to provide access from a main or secondary arterial road.
- c) The design of the development should incorporate parking and access areas related to the use and vehicles likely to be associated with the development.
- d) Client/employee parking areas and vehicular crossings are to be provided.

12) Visual Impact

- a) Any development should consider the impact on the rural and landscape character of the area and seek to minimise this visual impact by appropriate siting of buildings, landscaping and screen plantings, especially from public places and roads.
- b) The development shall be designed to have a minimal impact on the streetscape and views enjoyed by adjoining residences.

1.4.3 Poultry Farms, Piggeries, Feedlots and Dairies

A. Background

Poultry farms, piggeries, feedlots and dairies are specific forms of intensive livestock agriculture which can have significant additional impacts. Issues include:

- Concentrated noise from animals;
- Management of dust and odours; and
- Management of waste.

Council consent is required for any of these uses that will operate as a commercial venture.

B. Objectives

- a) To ensure properties used for these purposes are large enough to support the required facilities and allow sufficient setbacks from boundaries, adjacent land uses and public areas to minimise impacts, particularly noise;
- b) To provide appropriate buffer distances and setbacks between poultry farms, piggeries, feedlots or dairies and land reserved or in use for sensitive uses (particularly dwellings) to minimise noise, dust and visual impact;
- c) To ensure that farms are properly managed and methods of waste disposal are adequate;
- d) To adopt a consistent approach to planning for the development of new farms and extensions to existing farms;
- e) To provide controls for the prevention of excessive air, noise, water and visual pollution; and
- f) To minimise the visual impact of structures associated with these uses.

C. Controls

1) Preparing an Application

- a) NSW Department of Primary Industries and Penrith City Council should be contacted regarding their requirements prior to the preparation of any application.
- b) Certain proposals for piggeries and cattle feedlots must address the matters set out in State Environmental Planning Policy No.30 – Intensive Agriculture.

2) Allotment Sizes and Animal Numbers

- a) Poultry Farms
 - i) Poultry farms must have a minimum lot size of 8 hectares.
 - ii) Buildings must cover no more than 10% of the site.

b) Piggeries

- i) A minimum area of 2 hectares is required for piggeries.
- ii) On a block of 2 to 6 hectares, there shall be no more than one breeding sow and its progeny to each half hectare. At no time is the total number of pigs to exceed ten times the approved number of breeding sows (e.g. on a 5 hectare block, there may be no more than 10 breeding sows and no more than 100 pigs in total).
- iii) The above maximums can only be achieved where an adequate effluent disposal system is in place. This system must be designed by an approved trade waste consultant.

3) Setbacks

a) Poultry Farms

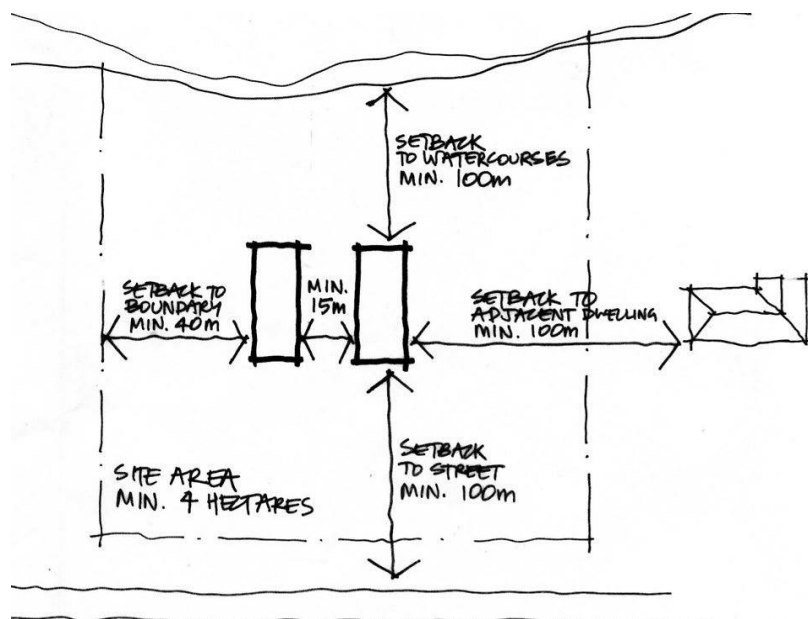
- i) Setbacks for poultry buildings are to be provided in accordance with Table D1.1 and Figure D1.17 below.
- ii) The setbacks are required to incorporate vegetated/ landscaped buffers on the property to screen sheds and activities, and to help reduce noise and odours.

Table D1.1

Minimum distance from poultry buildings to:	Distance
Public Roads	100m
Boundaries and Dry Gullies	40m
Watercourses and Wells	100m
Adjoining Dwellings	100m
Other Poultry Farms	500m
Zones where Lots < 4ha	300m
Dwelling(s) on the Same Farm	No minimum

Separation - poultry buildings on same farm	Distance
Parallel Broiler - Pullet Breeding	15m
Parallel High Rise Layer	30m
Laying and Rearing	100m
Laying Sheds and Egg-Holding Room	40m

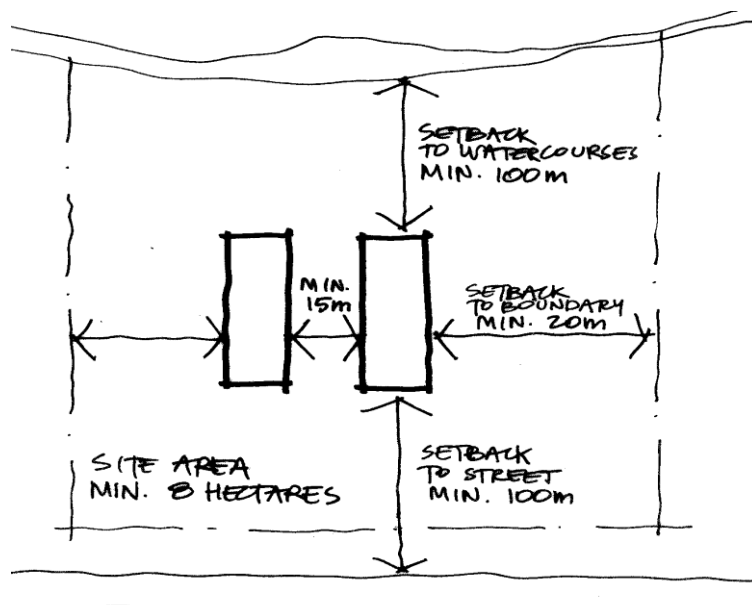
Figure D1.17: Setback requirements for poultry farms



b) Piggeries

- i) A piggery on a site of 2 to 6 hectares should locate all piggery facilities at least 20m from boundaries and 40m from a road or public place.
- ii) A piggery on a site of more than 6 hectares should locate all piggery facilities at least 40m from boundaries and 80m from a road or public place.
- iii) All piggeries (including the disposal areas) shall be a minimum distance of 100m from any watercourse. The distance may be increased by Council according to the slope of the land and the permanency of the watercourse.

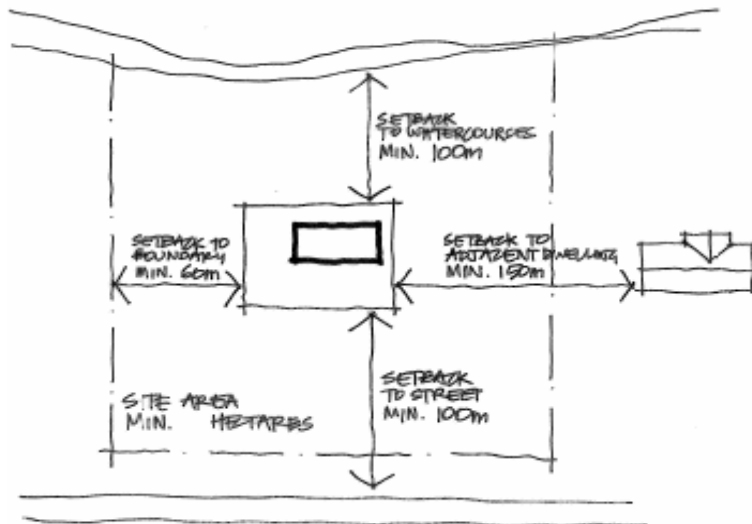
Figure D1.18: Setback requirements for piggeries



c) Feedlots

- i) The site should be large enough to achieve a minimum separation of 150m between feedlot yards/farm buildings and residences on adjoining properties.
- ii) All feedlot facilities must be setback a minimum of 60m from property boundaries.
- iii) All feedlot facilities must be setback a minimum of 100m from a public road.
- iv) All feedlot facilities must be setback a minimum of 100m from any watercourse.

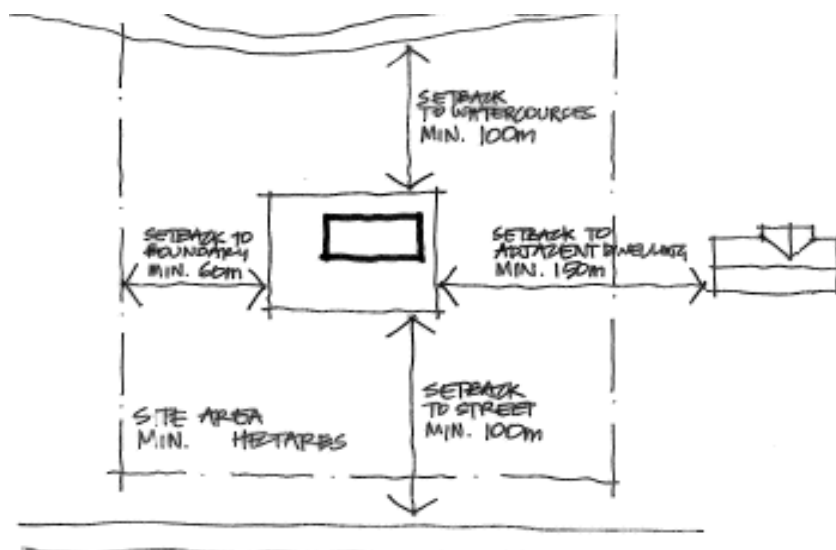
Figure D1.19: Setback requirements for feedlots



d) Restricted Dairies

- i) The site should be large enough to achieve a minimum separation of 150m between dairy yards/sheds and residences on adjoining properties.
- ii) All dairy facilities should be setback a minimum of 60m from boundaries.
- iii) All dairy facilities should be setback a minimum of 100m from a public road.
- iv) All dairy facilities must be setback a minimum of 100m from any watercourse.

Figure D1.20: Setback requirements for restricted dairies



4) Odour Control (for poultry farms, piggeries, feedlots and dairies)

- a) Required buffers/setbacks must include landscaping, including a dense area of vegetation, a minimum of 25m wide.
- b) Ventilators on poultry sheds should be directed up rather than down.

5) Noise Control (for poultry farms, piggeries, feedlots and dairies)

- a) All development should comply with the relevant State Government authority or agency standards and guidelines for noise.
- b) Council may require a Noise Impact Statement to be submitted, depending on the scale and location of sheds to residential areas. Information on the requirements of a Noise Impact Statement are provided in the 'Noise and Vibration' section of this Plan.
- c) A noise management plan (including feed delivery) must be prepared which outlines measures proposed to minimise noise to surrounding areas. For poultry farms, this should consider daylight catches or a reduction in the number of pickups required.

6) Design and Construction

a) Feedlots

- i) Any application must address the requirements of the New South Wales Feedlot Manual (see www.dpi.nsw.gov.au).
- ii) Any application must address the requirements of the National Guidelines for Beef Cattle Feedlots in Australia (1997) (see www.dpi.nsw.gov.au) in determining an appropriate drainage system, controlled drainage area and capture and storage of runoff (effluent), and for using effluent and manure on-site.
- iii) Applications should be prepared in consultation with Council officers. Information relating to the issues above should be submitted with the application, together with a plan of management which indicates factors such as, but not limited to:
 - Animal concentration per hectare;
 - Paddock rotation intervals;

- Revegetation strategies for soil degraded paddocks;
- Location of stock in relation to adjoining premises;
- Odour control; and
- Location of feeding points.

1.4.4. Animal Boarding or Training Establishments

A. Background

Animal boarding or training establishments include dog kennels, catteries, horse breeding facilities, horse training facilities (such as trotting tracks) and large-scale aviaries. Fish are dealt with under aquaculture.

The issues associated with animal boarding or training establishments include:

- Concentrated noise from animals;
- Management of dust and odours, including from animal exercise areas;
- Management of solid and liquid wastes;
- Availability of suitable water supplies for stock watering and cleaning;
- Impacts on rural landscape character; and
- Impacts on the local road system.

B. Objectives

- To allow the development of these establishments while minimising the impact on adjoining land uses and the local road system;
- To encourage establishments which are designed to promote efficient internal circulation, drainage and aesthetic appeal; and
- To ensure that properties are large enough to support the required facilities and allow for sufficient setback from boundaries, adjacent land uses and public areas to minimise impacts.

C. Controls

1) General Requirements

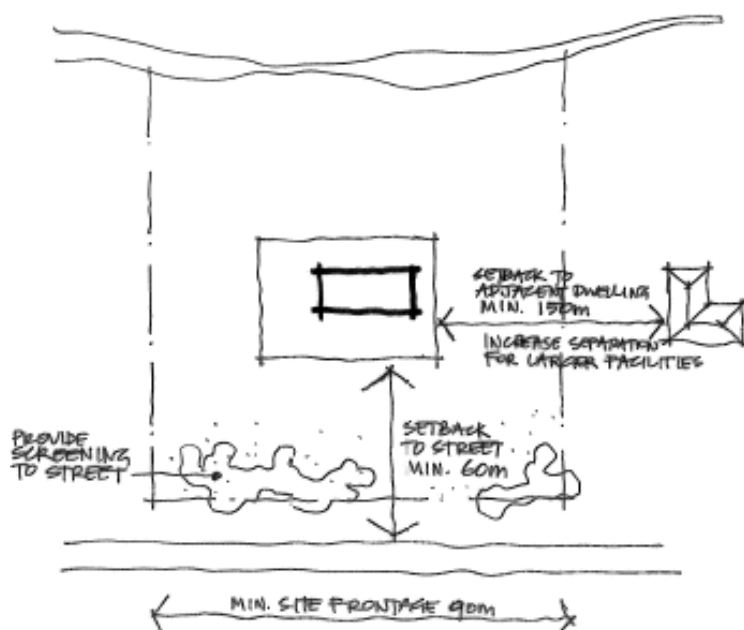
- Sites should be selected with consideration for the location of clients, feed supplies and adjoining land uses.
- The specific controls for dog boarding, training or breeding establishments are set out below. Other forms of animal boarding or training establishments will be considered based on a merit review.

2) Setbacks for Dog Boarding, Training or Breeding Establishments

- Dog boarding, training or breeding establishments will not be approved on allotments which have a frontage of less than 90m.
- Kennels shall be located a minimum of 150m from any existing dwelling or potential dwelling site.
- Kennels, which are located 150m from existing or future dwellings, shall accommodate not more than 10 dogs.

- d) A proportional increase in the number of dogs will be permitted as the distance from existing or future dwellings is increased, to a maximum of 40 dogs for 300m.
- e) Kennels should be setback a minimum of 60m from any public road.

Figure D1.21: Setback requirements for dog boarding, training or breeding establishments



3) Design for Dog Boarding, Training or Breeding Establishments

- a) All kennels are to be screened to ensure that dogs cannot see the street.
- b) Concrete floors are to be provided to all kennels and runs to facilitate cleaning.
- c) Sound-proofed holding sheds are to be provided for distressed animals.
- d) Applications for consent to establish kennels shall be accompanied by an acoustic study which demonstrates that the proposal can operate with acceptable impact on adjoining and nearby properties.
- e) Structures and enclosures should be designed to minimise visual impact on the streetscape and views enjoyed by adjoining properties. Large areas of light coloured or reflective materials will not be permitted.
- f) Development applications should include details of proposed advertising and sign posting.

4) Operations for Dog Boarding, Training or Breeding Establishments

- a) Dogs are to be confined to their individual runs or exercise areas at all times.
- b) Council may consent to the sale of animals, which are bred or raised on the property, where the sale remains ancillary to the boarding, breeding, training or treating.

1.4.5. Aquaculture

A. Background

The key issues for aquaculture include:

- Impacts from clearing or site selection on native flora and/or fauna;
- High water consumption;
- Management of waste; and
- Potential for release of non-native species into natural waterways.

B. Objectives

- a) To encourage sustainable aquaculture;
- b) To set out the minimum site location and operational requirements for permissible aquaculture development; i.e. the minimum performance criteria:
 - i) To protect natural waterbodies or wetlands;
 - ii) To protect existing native terrestrial or aquatic vegetation and the habitat of native fauna;
 - iii) To minimise noise impacts on adjacent land uses;
 - iv) To minimise the potential for escape of non-native aquaculture species to natural waterbodies;
 - v) To provide waste management practices which ensure that the disposal of waste, particularly organic waste, does not impact on surrounding water and land systems or on adjoining land owners; and
 - vi) To minimise water consumption requirements and recycle water, where possible.

C. Controls

1) Setbacks

- a) All ponds, dams, tanks and internal drains should be setback at least 50m from a natural waterbody or wetland. (Note: For barramundi and other high security species, the minimum distance must be 500m).
- b) A vegetated riparian corridor of not less than 40m should be maintained between any ponds, dams, tanks and internal drains, and the high bank of any adjoining watercourse. This riparian corridor should be maintained to protect any existing native plant species. Proposals should include a Vegetation Management Plan to indicate how the riparian corridor will be protected and enhanced.
- c) The site layout for the ponds, dams, tanks, water intake, outlet and circulation system and operational facilities should be designed to minimise the destruction or disturbance of native terrestrial and aquatic vegetation or the habitat of native fauna.
- d) It is preferable for freshwater aquaculture ponds to be constructed above the probable maximum flood (PMF) level.

2) Impacts on Neighbouring Land Uses

- a) Design and layout should incorporate all possible measures to minimise operational impacts on the neighbours and the broader community. Reference should be made to the NSW Industrial Noise Policy (<http://www.environment.nsw.gov.au>).

- b) Where possible noisy activities (e.g. truck loading areas or plant/equipment) should be located remote from neighbouring houses or in a location where there is an existing barrier between the noisy activity and the receiver. Where there is the potential for noise to become a nuisance, options to reduce noise impacts should be considered including:
- i) Quieter, insulated plant/equipment;
 - ii) Enclosing the noisy activities in a building; or
 - iii) Building a noise barrier.

3) Waste Management

- a) The aquaculture farm should be designed to minimise waste and reuse and recycle materials. This includes:
- i) Pond and tank water;
 - ii) Processing water;
 - iii) Pond/tank sludge and filter materials;
 - iv) Processing wastes and dead fish; and
 - v) Packaging material.
- b) Any proposal which includes the on-site disposal of waste, in particular organic waste, must consider the potential to impact on any nearby residences or contaminate surface or ground water.

4) Water Management and Pond/Tank Design

- a) Ponds/tanks should be orientated to allow for efficient circulation of water through water supply access facilities, storage dams/tanks, growing ponds/tanks, reconditioning ponds/tanks and drainage lines.
- b) Water circulation systems should be designed so that pond/tank discharge water can be retained in reconditioning ponds/tanks (for an appropriate time to reduce suspended solids and to allow for appropriate treatment, if necessary) and have the capacity to recirculate the water on the farm or release/reuse the water in an appropriate manner.
- c) For freshwater aquaculture farms, the water circulation system should include appropriate reconditioning ponds/tanks before recirculation or reuse so there is no discharge of water from the fish farm to the natural waterway. Reuse options may include agriculture or other purposes on the farm or by arrangement with other water users as a substitute for raw water.
- d) The use of water in freshwater aquaculture enterprises is conditioned on “no discharge” into public or Crown roads, Crown land, neighbouring land, rivers, creeks or natural wetlands, groundwater aquifers or native vegetation.

1.4.6 Horticulture

A. Background

The key issues for horticulture include:

- Visual impacts of buildings and structures to protect horticultural crops (including glasshouses and hail netting);
- Impacts on native vegetation and habitat;
- High water consumption;

- Impacts from irrigation including salinity and raised water tables;
- Soil management issues such as erosion and degradation;
- Use and runoff of chemical pesticides, fertilisers and herbicides;
- Transport and access for crop distribution;
- Noise impacts from hail, frost and bird prevention equipment; and
- Sale of produce on-site.

B. Objectives

- To support the establishment of horticulture where the potential impact on adjoining land uses can be contained;
- To promote sustainable horticulture which minimises impacts on adjacent watercourses and native vegetation, and which protects soil quality;
- To ensure that properties are large enough to support the required activities and allow for sufficient setbacks from boundaries, adjacent land uses and public areas to minimise impacts;
- To minimise the visual impact of structures associated with horticulture on the scenic quality of rural areas;
- To provide controls for the prevention of excessive air, noise, water and visual pollution; and
- To ensure that satisfactory arrangements are made for the management and disposal of wastes.

C. Controls

1) Water Management

- Council shall not consent to any new or substantially expanded horticultural activity unless it is satisfied that the supply of water to the property is adequate. This may include pre lodgement consultation with Sydney Water.
- Where mains water supply is not available to the site, the applicant will be required to demonstrate to Council that any alternative water supply is of adequate quantity and quality for the intended purpose.
- Council's consent is required to construct or form a dam, pond or water retention basin. Specific advice on the construction of dams can be obtained from NSW Department of Primary Industries. See also controls in the 'Water Management' section of this Plan relating to water retention basins/dams.

2) Sustainable Soil Management

- An application for any new (or substantially expanded) horticultural activity needs to demonstrate that any increased cultivation will not lead to more erosion or sedimentation than the existing use of the subject land.

3) Waste Management

- An application for any new (or substantially expanded) horticultural activity should specify the method by which wastes, including the disposal of plant matter, rubbish and unused natural fertilisers, will be managed.

4) Control of Pests and Vermin

- a) An application for any new (or substantially expanded) horticultural activity shall include information on how the requirements of the *Noxious Weeds Act 1993* will be met.

5) Pesticides

- a) An application for any new (or substantially expanded) horticultural activity shall include a schedule of all pesticides and other toxic chemicals likely to be stored and used on the site. The schedule should stipulate the purpose/s for which such chemicals are to be used, the manner of application and the extent of knowledge or experience that the person has had in using such chemicals.

6) Dust Control

- a) All areas of vehicular access are to be stabilised and treated in a manner to minimise dust nuisance caused by traffic generation.
- b) To eliminate dust as a nuisance, grass cover should be maintained and grown, wherever practical.

7) Drainage

- a) An application for any new (or substantially expanded) horticultural activity should be accompanied by details of the proposed method of draining the site.
- b) Drainage should be designed to incorporate treatment of wastewater to the standards of the NSW Office of Environment and Heritage.

8) Soil Erosion

- a) An Erosion and Sediment Control Plan (see section on 'Land Management') will be required in conjunction with an application for any new (or substantially expanded) horticultural activity. This plan should be prepared in consultation with the NSW Department of Primary Industries and comply with all relevant sections of this DCP.

9) Landscaping and Visual Impact

- a) All structures associated with the horticultural use of the land shall be compatible in form and colour with the rural character.
- b) Where large reflective surfaces are necessary for greenhouses and polyhouses, the structure should be located to have minimal visual impact when viewed from any road or public place.
- c) Any development should consider the impact on the rural and landscape character of the area and seek to minimise this visual impact by appropriate siting of buildings, landscaping and screen plantings, especially from public places and roads.
- d) Plant species should include those which will grow to over 7m in height with a large canopy as well as smaller intermediate shrubs. Species that occur locally should be included in the landscaping plan. A list of appropriate species can be obtained from Council's Development Services Department.
- e) The visual impact of hail netting must be addressed in relevant development applications.
- f) All structures associated with the horticultural use of the land shall be compatible in form and colour. Where large reflective surfaces are necessary for greenhouses and polyhouses, the structure should be located to have minimal visual impact when viewed any road or public place. Where a site is visually prominent, extensive landscaping will be required.

- g) Where appropriate, rain water tanks must be installed to capture the rainwater off the roofs of greenhouses/ polyhouses. This water shall be reused for irrigation of the plants growing in the greenhouse. When determining the capacity of the rainwater tank to be provided, proximity to natural watercourses and potential impact on environmental flows in local streams will be considered.

10) Access, Traffic and Parking

- a) The frequency and intensity of traffic associated with any horticultural activity should be addressed in terms of the capacity of the road system and the requirements in the 'Transport, Access and Parking' section of this DCP.
- b) Access to the site must be provided from a major or secondary arterial road which is constructed to a standard to take articulated vehicles. Access should only be provided from a local road where it is not practicable to provide access from a main or secondary arterial road.
- c) The design of the development should incorporate parking and access areas related to the use and vehicles likely to be associated with the development.
- d) Client/employee parking areas and vehicular crossings are to be provided.

11) Minimising Impacts of Chemicals

- a) Use of chemicals (including pesticides and herbicides) should be in accordance with:
 - i) Agricultural and Veterinary Chemicals Act 1994; and
 - ii) Agricultural and Veterinary Chemicals (NSW) Regulation 2000.
- b) Any application needs to provide strategies to minimise use, chemical drift and off site movement via runoff water or sediment.

E. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in the 'Agricultural Development' section of this Plan will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) Use of native grasses in grazing;
- b) Innovative treatment of water from greenhouses / polyhouses, considering reuse, environmental flows and downstream impacts;
- c) Innovative approaches to minimising the use of chemicals, particularly if this can lead to organic certification; and
- d) Use of best practice and innovative techniques to reduce the impacts of intensive livestock agriculture.

1.5 Non-Agricultural Development

A. Background

Non-agricultural land uses can be important to the economic and social sustainability of the City of Penrith. They can, however, sometimes result in a number of land use conflicts due to their distinction from agricultural activities and their potential impact on an area's rural and landscape character.

Examples of non-agricultural development in Penrith include:

- Home businesses and home industries;
- Tourist and visitor accommodation (including bed and breakfast accommodation);
- Rural industries (including agricultural produce industries and stock and sale yards); and
- Retail premises (including roadside stalls and cellar door premises).

Note: Although permissible in some rural areas, controls for vehicle repair stations, educational establishments, places of public worship, cemeteries, crematoriums and funeral homes can be found in the chapter on 'Other Land Uses' of this DCP.

B. General Objectives

- a) To ensure that the bulk and scale of structures do not adversely affect the visual amenity and scenic quality of an area;
- b) To discourage the siting of developments in the rural zones which in Council's opinion would be more appropriately located in industrial, business or special uses zones;
- c) To protect the viability of agricultural land uses in rural and environmental zones;
- d) To ensure that traffic generated by any development does not adversely affect the safety and efficiency of the road network, access or rural amenity; and
- e) To prevent the establishment of uses which have the potential to impact upon the rural and residential environment, particularly with regard to noise and traffic generation.

1.5.1 Rural Amenity and Design

A. Background

This section aims to provide a number of general principles for non-agricultural development in the rural areas. In particular, it seeks to protect the rural character and amenity, and avoid unnecessary conflicts between inconsistent land uses.

B. Objectives

- a) To protect the heritage and environmental values of the area;
- b) To protect rural amenity against unreasonable noise, dust, odour, etc.; and
- c) To avoid unreasonable increases in demand on existing services and infrastructure.

C. Controls

1) Rural Amenity

- a) Non-agricultural developments must demonstrate the following:
 - i) There will not be significant visual impacts from either the main activity or associated activities on the rural area or adjacent properties; and
 - ii) The development will achieve the noise control standards established by the NSW Office of Environment and Heritage or relevant authority.

2) Design

- a) Structures associated with any use shall be designed with regard to the rural character of the area and the form and scale of buildings on rural land surrounding the site.
- b) Bulky buildings of industrial character are not favoured.

- c) Structures on sites adjoining the villages should relate to the character of the village.
- d) Buildings used for non-agricultural purposes also need to comply with the controls in Section 1.3 'Farm Buildings', unless specifically stated.

1.5.2 Home Businesses and Home Industries

A. Background

Home businesses include, for example, small home office-based businesses (such as private consultants) that employ limited assistance. This use aims to support 'start-up' businesses and small scale employment opportunities close to home. Home industries include, for example, small-scale businesses for the repair of electronic goods or furniture restoration.

B. Objectives

- a) To allow home businesses and home industries which promote employment opportunities and the economic use of rural land for the benefit of the owner or occupier; and
- b) To discourage uses which have the potential to adversely affect the amenity of a locality.

C. Controls

1) Design and Operation

- a) Structures for the accommodation of the use should relate to the dwelling and other structures on the property and must comply with the design controls for dwellings in this DCP.
- b) Buildings detached from the primary dwelling should be clustered in close proximity to the primary dwelling.
- c) Measures to mitigate impacts, particularly noise, are to be outlined in the development application. It should be noted that uses which have an adverse impact on surrounding properties would not comply with the definition of home business or home industry in Penrith LEP 2010, and therefore would not be permissible.

2) Services

- a) Uses which require amplification of services above domestic capacity will generally not be permitted.

3) Advertising and Signage

- a) Home businesses and industries should only provide building and business identification signs that are in keeping with the rural character and the low scale nature of the operation. In many cases, this signage can be undertaken as exempt development. Applicants should refer to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 for further details.

4) Traffic and Parking

- a) Developments which generate significant amounts of traffic will not be permitted. Parking must be provided on-site for visitors.

1.5.3 Tourist and Visitor Accommodation

A. Background

Tourist and visitor accommodation includes a range of accommodation forms, some of which are encouraged in rural areas, while others are not.

This section provides controls for smaller styles of tourist and visitor accommodation generally up to 20-30 guests. If the proposal is for more than 30 guests on-site, this is likely to require access to public transport and centralised water and sewerage systems, and would be more appropriate in a different zone. Rural areas are most appropriate for bed and breakfast accommodation and other forms of small scale tourist and visitor accommodation.

B. Objectives

- a) To allow a variety of small scale tourist and visitor accommodation at suitable locations;
- b) To ensure that satisfactory arrangements are made for the accommodation of vehicles and traffic associated with the use; and
- c) To ensure that structures associated with the use are compatible with the rural character and environmental capability of the area.

C. Controls

1) Design and Landscaping

- a) Structures and landscaping associated with the development should be designed to harmonise with the rural character.
- b) The controls listed in this Chapter relating to rural dwelling design and/or farm buildings are applicable to the design of all tourist and visitor accommodation.
- c) External finishes should be selected with a view to minimising the visual prominence of the development.

2) Waste Management

- a) The anticipated method of operation should be described with any application to determine the appropriate method of waste disposal/management.

1.5.4 Rural Industries

A. Background

Rural industries, in general, are not permissible in rural and environmental zones. However, agricultural produce industries and stock and sale yards are permissible with consent in some rural zones.

B. Objectives

- a) To ensure odour and noise do not impact significantly on the amenity of neighbouring properties and uses;
- b) To ensure adequate management of water on-site to promote sustainable water use and avoid contamination of water or land systems;
- c) To ensure appropriate management of wastes; and
- d) To provide adequate access and parking.

C. Controls

- 1) All buildings associated with rural industries must comply with the requirements of Section 1.3 for farm buildings, with the exception of floor space.
- 2) Reflective materials should not be used. Colours of any buildings associated with rural industries should be consistent with the colours of other structures on the land, or designed to minimise visual impact.
- 3) Rural industries shall not operate prior to 6.00am or after 5.00pm on weekdays, or prior to 6.00am and after 2.00pm on Saturdays. No noise shall be generated on Sundays.
- 4) Sheds, packing areas or holding yards associated with a rural industry must be separated from dwellings on adjacent properties. Separation must be sufficient to minimise impact, particularly due to noise and odour. Distances may vary depending on the nature of the industry and the potential for impact. Development applications must contain information on how separation will be achieved and how it will mitigate likely impacts from the industry.
- 5) Adequate access and parking arrangements must be made for trucks and employees. All vehicles are to be able to enter and leave the site in a forward direction.
- 6) Appropriate arrangements must be made for waste disposal. The applicant must provide details of the rates of waste likely to be generated and the proposed method of disposal.
- 7) Rainwater tanks shall be installed to collect water from all buildings associated with a rural industry. Where appropriate, this water shall be reused as part of the industry processes, or for truck washing or dust suppression.
- 8) All runoff from the site shall be managed so as to not cause a nuisance to adjoining downstream properties or pollution to waterways. This may require holding runoff in ponds to allow for treatment of nutrients or sediments.
- 9) The size of sheds and hardstand areas shall be appropriate for the use and the character of the area. Generally, no more than 30% of the site shall be covered by sheds or hardstand areas.
- 10) Where trucks are likely to visit the site on a daily basis and will travel on unsealed areas of the site, a washdown area shall be provided at the exit to the site. Where possible, water for this washdown area shall be sourced from rainwater tanks and recycled.

1.5.5 Retail Premises

A. Background

Retail premises that are permissible with consent in the rural areas include:

- Roadside stalls and cellar door premises in some rural zones;
- Neighbourhood shops in the RU5 Village zone; and
- Retail premises, including food and drink premises, in the commercial centres of the RU5 Village zone (see Schedule 1 Additional permitted uses of the LEP).

B. Objectives

- a) To ensure that traffic generation does not adversely affect the safety and efficiency of the local road system;
- b) To ensure the development provides adequate access and parking;

- c) To encourage the establishment of structures which are consistent with the rural character of the locality of the site;
- d) To allow roadside stalls and cellar door premises for the purpose of selling hand crafted goods and agricultural produce produced on the property;
- e) To ensure that roadside stalls and cellar door premises are located where the safety and efficiency of the road system is not impaired; and
- f) To ensure that buildings, structures and advertising associated with the uses do not impact on the rural or landscape character or scenic qualities of the area.

C. Controls

1) Location and Safety

- a) Roadside stalls and cellar door premises will only be permitted where the safety and efficiency of the road system is not impaired.
- b) In the interest of traffic safety, sites with poor visibility for vehicles will be discouraged.
- c) Parking and structures associated with the use are to be fully contained on the applicant's property.
- d) Buildings and structures should be setback a minimum of 20m from the front property boundary at the road frontage.

2) Size and Design

- a) Roadside stalls are limited to a maximum of 20m² in floor space including storage areas.
- b) The stall shall be constructed of a material approved by Council. Light coloured and reflective materials will not be permitted.
- c) Cellar door premises are to be incorporated into farm buildings and must be in accordance with the controls in Section 1.3 for farm buildings in this Plan.

3) Access and Parking

- a) The size of the retail component will determine the amount of parking to be provided on site.
- b) Access areas are to be stabilised or sealed depending on local drainage conditions.
- c) Parking shall be provided on site in a manner which discourages on street parking.
- d) The parking for cellar door premises should be located in close proximity to the sales area within the property and not on the road verge.

4) Business Identification Signs

- a) A maximum of two business identification signs may be placed on the property for the duration of the sale season of the product.
- b) Business identification signs should not be placed on the road reservation or on nearby properties.
- c) The size of the sign will be examined on merit and details should be included with the development application.
- d) Signage should not impact on the rural character, landscape character or scenic qualities of the area.

1.5.6 Truck Parking Areas

A. Background

The use of rural properties (particularly large lot residential and rural living areas) for the purpose of parking a number of trucks or plant equipment is becoming increasingly common, and has significant impact on the amenity of the surrounding area. This equipment is often large and noisy and is sometimes operated at night in close proximity to other dwellings and sensitive adjacent land uses.

Truck parking areas may only be undertaken in rural zones as exempt development. Schedule 2 Exempt development of LEP 2010 includes criteria for truck parking areas. These criteria are designed to ensure that parking for trucks and associated plant has a minimal impact on surrounding properties.

B. Objectives

- a) To allow limited parking of trucks and associated plant owned and operated by the owner or occupier of a property; and
- b) To limit interference on the amenity of the neighbourhood through limited vehicle movements and associated impacts such as noise and light.

C. Controls

- 1) Truck parking areas may only be undertaken in RU1, RU2, RU4, E3 and E4 zones as exempt development. Schedule 2 Exempt development of LEP 2010 contains the criteria for truck parking areas.
- 2) Truck parking areas that do not satisfy the criteria in Schedule 2 are prohibited.

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D2 Residential Development

2.1. Single Dwellings

The following developments are covered by this section:

- a) single dwelling development; and
- b) alterations and additions to existing single dwelling development.

This section provides specific controls for single dwellings in addition to the general controls elsewhere in this DCP.

2.1.1 Residential Character



The residential character of any neighbourhood is determined by:

- 1) Location and density of development:
 - a) proximity to busy centres or major roads
 - b) residential density and mix of housing types
 - c) proximity to heritage precincts
 - d) frontage to public parks.



- 2) The local landscape and its configuration:
 - a) flat or sloping;
 - b) well-vegetated or cleared;
 - c) frontages to streams or the Nepean River.



3. Predominant patterns of planning and design
 - a) displayed by local buildings and their gardens;
 - b) setbacks and building separation;
 - c) height, scale and bulk;
 - d) garaging;
 - e) articulated forms and varied plantings.

A. Objectives

The objectives of this Section are:

- a) To establish overall guidelines for environmentally appropriate development
- b) To adopt the form and character of established neighbourhoods to guide environmentally appropriate design and development; and to stimulate a vibrant streetscape that preserves traces of Penrith's past.
- c) To ensure that new development does not detract significantly from the quality and amenity of existing dwellings and private gardens.

2.1.2 Setbacks and Building Envelope

A. Objectives

Building setbacks and envelopes are established to:

- a) reflect the character of established garden suburbs,
- b) provide for establishment of vegetation and reasonable separation between buildings
- c) To provide a high level of visual and acoustic privacy for residents and neighbours in dwellings and private open space.
- d) To ensure that building design minimises overlooking problems
- e) achieve site-responsive development
- f) protect the amenity of occupants by controlling:
 - i) visual impacts relating to height and bulk of buildings;
 - ii) the impact of loss of privacy, overshadowing and loss of views.

B. Controls

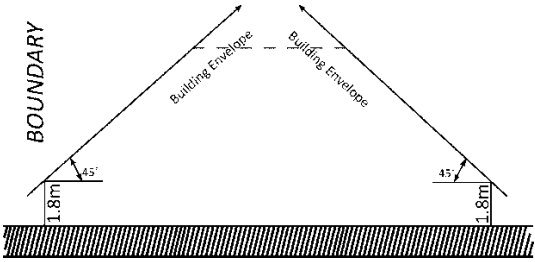
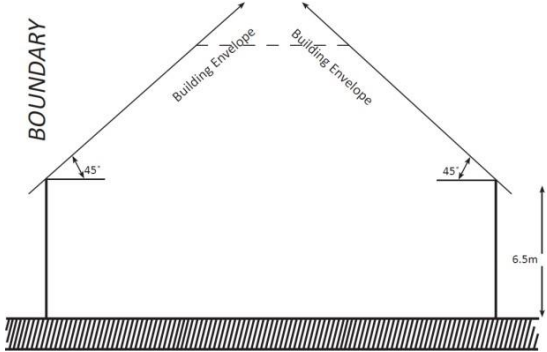
1. Minimum front and side setbacks:

- a) Front setback is the greater of either
 - i) 5.5m, or
 - ii) The average of the setbacks of the adjoining properties
- b) Front setbacks for corner sites are;
 - i) Primary street frontage (measured on the shortest boundary, as in a) above
 - ii) Secondary street frontage is 3m to external walls and 5.5m to garage entrances. verandahs and pergolas are permitted to encroach 1.5 m beyond the adopted setback
- c) Encroachments to front setbacks
 - i) Verandahs and pergolas are permitted to encroach 1.5m beyond the setback to the primary street frontage
 - ii) Garages, carports and parking spaces, other than stacked parking or driveways, are not permissible within the front setback
- d) Side setbacks to external walls should be a minimum of 900mm.
- e) Rear setbacks
 - i) The minimum rear setback for a single storey building (or any single storey component of a building) is 4m
 - ii) The minimum rear setback for a two storey building (or any two storey component of a building) is 6m
 - iii) Minor, partial or point encroachments into the above rear setbacks may be considered on irregular shaped lots
 - iv) Rear setback areas are to be used predominantly for the provision of a landscaped area
- f) Exceptions to rear setbacks - consideration may be given to the erection of a non-habitable building or structure that does not comply with the minimum setback requirements if it can be demonstrated it will have minimal adverse impact on the subject property or any adjoining property.

2. Building Envelope

- a) Development is to be contained within the building envelope for the site. As shown in Figure D2.1 below, the building envelope means a height plane over the site at 45° from a specified height above natural ground level at the side boundaries of the site.

Figure D2.1: The building envelope is measured from natural ground level perpendicular to the side boundary at any given point along the wall.

Zone	Maximum building envelope
R2 Low Density Residential	 <p>The diagram illustrates the maximum building envelope for R2 Low Density Residential. It shows a cross-section of a lot with a hatched ground level. A vertical line on the left is labeled 'BOUNDARY'. Two diagonal lines representing the 'Building Envelope' slope upwards from the ground level at a 45-degree angle. The horizontal distance from the boundary to the start of the envelope is marked as 1.8m. The envelope lines meet at a peak in the center of the lot.</p>
R3 Medium Density Residential	 <p>The diagram illustrates the maximum building envelope for R3 Medium Density Residential. It shows a cross-section of a lot with a hatched ground level. A vertical line on the left is labeled 'BOUNDARY'. Two diagonal lines representing the 'Building Envelope' slope upwards from the ground level at a 45-degree angle. The horizontal distance from the boundary to the start of the envelope is marked as 6.5m. The envelope lines meet at a peak in the center of the lot.</p>

- b) Encroachments – consideration may be given to minor encroachments to the building envelope for:
- i) Eaves and gutters
 - ii) Chimneys and antennas
 - iii) Pergolas, or
 - iv) Where it is demonstrated the encroachment is necessary to improve the design, external appearance or utility of the building and the variation will not impact adversely on the amenity of an adjoining property.

2.1.3 Development on Sloping Land

A. Objectives

- a. To ensure that development responds to topographical constraints.
- b. To minimise the bulk and scale of dwellings on steep slopes.
- c. To minimise the amount of cut and fill on sloping land.

B. Controls

- 1. The subdivision layout on cross slopes should incorporate wider/larger lots on steeper

land.

2. Floor levels/building platforms are to be stepped in response to the existing topography of the site.
3. Excavation or filling for the purpose of erecting a dwelling or ancillary development should not exceed 600mm in depth as measured from natural ground level.
4. Ground floor levels are to be a maximum of 800mm above natural ground level.
5. All retaining walls forward of the garage line must be constructed with masonry materials and finished to complement the house design.
6. With the exception of corner lots, where slopes exceed 10%, retaining walls may exceed 1m in height for a side boundary and 1.8m in height for a rear boundary, if comprehensive site benching is undertaken at the time of subdivision to produce a whole of site solution.
7. Lots with a side cross slope exceeding 5%, must respond to the slope of the land with either split level, drop edge beam, or bearer and joist design (or a combination of these).
8. Where front to back slopes are steep (i.e. approximately greater than 9%) house designs must respond to the topography of the land with either split level, dropped edge beam, or timber frame floor (bearer and joist) design - or a combination of these.
9. Garden retaining walls within lots are not to exceed 0.9m in height. Any remaining slope is to be graded out.
10. On lots sloping downhill to the street, dwellings shall be designed and constructed to achieve driveway and access gradients of no greater than 20% slope. This may be achieved by cutting the garage space into the slope within the building footprint. Dwellings should be terraced down the slope with activating features such as decks or balconies facing the street.
11. On lots sloping downhill from the street, dwellings shall be designed and constructed to optimise filling to achieve driveway and access gradients of no greater than 20% slope. This may be achieved by elevating garage and entry features within the building footprint. Dwellings should be terraced down the slope with features such as decks and balconies located towards the rear of the dwelling.
12. On lots sloping downhill from the street, the privacy of adjoining dwellings down slope should be preserved by providing screening vegetation between observable platforms and adjoining private open space areas, or integrating features such as timber screens to decks, or partially opaque windows where privacy is essential and screening vegetation is impractical.

2.1.4 Landscaped Area

A. Objectives

- 1) To retain a reasonable proportion of each site for landscaped garden areas,
- 2) To conserve significant existing vegetation, and
- 3) To provide appropriate separation between neighbouring dwellings and preserve private open space corridors along rear fence lines.

B. Controls

1) The minimum landscaped area of a site is:

Zone	Minimum landscaped area % of the site
R1 Residential General	40
R2 Low Density Residential	50
R3 Medium Density Residential	40
R4 High Density Residential	35

2) Calculation of landscaped area does not include areas of the site;

- a) Less than 2m in width
- b) Hard surface areas such as buildings, driveways and paved areas.

3) Calculation of landscaped area may include up to 15m² of any verandah, deck or patio that is attached to a dwelling at ground floor level and is associated with a landscaped area that is designated open space for that dwelling

4) A portion of the landscaped area should be connected to or directly adjacent to a living area of the dwelling.

2.1.5 Building Design/Site Works

A. Objectives

- 1) New buildings should show characteristics of established suburban neighbourhoods with;
 - a) dwellings oriented to face the street,
 - b) building forms that are stepped or articulated,
 - c) development that relates to the shape of the surrounding garden areas, and
 - d) development that does not detract significantly from the privacy and amenity of existing dwellings and private gardens.
- 2) Dwellings should be surrounded by private gardens, their facades should display a variety of materials and shading structures,
- 3) Garages should be integrated with the overall architectural form of the dwelling and designed so as not to dominate the street frontage.
- 4) Development responds to topography of the site and minimizes site disturbance.

B. Controls

1) Articulation

- a) "Articulate" all building forms and facades:
 - i) stepping floor plans should be capped by a variety of roof forms and pitches;

- ii) every elevation should incorporate windows;
 - iii) walls should be overhung by shady verandahs, awnings and carports.
- 2) Bulk and Scale
 - a) Two storey buildings to be designed as a combination of one and two storey elements with a variety of setbacks from boundaries
 - b) External walls are not to be longer than 8m between distinct corners or features such as projecting verandahs and awnings or banks of windows.
 - c) All balconies and decks higher than 800mm above existing ground level shall incorporate privacy measures such as screening or landscape planting.
- 3) Design
 - a) Dwellings should front the street, and display a traditional configuration with:
 - i) The front door and a window to a habitable room facing the street
 - ii) Garages integrated within the building façade
 - iii) The size of driveways minimised, retaining sufficient area for landscaping of front gardens
- 4) Garages
 - a) Must be setback at least 1m behind the building line of the dwelling
 - b) The total width of all garage doors facing a primary or secondary road frontage must not exceed;
 - i) If the lot has a width less than 15m measured at the building line – 4.8m
 - ii) If the lot has a width of more than 15m measured at the building line – 6m.
- 5) Corner Lots

Development on corner lots is to be designed and orientated so as to address both street frontages and include appropriate design features and articulation.
- 6) Parking
 - a) Parking is to be provided at the rate of:
 - i) A minimum of one space behind the building alignment
 - ii) Two spaces for each dwelling with two or more bedrooms, at least one of which is located behind the building alignment. Stacked parking is acceptable for additional spaces.

2.1.6 Solar Planning

A. Objectives

- a. Improve the energy efficiency of dwellings and achieve a high standard of residential amenity.
- b. To ensure adequate residential amenity through the provision of sunlight access and good solar amenity to the living spaces and private open space areas of dwellings.
- c. To recognise the reasonable expectation for a dwelling to have the ability to access sunlight.

B. Controls

- 1) Demonstrate that dwellings meet acceptable solar standards and that existing neighbouring and proposed private open spaces receive adequate solar access:
 - a) maximise potential for solar gain by placing windows in all exterior walls that are exposed to northern sun;
 - b) ensure that the proposed development provides a minimum of 3 hours sunlight between 9am and 3pm on 21 June, to living zones of the dwelling, and the living zones of any adjoining dwellings;
 - c) ensure that the proposed development provides a minimum of 3 hours sunlight between 9am and 3pm on 21 June, to 40% of the main private open spaces of the dwelling and main private open spaces of any adjoining dwellings, and
 - d) where existing overshadowing by buildings and fences reduces sunlight to less than this, sunlight is not further reduced by more than 20%.

2.1.7 Garden Design and Fences

A. Objectives

Gardens should be landscaped, surrounded by fences that enable surveillance of public places and are compatible with neighbourhood character.

B. Controls

- 1) Retaining walls:
 - a) generally should be no taller than 600mm;
 - b) should be separated from any associated fence by a planter-bed at least 500mm wide, minimising the apparent overall height of fencing;
 - c) should be separated from any driveway by a landscaped verge at least 500m wide, to prevent impact damage from vehicles.
- 2) Fencing;
 - a) Meets the requirements of the Dividing Fences Act 1991
 - b) Fences should be generally no taller than 1.8m or up to 2.4m on sloping sites, including the height of any retaining wall.
 - c) Fences along boundaries forward of the front building alignment should not be taller than 1.2m and consist of see-through construction;
 - d) Fences along shared driveways or fronting a public park should be 1m tall, or if taller, of see-through construction.
 - e) Fences in any location that can be seen from the street or fronts a public park frontage should not be constructed of solid metal panels.
 - f) If frontage is to a noisy thoroughfares solid masonry walls are acceptable to a maximum of 1.8m if corners and planting beds are incorporated every 5m.
 - g) Fencing of a "see-through Construction" includes panels set into a timber frame or between brick piers, where:
 - h) Any solid base is not taller than 600mm; and
 - i) Panels are spaced timber pickets or palings, or palisade fencing.

- 3) The rear boundary setback should provide:
 - a) The principal area of private open space;
 - b) a corridor of habitat, and a green backdrop that is visible from the street;
 - c) conservation for any existing corridor of mature trees; and/or
 - d) an interlocking canopy of low to medium-height trees and shrubs; predominantly species indigenous to the soils of Penrith City.
- 4) Planting along side boundaries is to provide small-to medium height canopy trees for sun-shading and privacy separation between neighbouring dwellings and yards;
- 5) Planting along narrow service areas is to provide feature plantings of ground covers pavers or an alternative water-permeable material such as river pebbles.
- 6) Street frontages are to;
 - a) be sympathetic to the natural setting and character in form materials and colour; and
 - b) incorporate mixed species of trees, shrubs, and accent plantings including flowers, ground covers and turf;
 - c) along noisy thoroughfares: noise attenuation with an interlocking canopy formed by at least two rows of trees under planted with dense hedges.
 - d) maximize natural surveillance from the street to the building and from the building to the street.

2.1.8 Significant Landscapes

A. Background

- 1) Across Penrith, there are many significant natural landscape precincts including:
 - a) frontages to the Nepean River;
 - b) escarpment footslopes in Leonay and Emu Heights;
 - c) the Cranebrook escarpment;
 - d) Glenmore Park, adjacent to the Mulgoa Nature Reserve;
 - e) wooded hillsides in South St Marys;
 - f) individual streetblocks identified by Council's Register of Significant Trees and Gardens; and
 - g) in Kingswood: Werrington Creek.
- 2) Across Penrith there are several significant landscape precincts such as parklands and open space corridors including:
 - a) parklands and open space corridors:
 - b) corridors along South and Ropes Creeks;
 - c) Chapman Gardens, Kingswood; and
 - d) Victoria Park, St Marys.

B. Objectives

In areas of particular significance to natural conservation or high environmental character, new development should demonstrate detailed design measures to protect that conservation significance or character.

C. Controls

For sites located within significant landscapes:

- 1) maintain natural topography and features such as rock outcrops;
- 2) preserve established trees, preferably as blocks or corridors of several trees;
- 3) ensure that long term survival of established trees is not affected by the location of buildings and pavements or construction works;
- 4) preserve clusters of established trees as blocks or corridors;
- 5) consider a wider side boundary setback as landscaped corridor to preserve trees and provide vistas between neighbouring buildings;
- 6) on sloping sites garages may be located at street-level within the front set-back, subject to an "open" design similar to a screened carport;
- 7) on sloping sites dwellings should be split-level designs, with the lowest floor level no higher than 1m above natural ground level;
- 8) in general, new plantings should be species indigenous to the local soil type, reinforcing visual and habitat values.

2.1.9 Significant Townscapes

A. Background

Across Penrith, there are many significant townscape precincts, including:

- a) heritage conservation areas of Lemongrove and Derby Street;
- b) the Warwick Street neighbourhood;
- c) the "Duration Cottages" in St Marys;
- d) surrounding Cook Park, St Marys South;
- e) the "Permanent Cottage Area", St Marys North;
- f) post-war subdivision, St Marys North;
- g) other areas identified in the Penrith Heritage Study.

B. Objectives

In areas of particular significance to urban conservation, new development should demonstrate detailed design measures that protect heritage significance or character.

C. Controls

- 1) In neighbourhoods with townscape significance, new dwellings should:
 - a) adopt the predominant width, height, scale and stepping of floorplans that are characteristic of existing buildings;
 - b) adopt roof pitches and forms that match neighbouring buildings;

- c) minimise the width and area of driveways visible from public frontages, and conceal garages from public frontages;
 - d) incorporate simple detailing of building forms and openings, rather than attaching "stuck-on" details to gable ends and verandahs;
 - e) incorporate garages that are either concealed behind new buildings, or designed like a screened verandah;
 - f) conserve vegetation that has visual or historical significance.
- 2) For redevelopment of sites that have an existing cottage the existing dwelling wherever possible should be maintained and alterations should be designed so that they are sympathetic to the character or heritage value of the original building by:
- a) maintaining the general configuration of surrounding garden areas and setbacks from side boundaries;
 - b) with additions located to the rear of the existing building; and
 - c) within or behind the original roofline; or
 - d) capped by a new roof matching the pitch and form of the original;
 - e) consider verandahs and awnings to screen elevations and reduce the scale of new walls.

2.2 Dual Occupancies

The following developments are covered by this section:

- a) dual occupancy development; and
- b) alterations and additions to existing dual occupancy development.

This section provides specific controls for dual occupancy development in addition to the general controls elsewhere in this DCP.

2.2.1 Residential Character

A. Background

The residential character of any neighbourhood is determined by:



- 1) Location and density of development:
 - a) proximity to busy centres or major roads;
 - b) residential density and mix of housing types;
 - c) proximity to heritage precincts;
 - d) frontage to public parks.



- 2) The local landscape and its configuration:
 - a) flat or sloping;
 - b) well-vegetated or cleared;
 - c) frontages to streams or the Nepean River.



3) Predominant patterns of planning and design, displayed by:

- a) local buildings and their gardens;
- b) setbacks and building separation;
- c) height, scale and bulk;
- d) garaging;
- e) articulated forms and varied plantings.

2.2.2 Preferred Configuration for Dual Occupancy Development

A. Objectives

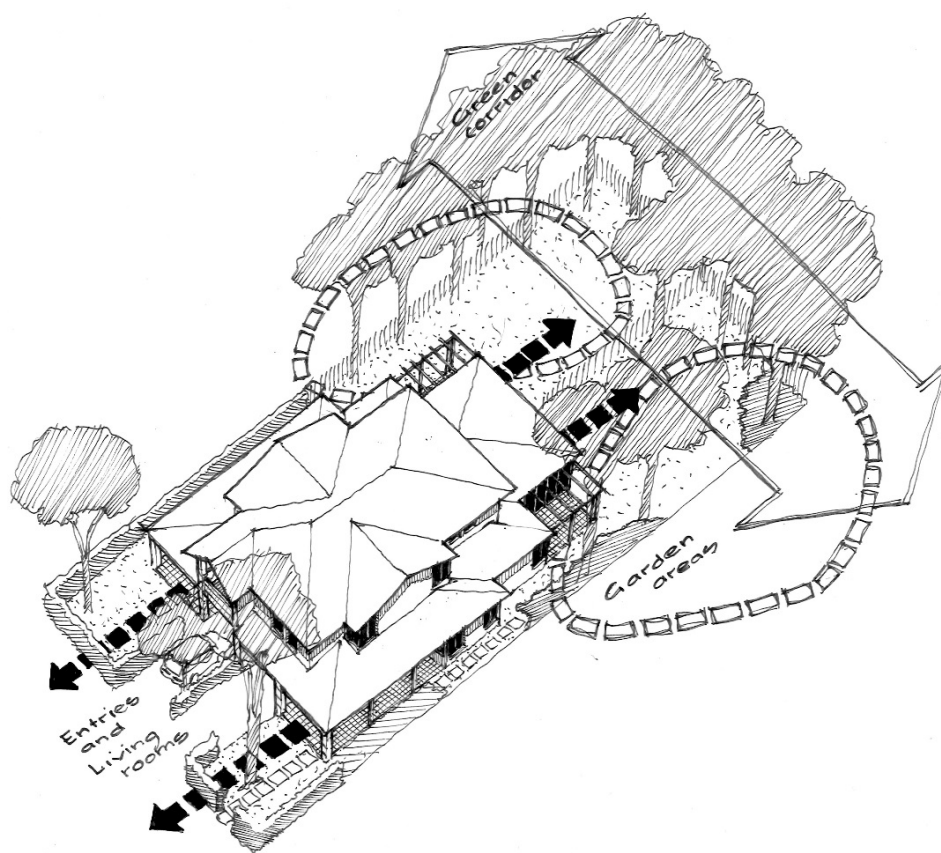
- 1) Dual occupancies should adopt key features of established suburban design.
- 2) Two dwellings fronting the street, with their entrances, the windows to principal living rooms and private gardens facing the street or rear boundary, as seen in figure D2.2.

B. Controls

- 1) New development should incorporate the traditional configuration of the cottages and cottage gardens that define the character of Penrith's established neighbourhoods, because:
 - a) traditional development demonstrates social and urban design benefits, particularly the orientation of dwellings and their private open spaces towards the street rather than overlooking neighbouring dwellings and gardens;
 - b) patterns of buildings and private gardens in established neighbourhoods have visual and symbolic richness that are valued by their community;
 - c) the use of traditional features softens the popular perception that redevelopment is changing the traditional character of Penrith City.
- 2) There are several possible types of dual occupancy development:
 - a) attached: as semi-detached pairs fronting the street, or one dwelling set behind another;
 - b) detached: either two dwellings fronting the street, or one dwelling set behind another.
- 3) In order to reflect patterns of traditional development, the preferred configuration for dual occupancies involves a "green corridor" of trees and shrubs along rear boundaries:
 - a) conserving remnant vegetation;
 - b) providing new shelter and habitat;
 - c) contributing to streetscape; and
 - d) providing a green outlook for dwellings.

- 4) In order to reflect patterns of traditional development, the preferred configuration for dual occupancies involves Substantial back garden areas:
 - a) adjoining neighbouring back yards;
 - b) surrounded by stepping building forms, predominantly of a single storey.
- 5) In order to reflect patterns of traditional development, the preferred configuration for dual occupancies involves garages integrated with the design of buildings and front gardens:
 - a) allowing living areas and entrances to remain visible from the street;
 - b) maximising the area available for front garden plantings.

Figure D2.2



2.2.3 Alternative Configuration for Dual Occupancy Development.

A. Background

Dual occupancy development might also involve retention and renovation of an existing dwelling. In that situation, the new dwelling may be sited behind the dwelling to be retained. Because this form of development replaces the back-yard with a new dwelling, it is not entirely consistent with traditional suburban design. Nevertheless, the potential for undesirable visual and amenity impacts can be minimised by adopting features that are typical of traditional development.

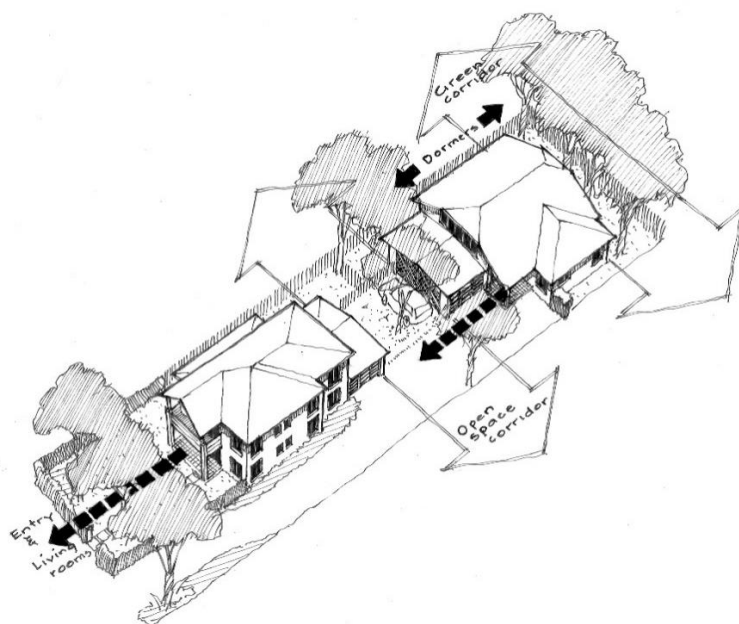
B. Objectives

Both dwellings, their entrances, the windows to their principal living rooms and private gardens face the street or the rear boundary.

C. Controls

- 1) Where dual occupancy development involves two dwellings placed one behind the other a "green corridor" of trees and shrubs along rear boundaries (as shown in figure D2.3):
 - a) conserving remnant vegetation;
 - b) providing new shelter and habitat;
 - c) contributing to streetscape; and
 - d) providing a green outlook for dwellings.
- 2) Where dual occupancy development involves two dwellings placed one behind the other buildings should be separated by a corridor of open space to:
 - a) lined with shady trees;
 - b) as garden courtyards; or
 - c) open car-parking courts.
- 3) Where dual occupancy development involves two dwellings placed one behind the other parking areas are to be concealed from the street to avoid the appearance of "garage architecture".
- 4) Where dual occupancy development involves two dwellings placed one behind the other verandahs and private garden courts are required to fill the front garden to:
 - a) encourages active use by residents;
 - b) provides for attractive street-frontages.

Figure D2.3



How much floor space is appropriate to your site

2.2.4 Urban form

A. Objective

New buildings should show characteristics of traditional suburban development: dwellings oriented to face the street, building forms stepped or articulated, and integrated with the shape of surrounding garden areas.

B. Controls

- 1) Both dwellings should front the street, and display a traditional orientation with:
 - a) a semi-detached configuration, and an individual architectural appearance for each dwelling (that is, non-symmetrical); and
 - b) living rooms and entrances facing the street rather than neighbouring properties; and
 - c) extensive private gardens to the rear adjacent to neighbouring yards; and
 - d) garages integrated within the building façade, ensuring that at least one principal living room and the entry to each dwelling are visible from the street; and
 - e) the size of driveways minimised, retaining sufficient area for attractive front gardens.
- 2) For any dwelling behind the street frontage:
 - a) a single storey appearance; and
 - b) living rooms, entrances and any dormer windows should face the street and / or the landscaped rear boundary setback; and
 - c) private gardens fill the rear setback; and
 - d) conceal garages from the street
- 3) Avoid "gun-barrel" style developments with long buildings, long straight driveways and rows of uniform width garden courtyards:
 - a) for attached dwellings, use stepped walls to cast shadows and reduce apparent scale of buildings;
 - b) for detached buildings that are set one behind the other, separate each building by an "open space corridor" at least 4m wide running across each site:
 - a combination of garden areas and parking courtyards; or
 - open parking spaces lined by an "avenue" of shady, overhanging trees;
- 4) "Articulate" all building forms and facades by design measures that cast deep shadows across every elevation:
 - a) external walls should not be longer than 5m between distinct corners;
 - b) use a variety of roof forms and pitches;
 - c) provide windows in every elevation;
 - d) use a variety of shady verandahs, awnings and car-ports.

2.2.5 Front and Rear Setbacks

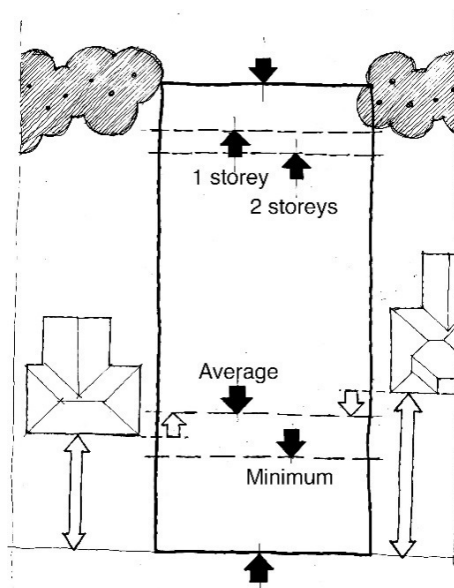
A. Objective

Setbacks are to reflect the character of established garden suburbs, and provide for development of flora and fauna corridors (as shown in figure D2.4).

B. Controls

- 1) Development must be within the development footprint which is determined by the maximum development footprint for your site by:
 - a) The minimum rear setback for a single storey building (or any single storey component of a building) is 4m.
 - b) The minimum rear setback for a two storey building (or any two storey component of a building) is 6m.
 - c) Adopting an average 6m rear setback on irregular shaped allotments; and
 - d) Adopting a front setback that matches the neighbourhood character.
- 2) Within the rear boundary setback:
 - a) there shall be no building encroachments either above or below ground (eaves excepted);
 - b) maximise the amount of undisturbed soil, encouraging rapid growth of healthy trees and shrubs;
 - c) where there are physical encumbrances such as open drains, increase the setback accordingly.
- 3) Determine an appropriate front setback:
 - a) either average the setbacks of
 - b) the immediate neighbours; or
 - c) adopt a 5.5m minimum whichever is the greater dimension;
 - d) and provide extensive landscaping within the front setback area.
- 4) Permissible encroachments within the front setback are:
 - a) verandahs and pergolas only;
 - b) with a maximum 1.5m encroachment.
- 5) Garages and parking spaces are not permissible within the front setback, other than stacked parking or driveways leading to a garage.

Figure D2.4



2.2.6 Building Envelope and Side Setbacks

A. Objective

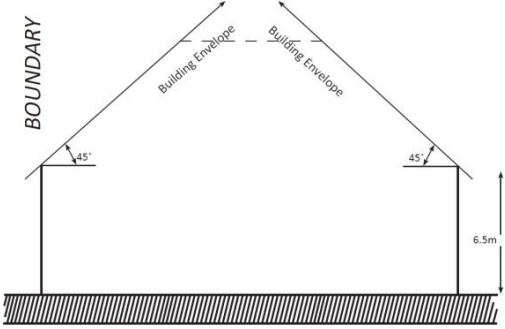
Comply with building envelope controls, minimise disturbance to existing topography and natural soil-profiles, and provide for reasonable landscaped separation between neighbouring buildings.

B. Controls

- 1) Development is to comply with the building envelope for the site. The building envelope means a height plane over the site at 45 degrees from a specified height above natural ground level at the side boundaries of the site, as shown in Figure D2.5.

Figure D.2.5: The building envelope is measured from natural ground level perpendicular to the side boundary at any given point along the wall.

Zone	Maximum building envelope
R2 Low Density Residential	

Zone	Maximum building envelope
R3 Medium Density Residential	

- 2) The building envelope, and the apparent rise in storeys and external wall heights, shall be measured relative to:
 - a) side boundaries only; and
 - b) existing ground level.
- 3) Only minor encroachments through the building envelope shall be permitted:
 - a) eaves to main roofs;
 - b) chimneys and antennas;
 - c) pergolas.
- 4) Cut and fill and ground floor heights are restricted by the following:
 - a) provide stepping building platforms in line with existing topography with floors no higher than 1m above natural ground level;
 - b) restrict cut-and-fill to a maximum of 500mm;
 - c) provide effective sub-soil drainage.
- 5) Pitches for main roofs are to be in accordance with the following:
 - a) for single-storey dwellings: not greater than 35 degrees, providing for attic rooms;
 - b) for two storey dwellings: not greater than 25 degrees, in order to reduce the visual scale of buildings.
- 6) Setbacks from side boundaries should be varied to articulate walls to side boundaries by the following:
 - a) maximise setbacks (and landscaped area) beside neighbouring cottage back-yards;
 - b) Otherwise, a minimum 900 mm setback at ground level for walls no longer than 10m;
 - c) a greater set-back for second storey walls, consistent with the building envelope.
- 7) Zero setbacks from the side boundary are not permissible except for single garages with an open appearance. In addition these garages are to be no taller than 2.1 m at the boundary.
- 8) For any dwelling placed behind another fronting the street, attic rooms are permissible subject to:
 - a) being within the prescribed building envelope
 - b) within a hipped or gabled roof where the maximum roof pitch is 35 degrees

- c) provided that dormer windows do not face side boundaries.

2.2.7 Driveways and Parking Areas

A. Objective

Provide on-site parking at a level that encourages use of public transport. Minimise the area required for parking, encourage efficient land use and maximise the area available for landscaping and gardens.

B. Controls

- 1) Provide onsite parking in accordance with parking section of this DCP.
- 2) Garages for attached dwellings should:
 - a) occupy not more than 50% of any street frontage;
 - b) flanked by at least one principal living room that faces the street with secondary windows facing the side boundary for light and ventilation.
- 3) For dwellings located one behind the other, driveways should:
 - a) be separated from dwellings by a landscaped verge at least 1m wide;
 - b) where possible, also separated from boundary fences by a landscaped verge;
 - c) prevent adverse long-term effect upon any vegetation that must be preserved;
 - d) provide for effective and healthy landscaping along all site boundaries;
 - e) drain by gravity to Council's stormwater network.

2.2.8 Landscaped Area

A. Objective

Retain a reasonable proportion of each site for landscaped garden areas, conserve significant existing vegetation, and provide reasonable separation between neighbouring dwellings.

B. Controls

- 1) Landscaped areas should be:

Zone	Minimum landscaped area % of the site
R1 Residential General	40
R2 Low Density Residential	50
R3 Medium Density Residential	40
R4 High Density Residential	35

- 2) Landscaped areas should provide:
- a) effective separation between neighbouring dwellings; and

- b) healthy growth of new trees and shrubs; and
 - c) long-term survival of existing vegetation required by Council to be preserved (both on-site and on neighbouring properties); and
 - d) private courtyards for all dwellings and a green outlook; and
 - e) civic gardens along street frontages.
- 3) Landscaped areas are required to:
- a) have a minimum width of 2m and serve as functional spaces;
 - b) should include private courtyards measuring a minimum of 30m²;
 - c) may include verandahs or patios that open directly to private courtyards;
 - d) do not include substantially-paved areas such as buildings, driveways and covered garages;
 - e) that part of any easement exceeding 10% of the site area shall not be included in the landscaped area calculation.

2.2.9 Solar Planning

A. Objective

- a) Improve the energy efficiency of dwellings and achieve a high standard of residential amenity.
- b) To ensure adequate residential amenity through the provision of sunlight access and good solar amenity to the living spaces and private open space areas of dwellings.
- c) To recognise the reasonable expectation for a dwelling to have the ability to access sunlight.

B. Controls

- 1) The applicant must demonstrate that dwellings meet acceptable solar standards and that existing neighbouring and proposed private open spaces receive adequate solar access by:
 - a. Providing shadow diagrams prepared by a qualified technician for all two-storey buildings and additions;
 - b. Illustrating the impacts of proposed development upon existing neighbouring dwellings and their open space areas;
 - c. Demonstrating shadows cast by neighbouring buildings;
 - d. Maximising potential for solar gain by placing windows in all exterior walls that are exposed to northern sun;
 - e. Ensuring that the proposed development provides a minimum of 3 hours sunlight between 9am and 3pm on 21 June, to living zones (ie areas other than bedrooms, bathrooms, kitchen and laundry) of each dwelling, and the living zones of any adjoining dwellings;
 - f. Ensuring that the proposed development provides a minimum of 3 hours sunlight between 9am and 3pm on 21 June, to 40% of the main private open spaces of the dwelling and main private open spaces of any adjoining dwellings; and
 - g. In situations where the existing overshadowing by buildings and fences reduces sunlight to less than the minimums noted above, the development is to not further reduced sunlight to the specified areas by more than 20%.

Urban Design Important Details

2.2.10 Significant Landscapes & Townscapes

A. Background

- 1) Across Penrith, there are many significant townscape precincts, including:
 - a) heritage conservation areas of Lemongrove and Derby Street;
 - b) the Warwick Street neighbourhood;
 - c) the "Duration Cottages" in St Marys;
 - d) surrounding Cook Park, St Marys South; and
 - e) other areas identified in the Penrith Heritage Study.
- 2) Across Penrith, there are many significant landscape precincts including:
 - a) frontages to the Nepean River;
 - b) footslopes to the escarpment in Emu Heights and Leonay;
 - c) Glenmore Park, adjacent to the Mulgoa Nature Reserve;
 - d) wooded hillsides in St Marys South;
 - e) individual streetblocks, such as the block surrounded by Derby, Lethbridge, Doonmore and Evan Streets;
 - f) Cranebrook escarpment.

B. Objective

In areas of particular significance to urban conservation, environmental character, new development should demonstrate detailed design measures that protect and complement heritage significance or character.

C. Controls

- 1) Development of sites located in areas of landscape significance are to:
 - a) maintain natural topography and features such as rock outcrops;
 - b) preserve established trees, preferably as blocks or corridors of several trees;
 - c) ensure that long term survival of established trees is not affected by the location of buildings and pavements or construction works;
 - d) incorporate new plantings that reinforce the visual and habitat values;
 - e) use split-level building designs that step up hillside sites: and
 - f) ensure that the lowest floor level is not higher than 1m above natural ground;
 - g) on sloping sites, garages and parking areas may be located at street-level within the front set-back, subject to an "open" design similar to a screened carport;
 - h) in general, new plantings should be species indigenous to the local soil type, reinforcing visual and habitat values
- 2) In neighbourhoods with townscape significance, new development should:
 - a) conserve vegetation that has visual or historical significance;
 - b) adopt the predominant width, height, scale and stepping of floor plans demonstrated by existing buildings;

- c) adopt roof pitches and forms that match neighbouring buildings;
 - d) minimise the width and area of driveways visible from public frontages, and conceal garages from public frontages (corner sites excepted);
 - e) incorporate simple detailing of building forms and openings, rather than attaching "stuck-on" details to gable ends and verandahs.
- 3) Redevelopment of sites with an existing cottage within a significant landscape or townscape areas are to:
- a) maintain the existing dwelling wherever possible; and
 - b) locate a new dwelling within the former back-yard;
 - c) emphasise the use of verandahs and awnings around all elevations to reduce the scale of long walls.

2.2.11 Corner Sites and Park Frontages

A. Objective

For allotments facing two streets or adjoining a public park, apply traditional principles of orientation and articulation to both of the public frontages.

B. Controls

- 1) measure the building envelope relative to the longest common residential boundary; and
- 2) the rear setback and the averaged front setback may be measured relative to the shortest residential boundary;
- 3) minimum setbacks from the secondary street frontage to external walls is to be no less than 3m
- 4) minimum setbacks from the secondary street frontage to garage entrances is to be 5.5m;
- 5) minimum setbacks from the secondary street frontage to verandahs is to be 3m;
- 6) living rooms, dwelling entrances and verandahs may face either street frontage;
- 7) garages should have an "open" design (similar to screened carports or verandahs), and should architecturally divide each development into two individual dwellings;
- 8) development should appear as two buildings, with facades to both buildings not longer than 20m facing either street (excluding attached garages of an "open" design);
- 9) dormer windows to attic rooms may face either street frontage, but should not overlook a side boundary,
- 10) the area of driveways visible from the street should be minimised, providing for maximum front garden areas;
- 11) garden areas facing the street should be landscaped as private courtyards attached to dwellings.

2.2.12 Building Design

A. Background

The preferred form for dual occupancy development is a pair of dwellings, either attached or detached, that directly face a street frontage.

B. Objective

New developments should appear as individual dwellings surrounded by gardens, with facades that incorporate a variety of materials and shading structures.

C. Controls

- 1) Dormer windows apply traditional design practices including:
 - a) capped by hipped or gabled roofs, within the building envelope, and no taller than the ridgeline of the building's principal roof;
 - b) appear predominantly glazed, or open and have a vertical proportion;
 - c) occupy not more than 25% of any roof measured in elevation;
 - d) meet guidelines for privacy and solar planning; and
 - e) dormer face to sit above the roof plane, i.e. not to rise continuous from ground level.
- 2) Development should demonstrate a variety of architectural features:
 - a) to express the street frontage as two individual dwellings: attached features such as balconies and verandahs;
 - b) to down-play the appearance of garages awnings and balconies that overhang garage entries are to be used and the garage shutters used should incorporate windows, or semi-transparent screens of lattice, battens or similar materials;
 - c) to minimise scale and bulk the alignment of walls should be stepped and corners should be overhung by verandahs or awnings, or broken by windows and doors;
 - d) to accentuate articulation of building forms incorporate a variety of windows and doors in all visible walls, use a range of projecting roofs, awnings and verandahs and provide a combination of building materials: painted and face brickwork, and light-weight cladding.

2.2.13 Energy Efficiency

A. Objective

Dwellings shall be configured and constructed to minimize the energy required for space heating, cooling or lighting.

B. Controls

- 1) All new dual occupancy development should employ construction techniques that provide appropriate thermal mass such as:
 - a) ground floor: slab-on-ground;
 - b) walls: masonry internal walls to ground floor are desirable.
- 2) All new dual occupancy development should adopt an appropriate orientation for rooms and windows including:
 - a) living areas - facing within 30 degrees of solar north is desirable;
 - b) windows - at least 50% of glazing facing solar north is desirable, unprotected glazing facing east, west or south shall be avoided and for every habitable room, windows in two external walls are desirable;
- 3) All new dual occupancy development should provide effective shading from summer sun including:
 - a) Overhanging eaves: at least 450mm wide;

- b) Adjustable exterior shading devices for windows and doors to habitable rooms, and to skylights;
 - c) Pergolas over courtyards.
- 4) All new dual occupancy development should employ effective glazing including:
- a) for any large south-facing window: high performance glass e.g. double glazing in thermal break frames;
 - b) windows and doors facing east, south or west: high performance glass e.g. Double glazing in thermal break frames;
 - c) all windows and external doors: weather-stripping should be used.
- 5) All new dual occupancy development should adopt a configuration for dwellings that promotes cross-ventilation including:
- a) living areas and bedrooms with two external walls for windows;
 - b) particularly important for attic rooms.

2.2.14 Design of Dwellings and Private Courtyards

A. Objective

Dwellings and their private courtyards should achieve high levels of amenity, and demonstrate traditional practices of suburban design

B. Controls

- 1) A reasonable area of private open space should be provided for each dwelling:
 - a) a minimum of 30m²;
 - b) including one area measuring at least 6m by 4m, suitable for outdoor dining; and
 - c) located immediately next to, and level with, living or dining rooms; and
 - d) also incorporating an area for outdoor clothes-drying at least 2m wide, exposed to sunlight and breeze, screened from view by a fence or wall at least 1.8m tall; and
 - e) with access direct to the street or a common driveway through a courtyard at least 2m wide; or via a carport with an open design.
- 2) Landscaped areas should maximise the area available for private courtyards and gardens:
 - a) the front and rear boundary setbacks should be used for private residential gardens;
 - b) common open space should be restricted to the verges of any shared driveway.

C. Controls

- 1) Rooms within a dual occupancy development should have dimensions and an area that:
 - a) can accommodate the range of furniture typically associated with their function; and
 - b) recognise that furnishing options may be restricted by the location of windows and doors;
 - c) acknowledge that access and furnishing options may be restricted by raked attic ceilings;
 - d) provide flexibility to meet the needs of future occupants: for example home business activities and aged residents.

2.2.15 Garage Design

A. Objective

Garages should be designed to serve a variety of purposes, and their appearance should contribute to the overall diversity of building form and design.

B. Controls

- 1) Garage and parking areas should be planned to:
 - a) minimise disruption to traditional or established streetscapes by concealing from the street;
 - b) provide flexible accommodation for vehicles, domestic pets, storage, and covered areas for outdoor recreation (as shown in figure D2.6);
 - c) minimise transmission of noise to adjoining dwellings;
 - d) provide secure parking;
 - e) allow for maintenance access to rear garden courtyards; and
 - f) provide for effective and healthy landscaping along verges and boundaries.
 - g) permit all turning movements, full opening of vehicle doors as defined by AS 2890.6-2009;
- 2) For dwellings that require two spaces:
 - a) provide at least one covered space;
 - b) for dwellings located one behind the other: the second space may be an open court facing the side driveway; or
 - c) for paired dwellings facing the street: the second space may be stacked on the driveway in front of the covered space. Please refer to figure D2.7.
- 3) Garages and parking spaces are not permissible within the front setback

Figure D2.6: Dimensions permit turns, opening of doors and storage

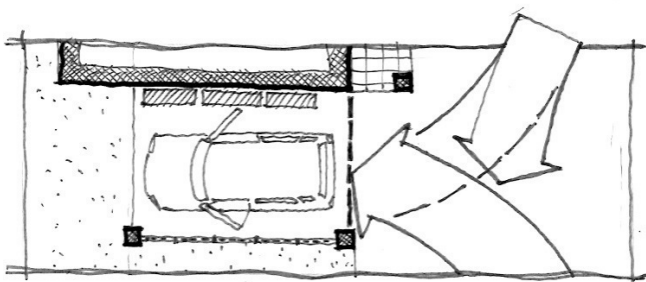
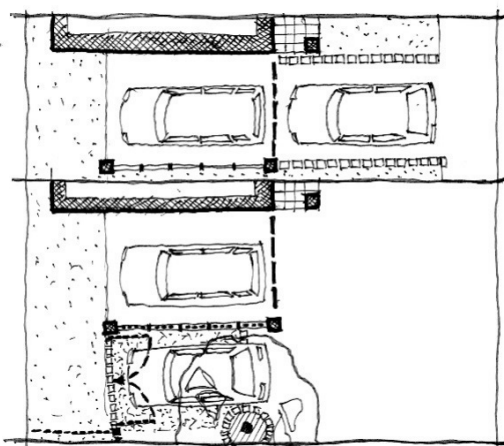


Figure D2.7: Two spaces – one covered plus one open, either stacked or paired



C. Controls

- 1) Design of covered garages to consider the following:
 - a) low, open appearance similar to a wide verandah;
 - b) if exposed at the end of a building, enclosed by semi-transparent screens that provide for natural ventilation and effective security (rather than surrounded by masonry walls);
 - c) with shutters that have windows, or are semi-transparent screens providing natural ventilation and effective security.

2.2.16 Garden Design

A. Objective

Gardens should be landscaped according to the function of each area, and should provide a backdrop that is appropriate to each adjacent room.

B. Controls

- 1) The rear boundary setback should provide:
 - a) private garden courtyards;
 - b) a corridor of habitat, and a green backdrop that is visible from the street;
 - c) conservation for any existing corridor of mature trees; or
 - d) an interlocking canopy of low to medium-height trees and shrubs;
 - e) predominantly species indigenous to the soils of Penrith City.
- 2) Alongside boundaries, provide:
 - a) small-to medium height canopy trees for sun-shading and privacy separation between dwellings;
 - b) within the verges to any common driveway: hedges fronting windows to any dwelling;
- 3) Alongside boundaries within private courtyards provide:
 - a) feature plantings of ground covers and shrubs growing to fence height at maturity;
 - b) a level area of well-drained turf, or an alternative water-permeable material such as river pebbles.
- 4) Street frontage plantings should provide:

- a) private gardens for street-front dwellings;
- b) a civic garden frontage appropriate to the established neighbourhood character; and
- c) mixed species of trees, shrubs, and accent plantings including flowers and ground covers;
- d) level areas of well-drained turf; and
- e) along noisy thoroughfares: noise attenuation with an interlocking canopy formed by at least two rows of trees underplanted with dense hedges.

Figure D2.08

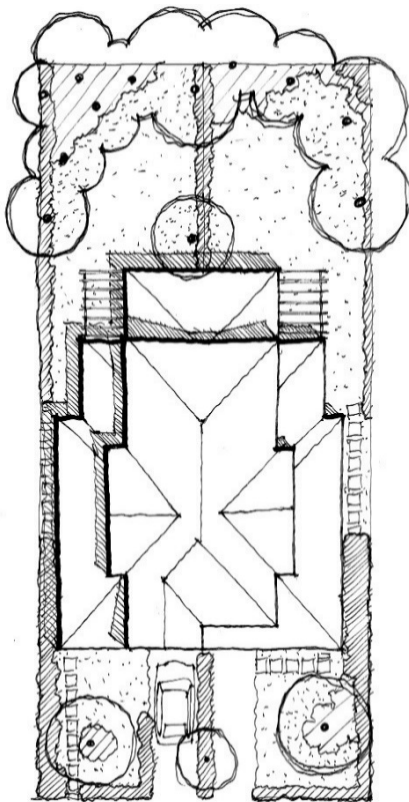


Figure D2.8 above depicts:

- Thickly planted rear gardens
- Courtyard shade and screening
- Median planting dividing driveways
- Civic street frontage.

2.2.17 Paving Design

A. Objective

Design driveways and paved areas as attractive and functional components of development, complementing the designs of garden areas and buildings, and providing effective management for stormwater run-off.

B. Controls

- 1) Hard paved surfaces should:
 - a) maximise the area available for landscaping and gardens;
 - b) impose no adverse long term effect on any vegetation that Council requires preserved.
- 2) Driveways and associated parking courts should:
 - a) provide an attractive "address" for any dwellings without a direct frontage to the street;
 - b) minimise the area and width of driveways along the street-frontage;
 - c) be overlooked by continuously-occupied rooms such as kitchens and living rooms;
 - d) be divided into panels by bands of contrasting materials or pavers;
 - e) provide barrier-free access continuous from the street to the entrance of each dwelling;
 - f) provide for landscaping as continuous verges along both sides, or as a verge beside dwellings with plantings in pavement cut-outs along a boundary fence;
 - g) incorporate materials and a profile that maximise the potential for direct infiltration of rainfall (other than in areas of recognised high soil salinity);
 - h) collect and channel run off into grated sumps located strategically and integrated with the design of surface pavement.
- 3) Courtyard paving should be provided:
 - a) at the threshold to each doorway leading from a dwelling: at least 1m wide;
 - b) beneath clothes lines;
 - c) where outdoor storage of garbage bins is proposed;
 - d) in the form of widely spaced pavers, or porous unit paving, maximising direct infiltration of rainfall.

Figure D2.9

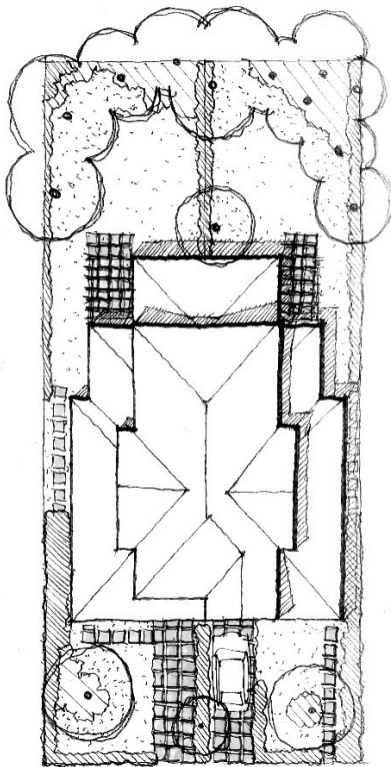


Figure D2.9 above diagram depicts:

- a) Courtyard paving – a threshold at least 1m wide outside each doorway and beneath clothes lines
- b) Driveways - Step around verge plantings alongside dwellings or trees planted into pavement cut-outs or median plantings
- c) Feature paving at the threshold to the street.

2.2.18 Fences and Retaining Walls

A. Objective

Fences, courtyard walls and boundary retaining walls should be compatible with neighbourhood character, and should be integrated with the design of buildings and garden areas.

B. Controls

- 1) Be sympathetic to the natural setting and character in form, materials and colour.
- 2) Maximise natural surveillance from the street to the building and from the building to the street.
- 3) Be structurally adequate, in accordance with the Building Code of Australia, and meets the Dividing Fences Act.
- 4) Fences should be no taller than:
 - a) 1.8m generally; and
 - b) 2.4m on sloping sites, including the height of any retaining wall.
- 5) Fences along boundaries forward of the front building alignment:

- a) should not be taller than 1.2m, or if taller, of see-through construction;
 - b) should not be constructed of metal panels;
 - c) walls of solid construction and taller than 1.2m (such as courtyard walls) should be set back at least 2m from the front boundary (to allow for landscaping) and should not occupy more than 50% of the allotment width.
- 6) Fences along boundaries along driveways and separating existing multi-unit housing, or fronting a public park should be 1m tall, or if taller, of see-through construction;
 - 7) Fences along boundaries around private courtyards should minimise cross-viewing and the transmission of noise;
 - 8) Fences along boundaries in any location that can be seen from the street or a public park frontage should not be constructed of metal panels;
 - 9) Fences along boundaries fronting noisy thoroughfares:
 - a) solid masonry walls are acceptable to a maximum of 1.8m; and
 - b) incorporating corners and planting beds every 5m;
 - 10) Where fencing affects easements or stormwater flow paths: consult with Council and the relevant authority.
 - 11) Fencing of a "see-through" construction includes:
 - a) panels set into a timber frame or between brick piers; where
 - b) any solid base is not taller than 1m; and
 - c) panels are spaced pickets or palings, or lattice.
 - 12) Retaining walls:
 - a) generally should be no taller than 500mm;
 - b) should not cut through roots of any tree required by Council to be preserved;
 - c) should be separated from any associated fence by a planter-bed at least 500mm wide, minimising the apparent overall height of fencing;
 - d) should provide drainage for any associated planter-bed;
 - e) should be separated from any driveway by a landscaped verge at least 500mm wide, to prevent impact damage from vehicles.

2.2.19 Visual and Acoustic Privacy and Outlook

A. Objective

- a. Provide an outlook from dwellings and their private open space, and achieve levels of acoustic and visual privacy that are reasonable for a residential neighbourhood.
- b. The recommended night-time internal noise levels in living and sleeping areas is 35-40 dB(A). – WHO.
- c. To provide a high level of visual and acoustic privacy for residents and neighbours in dwellings and private open space.
- d. To ensure that building design minimises overlooking problems.

B. Controls

- 1) Demonstrate a package of measures that achieves reasonable privacy:

- a) for adjacent dwellings: at least 3m between any facing windows, screened by landscaping or other means including courtyard walls, or pergolas to prevent cross viewing from first storey windows;
 - b) dormer windows generally to be oriented to face the street or the rear boundary;
 - c) private courtyards should be screened by pergolas and masonry walls to prevent direct cross-viewing and excessive transmission of noise;
 - d) screening measures, including:
 - i) offsetting of windows; or
 - ii) oblique orientation for windows; or
 - iii) external screens to windows; or
 - iv) courtyard walls and pergolas;
 - v) note that landscaping (other than established trees and shrubs that are proposed to be retained) should not provide the principal means of screening;
 - e) rooms other than bedrooms should have any windows facing a driveway screened by landscaped verges at least 2m wide;
 - f) bedroom windows facing a driveway should be screened by masonry walls at least 1.5m tall located at least 1m from the face of the window;
 - g) All balconies and decks higher than 800mm above existing ground level shall incorporate privacy measures such as screening or landscape planting.
 - h) for windows of habitable rooms with a direct outlook onto windows of habitable rooms of adjacent dwellings:
 - i) are offset by a distance sufficient to limit views between windows; or
 - ii) have sill heights of 1.7 m above floor level; or
 - iii) have fixed obscure glazing in any part of the window below 1.7 m.
- 2) Demonstrate measures that protect dwellings from external noise sources:
- a) windows to ground-level living rooms screened by landscaped verges at least 2m wide;
 - b) within any dwelling, bedrooms should not adjoin the garage or living rooms of a neighbouring dwelling; internally, bedrooms should be segregated and separated from living areas by hallways, stairs or service rooms;
 - c) sound resisting construction of separating walls, floors and windows, in accordance with BCA;
 - d) zoning of dwellings into active living areas and passive sleeping areas, separated by corridors and/or service zones;
 - e) plant and equipment should be effectively screened and located away from sleeping areas;
 - f) along frontages to noisy arterial roads or the rail corridor:
 - i) locate habitable rooms and private open spaces away from noise sources and if required protect with appropriate noise shielding devices;
 - ii) comply with the requirements of relevant noise and vibration guidelines published by the NSW Government. The NSW Government sets standards in relation to acceptable noise levels for all operations and land uses through the Environment

Protection Authority's Environmental Noise Control Manual. These standards apply in all cases.

- iii) provide a detailed acoustic design report that demonstrates compliance with the above requirements;
- iv) provide a certificate of compliance at completion of construction;
- v) under extreme circumstances identified by Council, employ fixed glazing with air-conditioning for street-frontage bedrooms.

2.2.20 Safety and Security

A. Objective

Achieve a high level of passive security within and surrounding dwellings.

B. Controls

- 1) Encourage a sense of community:
 - a) dwelling entrances, the window to at least one continuously-occupied room and private courtyards should face the street and/or a common driveway;
 - b) fences should be designed to facilitate glimpses or filtered views from dwellings and private courts to the street and to driveways.
- 2) Ensure that at least one continuously-occupied room in each dwelling (a kitchen or living room) overlooks:
 - a) the front street;
 - b) driveways and garage forecourts.
- 3) Prevent concealment of intruders by:
 - a) uniform lighting levels across common areas such as driveways;
 - b) planning which does not provide hidden recesses;
 - c) along common pathways: selection of appropriate plant species according to height and density.

2.2.21 Accessibility and Adaptability

A. Objective

Ensure that dwellings are accessible to persons with impaired sight or partial mobility.

B. Controls

- 1) Demonstrate that planning and design measures do not prevent access by people with disabilities:
 - a) access pathways should slope gently and evenly, with a non-slip finish and no steps between the street frontage and principal building entrances;
 - b) stair nosings should have a distinctive colour and texture;
 - c) dwellings should have:
 - i) dimensions consistent with AS 1428.1-Design for access and mobility.
 - ii) hallways at least 1m wide.
 - iii) circulation areas in bathrooms at least 1m wide.

- 2) Demonstrate that dwellings have been designed to meet the needs of an ageing population:
 - a) incorporate design measures which are appropriate to people with disabilities; and
 - b) employ lever-type door handles and traditional cruciform tap-handles; and
 - c) provide for future low-cost modifications to bathrooms:
 - i) future removal of hobs from shower recesses;
 - ii) provision for future attachment of grab-rails to walls.
 - d) provide for future low-cost modifications to kitchens including replacement of underbench shelves with drawers & attachment of grab-rails.
 - e) provide appropriate levels and location of lighting.

2.2.22 Storage and Services

A. Objective

Ensure that each dwelling has reasonable private storage space and waste management areas/facilities, and that meters, service cupboards and aerials are integrated with the design of buildings.

B. Controls

- 1) Provide storage for household items:
 - a) at least 10m³ per dwelling; either
 - b) as cupboard space within the dwelling in addition to wardrobes; or
 - c) within a lockable garage, not encroaching upon the parking space; or
 - d) in weather-proof lockers that are not visible from the street.
- 2) Letter boxes should be provided according to Australia Post specifications:
 - a) adjacent to the front boundary;
 - b) located conveniently for residents entering the site (by car or on foot);
 - c) integrated with the design of landscaped areas, fences and buildings.
- 3) Demonstrate that dwellings have been designed to accommodate home-based telecommunications facilities and information technologies by allowing for:
 - a) additional telephone lines and outlets;
 - b) additional electrical outlets;
 - c) satellite or cable-based reception.

2.3. Secondary Dwellings

The following developments are covered by this section:

- a) secondary dwellings; and
- b) alterations and additions to existing secondary dwellings.

This section provides specific controls for secondary dwellings in addition to the general controls elsewhere in this DCP.

A. Objectives

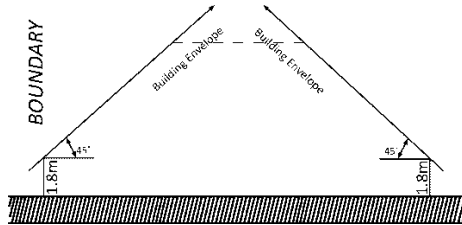
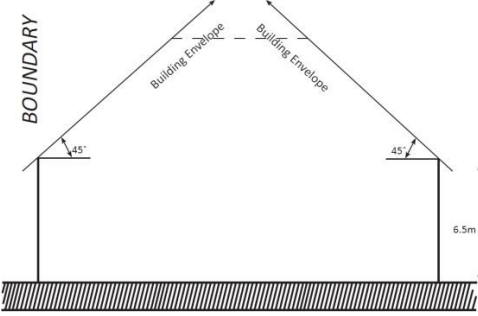
- a) To encourage a diversity of affordable housing.
- b) To provide housing and accommodation options for a range of family types and age groups.
- c) To promote innovative housing solutions compatible with the surrounding residential environment.
- d) To require secondary dwellings to be compatible with the existing built environment and residential character.
- e) To ensure that conversion of existing structures to secondary dwellings incorporates a satisfactory level of design and appearance which results in a high quality of residential amenity.
- f) To ensure that secondary dwelling development does not compromise the provision of onsite car parking provided for an existing or new dwelling house on the lot.
- g) Provide an outlook from dwellings and their private open space and achieve levels of acoustic and visual privacy that are reasonable for a residential neighbourhood.
- h) To ensure adequate residential amenity through the provision of sunlight access and good solar amenity to the living spaces and private open space areas of dwellings.
- i) To recognise the reasonable expectations for a dwelling to have the ability to access sunlight.

B. Development Controls

2.3.1 General

- 1) The minimum lot size for a secondary dwelling is 450m². On battleaxe allotments this does not include the area of the access handle.
- 2) Conversions of existing outbuildings will only be considered where:
 - a) The building meets the standards required by the Building Code of Australia (BCA) and;
 - b) The principal dwelling complies with the provisions of this DCP- i.e. compliance with parking requirements.
- 3) Secondary dwellings shall have a maximum of two bedrooms.
- 4) Development is to comply with the building envelope for the site. The building envelope means a height plane over the site at 45 degrees from a specified height above natural ground level at the side boundaries of the site, as shown in Figure D2.10

Figure D2.10: The building envelope is measured from natural ground level perpendicular to the side boundary at any given point along the wall.

Zone	Maximum building envelope
R2 Low Density Residential	 <p>The diagram shows a cross-section of a building envelope. The ground level is indicated by a hatched area. The building envelope is defined by two lines sloping upwards from the ground level at a 45-degree angle. The maximum height of the envelope is marked as 1.8m. The side boundary is labeled 'BOUNDARY'.</p>
R3 Medium Density Residential	 <p>The diagram shows a cross-section of a building envelope. The ground level is indicated by a hatched area. The building envelope is defined by two lines sloping upwards from the ground level at a 45-degree angle. The maximum height of the envelope is marked as 6.5m. The side boundary is labeled 'BOUNDARY'.</p>

Encroachments – consideration may be given to minor encroachments to the building envelope for;

- i. Eaves and gutters
- ii. Chimneys and antennas
- iii. Pergolas, or
- iv. Where it is demonstrated the encroachment is necessary to improve the design, external appearance or utility of the building and the variation will not impact adversely on the amenity of an adjoining property.

2.3.2 Site Coverage

- 1) The erection of a secondary dwelling must not compromise the landscape requirements for the primary dwelling.
- 2) Landscaped areas should be:

Table D2.3.1: Minimum landscape area

Zone	Minimum landscaped area % of the site
R1 Residential General	40%
R2 Low Density Residential	50%

Zone	Minimum landscaped area % of the site
R3 Medium Density Residential	40%
R4 High Density Residential	35%

- a) a minimum width of 2m;
 - b) do not include substantially-paved areas such as buildings, driveways and covered garages;
 - c) alongside boundaries: should increase in width next to the back yards of neighbouring dwellings.
- 3) Landscaped areas should provide:
- a) long-term survival of existing vegetation that is required by Council to be preserved (both on-site and upon neighbouring properties); and
 - b) effective separation between neighbouring dwellings; and
 - c) side boundary setbacks that facilitate effective day lighting and natural ventilation of dwellings; and
 - d) private gardens and a green outlook from dwellings; and
 - e) conditions for healthy growth of new trees and shrubs; and
 - f) "civic" gardens along street frontages.

2.3.3 Siting and Design

- 1) For the conversion of an existing building, or part of an existing dwelling, into a secondary dwelling, applicants must demonstrate that the setbacks of the existing building, structure or garage have minimal impact on the following:
 - a) Scale and streetscape of the surrounding locality;
 - b) Surrounding properties, particularly in respect to overshadowing, loss of privacy and visual impact.
- 2) All balconies and decks higher than 800mm above existing ground level shall incorporate privacy measures such as screening or landscape planting.
- 3) For new secondary dwellings, the following controls apply:
 - a) Secondary dwellings must be located behind the front building line of the primary dwelling;
 - b) The minimum setback to the secondary street frontage is 3m;
 - c) The minimum side setback for a detached secondary dwelling is 900mm;
 - d) The minimum rear setback for a detached secondary dwelling is 3m; and
 - e) Where located above a garage facing a rear laneway, the building may be built to the rear boundary.
- 4) Notwithstanding any compliance with the front, side and rear setback controls, the applicant must also demonstrate that the proposed building setbacks:

- a) Maintain the established street character;
- b) Allow neighbours adequate access to sunlight and views;
- c) Preserve established tree and vegetation corridors;
- d) Provide adequate separation between buildings to protect adjoining buildings from overlooking and loss of amenity; and
- e) Reduce the visual bulk of new building work.

2.3.4 Private Open Space

- 1) The secondary dwelling must have more than 24m² of usable private open space.
- 2) The private open space area must be more than 4m wide.
- 3) The living area of the secondary dwelling should connect to the private open space areas.

2.3.5 Design and Materials

- 1) Secondary dwellings must complement and enhance the primary dwelling on site by interpreting and translating any positive characteristics found on site in terms of construction, façade design and materials.
- 2) Metal or corrugated iron materials should be avoided, with the exceptions of roofs.
- 3) External building materials and their colours should be compatible with the character of the locality.

2.3.6 Facilities

- 1) As a minimum, the secondary dwelling should include:
 - a) A kitchen/kitchenette;
 - b) A bathroom;
 - c) A living room; and
 - d) A bedroom.
- 2) A common laundry may be provided to service both the principal and secondary dwellings.

2.4 Multi Dwelling Housing

The following developments are covered by this section:

- a) multi dwelling housing development; and
- b) alterations and additions to existing multi dwelling housing development

This section provides specific controls for multi dwelling housing in addition to the general controls elsewhere in this DCP.

2.4.1 Residential Character

A. Background

The residential character of any neighbourhood is determined by:



- 1) Location and density of development:
 - a) proximity to busy centres or major roads;
 - b) residential density and mix of housing types;
 - c) proximity to heritage precincts;
 - d) frontage to public parks.



- 2) The local landscape and its configuration:
 - a) flat or sloping;
 - b) well-vegetated or cleared;
 - c) frontages to streams or the Nepean River.



- 3) Predominant patterns of planning and design
 - a) displayed by local buildings and their gardens;
 - b) setbacks and building separation;
 - c) height, scale and bulk;
 - d) garaging;
 - e) articulated forms and varied plantings.

2.4.2 Preferred Configuration for New Dwellings

A. Objectives

- a) New multi dwelling housing development should adopt key features of established suburban design.
- b) Dwellings, their entrances and private courtyards look towards the street, or to the rear boundary.

B. Controls

- 1) New multi dwelling housing development should incorporate the traditional configuration of the cottages and cottage gardens that define the character of Penrith's established neighbourhoods, because:
 - a) Traditional development demonstrates social and urban design benefits, particularly the orientation of dwellings and their private open spaces towards the street rather than overlooking neighbouring dwellings and gardens;
 - b) Patterns of buildings and private gardens in established neighbourhoods have visual and symbolic richness that are valued by their community;
 - c) the use of traditional features softens the popular perception that redevelopment is changing the traditional character of Penrith City.
- 2) Within the relevant zones, established development is detached buildings or semi-detached pairs which are:
 - a) separated from one another by landscaped courtyards;
 - b) stepped floor plans and projecting verandahs;
 - c) capped by a variety of pitched roofs.
- 3) Within the relevant zones, established development provides a "green corridor" of trees and shrubs along the rear boundary:
 - a) conserving remnant vegetation; and

- b) providing new shelter and habitat; and
 - c) contributing to streetscape.
- 4) Within the relevant zones, established development provides a front garden setback which may be filled by verandahs and private garden-courts (as shown in Figure D2.11):
- a) encourages active use by residents;
 - b) provides for attractive front gardens.
- 5) Within the relevant zones, established development provides parking areas which are concealed from the street and consequently avoids the appearance of "garage architecture".

Figure D2.11



How much floor space is appropriate to your site?

2.4.3 Development Site

A. Objectives

- a) Identify planning and design options that are appropriate to the shape and size of each development lot, and to the location of neighbouring buildings.
- b) Identify planning and design responses that address impacts on surrounding streetscapes.

B. Controls

- 1) A minimum lot frontage and lot width of 22m is required for multi dwelling housing development within the following zones:
 - a) the R3 Medium Density Residential Zone
 - b) the R4 High Density Residential Zone
- 2) Where an adjoining property with a frontage of under 22m is likely to be isolated by a proposed development, applicants should provide documentation which demonstrates that a reasonable attempt has been made to purchase and incorporate the isolated site.

- 3) If a property has been isolated by adjacent development despite Development Site control 2, development applications for multi-dwelling housing will be considered on a merits basis.
- 4) For the purposes of calculating lot size and lot width, the lot does not include the area of any access corridor or right-of-carriageway.

2.4.4 Urban Form

A. Objectives

New buildings should show characteristics of traditional suburban development: dwellings oriented to face the street, building forms stepped or articulated, and integrated with the shape of surrounding garden areas.

B. Controls

- 1) For dwellings fronting the street, adopt a traditional orientation:
 - a) living rooms, verandahs and the paths to entrances face the street rather than neighbouring properties; and
 - b) private gardens fill the front setback area; and
 - c) garages are concealed behind dwellings.
- 2) Dwellings behind the street frontage should adopt similar principles:
 - a) living rooms and entrances face the street, and / or the landscaped rear boundary setback; and
 - b) private gardens fill the rear setback area.
- 3) Avoid "gun-barrel" style developments with long rows of attached dwellings, long straight driveways and rows of uniform width garden courtyards:
 - a) break buildings into separate blocks, each one not longer than 20m;
 - b) provide "open space corridors" between buildings at least 4m wide across each site (this does not include front/rear setback areas);
 - c) a combination of garden areas and parking courtyards; or
 - d) open parking spaces that are lined by an "avenue" of shady, overhanging trees;
 - e) along common driveways, step the alignment of buildings, and / or their external walls plus eaves;
 - f) at the head of common driveways, a distinctive building or landscape feature should terminate the vista from the street.
- 4) "Articulate" building forms by design measures that cast deep shadows:
 - a) separate neighbouring buildings by irregularly-shaped garden courts that are at least 3m wide;
 - b) external walls should not be longer than 5m between distinct corners;
 - c) the upper storey surrounded by a larger ground floor plan that incorporates projecting rooms, shady verandahs and carports;
 - d) use a variety of roof forms and pitches;
 - e) include windows in every elevation.

2.4.5 Front and Rear Setbacks

A. Objectives

Setbacks are to reflect the character of established garden suburbs, and provide for development of flora and fauna corridors.

B. Controls

- 1) Determine the maximum development footprint for your site:
 - a) The minimum rear setback for a single storey building (or any single storey component of a building) is 4m.
 - b) The minimum rear setback for a two storey building (or any two storey component of a building) is 6m.
 - c) adopt a front setback that matches the neighbourhood character.
- 2) Within the rear boundary setback:
 - a) there shall be no building encroachments either above or below ground (eaves excepted);
 - b) maximise the amount of undisturbed soil, encouraging rapid growth of healthy trees and shrubs;
 - c) where there are physical encumbrances such as open drains, increase the setback accordingly.
- 3) Determine an appropriate front setback:
 - a) either average the setbacks of the immediate neighbours; or
 - b) a 5.5m minimum whichever is the greater dimension.
- 4) Permissible encroachments within the front setback are:
 - a) verandahs and pergolas only which are a 4.5m minimum setback to the face of the verandah or pergola; and maximum 50% of elevation.
- 5) Garages and parking spaces are not permissible within the front setback.

Figure D2.12 illustrates these features.

Figure D2.12: Multi Dwelling Housing Development



2.4.6 Building Envelope and Side Setbacks

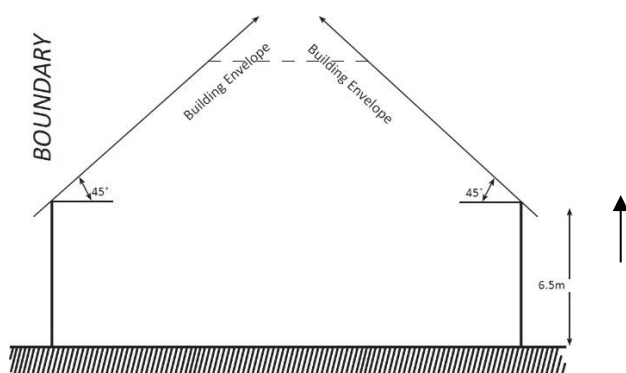
A. Objectives

Comply with building envelope controls, minimise disturbance to existing topography and natural soil-profiles, and provide for reasonable landscaped separation between neighbouring buildings.

B. Controls

- 1) Development is to comply with the building envelope for the site. The building envelope means a height plane over the site at 45 degrees from a specified height above natural ground level at the side boundaries of the site, as shown in Figure D2.13.

Figure D2.13: The building envelope is measured from natural ground level perpendicular to the side boundary at any given point along the wall.



- 2) The building envelope shall be measured relative to:
 - a) Side boundaries only; and
 - b) Existing ground level.

- 3) Only minor encroachments through the building envelope shall be permitted:
 - a) eaves to main roofs
 - b) chimneys and antennas
 - c) pergolas.
- 4) Cut and fill and maximum ground floor heights:
 - a) on sloping sites provide stepping building platforms in line with existing topography with floors no higher than 1m above natural ground level;
 - b) restrict cut-and-fill to a maximum of 500mm; and
 - c) provide effective sub-soil drainage.
- 5) Pitches for main roofs are not to be in excess of 25 degrees in order to reduce the visual bulk of the building.
- 6) Provide reasonable separation and landscaping between neighbouring buildings, consistent with the following parts of this section:
 - a) Driveways and parking
 - b) Landscaped area
 - c) Solar planning; and
 - d) Privacy and outlook.
- 7) Setbacks from side boundaries should be varied to articulate walls to side boundaries:
 - a) a minimum setback of 2m, but only
 - b) along not more than 50% of any boundary.
- 8) Zero setbacks from the side boundary are not permissible except for single garages or carports with an open appearance according to - Garage design, not taller than 2.1 m at the boundary.

2.4.7 Driveways and Parking Areas

A. Objectives

Provide on-site parking at a level that encourages use of public transport. Minimise the area required for parking, encourage convenient parking, allow easy access to parking areas and maximise the area available for landscaping and gardens.

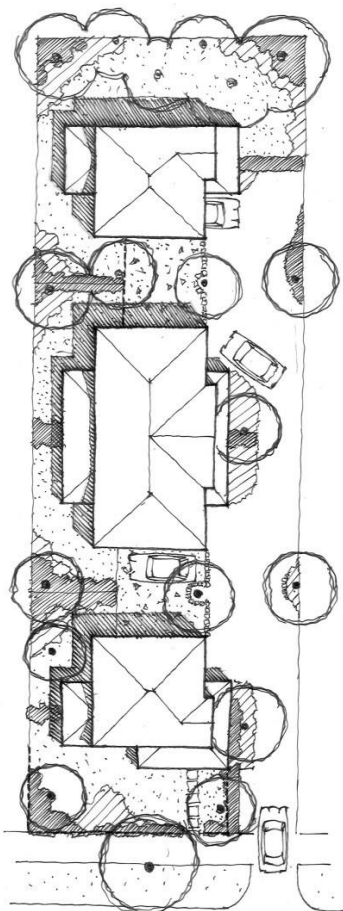
B. Controls

- 1) Provide on-site parking in accordance with the parking section of this DCP.
- 2) Driveways should:
 - a) have a minimum paved width of 3m providing one-way movement;
 - b) incorporate passing-bays and queue space at the street frontage where more than 5 dwellings are served, and driveways are longer than 30m;
 - c) minimise the paved area within the front setback;
 - d) be separated from dwellings by a landscaped verge at least 1m wide;
 - e) where possible, also separated from boundary fences by a landscaped verge;
 - f) prevent adverse long-term effect upon any vegetation that must be preserved;

- g) provide for effective and healthy landscaping along all site boundaries;
 - h) provide for landscaping as continuous verges along both sides, or as a verge beside dwellings with plantings in pavement cut-outs along a boundary fence;
 - i) drain by gravity to Council's stormwater network.
- 3) Garages and parking spaces should:
- a) not be located in the front setback;
 - b) should not directly face the street;
 - c) be setback at least 6.5m from the outside driveway kerb.
- 4) Basement carparking may be permitted on development lots with a minimum lot frontage of 22m.

Figure D2.14 illustrates the key features required for driveway and parking areas.

Figure D2.14: Aerial illustration of multi dwelling housing



2.4.8 Landscaped Area

A. Objective

Retain a reasonable proportion of each site for landscaped garden areas, conserve significant existing vegetation, and provide reasonable separation between neighbouring dwellings.

B. Controls

1) Landscaped areas should provide:

- a) effective separation between neighbouring dwellings;
- b) healthy growth of new trees and shrubs;
- c) long-term survival of existing vegetation required by Council to be preserved;
- d) private courtyards for all dwellings and a green outlook;
- e) front gardens that contribute to an attractive streetscape; and
- f) where more than 10 dwellings are proposed, a centrally located communal open space area that is accessible and available to all residents of the development, comprising 10% of the minimum landscaped area requirement.
- g) The area of common open space proposed can be reduced where larger areas of private open space are provided for individual dwellings. Where there is no common open space proposed private courtyards must be a minimum of 40m².

2) Landscaped area must meet the following requirements:

a) Landscaped areas should be:

Zone	Minimum landscaped area % of the site
R1 Residential General	40
R3 Medium Density Residential	40
R4 High Density Residential	35

- b) have a minimum width of 2m – with no basement encroachment; and containing unexcavated soil to promote landscaping that is effective and healthy;
- c) may include terraces and patios located not higher than 0.5m above ground and pedestrian pathways to building and dwelling entrances;
- d) do not include substantially-paved areas such as buildings, driveways and covered garages;
- e) should include verges that surround car parking areas and open driveways;
- f) should provide a reasonable area of private open space in accordance with the part within this section on design;
- g) where more than one building is proposed, that part of any easement exceeding 10% of the site area shall not be included in the landscaped area calculation.

2.4.9 Solar Planning

A. Objectives

- a. Improve the energy efficiency of dwellings and achieve a high standard of residential amenity.
- b. To ensure adequate residential amenity through the provision of sunlight access and good solar amenity to the living spaces and private open space areas of dwellings.
- c. To recognise the reasonable expectation for a dwelling to have the ability to access sunlight.

B. Controls

- 1) The applicant must demonstrate that dwellings meet acceptable solar standards and that existing neighbouring and proposed private open spaces receive adequate solar access by:
 - a) Providing shadow diagrams prepared by a qualified technician for all two-storey buildings and additions;
 - b) Illustrating the impacts of proposed development upon existing neighbouring dwellings and their open space areas;
 - c) Demonstrating shadows cast by neighbouring buildings;
 - d) Maximising potential for solar gain by placing windows in all exterior walls that are exposed to northern sun;
 - e) Ensuring that the proposed development provides a minimum of 4 hours sunlight between 9am and 3pm on 21 June, to living zones (ie areas other than bedrooms, bathrooms, kitchen and laundry) of each dwelling, and the living zones of any adjoining dwellings;
 - f) Ensuring that the proposed development provides a minimum of 3 hours sunlight between 9am and 3pm on 21 June, to 40% of the main private open spaces of the dwelling and main private open spaces of any adjoining dwellings;
 - g) In situations where the existing overshadowing by buildings and fences reduces sunlight to less than the minimums noted above, the development is to not further reduced sunlight to the specified areas by more than 20%.
 - h) Applications shall include: shadow diagrams for two-storey buildings or additions prepared by a qualified technician for 9am, 12 noon and 3pm on June 21 and any other time required by Council.

Urban design

2.4.10 Significant Townscapes and Landscapes

A. Background

- 1) Across Penrith, there are many significant townscape precincts, including:
 - a) heritage conservation areas of Lemongrove and Derby Street;
 - b) the Warwick Street neighbourhood;
 - c) the "Duration Cottages" in St Marys;
 - d) surrounding Cook Park, St Marys South; and

- e) other areas identified in the Penrith Heritage Study.
- 2) Across Penrith, there are many significant landscape precincts including:
- a) footslopes to the escarpment in Emu Heights and Leonay;
 - b) wooded hillsides in St Marys South;
 - c) individual streetblocks, such as the block surrounded by Derby, Lethbridge, Doonmore and Evan Streets;
 - d) frontages to the Nepean River;
 - e) Cranebrook escarpment; and
 - f) Chapman Gardens.

B. Objectives

In areas of particular significance to urban conservation, environmental character, new development should demonstrate detailed design measures that protect and complement heritage significance or character.

C. Controls

- 1) In neighbourhoods with townscape significance, new development should:
- a) conserve vegetation that has visual or historical significance;
 - b) adopt the prevailing configuration of garden areas, particularly the street's predominant front boundary set-back;
 - c) adopt the predominant width, height, and scale of existing buildings;
 - a) ensure that floor plans are stepped or articulated similar to the shape or form of surrounding buildings;
 - b) adopt roof pitches, ceiling heights and forms that match neighbouring buildings;
 - c) minimise the width and area of driveways visible from public frontages;
 - d) conceal garages from public frontages (corner sites excepted).
- 2) In areas with significant vegetation:
- a) aim to preserve established trees as blocks or corridors;
 - b) ensure that the location of buildings and pavements does not affect long term survival of established trees;
 - c) incorporate new plantings that reinforce the visual and habitat values;
 - d) in general, new plantings should be species indigenous to the local soil type, reinforcing visual and habitat values.
- 3) New development should not aim to provide a direct copy of traditional buildings:
- a) simple detailing of building forms and openings is preferred to the use of "stuck-on" detailing applied to gable ends and verandahs;
 - b) the pitch and form of roofs, and articulation of floor plans are of particular importance;
 - c) frequent use of shadow-casting elements such as verandahs and awnings is important to reduce the scale of long walls;
 - d) traditional proportions for window and door openings should be employed;

- e) use of traditional joinery details for windows, doors and verandahs and fences should be concentrated in elevations that are visible from public places

2.4.11 Corner Sites and Park Frontages

A. Objectives

For allotments facing two streets or adjoining a public park, apply traditional principles of orientation and articulation to both of the public frontages.

B. Controls

- 1) For allotments with a second street frontage, the second frontage should adopt key principles from other parts of this Section including:
 - a) The development site;
 - b) Urban form;
 - c) Landscaped area.
- 2) For corner lots and park frontages:
 - a) the rear and front setbacks may be measured relative to the shortest boundaries;
 - b) living rooms, dwelling entrances and verandahs may face either public frontage;
 - c) building forms should be articulated;
 - d) dormer windows may face either public frontage, and
 - e) the area of driveways visible from public frontages should be minimised.
- 3) For frontages to a second street:
 - a) minimum setback to dwellings and garage entrances should be 5.5m;
 - b) minimum verandah setback should be 3m;
 - c) each building should be no wider than 20m;
 - d) adjacent buildings should be separated by garden corridors at least 2m wide that provide direct access from rear courtyards to the street;
 - e) garden areas facing the street should be landscaped as private courtyards.
- 4) Along park frontages:
 - a) dwellings and private courtyards should face the park;
 - b) minimum dwelling or verandah setback should be 2m, for not more than 50% of the total building elevation;
 - c) each building should be no longer than 20m;
 - d) adjacent buildings should be separated by "open space corridors" at least 5m wide;
 - e) screen plantings are not necessary.

2.4.12 Building Design

A. Objectives

New developments should appear as a collection of single or semi-detached dwellings separated by gardens and ancillary structures, with facades designed to incorporate a variety of materials and shading structures.

A variety of overhanging roofs and projections at ground floor level; a range of materials and finishes; windows inserted into every visible wall; garages concealed to the rear of dwellings

Articulated forms, projecting verandahs and varied finishes facing the side boundary.

B. Controls

- 1) Development should incorporate a variety of architectural features to minimise the apparent scale and bulk of two storey buildings:
 - a) stepped alignment of walls;
 - b) projections in the ground floor plan;
 - c) rooms that extend beyond the upper storey;
 - d) attached verandahs and carports;
 - e) a variety of shadow-casting roofs;
 - f) wide eaves;
 - g) projecting verandahs and awnings;
 - h) pergolas.
- 2) Development should incorporate features that are typical of housing in established areas:
 - a) stepped walls and articulated roof-forms;
 - b) windows and doors inserted into all visible walls;
 - c) a variety of materials including lightweight cladding and brickwork both face and painted.
- 3) Variety in architectural features should be apparent in all visible facades:
 - a) facing the street;
 - b) facing side driveways; and
 - c) facing neighbouring residential properties.

2.4.13 Energy Efficiency

A. Objectives

Dwellings shall be configured and constructed to minimise the energy required for space heating, cooling or lighting.

B. Controls

- 1) All new multi dwelling housing development should employ construction techniques that provide appropriate thermal mass such as:
 - a) ground floor: slab-on-ground;

- b) walls: masonry internal walls to ground floor are desirable.
- 2) All new two storey townhouse development should provide effective insulation including:
 - a) roofs and top-floor ceilings: sarking and batts with a minimum total rating of R3;
 - b) walls: sarking and batts with a minimum total rating of R1.5
- 3) All new multi dwelling housing development should adopt an appropriate orientation for rooms and windows including:
 - a) living areas - facing within 30 degrees of solar north is desirable;
 - b) windows - at least 50% of glazing facing solar north is desirable, unprotected glazing facing east, west or south shall be avoided and for every habitable room, windows in two external walls are desirable;
- 4) Where multi dwelling housing development cannot achieve the desired orientation, higher compliance with other energy efficiency standards shall be achieved.
- 5) All new multi dwelling housing development should provide effective shading from summer sun including:
 - a) Overhanging eaves: at least 450mm wide;
 - b) Adjustable exterior shading devices for windows and doors to habitable rooms, and to skylights;
 - c) Pergolas over courtyards.
- 6) All new multi dwelling housing development should employ effective glazing including:
 - a) for any large south-facing window: high performance glass e.g. double glazing in thermal break frames;
 - b) windows and doors facing east, south or west: high performance glass e.g. Double glazing in thermal break frames;
 - c) all windows and external doors: weather-stripping should be used.
- 7) All new multi dwelling housing development should adopt a configuration for dwellings that promotes cross-ventilation including:
 - a) living areas and bedrooms with two external walls for windows;
 - b) particularly important for attic rooms.

2.4.14 Design of Dwellings and Private Courtyards

A. Objectives

Dwellings and their private courtyards should achieve high levels of amenity, and demonstrate traditional practices of suburban design.

B. Controls

- 1) A reasonable area of private open space should be provided for each dwelling:
 - a) a minimum of 25m²;
 - b) including one area measuring at least 5m by 4m, suitable for outdoor dining; and
 - c) located immediately beside, and level with, living or dining rooms; and
 - d) also incorporating an area for outdoor clothes-drying at least 2m wide, exposed to sunlight and breeze, screened from view by a fence or wall at least 1.8m tall; and

- e) with access direct to the street or common driveway;
 - f) through a courtyard at least 2m wide; or
 - g) via a carport with an open design.
- 2) Landscaped areas should maximise the area available for private courtyards and gardens:
- a) the front and rear boundary setbacks should be used for private gardens,
 - b) common open space should be restricted to driveway verges.
- 3) Rooms within a villa development should have dimensions and an area that:
- a) can accommodate the range of furniture typically associated with their function; and
 - b) recognise that furnishing options may be restricted by the location of windows and doors;
 - c) acknowledge that access and furnishing options may be restricted by raked attic ceilings;
 - d) provide flexibility to meet the needs of future occupants: for example home business activities and aged residents.

2.4.15 Garage Design

A. Objectives

Garages should be designed to serve a variety of purposes, and their appearance should contribute to the overall diversity of building form and design.

B. Controls

- 1) Garage and parking areas should be planned to:
- a) minimise disruption to traditional or established streetscapes by concealing from the street;
 - b) provide flexible accommodation for vehicles, domestic pets, storage, and covered areas for outdoor recreation;
 - c) minimise transmission of noise to adjoining dwellings;
 - d) provide secure parking;
 - e) allow for maintenance access to rear garden courtyards; and
 - f) provide for effective and healthy landscaping along verges and boundaries.
 - g) permit all turning movements, full opening of vehicle doors as defined by AS 2890.1-1993;
- 2) Basements should have:
- a) a low appearance, rising no higher than 1.5m above ground;
 - b) natural ventilation, either screen walls; or terraced embankments, with each step a maximum of 500mm, and landscaped as part of the side boundary court;
 - c) a "capping" of private courtyards or balconies opening from the lowest level of dwellings (if basements extend beyond the main building walls);
 - d) vehicle entrances designed to complement the architecture and landscaping of each building:

- e) individual up and down ramps;
 - f) a central median;
 - g) overhung by balcony structures; and
 - h) undercover storage:
 - i) garbage and recycling bins in a secured area located close to the street entrance and detailed according to Council codes; and
 - ii) household items: in secured enclosures for each dwelling, or associated with secured private parking spaces.
- 3) For dwellings that require two spaces:
- a) provide at least one covered space;
 - b) for dwellings located one behind the other: the second space may be an open court facing the side driveway; or
 - c) for paired dwellings facing the street: the second space may be stacked on the driveway in front of the covered space;
 - d) stacked parking is permitted where the second space is supplied between a driveway and another space, stacked spaces are not permitted behind garages.
- 4) Garages and parking spaces are not permissible within the front setback.

Design of covered garages to consider the following:

- a) low, open appearance similar to a wide verandah;
- b) if exposed at the end of a building, enclosed by semi-transparent screens that provide for natural ventilation and effective security (rather than surrounded by masonry walls);
- c) with shutters that have windows, or are semi-transparent screens providing natural ventilation and effective security.

2.4.16 Garden Design

A. Objectives

Gardens should be landscaped according to the function of each area, and should provide a backdrop that is appropriate to each adjacent room.

B. Controls

- 1) The rear boundary setback should provide:
- a) private garden courtyards;
 - b) a corridor of habitat, and a green backdrop that is visible from the street;
 - c) conservation for any existing corridor of mature trees; or
 - d) an interlocking canopy of low to medium-height trees and shrubs;
 - e) predominantly species indigenous to the soils of Penrith City.
- 2) Alongside boundaries, provide:
- a) small-to medium height canopy trees for sun-shading and privacy separation between dwellings;
 - b) within the verges to any common driveway: hedges fronting windows to any dwelling;

- 3) Alongside boundaries within private courtyards provide:
- a) feature plantings of ground covers and shrubs growing to fence height at maturity;
 - b) a level area of well-drained turf, or an alternative water-permeable material such as river pebbles;
 - c) street frontage plantings should provide:
 - d) private gardens for street-front dwellings;
 - e) a civic garden frontage appropriate to the established neighbourhood character; and
 - f) mixed species of trees, shrubs, and accent plantings including flowers and ground covers;
 - g) level areas of well-drained turf; and
 - h) along noisy thoroughfares:
 - i) noise attenuation with an interlocking canopy formed by at least two rows of trees under planted with dense hedges.

2.4.17 Paving Design

A. Objectives

Design driveways and paved areas as attractive and functional components of development, complementing the designs of garden areas and buildings, and providing effective management for stormwater run-off.

B. Controls

- 1) Hard paved surfaces should:
- a) maximise the area available for landscaping and gardens;
 - b) impose no adverse long term effect on any vegetation that Council requires preserved.
- 2) Driveways and associated parking courts should:
- a) provide an attractive "address" for any dwellings without a direct frontage to the street;
 - b) minimise the area and width of driveways along the street-frontage;
 - c) be overlooked by continuously-occupied rooms such as kitchens and living rooms;
 - d) be divided into panels by bands of contrasting materials or pavers;
 - e) provide barrier-free access continuous from the street to the entrance of each dwelling;
 - f) provide for landscaping as continuous verges along both sides, or as a verge beside dwellings with plantings in pavement cut-outs along a boundary fence;
 - g) incorporate materials and a profile that maximise the potential for direct infiltration of rainfall (other than in areas of recognised high soil salinity);
 - h) collect and channel run off into grated sumps located strategically and integrated with the design of surface pavement.
- 3) Courtyard paving should be provided:
- a) at the threshold to each doorway leading from a dwelling: at least 1m wide;
 - b) beneath clothes lines;
 - c) where outdoor storage of garbage bins is proposed;

- d) in the form of widely spaced pavers, or porous unit paving, maximising direct infiltration of rainfall.

2.4.18 Fences and Retaining Walls

A. Objectives

Fences, courtyard walls and boundary retaining walls should be compatible with neighbourhood character, and should be integrated with the design of buildings and garden areas, and provide casual surveillance of public and common areas.

B. Controls

- 1) Fences should be no taller than:
 - a) 1.8m generally; and
 - b) 2.4m on sloping sites, including the height of any retaining wall.
- 2) Fences along boundaries forward of the front building alignment:
 - a) should not be taller than 1.2m, or if taller, of see-through construction;
 - b) should not be constructed of metal panels;
 - c) walls of solid construction and taller than 1.2m (such as courtyard walls) should be set back at least 2m from the front boundary (to allow for landscaping) and should not occupy more than 50% of the allotment width.
 - d) Be sympathetic to the natural setting and character in form, materials and colour
 - e) Maximise natural surveillance from the street to the building and from the building to the street.
 - f) Be structurally adequate, in accordance with the Building Code of Australia, and meets the Dividing Fences 1991.
- 3) Fences along driveways and separating existing multi-unit housing, or fronting a public park should be 1m tall, or if taller, of see-through construction;
- 4) Fences along boundaries around private courtyards should minimise cross-viewing and the transmission of noise;
- 5) Fences along boundaries in any location that can be seen from the street or a public park frontage should not be constructed of metal panels;
- 6) Fences along boundaries fronting noisy thoroughfares:
 - a) solid masonry walls are acceptable to a maximum of 1.8m; and
 - b) incorporating corners and planting beds every 5m;
- 7) Where fencing affects easements or stormwater flow paths:
consult with Council and the relevant authority.
- 8) Fencing of a "see-through" construction includes:
 - a) panels set into a timber frame or between brick piers; where
 - b) any solid base is not taller than 1m; and
 - c) panels are spaced pickets or palings, or lattice.
- 9) Retaining walls:

- a) generally should be no taller than 500mm;
- b) should not cut through roots of any tree required by Council to be preserved;
- c) should be separated from any associated fence by a planter-bed at least 500mm wide, minimising the apparent overall height of fencing;
- d) should provide drainage for any associated planter-bed;
- e) should be separated from any driveway by a landscaped verge at least 500mm wide, to prevent impact damage from vehicles.

2.4.19 Visual and Acoustic Privacy and Outlook

A. Objectives

- a. Provide an outlook from dwellings and their private open space, and achieve levels of acoustic and visual privacy that are reasonable for a residential neighbourhood.
- b. To provide a high level of visual and acoustic privacy for residents and neighbours in dwellings and private open space.
- c. To ensure that building design minimises overlooking problems.

B. Controls

- 1) Demonstrate a package of measures that achieves reasonable privacy:
 - a) for adjacent dwellings: at least 3m between any facing windows, screened by landscaping or other means including courtyard walls, or pergolas to prevent cross viewing from first storey windows;
 - b) dormer windows generally to be oriented to face the street or the rear boundary;
 - c) private courtyards should be screened by pergolas and masonry walls to prevent direct cross-viewing and excessive transmission of noise;
 - i) screening measures, including:
 - ii) offsetting of windows; or
 - iii) oblique orientation for windows; or
 - iv) external screens to windows; or
 - v) courtyard walls and pergolas;
 - vi) note that landscaping (other than established trees and shrubs that are proposed to be retained) should not provide the principal means of screening;
 - vii) rooms other than bedrooms should have any windows facing a driveway screened by landscaped verges at least 2m wide,
 - viii) bedroom windows facing a driveway should be screened by masonry walls at least 1.5m tall located at least 1m from the face of the window;
 - d) for windows of habitable rooms with a direct outlook onto windows of habitable rooms of adjacent dwellings:
 - i. are offset by a distance sufficient to limit views between windows; or
 - ii. have sill heights of 1.7 m above floor level; or
 - iii. have fixed obscure glazing in any part of the window below 1.7 m.

- e) All balconies and decks higher than 800mm above existing ground level shall incorporate privacy measures such as screening or landscape planting.
- 2) Demonstrate measures that protect dwellings from external noise sources:
 - a) windows to ground-level living rooms screened by landscaped verges at least 2m wide,
 - b) within any dwelling, bedrooms should not adjoin the garage or living rooms of a neighbouring dwelling; internally, bedrooms should be segregated and separated from living areas by hallways, stairs or service rooms;
 - c) sound resisting construction of separating walls, floors and windows, in accordance with BCA;
 - d) zoning of dwellings into active living areas and passive sleeping areas, separated by corridors and/or service zones;
 - e) plant and equipment should be effectively screened and located away from sleeping areas;
 - f) along frontages to noisy arterial roads or the rail corridor:
 - g) locate habitable rooms and private open spaces away from noise sources and if required protect with appropriate noise shielding devices.

2.4.20 Safety and Security

A. Objectives

Achieve a high level of passive security within and surrounding dwellings.

B. Controls

- 1) Encourage a sense of community:
 - a) dwelling entrances, the window to at least one continuously-occupied room and private courtyards should face the street and/or a common driveway;
 - b) fences should be designed to facilitate glimpses or filtered views from dwellings and private courts to the street and to driveways.
- 2) Ensure that at least one continuously-occupied room in each dwelling (a kitchen or living room) overlooks:
 - a) the front street;
 - b) driveways and garage forecourts.
- 3) Prevent concealment of intruders by:
 - c) uniform lighting levels across common areas such as driveways;
 - d) planning which does not provide hidden recesses;
 - e) along common pathways: selection of appropriate plant species according to height and density.

2.4.21 Accessibility and Adaptability

A. Objectives

Ensure that dwellings are accessible to persons with impaired sight or partial mobility.

B. Controls

- 1) Demonstrate that planning and design measures do not prevent access by people with disabilities:
 - a) Access pathways should slope gently and evenly, with a non-slip finish and no steps between the street frontage and principal building entrances.
 - b) Stair nosings should have a distinctive colour and texture.
 - c) Dwellings should have:
 - i. Dimensions consistent with AS1428.1-1998 Design for access and mobility and AS4299-1995 Australian Adaptable Housing
 - ii. Hallways at least 1m wide
 - iii. Circulation in bathrooms at least 1m wide.
 - d) The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Housing Standards AS1428-1998 and AS4299-1995.
 - e) Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard regarding parking for people with a disability.
- 2) Demonstrate that dwellings have been designed to meet the needs of an ageing population:
 - a) incorporate design measures which are appropriate to people with disabilities; and
 - b) employ lever-type door handles and traditional cruciform tap-handles; and
 - c) provide for future low-cost modifications to bathrooms:
 - d) future removal of hobs from shower recesses;
 - e) provision for future attachment of grab-rails to walls.
 - f) provide for future low-cost modifications to kitchens including replacement of underbench shelves with drawers & attachment of grab-rails.
 - g) provide appropriate levels and location of lighting.

2.4.22 Storage and Services

A. Objectives

Ensure that each dwelling has reasonable private storage space and waste management areas/facilities, and that meters, service cupboards and aerials are integrated with the design of buildings.

B. Controls

- 1) Provide storage for household items:
 - a) at least 10m³ per dwelling; either
 - b) as cupboard space within the dwelling in addition to wardrobes; or
 - c) within a lockable garage, not encroaching upon the parking space; or
 - d) in weather-proof lockers that are not visible from the street.

- 2) Letter boxes should be provided according to Australia Post specifications:
 - a) adjacent to the front boundary;
 - b) located conveniently for residents entering the site (by car or on foot);
 - c) integrated with the design of landscaped areas, fences and buildings.
- 3) Demonstrate that dwellings have been designed to accommodate home-based telecommunications facilities and information technologies by allowing for:
 - a) additional telephone lines and outlets;
 - b) additional electrical outlets;
 - c) satellite or cable-based reception.

2.5 Residential Flat Buildings

The following developments are covered by this section:

- a) residential flat buildings; and
- b) alterations and additions to existing residential flat buildings.

This section provides specific controls for residential flat buildings in addition to the general controls elsewhere in this DCP.

2.5.1 Residential Character

A. Objective

In established areas new development should be planned and designed to reflect the character of traditional neighbourhoods established prior to 1970.

B. Background

The residential character of any neighbourhood is determined by:



1) Location, and density of development:

- a) proximity to busy centres or major roads;
- b) residential density and mix of housing types;
- c) proximity to heritage precincts;
- d) frontage to public parks.



2) The local landscape and its configuration:

- a) flat or sloping;
- b) well-vegetated or cleared;
- c) frontages to streams or the Nepean River.



- 3) Predominant patterns of planning and design
 - a) displayed by local buildings and their gardens;
 - b) setbacks and building separation;
 - c) height, scale and bulk;
 - d) garaging;
 - e) articulated forms and varied plantings.

2.5.2 Preferred Configuration for Residential Flat Buildings

A. Objective

- 1) New residential flat building development should adopt key features of established suburban design.
- 2) Dwellings, their entrances and private courtyards look towards the street, or to the rear boundary.

B. Controls

- 1) New residential flat building development should incorporate the traditional configuration of the cottages and cottage gardens that define the character of Penrith's established neighbourhoods, because:
 - a) Traditional development demonstrates social and urban design benefits, particularly the orientation of dwellings and their private open spaces towards the street rather than overlooking neighbouring dwellings and gardens;
 - b) Patterns of buildings and private gardens in established neighbourhoods have visual and symbolic richness that are valued by their community;
 - c) the use of traditional features softens the popular perception that redevelopment is changing the traditional character of Penrith City.
- 2) Within the relevant zones, established development is detached buildings or semi-detached pairs which are:
 - a) separated from one another by landscaped courtyards;
 - b) stepped floor plans and projecting verandahs;
 - c) capped by a variety of pitched roofs.
- 3) Within the relevant zones, established development provides a "green corridor" of trees and shrubs along the rear boundary:
 - a) conserving remnant vegetation; and

- b) providing new shelter and habitat; and
 - c) contributing to streetscape.
- 4) Within the relevant zones, established development provides a front garden setback which may be filled by verandahs and private garden-courts:
- a) encourages active use by residents;
 - b) provides for attractive front gardens.
- 5) Within the relevant zones, established development provides parking areas which are concealed from the street and consequently avoids the appearance of "garage architecture".

How much floor space is appropriate to your site?

2.5.3 The Development Site

A. Objective

Identify planning and design options that are appropriate to the shape and size of each development lot, and to the location of neighbouring buildings.

B. Controls

- 1) Determine a minimum lot width for residential flat buildings:
 - a) adopt a minimum lot width of 20m in the R4 High Density Residential zone.
- 2) For the purposes of calculating lot size and lot width, the lot does not include the area of any access corridor or right-of-carriageway.

2.5.4. Urban Form

A. Objective

New buildings should show characteristics of traditional suburban development: dwellings oriented to face the street, building forms stepped or articulated, and integrated with the shape of surrounding garden areas.

B. Controls

- 1) For dwellings fronting the street, adopt a traditional orientation:
 - a) living rooms, verandahs and the paths to entrances face the street rather than neighbouring properties; and
 - b) private gardens fill the front setback area; and
 - c) garages are concealed behind dwellings.
- 2) Dwellings behind the street frontage should adopt similar principles:
 - a) living rooms and entrances face the street, and / or the landscaped rear boundary setback; and
 - b) private gardens fill the rear setback area.
- 3) Avoid "gun-barrel" style developments with long rows of attached dwellings, long straight driveways and rows of uniform width side setback:
 - a) step the alignment of all facades – generally one corner and a substantial indentation for every 10m run of wall;

- b) divide buildings into separate wings – a deep indentation located centrally in the longest walls; or a central garden courtyard;
- c) vary the width of side setbacks – a combination of garden courtyards and access ways; and
- d) lined by an “avenue” of shady overhanging trees;
- e) cap the stepped floor plan with a variety of pitched roof forms;
- f) windows should be inserted into every elevation.

2.5.5 Landscaped Area

A. Objective

Retain a reasonable proportion of each site for landscaped garden areas, conserve significant existing vegetation, and provide reasonable separation between neighbouring dwellings.

B. Controls

1) Landscaped areas should provide:

- a) effective separation between neighbouring dwellings;
 - i) healthy growth of new trees and shrubs;
 - ii) long-term survival of existing vegetation required by Council to be preserved;
 - iii) private courtyards for all dwellings and a green outlook;
 - iv) front gardens that contribute to an attractive streetscape; and
 - v) where more than 10 dwellings are proposed, a centrally located communal open space area that is accessible and available to all residents of the development, comprising 10% of the minimum landscaped area requirement.

3) Landscaped area must meet the following requirements:

a) Landscaped areas should be:

Zone	Minimum landscaped area % of the site
R1 Residential General	40
R4 High Density Residential	35

- b) have a minimum width of 2m – with no basement encroachment; and containing unexcavated soil to promote landscaping that is effective and healthy;
- c) may include terraces and patios located not higher than 0.5m above ground and pedestrian pathways to building and dwelling entrances;
- d) do not include substantially-paved areas such as buildings, driveways and covered garages;
- e) should include verges that surround car parking areas and open driveways;
- f) should provide a reasonable area of private open space in accordance with the part within this section on design;

- g) where more than one building is proposed, that part of any easement exceeding 10% of the site area shall not be included in the landscaped area calculation.

2.5.6 Front and Rear Setbacks

A. Objective

Setbacks are to reflect the character of established garden suburbs, and provide for development of flora and fauna corridors.

B. Controls

- 1) Determine the maximum development footprint for your site:
 - a) The minimum rear setback for a single storey building (or any single storey component of a building) is 4m
 - b) The minimum rear setback for a two storey building (or any two storey component of a building) is 6m.
- 2) Within the rear boundary setback:
 - a) there shall be no building encroachments either above or below ground (eaves excepted);
 - b) maximise the amount of undisturbed soil, encouraging rapid growth of healthy trees and shrubs;
 - c) where there are physical encumbrances such as open drains, increase the setback accordingly.
- 3) Determine an appropriate front setback:
 - a) either average the setbacks of the immediate neighbours; or
 - b) 5.5m minimum whichever is the greater dimension.
- 4) Permissible encroachments within the front setback are:
 - a) verandahs and pergolas only which are a 4.5m minimum setback to the face of the verandah or pergola; and maximum 50% of elevation.
- 5) Garages and parking spaces are not permissible within the front setback.

2.5.7 Side Setbacks

A. Objective

Minimise disturbance to existing topography and natural soil-profiles, and provide for reasonable landscaped separation between neighbouring buildings.

B. Controls

- 1) Cut and fill and maximum ground floor heights:
 - a) on sloping sites provide stepping building platforms in line with existing topography with floors no higher than 1m above natural ground level;
 - b) restrict cut-and-fill to a maximum of 500mm; and
 - c) provide effective sub-soil drainage.
- 2) Pitches for main roofs are not to be in excess of 25 degrees in order to reduce the visual scale.

- 3) Zero setbacks from the side boundary are not permissible, other than awnings to main building entrances.

2.5.8 Visual and Acoustic Privacy and Outlook

A. Objective

- a. Provide an outlook from dwellings and their private open space, and achieve levels of acoustic and visual privacy that are reasonable for a medium-density residential neighbourhood.
- b. To provide a high level of visual and acoustic privacy for residents and neighbours in dwellings and private open space.
- c. To ensure that building design minimises overlooking problems.

B. Controls

- 1) Demonstrate a package of measures that achieves reasonable visual privacy between adjacent dwellings:

- a) windows oriented towards their own private garden courtyard; and / or
- b) at least 9m between any windows that face each other; and / or
- c) screening measures, including:
 - i) offsetting of windows; or
 - ii) oblique orientation for windows; or
 - iii) external screens to windows; or
 - iv) courtyard walls and pergolas;

note that landscaping (other than established trees and shrubs that are proposed to be retained) should not provide the principal means of screening;

- d) for windows of habitable rooms with a direct outlook onto windows of habitable rooms of adjacent dwellings:
 - i) are offset by a distance sufficient to limit views between windows; or
 - ii) have sill heights of 1.7m above floor level; or
 - iii) have fixed obscure glazing in any part of the window below 1.7m.

2.5.9 Solar Planning

A. Objective

- a. Improve the energy efficiency of dwellings and achieve a high standard of residential amenity.
- b. To ensure adequate residential amenity through the provision of sunlight access and good solar amenity to the living spaces and private open space areas of dwellings.
- c. To recognise the reasonable expectation for a dwelling to have the ability to access sunlight.

B. Controls

- 1) The applicant must demonstrate that dwellings meet acceptable solar standards and that existing neighbouring and proposed private open spaces receive adequate solar access by:
- a) Providing shadow diagrams prepared by a qualified technician;

- b) Illustrating the impacts of proposed development upon existing neighbouring dwellings and their open space areas;
- c) Demonstrating shadows cast by neighbouring buildings;
- d) Maximising potential for solar gain by placing windows in all exterior walls that are exposed to northern sun;
- e) Ensuring that the proposed development provides a minimum of 4 hours sunlight between 9am and 3pm on 21 June, to living zones (i.e. areas other than bedrooms, bathrooms, kitchen and laundry) of each dwelling, and the living zones of any adjoining dwellings;
- f) Ensuring that the proposed development provides a minimum of 3 hours sunlight between 9am and 3pm on 21 June, to 40% of the main private open spaces of the dwelling and main private open spaces of any adjoining dwellings;
- g) In situations where the existing overshadowing by buildings and fences reduces sunlight to less than the minimums noted above, the development is to not further reduced sunlight to the specified areas by more than 20%.

Urban design

2.5.10 Significant Townscapes & Landscapes

A. Objective

In areas of particular significance to urban conservation, environmental character, new development should demonstrate detailed design measures that protect and complement heritage significance or character.

B. Controls

- 1) In neighbourhoods with townscape significance, new development should:
 - a) conserve vegetation that has visual or historical significance;
 - b) adopt the prevailing configuration of garden areas, particularly the street's predominant front boundary set-back;
 - c) adopt the predominant width, height, and scale of existing buildings;
 - d) ensure that floor plans are stepped or articulated similar to the shape or form of surrounding buildings;
 - e) adopt roof pitches, ceiling heights and forms that match neighbouring buildings;
 - f) minimise the width and area of driveways visible from public frontages;
 - g) conceal garages from public frontages (corner sites excepted).
- 2) In areas with significant vegetation:
 - a) aim to preserve established trees as blocks or corridors;
 - b) ensure that the location of buildings and pavements does not affect long term survival of established trees;
 - c) incorporate new plantings that reinforce the visual and habitat values;
 - d) in general, new plantings should be species indigenous to the local soil type, reinforcing visual and habitat values.
- 3) New development should not aim to provide a direct copy of traditional buildings:

- a) simple detailing of building forms and openings is preferred to the use of "stuck-on" detailing applied to gable ends and verandahs;
- b) the pitch and form of roofs, and articulation of floor plans are of particular importance;
- c) frequent use of shadow-casting elements such as verandahs and awnings is important to reduce the scale of long walls;
- d) traditional proportions for window and door openings should be employed;
- e) use of traditional joinery details for windows, doors and verandahs and fences should be concentrated in elevations that are visible from public places

2.5.11 Corner Sites and Park Frontages

A. Objective

For allotments facing two streets or adjoining a public park, apply traditional principles of orientation and articulation to both of the public frontages.

B. Controls

- 1) For allotments with a second street frontage, the second frontage should adopt key principles from other parts of this section including:
 - a) The development site;
 - b) Urban form;
 - c) Landscaped area;
 - d) Side setbacks.
- 2) For corner lots and park frontages:
 - a) the rear and front setbacks may be measured relative to the shortest boundaries;
 - b) living rooms, dwelling entrances and verandahs may face either public frontage;
 - c) building forms should be articulated for both frontages;
 - d) all fences along public frontages should be designed in accordance with the parts in this section on fences and retaining walls;
 - e) driveway access should be from the shortest street frontage, with garages concealed from both public frontages; and
- 3) For frontages to a second street:
 - a) minimum setback to dwellings and garage entrances should be 5.5m;
 - b) minimum verandah setback should be 3m;
 - c) garden areas facing the street should be landscaped as private courtyards.
 - d) Facing the street corner, the profile of the buildings should be varied with:
 - a) A distinctive roof element; and/or
 - b) Limited encroachments: external walls to corner rooms that measure up to 5 m in width may extend 2m beyond both street front setbacks
- 4) Along park frontages:
 - a) dwellings and private courtyards should face the park;
 - b) minimum dwelling or verandah setback should be 2m, for not more than 50% of the total building elevation;

- c) screen plantings should be employed to conceal driveways and basement parking.

2.5.12 Building Design

A. Objective

New developments should appear as a collection of single or semi-detached dwellings separated by gardens and ancillary structures, with facades designed to incorporate a variety of materials and shading structures.

A variety of overhanging roofs and projections at ground floor level; a range of materials and finishes; windows inserted into every visible wall; garages concealed in basements.

Basement parking enables access from dwellings to private open space, located both at ground level, and/or set upon a podium not higher than 1.5m above ground.

B. Controls

- 1) Development should incorporate a variety of architectural features to minimise the apparent scale and bulk of buildings and to reflect typical features of established cottage developments:
 - a) walls with alignments that step in both plan and section;
 - b) windows and doors inserted into all visible walls;
 - c) a variety of pitched roofs, predominantly hipped.
 - d) lower storeys that project beyond the line of the top storey, and are capped by roofs; or terraces to the upper storey apartments;
 - e) the top storey designed as a "penthouse" with extensive glazing in the form of windows and large doors surrounded by terraces and pergolas;
 - f) a variety of overhangs that cast shadows including:
 - i) roofs with wide eaves;
 - ii) awnings and pergolas;
 - iii) balconies enclosed by corner columns and a variety of balustrades;
 - iv) wide terraces at ground level;
 - g) variation in building materials, for example:
 - i) a "solid" masonry base;
 - ii) intermediate levels that appear lighter: coloured or painted brickwork, with projecting "screens" of balconies that are located in particular at corners of buildings;
 - iii) a lightweight "penthouse" upper storey, capped by overhanging roofs and open pergolas, with terraces and balconies surrounded by open-style balustrades.
- 2) Variety in architectural features should be apparent in all visible facades including:
 - a) facing the street;
 - b) facing side driveways; and
 - c) facing neighbouring residential properties.
- 3) Basements for car parks should rise no higher than 1.5m above ground provide a minimum 2.2m vertical clearance for vehicles.

2.5.13 Energy Efficiency

A. Objective

Dwellings shall be configured and constructed to minimize the energy required for space heating, cooling or lighting.

B. Controls

- 1) Adopt a configuration for dwellings that promotes cross-ventilation:
 - a) corner apartments with two external walls;
 - b) apartments that sit between two opposite external walls.
- 2) Adopt an appropriate orientation for rooms and windows:
 - a) living areas - facing within 30 degrees of solar north is desirable;
 - b) windows - at least 50% of glazing facing solar north is desirable; unprotected glazing facing east, west or south shall be avoided; for every room, windows in two external walls are desirable;
 - c) where the desired orientation cannot be achieved, higher compliance with other energy efficiency standards shall be achieved.
- 3) Provide effective shading from summer sun and employ effective glazing:
 - a) overhanging eaves: at least 450mm wide;
 - b) external, adjustable screening for windows, doors and skylights to habitable rooms;
 - c) pergolas over courtyards;
 - d) for any large south-facing window:
high performance glass eg. double glazing in thermal break frames;
 - e) windows and doors facing east, south or west: high performance glass eg. double glazing in thermal break frames;
 - f) all windows and external doors: weather-stripping should be used.

2.5.14 Design of Dwellings and Private Courtyards

A. Objective

Dwellings and their private courtyards should achieve high levels of amenity, and demonstrate traditional practices of suburban design.

B. Controls

- 1) Common circulation areas should facilitate access by people carrying parcels and removal of furniture:
 - a) corridors at least 1.2m wide;
 - b) stairs with landings at least 1.2m deep.
- 2) A reasonable area of private open space should be provided for each dwelling:
 - a) for dwellings at ground level:
 - i) a minimum of 20m²;
 - ii) as courtyards at ground level; and / or
 - iii) terraces located not higher than 1.5m above ground level; and

- iv) for street-front dwellings: individual entrances to terraces or courtyards from the street;
- b) for dwellings above ground - balconies that are a minimum of 10m²;
- c) all required open space should include one area:
 - v) measuring at least 2.5m by 2.5m;
 - vi) suitable for outdoor dining; and
 - vii) located immediately next to, and level with, a living or dining room; and
 - viii) incorporating an area for outdoor clothes drying that is visually-screened to a height of at least 1.5m above floor level;
 - ix) Landscaped areas should maximise the area available for private courtyards and gardens.
- 3) Dwellings should have rooms that are planned and oriented:
 - a) to maximise privacy,
 - b) to provide a "green" outlook across open space;
 - c) to facilitate natural ventilation and day lighting.
- 4) Rooms should have dimensions and an area that:
 - a) can accommodate the range of furniture typically associated with their function; and
 - b) recognise that furnishing options may be restricted by the location of windows and doors.

2.5.15 Garages

A. Objective

Garages should be designed to serve a variety of purposes, and their appearance should contribute to the overall diversity of building form and design.

B. Controls

- 5) Garage and parking areas should be planned to:
 - a) minimise disruption to traditional or established streetscapes by concealing from the street;
 - b) provide flexible accommodation for vehicles, domestic pets, storage, and covered areas for outdoor recreation;
 - c) minimise transmission of noise to adjoining dwellings;
 - d) provide secure parking;
 - e) allow for maintenance access to rear garden courtyards; and
 - f) provide for effective and healthy landscaping along verges and boundaries.
 - g) permit all turning movements, full opening of vehicle doors as defined by AS 2890.1-1993;
- 6) Basements should have:
 - i) a low appearance, rising no higher than 1.5m above ground;
 - j) natural ventilation, either screen walls; or terraced embankments, with each step a maximum of 500mm, and landscaped as part of the side boundary court;

- k) a "capping" of private courtyards or balconies opening from the lowest level of dwellings (if basements extend beyond the main building walls);
 - l) vehicle entrances designed to complement the architecture and landscaping of each building;
 - m) individual up and down ramps;
 - n) a central median;
 - o) overhung by balcony structures; and
 - p) undercover storage:
 - iii) garbage and recycling bins in a secured area located close to the street entrance and detailed according to Council codes; and
 - iv) household items: in secured enclosures for each dwelling, or associated with secured private parking spaces.
- 7) For dwellings that require two spaces:
- a) parking may be arranged in a stacked configuration
- 8) Garages and parking spaces are not permissible within the front setback.

2.5.16 Garden Design

A. Objective

Gardens should be landscaped according to the function of each area, and should provide a backdrop that is appropriate to each adjacent room.

B. Controls

- 1) The rear boundary setback should provide:
 - a) private garden courtyards;
 - b) a corridor of habitat, and a green backdrop that is visible from the street;
 - c) conservation for any existing corridor of mature trees; or
 - d) an interlocking canopy of low to medium-height trees and shrubs;
 - e) predominantly species indigenous to the soils of Penrith City.
 - 2) Alongside boundaries, generally provide:
 - a) small-to medium height canopy trees for sun-shading and privacy separation between dwellings;
 - b) within the verges to any common driveway: hedges fronting windows to any dwelling;
 - 3) Along driveway verges and surrounding parking basements:
 - a) screen plantings of small to medium canopy trees;
 - b) beds of continuous ground cover;
 - c) common pathways to building entrances according to the part below on Paving Design
- Street frontage plantings should provide:
- a) private gardens for street-front dwellings;
 - b) a civic garden frontage appropriate to the established neighbourhood character; and

- c) mixed species of trees, shrubs, and accent plantings including flowers and ground covers;
- d) level areas of well-drained turf; and
- e) along noisy thoroughfares:
 - i) noise attenuation with an interlocking canopy formed by at least two rows of trees under planted with dense hedges.

2.5.17 Paving Design

A. Objective

Design driveways and paved areas as attractive and functional components of development, complementing the designs of garden areas and buildings, and providing effective management for stormwater run-off.

B. Controls

- 1) Hard paved surfaces should:
 - a) maximise the area available for landscaping and gardens;
 - b) impose no adverse long term effect on any vegetation that Council requires preserved.
- 2) Generally paving should:
 - a) provide an attractive "address" for any dwellings without a direct frontage to the street;
 - b) minimise the area and width of driveways along the street-frontage;
 - c) be overlooked by continuously-occupied rooms such as kitchens and living rooms;
 - d) be divided into panels by bands of contrasting materials or pavers;
 - e) provide barrier-free access continuous from the street to the entrance of each dwelling;
 - f) provide for landscaping as continuous verges along both sides,
 - g) collect and channel run off into grated sumps located strategically and integrated with the design of surface pavement.
 - h) Incorporate outdoor storage of garbage bins awaiting collection.

2.5.18 Fences and Retaining Walls

A. Objective

Fences, courtyard walls and boundary retaining walls should be compatible with neighbourhood character, and should be integrated with the design of buildings and garden areas, and provide casual surveillance of public and common areas.

B. Controls

- 1) Fencing must:
 - a) Be structurally adequate, in accordance with the Building Code of Australia, and meets the *Dividing Fences Act 1991*.
 - b) Be sympathetic to the natural setting and character in form, materials and colour;
 - c) Maximise natural surveillance from the street to the building and from the building to the street.
- 2) Fences should be no taller than:

- a) 1.8m generally; and
 - b) 2.4m on sloping sites, including the height of any retaining wall.
- 3) Fences along boundaries forward of the front building alignment:
- a) should not be taller than 1.2m, or if taller, of see-through construction;
 - b) should not be constructed of metal panels;
 - c) walls of solid construction and taller than 1.2m (such as courtyard walls) should be set back at least 2m from the front boundary (to allow for landscaping) and should not occupy more than 50% of the allotment width.
- 4) Fences along driveways and separating existing multi-unit housing, or fronting a public park should be 1m tall, or if taller, of see-through construction;
- 5) Fences along boundaries around private courtyards should minimise cross-viewing and the transmission of noise;
- 6) Fences along boundaries in any location that can be seen from the street or a public park frontage should not be constructed of metal panels;
- 7) Fences along boundaries fronting noisy thoroughfares:
- a) solid masonry walls are acceptable to a maximum of 1.8m; and
 - b) incorporating corners and planting beds every 5m;
- 8) Where fencing affects easements or stormwater flow paths: consult with Council and the relevant authority.
- 9) Fencing of a "see-through" construction includes:
- a) panels set into a timber frame or between brick piers; where
 - b) any solid base is not taller than 1m; and
 - c) panels are spaced pickets or palings, or lattice.
- 10) Retaining walls:
- a) generally should be no taller than 500mm;
 - b) should not cut through roots of any tree required by Council to be preserved;
 - c) should be separated from any associated fence by a planter-bed at least 500mm wide, minimising the apparent overall height of fencing;
 - d) should provide drainage for any associated planter-bed;
 - e) should be separated from any driveway by a landscaped verge at least 500mm wide, to prevent impact damage from vehicles.

2.5.19 Safety and Security

A. Objective

Achieve a high level of passive security within and surrounding dwellings.

B. Controls

- 1) Encourage a sense of community:
 - a) Each common stairwell should serve no more than 10 dwellings.
 - b) The public street and /or common pathways should be overlooked by:
 - i) Entrances to dwellings or to ground level; terraces;

- ii) Windows to living rooms, dining rooms and/or kitchens; and
 - iii) Private terraces and balconies
- c) fences should be designed to facilitate glimpses or filtered views from dwellings and private courts to the street and to driveways.
- 2) Ensure that at least one continuously-occupied room in each dwelling (a kitchen or living room) overlooks:
 - a) the front street;
 - b) driveways and garage forecourts.
- 3) Prevent concealment of intruders by:
 - a) uniform lighting levels across common areas such as driveways;
 - b) planning which does not provide hidden recesses;
 - c) along common pathways: selection of appropriate plant species according to height and density.

2.5.20 Accessibility and Adaptability

A. Objective

To provide safe and easy access to buildings to enable better use and enjoyment by people regardless of age and physical condition, while also contribution to the vitality and vibrancy of the public domain.

B. Controls

- 1) Demonstrate that planning and design measures do not prevent access by people with disabilities:
 - a) access pathways should slope gently and evenly, with a non-slip finish and no steps between the street frontage and principal building entrances;
 - b) stair nosings should have a distinctive colour and texture;
 - c) dwellings should have:
 - d) dimensions consistent with AS 1428.1-Design for access and mobility.
 - e) hallways at least 1m wide.
 - f) circulation areas in bathrooms at least 1 m wide.
- 2) Demonstrate that dwellings have been designed to meet the needs of an ageing population:
 - a) incorporate design measures which are appropriate to people with disabilities; and
 - b) employ lever-type door handles and traditional cruciform tap-handles; and
 - c) provide for future low cost modifications to bathrooms:
 - i) future removal of hobs from shower recesses;
 - ii) provision for future attachment of grab-rails to walls.
 - d) provide for future low-cost modifications to kitchens including replacement of under bench shelves with drawers & attachment of grab-rails.
 - e) provide appropriate levels and location of lighting.

- 3) 10% of all dwellings or a minimum one dwelling, whichever is greater, must be designed in accordance with the Australian Adaptable Housing Standard (AS4299-1995), to be capable of adaptation for people with a disability or elderly residents.
- 4) Where possible, the mandatory adaptable dwellings shall be located on the ground floor.
- 5) The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Housing Standard (AS4299-1995).
- 6) Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard regarding parking for people with a disability.

2.5.21 Storage and Services

A. Objective

Ensure that each dwelling has reasonable private storage space and waste management areas/facilities, and that meters, service cupboards and aerials are integrated with the design of buildings.

B. Controls

- 1) Provide storage for household items:
 - a) at least 10m³ per dwelling; either
 - b) as cupboard space within the dwelling in addition to wardrobes; or
 - c) within a lockable garage, not encroaching upon the parking space; or
 - d) in weather-proof lockers that are not visible from the street.
- 2) Letter boxes should be provided according to Australia Post specifications:
 - a) adjacent to the front boundary;
 - b) located conveniently for residents entering the site (by car or on foot);
 - c) integrated with the design of landscaped areas, fences and buildings.
- 3) Demonstrate that dwellings have been designed to accommodate home-based telecommunications facilities and information technologies by allowing for:
 - a) additional telephone lines and outlets;
 - b) additional electrical outlets;
 - c) satellite or cable-based reception.

2.6 Non Residential Developments

The following developments are covered by this section:

- a) Any proposed non residential development proposed in a residential zone.

This section provides specific controls for non residential development in residential zones in addition to the general controls elsewhere in this DCP.

A. Objectives

Non-residential development should be planned and designed according to principles of traditional suburban design, and to preserve the amenity of residential neighbourhoods.

B. Controls

- 1) Principles of urban form and urban design that apply to permissible residential development should be adopted for non-residential development.

- 2) Particular attention should be paid to:

The development site including front setbacks, rear setbacks dual frontage situations.

- a) Urban form including:

- i) traditional building design features;
- ii) traditional garden frontages;
- iii) orientation of building entrances;
- iv) continuously occupied rooms facing the street;
- v) detailed consideration of significant townscapes or landscapes;
- vi) signs.

- vii) driveways and parking including:

- provision of on-site parking appropriate to the proposed use, and in accordance with the parking requirements of this DCP;
- minimise site coverage by paved areas;
- conceal garages from views available from public parks and streets;
- locate driveways and parking areas away from any neighbouring residential development;

- b) landscaped area- provision and design of the required minimum area with detailed design of gardens and paving;
- c) side setbacks to provide for effective landscaped separation from adjacent developments;
- d) solar planning and energy efficiency - minimised overshadowing of adjacent properties and minimise requirements for mechanical heating and cooling of interiors;
- e) privacy - protect the amenity of adjacent properties;
- f) storage and building services - sufficient to meet requirements generated by the proposed development and located to protect the amenity of adjacent developments.
- g) privacy – protect the amenity of adjacent properties;

- h) storage and building services – sufficient to meet requirements generated by the proposed development and located to protect the amenity of adjacent residents.

2.7 Proposed Road Pattern Designs

The following developments are covered by this section:

- 1) Development patterns shall be consistent with the road patterns as shown in Figures D2.15 to D2.18:

Figure D2.15: Proposed road pattern for Kohlenberg Close in the vicinity of Brougham Street, Emu Plains

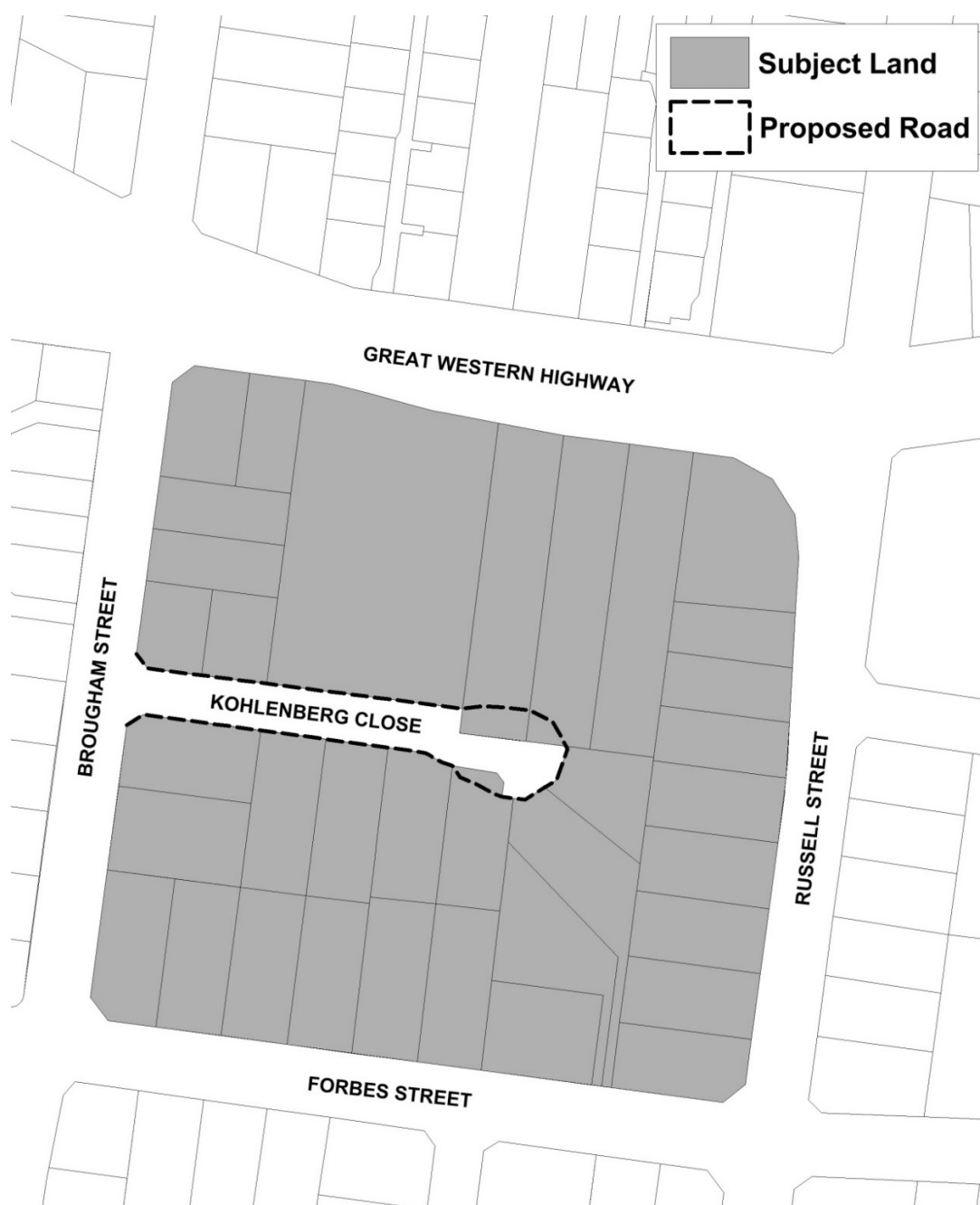


Figure D2.16: Proposed road pattern for Acorn Street in the vicinity of Grey Street, Emu Plains

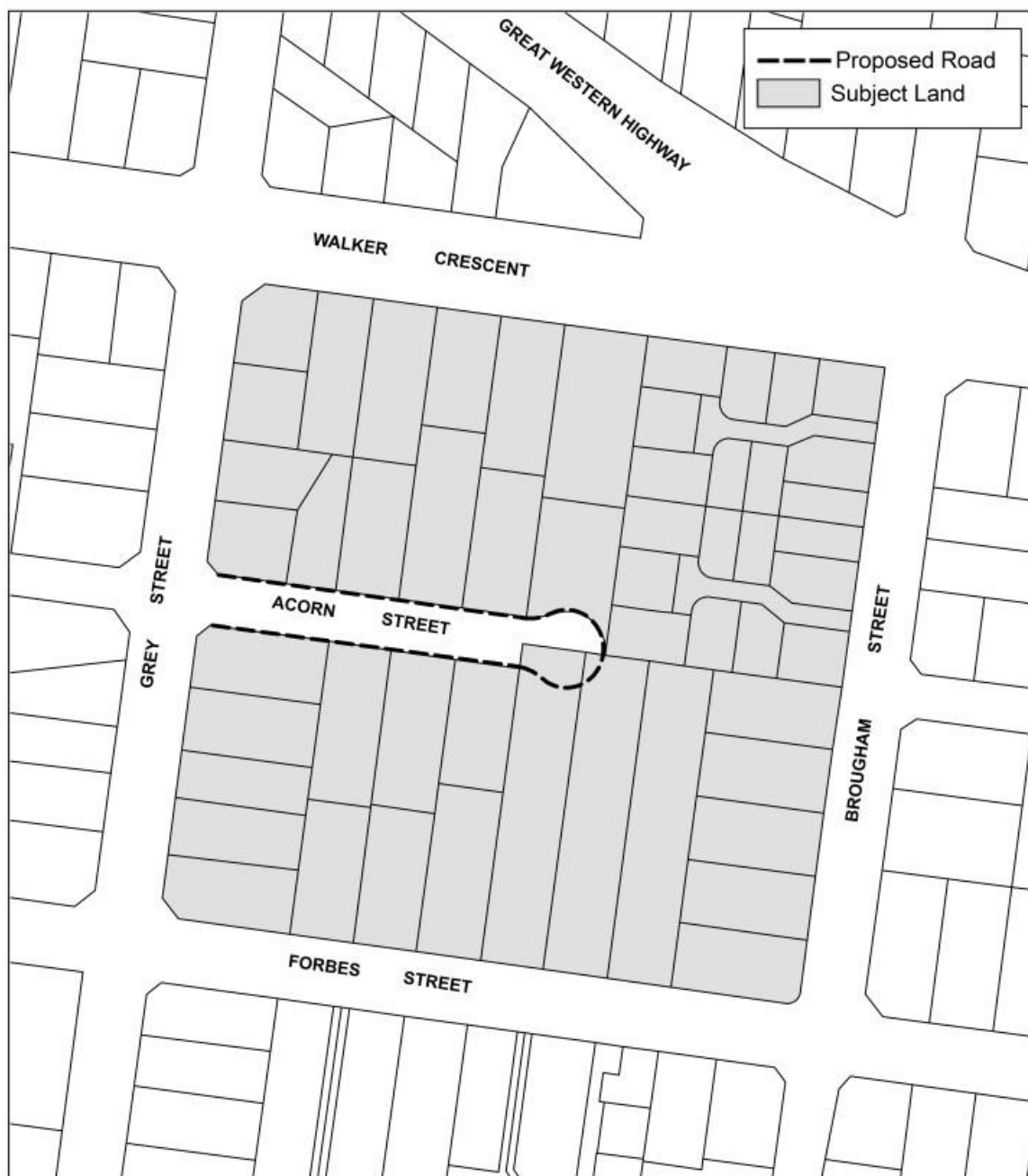


Figure D2.17: Proposed road pattern in the vicinity of Towle Close, Emu Plains

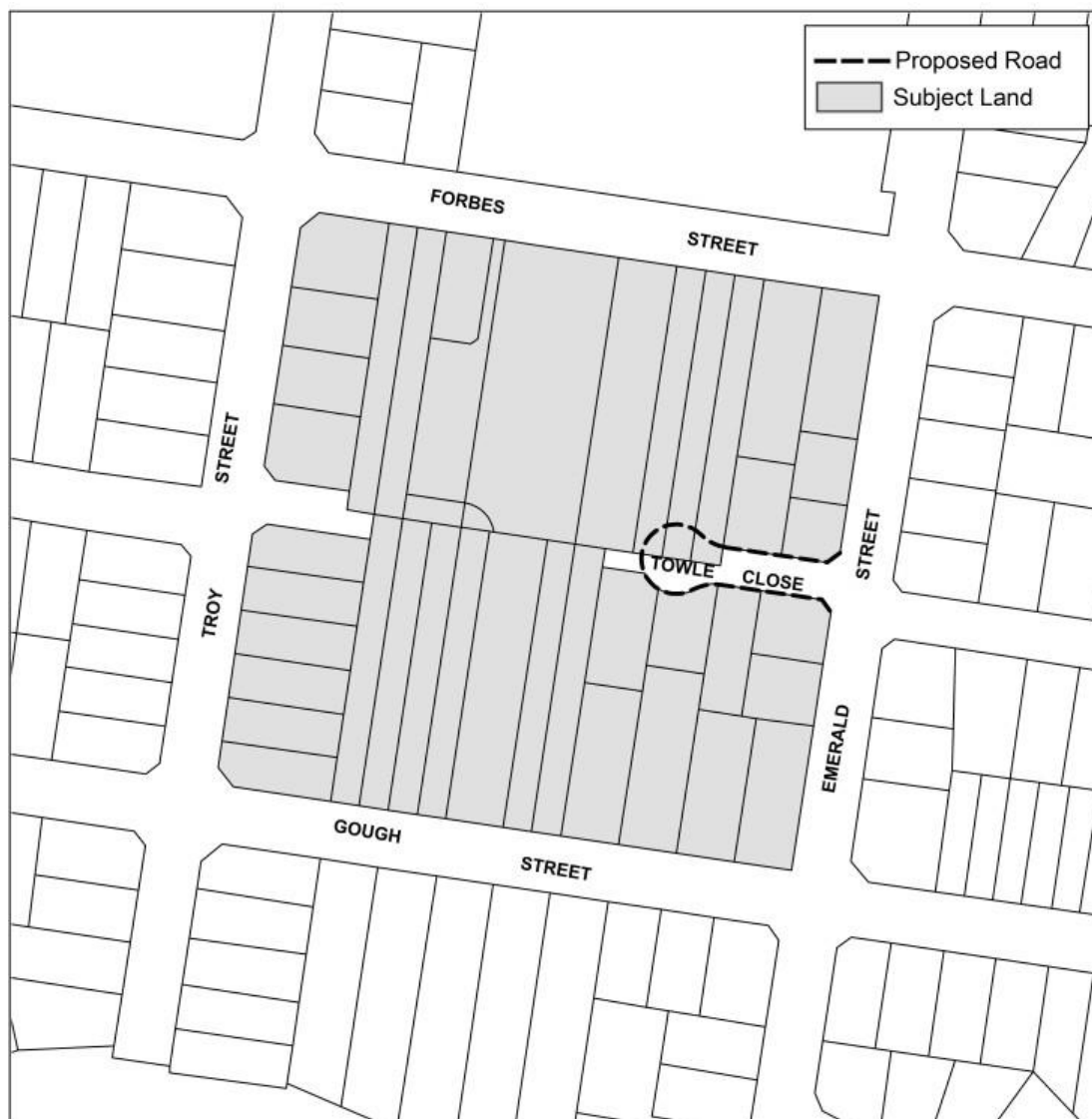


Figure D2.18: Proposed road pattern in the vicinity of Stock Avenue, Kingswood



This section provides specific controls for development where specific road patterns have been identified. In the event of any inconsistency between this section and the rest of this DCP, the requirements of this section prevail.

A. Objectives

- 1) To facilitate the creation and construction of public roads,
- 2) To create a strong nexus between public roads and future development,
- 3) To maintain and enhance the amenity, safety and access of these public roads.

B. Controls

1) Street Frontage

Development on land that abuts a proposed road (as shown in Figure D2.15 to D2.18) shall be oriented to the proposed road and provide pedestrian and vehicular access to the proposed road.

2) Fencing

Any fencing along the frontage to the proposed road must be “see-through” construction and should not be taller than 1.2m.

Fencing of a “see-through” construction includes:

- a) Panels set into a timber frame or between brick piers; where
- b) Any solid base is not taller than 1m; and
- c) Panels are spaced pickets or palings, or lattice.

3) Landscaping

Despite the landscaped area controls contained elsewhere within Section D2 of this Development Control Plan:

A maximum of 10% reduction in the minimum landscaped area requirement may apply to development of the specified sites where an application proposes construction of the proposed road and subsequent dedication of the land.

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D3 Commercial and Retail Development

3.1. Bulky Goods Retailing

A. Controls

1) General

- a) The built form is to provide consistent landscaped front setbacks and an active street address.
- b) Where bulky goods developments also comprise ancillary café or service uses, locate these uses within the primary street frontage to generate activity and interest at street level.
- c) Provide pedestrian footpaths on all streets.
- d) Entrances to bulky goods premises must be on the primary street frontage.
- e) Awnings are to be provided at entry points.
- f) Bulky goods developments are to be located on or close to the main street alignment.
- g) Provide consistent street planting and footpaths are to be provided along Blaikie Road to establish the public domain.
- h) Setback areas are to be landscaped, but may incorporate an off-street parking area if it can be demonstrated that the location of the car parking area as illustrated in Figures D3.1-D3.3:
 - i) Is within a setback which is at least 13m wide and set behind a landscaped area which is at least 4m wide;
 - ii) Promotes the function and operation of the development.

2) Vegetation and landscape

- a) The siting and layout of a development should preserve all on-site trees, significant strands of vegetation, and remnant or native bushland in accordance with the requirements of the Vegetation Management and Landscape Design section of this DCP. Where this is not practical, the development application must justify the loss of vegetation and outline what measures are to be taken to replace it.
- b) Applicants should refer to the Landscape Design section of this DCP regarding the implementation and maintenance of landscaping for the site.
- c) Smaller scale and less visually prominent planting should be provided to add variety and interest in the appearance of the site.
- d) Landscape materials should cause minimal detrimental visual impact, and the use of subtle coloured materials and block or brick paving is encouraged.
- e) Paving and structures shall complement the architectural style of existing buildings.
- f) Outdoor staff break areas should be provided and integrated into landscape areas. These areas should be provided with shade and reasonable amenity.
- g) Shade trees should be provided in outdoor staff break areas and along pedestrian paths and walkways.

- h) Plant species should be carefully selected to meet service authority requirements in easement locations.

Figure D3.1: Illustration of Building Setbacks – Smaller Site (Plan View)

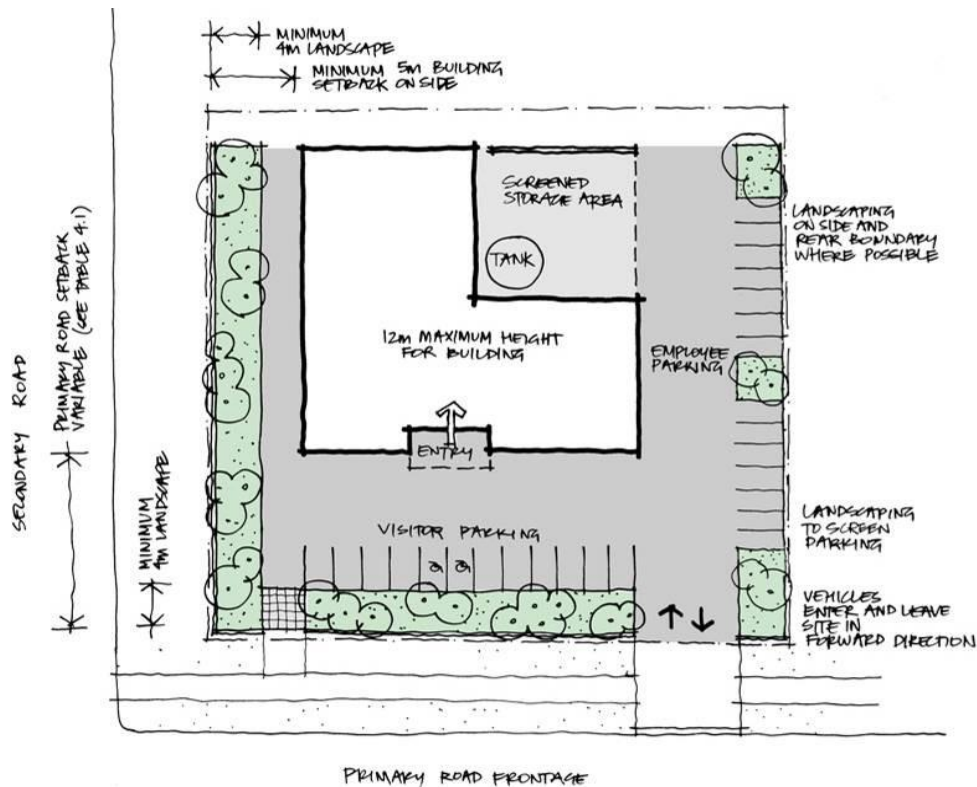


Figure D3.2: Illustration of Building Setbacks – Smaller Site (Cross Section)

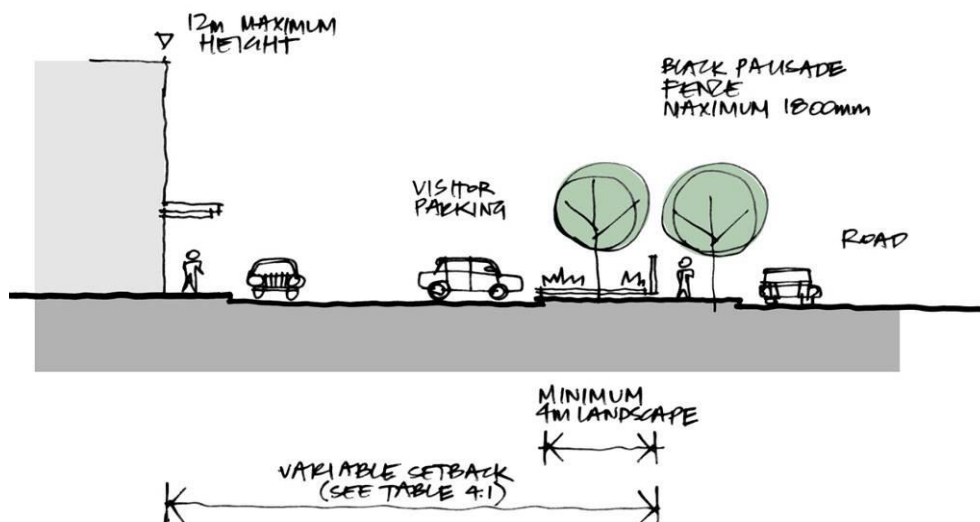
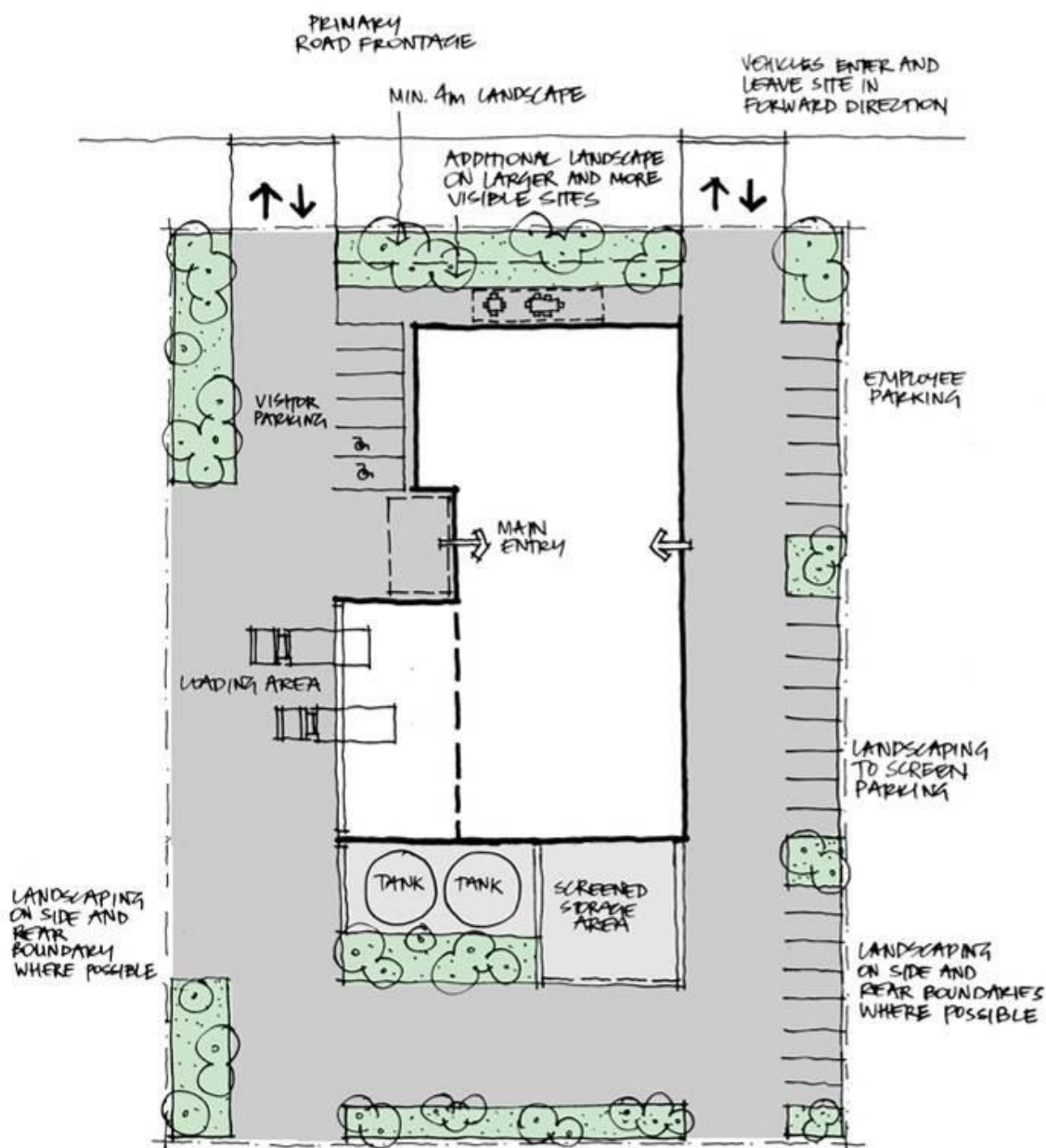


Figure D3.3: Illustration of Building Setbacks – Larger Site (Plan View)



3.2. Sex Services Premises

A. Background

The impact of individual sex services premises can vary in relation to their nature and scale. The concentration of this type of use can also exacerbate negative impacts. The nature of these uses means that specific controls are required to minimise potential impacts on the community and ensure separation from sensitive land uses, such as residences, schools, parks and playgrounds, churches and other places that children may attend for recreational, educational or cultural activities.

The controls in this section seek to reduce negative impacts, while at the same time allow premises to operate in suitable locations and at a suitable scale.

B. Objectives

- a) To ensure that the design and location of sex services premises do not adversely impact on the amenity of the area or neighbouring properties, in particular, land uses that are frequented by children;
- b) To increase the safety of staff and visitors of the sex services premises through the consideration of safety and security aspects in the design and location of premises, and through the provision of appropriate safety measures;
- c) To ensure that the safety of all staff and visitors is maintained when approaching, entering and leaving the premises, including the use of appropriate lighting.
- d) To ensure that sex services premises are accessible to all adult members of the community;
- e) To ensure that the design (including colour, signage and lighting) and external treatment of the sex services premises do not detract from the character and appearance of the streetscape;
- f) To ensure that the interior of the sex services premises, sex workers or sex related products associated with the premises are not visible from outside of the premises;
- g) To ensure that the nuisance to neighbouring properties is minimised through the clear numbering of sex services premises;
- h) To ensure that adequate facilities are provided inside the premises in accordance with relevant occupational health and safety legislation, and provide for the comfort and safety of visitors and staff;
- i) To ensure that the internal layout of the premises maximises the safety and security of staff and visitors;
- j) To ensure that the safety and security of staff and visitors is maintained through the use of security systems and implementation of procedures identified in the Plan of Management;
- k) To ensure that the premises operate in accordance with health standards and any recommended guidelines; and
- l) To ensure compliance with the provisions of the NSW Liquor Act 1982 as it prohibits solicitation or the provision of commercial sexual services on premises having liquor licences.

C. Controls

1) Locational and Access Controls

- a) Sex services premises must not be located:

- i) adjacent to or directly opposite to (including elevation) a sensitive land use unless separated by at least another non-sensitive land use, including a road at least 30 metres wide; or
 - ii) on the same floor or level that contains a dwelling; or
 - iii) in a mixed use development where the primary access to the premises is the same access to the residential floor(s)/ level(s) in that development.
- b) Sex services premises and adult entertainment premises must not be located within a radius of 75m from an existing, approved sex services premises or restricted premises (e.g. adult book store). The radius must be measured from the centre of the primary access to the proposed sex services premises or adult entertainment premises.

Adult entertainment premises is a form of restricted premises that provides entertainment such as strip club premises or premises which sells or displays restricted material but does not include hotel accommodation, a pub, home occupation (sex services) or sex services premises.

- c) Access to and within the sex services premises is to be provided in accordance with the Building Code of Australia and the Commonwealth's Disability Discrimination Act 1992 to ensure that the premises is accessible to all adult members of the community. In this regard, access arrangements must demonstrate:
- i) Major entrances to the premises, to which the public are entitled to enter, must be designed and constructed to provide equitable treatment of staff and visitors; and
 - ii) Compliance with the minimum standards of grade, doorway, width and connectivity in accordance with the *Disability Discrimination Act 1992*.

2) External Design of Premises

- a) The external appearance of the sex services premises should respect the architectural character of the streetscape so that the sex service premises does not become a prominent feature of the street.
- b) The premises must be clearly numbered, with the number clearly visible from the street and/or foyer or hallway.
- c) All entrances and exits to the sex services premises should be designed to facilitate the privacy of staff and visitors without compromising personal safety (through avoiding the use of isolated and poorly lit back lanes).
- d) The sex services premises, including the signage, must not display sex-related products, images considered by Council to be sexually explicit, lewd or offensive, sex workers or nude or semi-dressed staff from windows, doors or outside of the premises. Details of any proposed signage associated with the sex services premises, including its location and design/wording, are to accompany the development application.
- e) The interior of the sex services premises must not be visible from outside of the premises, including from the footpath.
- f) Where the interior of the sex services premises may be visible from neighbouring buildings, adequate measures should be taken to screen the interior of the premises (e.g. window screens and blinds).

3) Internal Design of Premises

- a) Adequate design measures ensuring the safety and security of staff and visitors to the sex services premises must be provided and, where appropriate, should include:
 - i) Reception and visitor assessment areas that incorporate design measures and management procedures to ensure the safety and security of staff and visitors;
 - ii) Minimisation of alcoves and entrapment spaces in its floor layout; and
 - iii) Adequate safety and surveillance systems.

NOTE: Operators must comply with the requirements of the *Workplace Surveillance Act 2005*, which prohibits surveillance of staff in staff facilities and where located elsewhere in the premises, requires notification of staff and provision of adequate signage. Where camera surveillance is used, it must not be focused on or record staff providing sex services on a client. The *NSW Summary Offences Act 1988* makes it an offence to film people for the purposes of sexual arousal when in a state of undress or involved in a sexual act without their consent.

- b) Specialist activities involving restraints (such as bondage, suspension) or equipment (ropes, pulleys, slings, poles, etc) must ensure the safety of participants and compliance with the Building Code of Australia and any relevant Australian Standards.
- c) For rooms where bondage and discipline activities are to be administered, the room(s) is to be fitted out with the following elements:
 - i) Provision of a hand wash basin;
 - ii) Provision and storage of first aid kits; and
 - iii) Flooring, walls, shelves and any other equipment that is smooth, impervious and easy to clean.
- d) Each working room should contain water-proof bins fitted with removable plastic liners or mesh bins, and its own sanitary facilities for use by sex workers or their clients. If design or building constraints prevent the provision of adequate sanitary facilities in, or adjacent to, the working rooms, then these facilities must be provided elsewhere in the premises and should aim to maximise access to these facilities from working rooms.
- e) As a minimum, the following staff facilities must be located within the premises, adjacent to and accessible from cubicles or work areas, and in a secure area inaccessible to visitors:
 - i) Sanitary facilities (toilet, hand basin and shower);
 - ii) Rest area with seating;
 - iii) Dining area with food preparation and storage areas;
 - iv) Sink with running water, water boiling facilities and fridge; and
 - v) Lockers to store personal belongings.
- f) If spa pools, saunas or steam rooms are proposed, details are to be shown on the plans accompanying the development application. Additional shower facilities will be required. Any working rooms that contain a spa pool must also provide a shower in the working room.

- g) Safety and security systems, including secure entry and controlled internal and external access, preferably with remote door release mechanisms, are to be provided.
- h) Where there are three or more working rooms in the sex services premises, intercoms and duress alarm systems are to be installed in all working rooms and staff areas, which are linked to a central base and monitored at all times.
- i) Storage space(s) must be provided for both soiled and clean linen, and safe sex equipment.
- j) If food handling and sales is proposed, details of the food handling and preparation area(s) must be shown on the plans accompanying the development application. These areas must comply with the Food Act 2003 and Food Regulation 2004, and AS4674-2004 Design, Construction and Fit-out of Food Premises.

NOTE: It is an offence under the *NSW Liquor Act 1982* to allow sex services to take place in liquor licensed premises.

- k) The use of the premises must not give rise to 'offensive noise' or transmission of vibration to any place of a different occupancy. Offensive noise is defined under the Protection of the Environment Operations Act 1997.

4) Operational Matters

- a) Current, written information must be provided to staff and visitors regarding sexually transmitted infections. The information must be available in the reception/visitor assessment areas.

If the sex services premises are staffed by sex workers of a predominantly non-English speaking background, then the premises operator must provide current written information on sexually transmitted infections in the language spoken by the sex workers.

- b) A Plan of Management must be submitted with the development application, with particular regard to procedures that ensure sex workers can perform their work in a safe manner with minimum risk to their health. The Plan of Management should include (but not be limited to):
 - i) Demonstration of compliance with NSW WorkCover's *Health and Safety Guidelines for Brothels* (2001);
 - ii) Security and safety provisions, including procedures for staff duress events, particularly for premises where intercom and alarm systems are not required, and ensuring that loitering around and adjacent to the entrance of the premises does not occur;
 - iii) Any security staff, or other staff or contractor who may, as part of their responsibilities, enter the footpath or public domain;
 - iv) Risk management protocols to assist sex workers and staff to manage risk exposures, such as blood and body fluid splashes, needle stick injuries and the like;
 - v) Provision of adequate training of sex workers to carry out visual examination of potential clients to detect whether there is any visible evidence of sexually transmitted infections;

- vi) Provision and management of clean linen and clean towels for use for each client, including an adequate number of receptacles for the separate storage of clean linen and soiled linen;
 - vii) Provision and management of safe sex practices, including products, the storing and cleaning of sex service toys/equipment (including condoms, dental dams, gloves and any other safe sex products); and
 - viii) Details to ensure that sex workers and their clients are educated in the practice of safe sex to minimise risk to health.
- c) It is recommended that private contractors be used to launder towels, sheets and linen used in the premises. As a minimum, it is recommended that linen be washed in a hot water wash that is at water temperature of 70°C using laundry detergent and that all items of linen are thoroughly dried before reuse.
 - d) Spruikers are not permitted in association with the operation of the sex services premises.

Spruiker means a person or persons located in a public place, including a footpath, who seek to entice people to enter the premises.

- e) The operator and management of the sex services premises must ensure compliance with the approved Plan of Management.
 - f) It is recommended that the following steps be followed to ensure the continuing good health of sex workers:
 - i) Sex workers are to be immunised against Hepatitis A and B;
 - ii) Sex workers are to attend a sexual health centre or private doctor for sexual health assessment, counselling and education appropriate to individual needs. The frequency of assessment is a matter for determination by the individual sex worker in consultation with his/her clinician;
 - iii) Evidence of attendance for sexual health tests are not to be used as an alternative to safe sex practices;
 - iv) Sexual health certificates of attendance do not imply freedom from sexually transmitted infections; and
 - v) Each client is to be examined by the sex worker to detect any visible evidence of sexually transmitted infections.
- 5) Expansion or Intensification of Existing Premises
- a) In the event that an existing premises seeks to expand its operations or intensify its use, the provisions of this section, including the locational and access controls, will be applied.

3.3. Restricted Premises

A. Background

Restricted premises are premises that, due to their nature, restrict access to customers over 18 years of age, and include sex shops and similar premises.

The impact of restricted premises can vary in relation to their nature and scale. The nature of these uses means that specific controls are required to minimise potential impacts on the community and ensure separation from sensitive land uses such as residences, schools, parks and playgrounds, churches and other places that children may attend for recreational, educational or cultural activities.

The controls in this section seek to reduce negative impacts while at the same time allow premises to operate in suitable locations and at a suitable scale.

B. Objectives

- a) To ensure that the design and location of restricted premises does not adversely impact on the amenity of the area or neighbouring properties, in particular, land uses that are frequented by children;
- b) To ensure that the interior of restricted premises or any restricted material / sex-related products associated with the premises are not visible from the public domain;
- c) To ensure that restricted premises are accessible to all adult members of the community;
- d) To ensure that consideration is given to all aspects of the development, including its operation, and in particular those aspects associated with preserving the amenity of neighbouring premises, and ensuring the safety and security of staff and visitors.
- e) To ensure that underage persons are unable to enter restricted premises.

C. Controls

1) Locational and Access Controls

- a) The primary entrance of restricted premises must not be located:
 - i) Adjacent to or directly opposite to (including elevation) a sensitive land use unless separated by at least another non-sensitive land use, including a road at least 30 metres wide; or
 - ii) On the same floor or level of a building that contains a dwelling; or
 - iii) In a mixed use development where the primary access to the premises is the same access to the residential floor(s)/ level(s) in that development.
- b) Restricted premises must not be located within a radius of 75 metres from an existing, approved sex services premises or restricted premises, including adult entertainment premises. The radius must be measured from the centre of the primary access to the proposed adult entertainment premises or sex services premises.

Adult entertainment premises: is a form of restricted premises that provides entertainment such as strip club premises or premises which sells or displays restricted material but

does not include hotel accommodation, a pub, home occupation (sex services) or sex services premises.

- c) Access to and within restricted premises is to be provided in accordance with the Building Code of Australia and the Commonwealth's *Disability Discrimination Act 1992* to ensure that the premises is accessible to all adult members of the community. In this regard, access arrangements must demonstrate:
 - i) Major entrances to the premises, to which the public are entitled to enter, must be designed and constructed to provide equitable treatment of staff and visitors; and
 - ii) Compliance with the minimum standards of grade, doorway, width and connectivity in accordance with the *Disability Discrimination Act 1992*.

2) External and Internal Design of Premises

- a) The external appearance of restricted premises should respect the architectural character of the streetscape so that the premises does not become a prominent feature of the street.
- b) The premises must be clearly numbered, with the number clearly visible from the street/foyer.
- c) Restricted premises, including the signage, must not display any restricted material including sex-related products or toys, images considered by Council to be sexually explicit, lewd or offensive, from windows, doors or outside of the premises. Details of any proposed signage associated with the restricted premises, including location and design/wording, are to accompany the development application for the use/activity.

Restricted material means publications classified Category 1 restricted, Category 2 restricted or RC (Refused Classification) under the Commonwealth's Classification (Publications, Films and Computer Games) Act 1995.

- d) Adequate design measures ensuring the safety and security of staff and visitors to the restricted premises must be provided and, where appropriate, should include:
 - i) Reception/counter area that incorporates design measures and management procedures to ensure the safety and security of staff and visitors;
 - ii) Minimisation of alcoves and entrapment spaces in its floor layout; and
 - iii) Adequate safety and surveillance systems.
- e) The interior of restricted premises must not be visible from outside of the premises, including the footpath.
- f) Where the interior of the restricted premises may be visible from neighbouring buildings, adequate measures should be taken to screen the interior of the premises (e.g. window screens and blinds).
- g) If food handling and sales is proposed (including drinks), details of the bar and food handling and preparation area(s) must be shown on the plans accompanying the development application. These areas must comply with the Food Act 2003 and Food Regulation 2004, and AS4674-2004 Design, Construction and Fitout of Food Premises.
- h) If private viewing areas/booths or cinema rooms are proposed, there are potential health risks in the transfer of body fluids between customers utilising this facility. As a minimum:
 - i) A hand wash basin is to be provided adjacent to private viewing areas/booths or cinema rooms, and is available for customers to use at all times;

- ii) A safety and surveillance system is to be located at the entrance of these areas as an additional safety and security measure;
- iii) These areas must be cleaned on a daily basis with spot cleaning to occur as necessary; and
- iv) Waste receptacles are to be provided in all areas/booths or cinema rooms.
- i) The use of the premises must not give rise to 'offensive noise' or transmission of vibration to any place of a different occupancy. Offensive noise is defined under the *Protection of the Environment Operations Act 1997*.

3) Operational Matters

- a) A Plan of Management must be submitted with the development application. The Plan of Management should include (but not limited to):
 - i) Security and safety provisions, including ensuring that loitering around and adjacent to the entrance of the premises does not occur;
 - ii) Any security staff, or other staff or contractor who may, as part of their responsibilities, enter the footpath or public domain;
 - iii) Hours of operation, including noise;
 - iv) Risk management and cleaning protocols in relation to private viewing areas/booths or cinema rooms; and
 - v) Where appropriate, the management of the food / bar handling and preparation areas in accordance with relevant health guidelines and the *NSW Liquor Act 1982*.
- b) Spruikers are not permitted in association with the operation of restricted premises.
- c) The operator and management of the restricted premises must ensure compliance with the approved Plan of Management.

4) Expansion or Intensification of Existing Premises

- a) In the event that an existing premises seeks to expand its operations or intensify its use, the provisions of this section, including the locational and access controls, will be applied.

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D4 Industrial Development

A. Background

This section provides controls and objectives for all industrial land in the City of Penrith.

This section provides specific controls for industrial development in addition to the general controls elsewhere in this DCP

B. General Objectives

- a) To promote industrial development which can operate in a functional, safe and environmentally friendly manner;
- b) To minimise conflict between industrial land uses and adjacent sensitive land uses;
- c) To ensure that development of land to which this section applies will not significantly affect the function, efficiency and safety of all classified roads and other major roads;
- d) To promote development of a visually attractive form, design and scale, where urban elements, streetscape and built forms are integrated with the existing environment;
- e) To retain existing vegetation and promote the integration of significant landscaped areas into the site design to minimise the impacts of built form and hardstand areas;
- f) To manage traffic impacts and access issues for larger vehicles and loading facilities;
- g) To address visual impacts and safety requirements of large external storage areas; and
- h) To promote employment generation that has considered access to public transport and supporting services for improved amenity.

C. Other Relevant Sections of this DCP

Penrith DCP 2014 is a multi-layered document that recognises the relationship of a number of issues to achieving sustainable outcomes. Therefore, to address issues associated with industrial development, it is important to read all relevant parts of this DCP.

Council will consider each development application on its merit, having regard to this section and other relevant sections of the DCP, and other relevant environmental planning instruments, contributions plans or Council policies. Compliance with this Section alone does not guarantee that consent will be granted to an application.

4.1. Key Precincts

The main industrial areas in Penrith can be broken down into ten precincts, each with different characters (see Figure D4.1). This Section provides different controls for each of the precincts. The industrial precincts are:

- Precinct 1: Dunheved/St Marys (north of Christie Street) shown in Figure D4.2.
- Precinct 2: Dunheved/St Marys (south of Christie Street) shown in Figure D4.2.
- Precinct 3: St Marys (east of Forrester Road) shown in Figure D4.2.
- Precinct 4: North Penrith (west of Castlereagh Road) shown in Figure D4.3.
- Precinct 5: North Penrith (east of Castlereagh Road) shown in Figure D4.3.
- Precinct 6: South Penrith (east of Mulgoa Road) shown in Figure D4.4.
- Precinct 7: Emu Plains (north of Old Bathurst Road) shown in Figure D4.5.

Precinct 8: Emu Plains (south of Old Bathurst Road) shown in Figure D4.5.

Precinct 9: Kingswood shown in Figure D4.6.

In addition, the area known as Waterside Corporate is zoned for industrial uses, but most of the controls for this area are contained in the Waterside Corporate Section of this Plan. However, where there are no specific controls included in Section E4, the controls of this Section apply.

This section also applies to land known as the Erskine Park Employment Area which is currently zoned for industrial uses under State Environmental Planning Policy (Western Sydney Employment Area) 2009.

Figure D4.1: Key Precincts

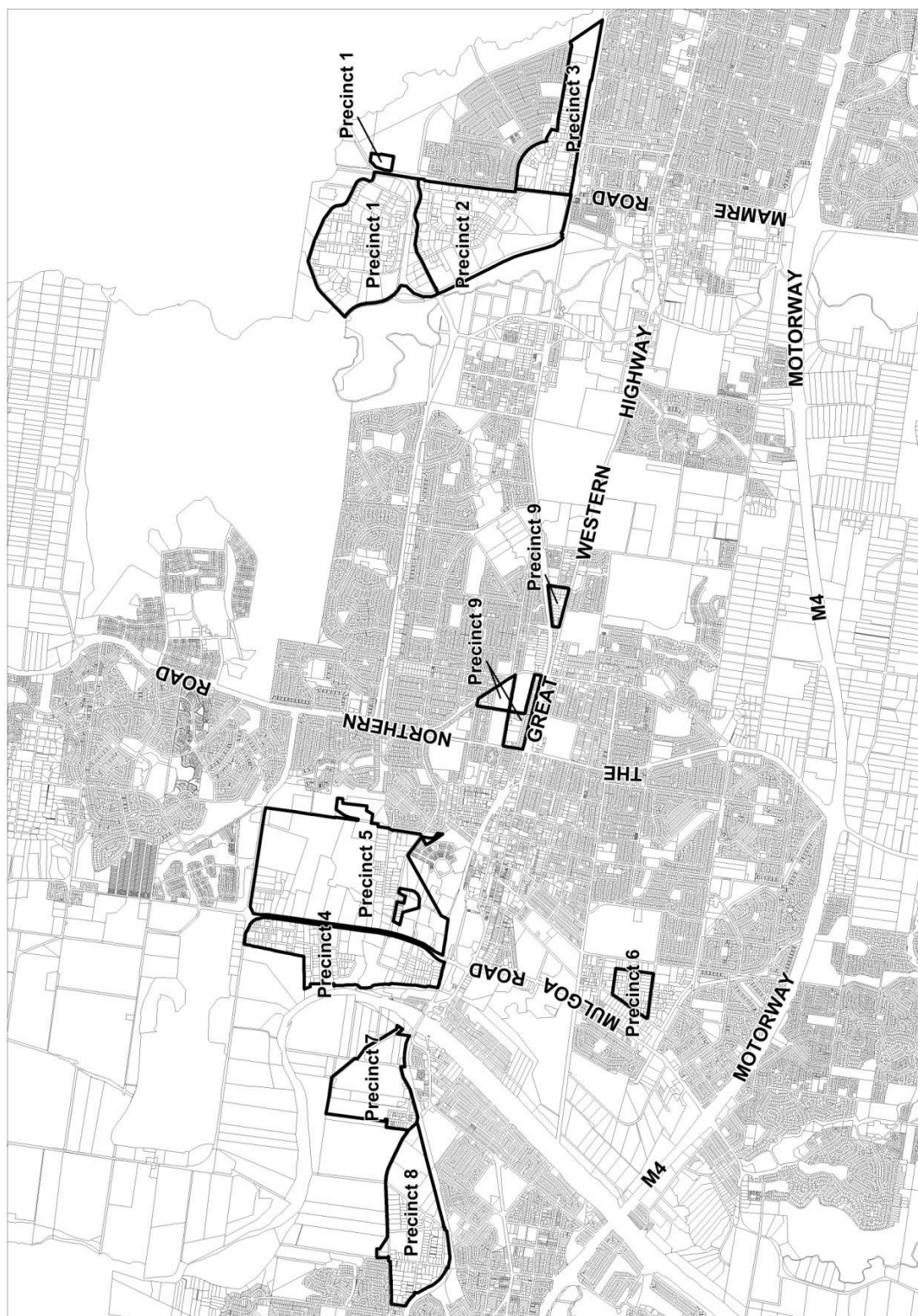


Figure D4.2: Precincts 1, 2 and 3 – Dunheved / St Marys

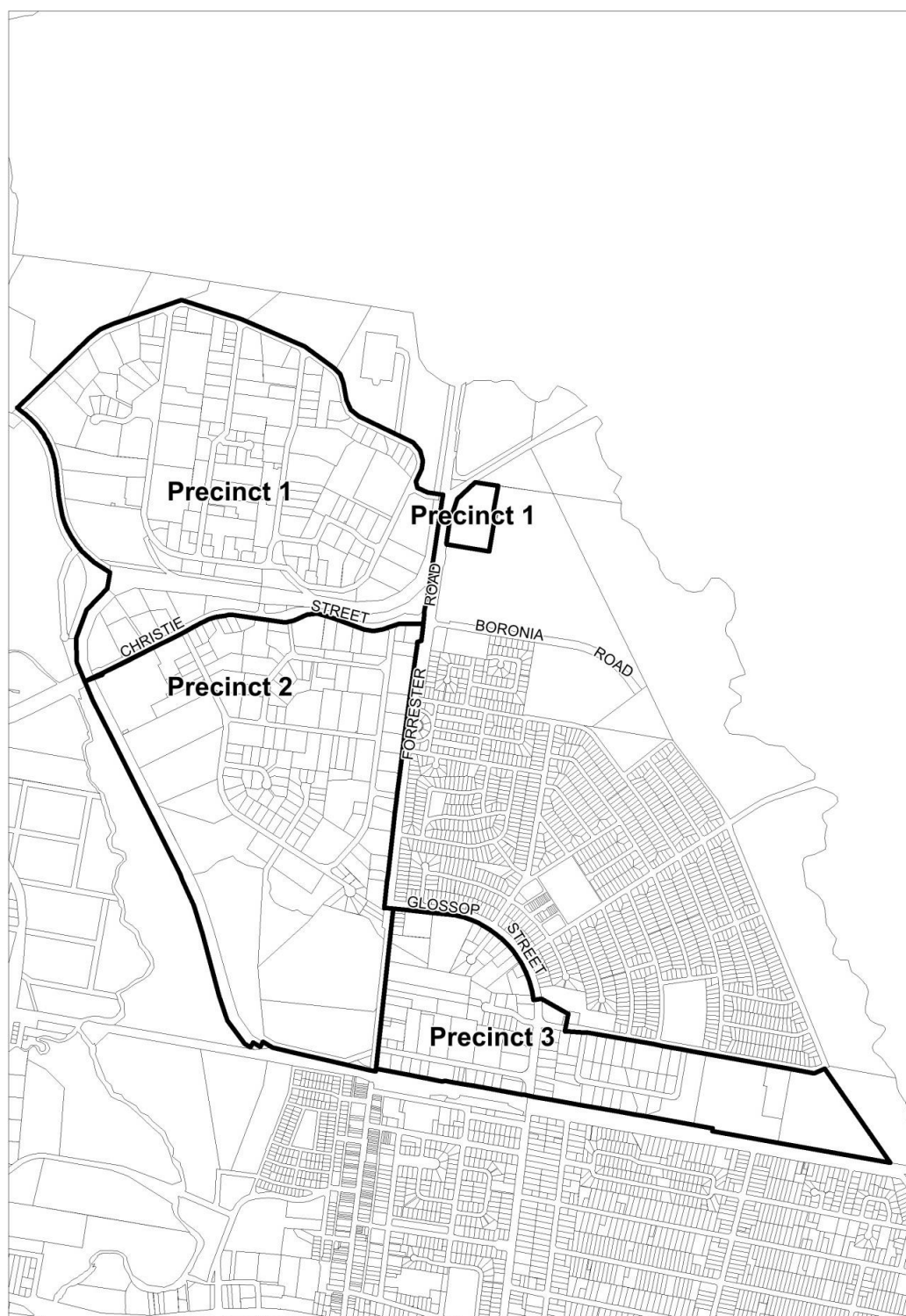


Figure D4.3: Precinct 4 and 5 – North Penrith

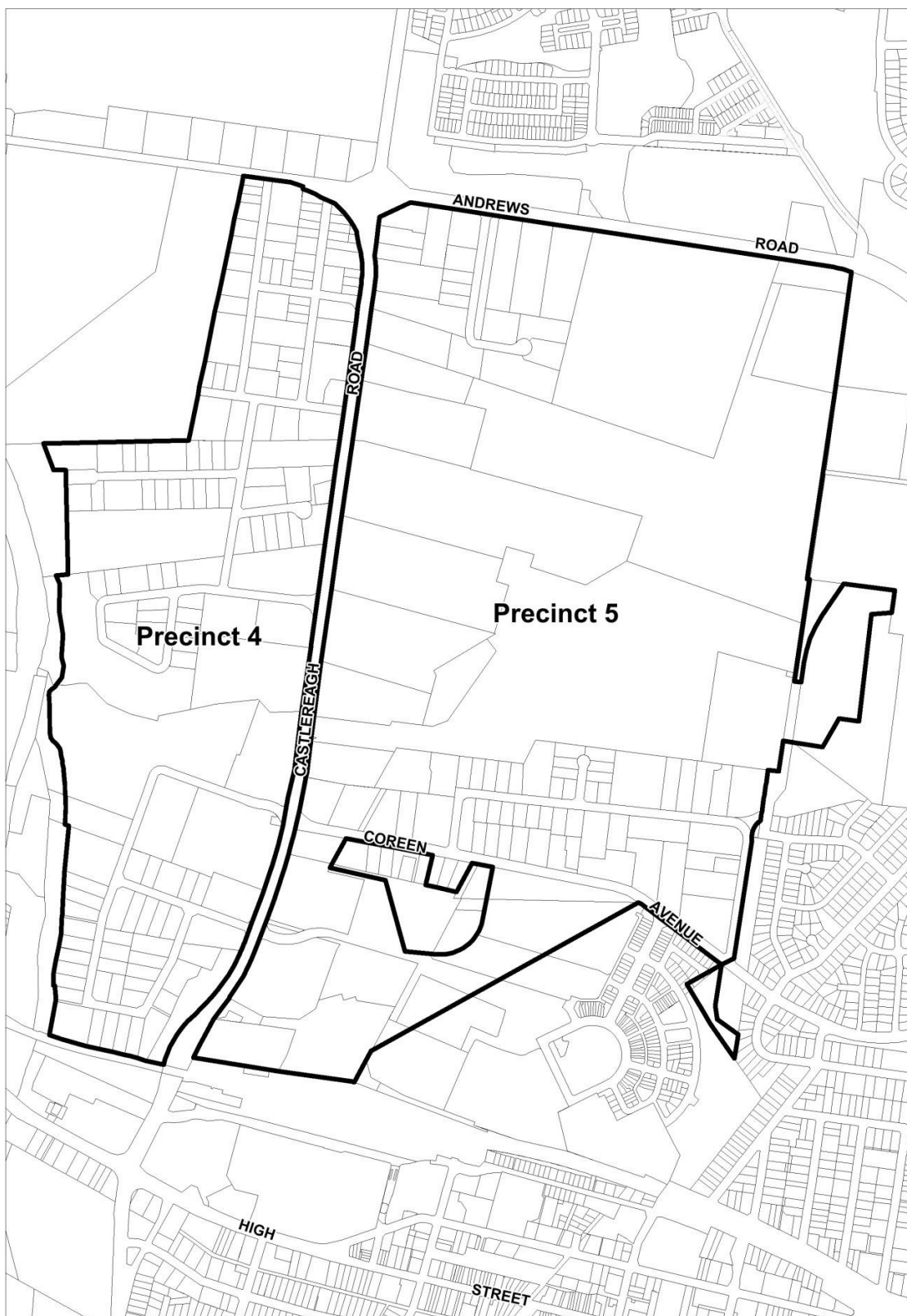


Figure D4.4: Precinct 6 – South Penrith

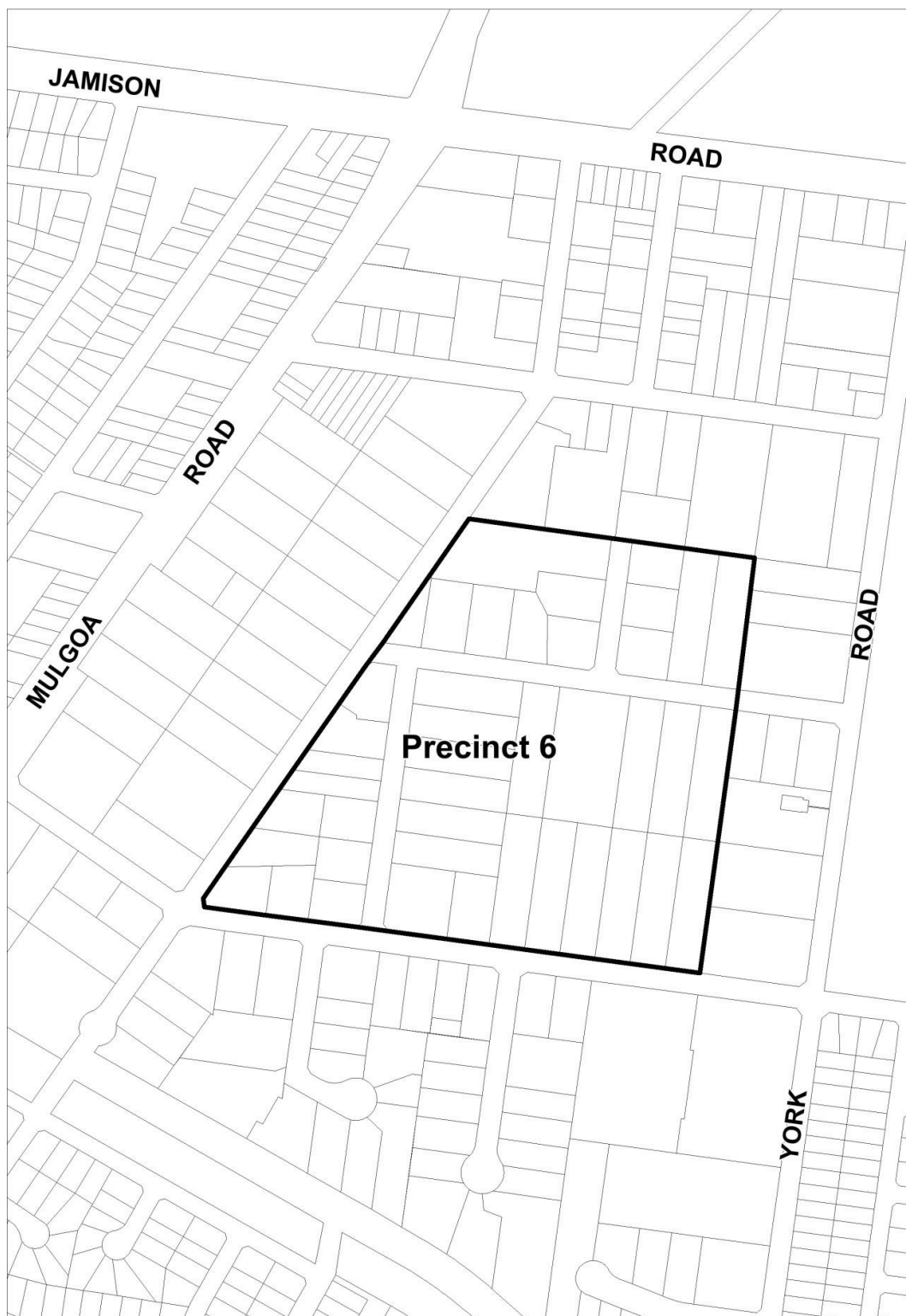


Figure D4.5: Precincts 7 and 8 – Emu Plains

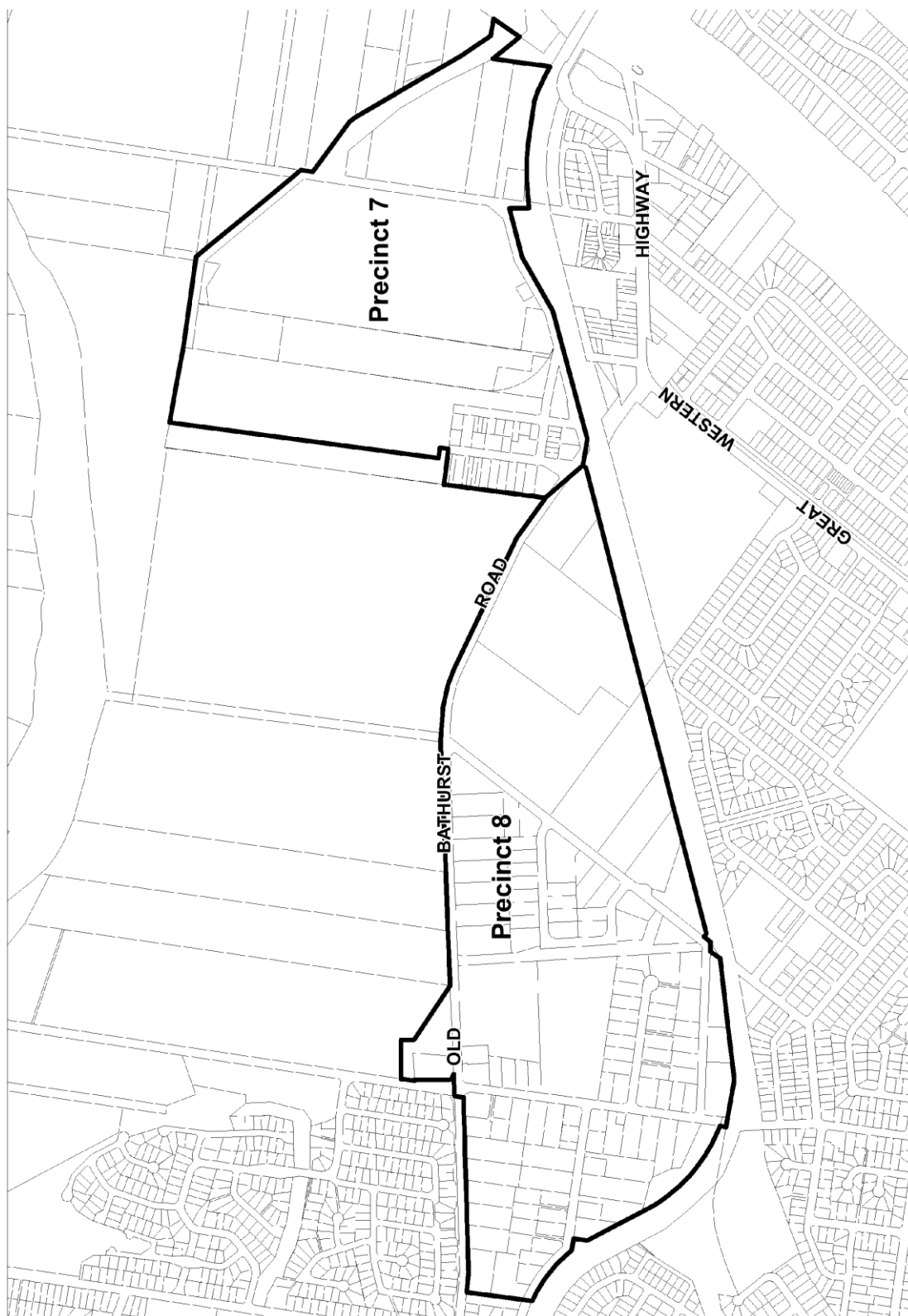
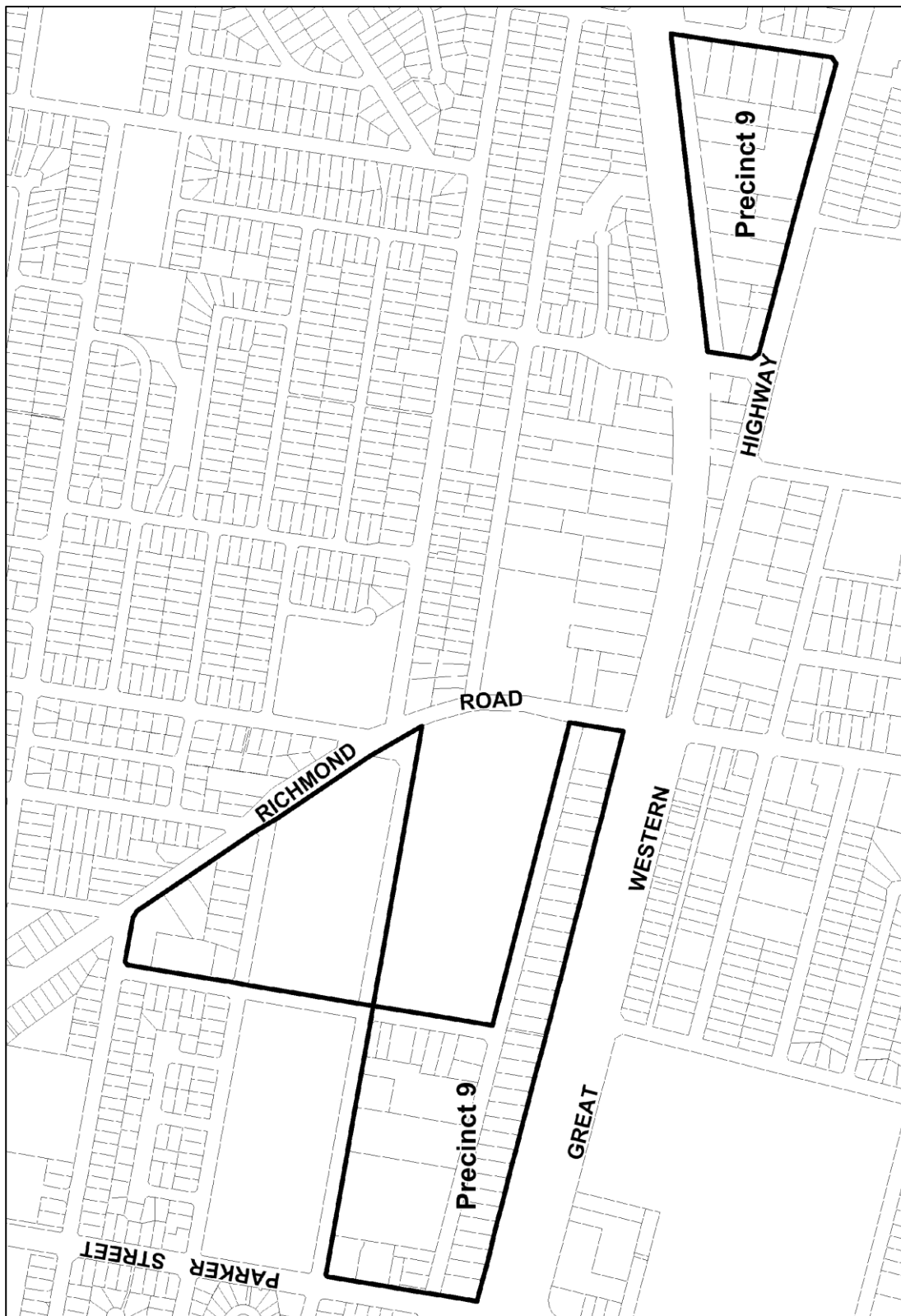


Figure D4.6: Precincts 9 – Kingswood



4.2. Building Height

A. Background

Industrial development should achieve a scale and height in keeping with the existing and desired future character of the area.

Development may not be permitted up to the maximum height specified on the Height of Buildings Map, if it will have an adverse impact on views to or from areas of visual importance or on heritage significance. This section provides guidance to applicants regarding building heights for industrial development.

B. Objectives

- a) To encourage building forms that respond to the topography of the site and the relative position of the site to other allotments within, and to, the street; and
- b) To ensure a scale of building which complements the existing environment in which the site is located addressing visibility from key public spaces and the scale and context of the existing and desired streetscape.

C. Controls

In addition to height controls in the LEP, buildings on land in Precincts 4, 7 and 8 will need to satisfy the following additional controls:

- 1) For Precincts 4 and 7 (areas adjacent to the Nepean River), the development must not be visually obtrusive when viewed from the Nepean River and must not adversely affect the scenic quality of the river.
- 2) For Precincts 7 (north of Old Bathurst Road) and 8 (south of Old Bathurst Road), the application must demonstrate that the development will not adversely affect the scenic quality of the precinct, particularly when viewed from elevated locations.

4.3. Building Setbacks and Landscape

A. Objectives

- a) To enhance the visual quality of industrial development through appropriate setbacks, building and landscape design, particularly when viewed from public areas;
- b) To ensure new development retains existing trees or significant stands of vegetation in the overall site layout;
- c) To provide functional areas of planting that enhance the presentation of a building;
- d) To screen undesirable views and minimise the visual impact of hard surface areas; and
- e) To create industrial precincts with their own intrinsic and unique landscape characteristics, which enhance the existing and/or natural landscape and character of an area.

B. Controls

1) Setbacks

- a) Setbacks for industrial development are to be in accordance with the standards specified in Table D4.1. These setback areas are to be landscaped, but may incorporate an off-street parking area if it can be demonstrated that the location of the car parking area:

- i) Is within a setback which is at least 13m wide and set behind a landscaped area which is at least 4m wide;
- ii) Promotes the function and operation of the development;
- iii) 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
- iv) Does not detract from the streetscape values of the locality.

Figures D4.7 - D4.8 illustrate appropriate building setbacks.

- b) In Precincts 1 and 2 (Dunheved/St Marys), 7 (Emu Plains adjacent to the rail station) and 9 (Kingswood) variations to the required setbacks will be considered on merit, taking account of site areas and street frontage widths, access to the site, availability of on-site parking and access areas, landscaping provision and the setbacks of adjoining Table D4.1: Building Setbacks for Industrial Development.

Table D4.1: Building Setbacks for Industrial Development

Location	Minimum Building Setback
Lots fronting: <ul style="list-style-type: none"> • Castlereagh Road • Mulgoa Road 	20 metres
Lots fronting: <ul style="list-style-type: none"> • Andrews Road • Old Bathurst Road 	15 metres
Lots adjacent to: <ul style="list-style-type: none"> • Nepean River (Precinct 7 - Emu Plains) • Western Railway (Precincts 7 and 8 – Emu Plains) 	10 metres
Lots within the vicinity of “Craithes” (within Precinct 4 - North Penrith, west of Castlereagh Road)	See Figures D4.10 and D4.11
Lots adjoining “Combewood” (within Precinct 5 – North Penrith, east of Castlereagh Road)	See Figure D4.12
All other locations	9 metres
Secondary road frontages	5 metres

Figure D4.7: Illustration of Building Setbacks - Smaller Site (Plan View)

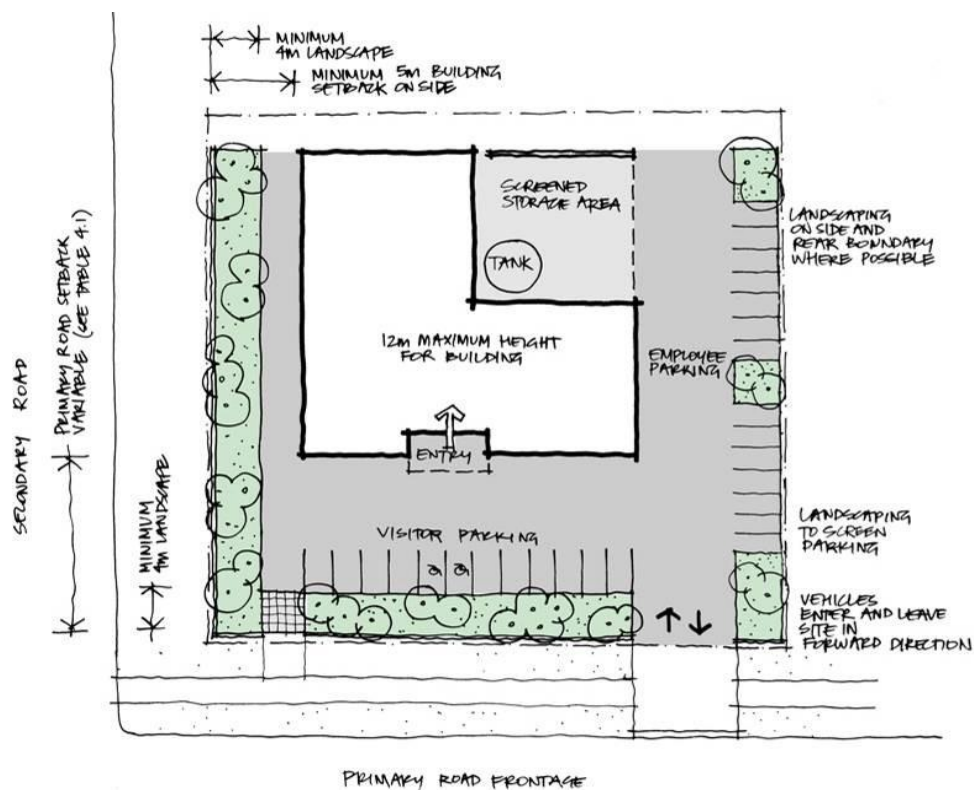
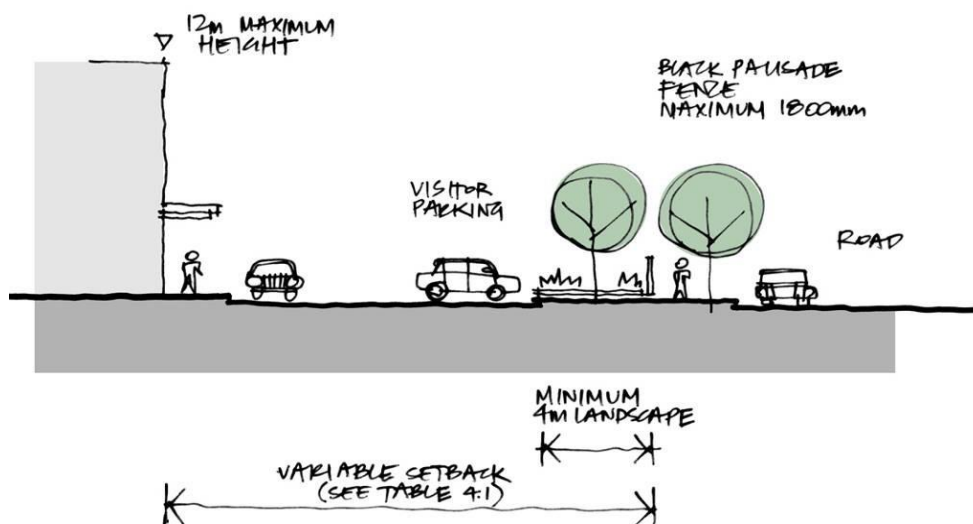


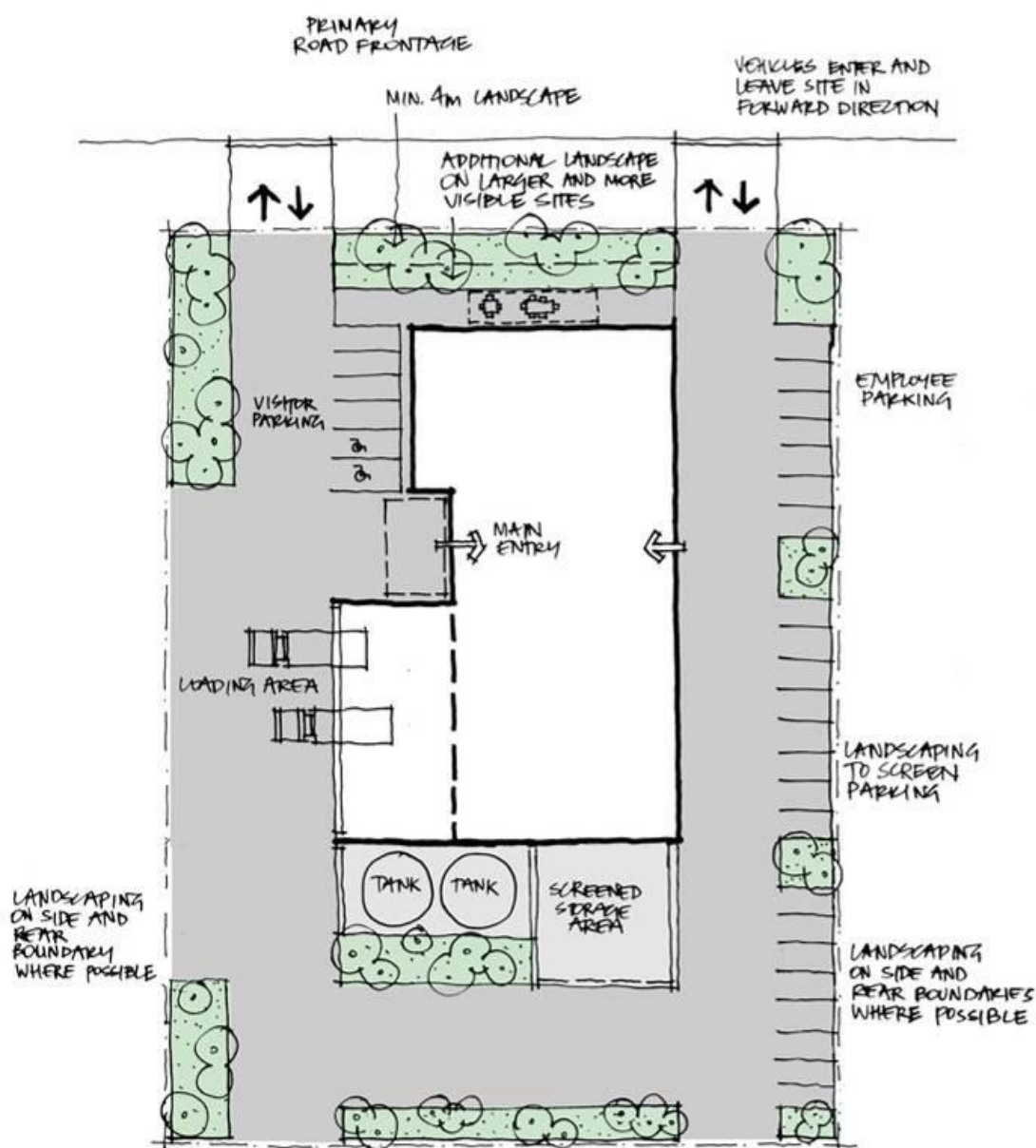
Figure D4.8: Illustration of Building Setbacks - Smaller Site (Cross Section)



2) Visual Impact of Buildings and Hardstand Areas

- a) The landscape design within setbacks should consider the scale of the building and where appropriate, select and locate plants to help reduce the bulk and scale of the building.
- b) The visual impact of large expanses of wall should be reduced in scale by architectural treatment as well as by dense grove planting or other landscape design solutions.
- c) Where an industrial development contains large expanses of hardstand or paved areas, the applicant must demonstrate how the development application reduces the 'heat effect' and visual impact of these large expanses.

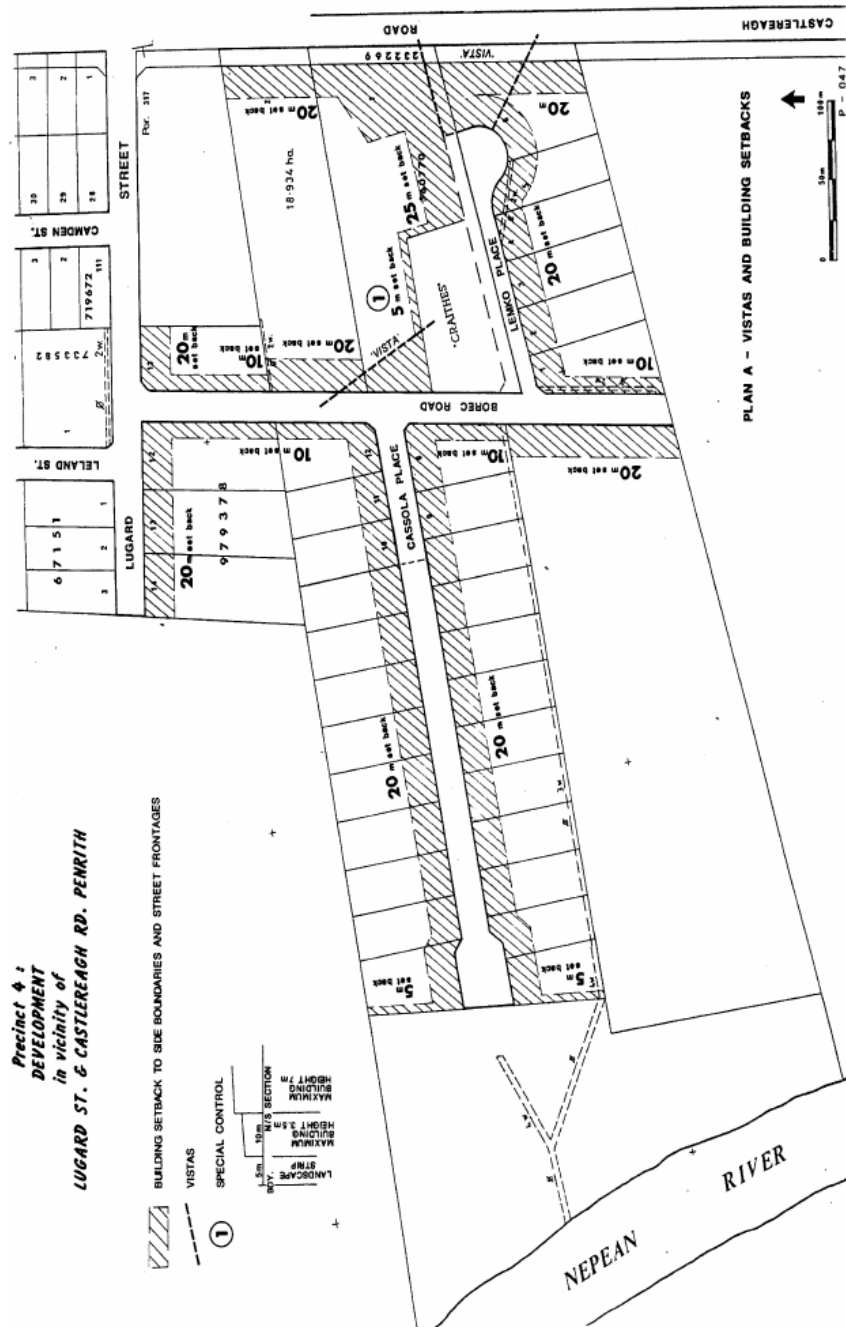
Figure D4.9: Illustration of Building Setbacks - Larger Site (Plan View)



3) Vegetation and Landscape

- a) The siting and layout of a development should preserve all on-site trees, significant strands of vegetation, and remnant or native bushland in accordance with the requirements of the Vegetation Management and Landscape Design sections of this DCP. Where this is not practical, the development application must justify the loss of vegetation and outline what measures are to be taken to replace it.
- b) Development of land on the site of a heritage item or within the vicinity of a heritage item should occur in a manner that will not result in damage or destruction of vegetation associated with that item.
- c) Applicants should refer to the Landscape Design section of this DCP regarding the implementation and maintenance of landscaping for the site.
- d) Smaller scale and less visually prominent planting should be provided to add variety and interest in the appearance of the site.
- e) Landscape materials should cause minimal detrimental visual impact, and the use of subtle coloured materials and block or brick paving is encouraged.
- f) Paving and structures shall complement the architectural style of existing buildings.
- g) Outdoor staff break areas should be provided and integrated into landscape areas. These areas should be provided with shade and reasonable amenity.
- h) Shade trees should be provided in outdoor staff break areas and along pedestrian paths and walkways.
- i) Plant species should be carefully selected to meet service authority requirements in easement locations.

Figure D4.10: Precinct 4 - Building Setbacks



Penrith Development Control Plan 2014

D4 Industrial Development

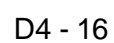
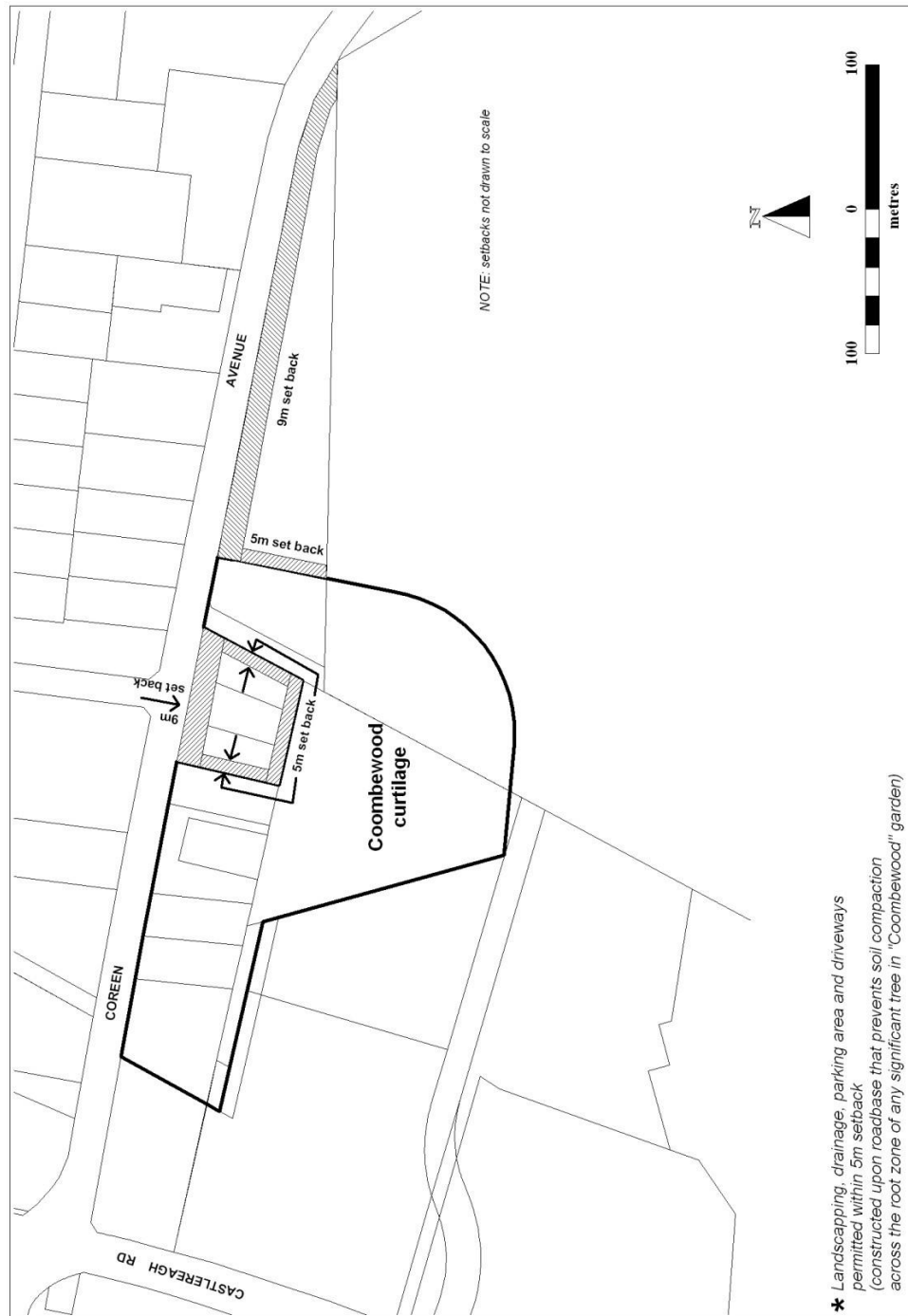


Figure D4.12: Precinct 5 - Landscape Setbacks to Combewood



4.4. Building Design

A. Objectives

- a) To encourage a high standard of architectural design, utilising quality materials and finishes appropriate for the locality;
- b) To ensure that development is undertaken in a sustainable manner, demonstrating this through the application of the Building Sustainability Index (BASIX), Green Star and/or Australian Buildings Greenhouse Ratings (now part of the National Australian Built Environment Rating System (NABERS) certification systems, where appropriate;
- c) To ensure that new development can integrate into the existing urban fabric to contribute to the creation of a visually cohesive urban environment;
- d) To encourage innovation in building design and the use of materials; and
- e) To encourage articulated and varied frontages to minimise perceived bulk and scale.

B. Controls

- 1) Non-residential developments including mixed use developments, 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)).
 - a) NABERS can be used to rate commercial offices, shopping centres and hotels.
 - b) Green Star can be used for projects from apartment buildings to schools, university buildings, hospitals, offices, shopping centres and industrial facilities.
- 2) All developments shall be designed to present a high standard of urban form incorporating innovative and attractive architectural design of all elevations and roof form; and appropriately reflect the important gateway entry roles of these precincts and the visually important access routes to the City.
- 3) Prominent elevations, such as those with a frontage to the street or public reserves or those that are visible from public areas, must present a building form of significant architectural and design merit. The construction of large, blank wall surfaces is not permitted.
- 4) Large elevations should be articulated by structural variations and/or a blend of external finishes including brick, masonry, pre-coloured metal cladding, appropriately finished 'tilt-slab' concrete or a combination of these materials (see Figure D4.13).
- 5) Large unrelieved expanses of wall or building mass will not be supported by Council. They should be broken up by the use of suitable building articulation, fenestration or alternative architectural enhancements.
- 6) Particular care should be taken in regard to:
 - a) Designing roof elements; and
 - b) Locating plant and mechanical equipment including exhausts, so as screen them from a public place.
- 7) Architectural features, consistent with the overall design of the building, may be used to:
 - a) Highlight entrances to buildings; and

- b) Accentuate pedestrian areas and provide improved climatic amenity, particularly for buildings that will experience high volumes of pedestrian movements, using techniques such as verandahs and awnings (see Figure D4.13).
- 8) The development must incorporate a variety of external finishes in terms of both colour and type of material used. The external finishes (walls, roof, awnings etc.) of the development are to be:
 - a) Made from durable high quality, low maintenance, non reflective materials;
 - b) Compatible with the overall design and form of the development;
 - c) Selected for all built forms to ensure the entire development presents a homogeneous form;
 - d) Considered in association with proposed plantings and landscape treatment;
 - e) Considered for their ability to provide visual relief in large wall surfaces and elevations; and
 - f) Selected to ensure the development complements the surrounding environment while reducing the temptation to vandalism and graffiti.
- 9) Courtyard and screen walls should be in the same material as the building facades.
- 10) Development within Precincts 4, 7, 8 and 9 identified as having high scenic or visual quality (see Section 4.2 of this Section under 'Controls') shall use primarily natural and earthy tones for external finishes.
- 11) Development applications for new buildings or additions to existing buildings are to be accompanied by a Schedule of External Finishes and Colours, demonstrating compliance with the above requirements.
- 12) Any office and administration component is to be located to the main frontage of the building and be designed as an integral part of the overall building, rather than a 'tack on' addition.
- 13) The main office administration component is to have a designated entry point that is highly visible and directly accessible from visitor parking and the main street frontage.
- 14) The entry, design and layout of the main office or administration component is to consider the principles of Universal Design and incorporate, if possible:
 - a) A level or graded path from the car park area to the entrance;
 - b) A level entry (no steps);
 - c) An accessible toilet;
 - d) Easy access doors and corridors; and
 - e) Accessible placement of switches, power points and window controls.
- 15) Where the nature of the industrial development will attract clients/visitors to the site, consideration should be given to incorporating the above accessibility features into that part of the building likely to be used by clients/visitors.
- 16) All loading areas should be located towards the rear of allotments. Where possible, loading areas should be screened from the view of main road frontages through physical and/or vegetation screening (see Figures D4.7 and D4.9).

Figure D4.13 (a): Illustration of Possible Techniques to Articulate Large Buildings (Elevation)

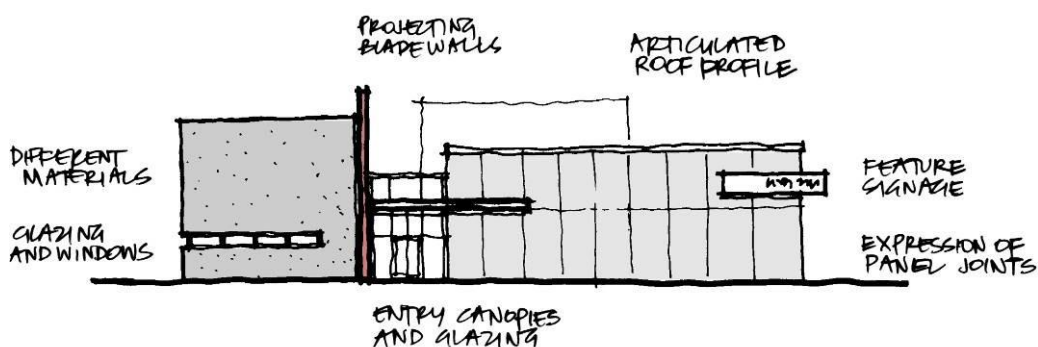


Figure D4.13 (b): Illustration of Possible Techniques to Articulate Large Buildings (Plan View)

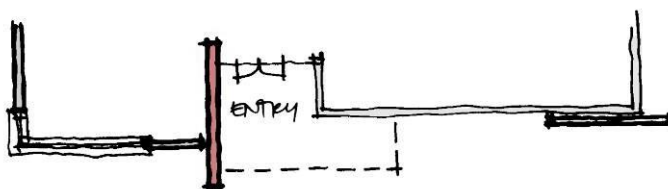
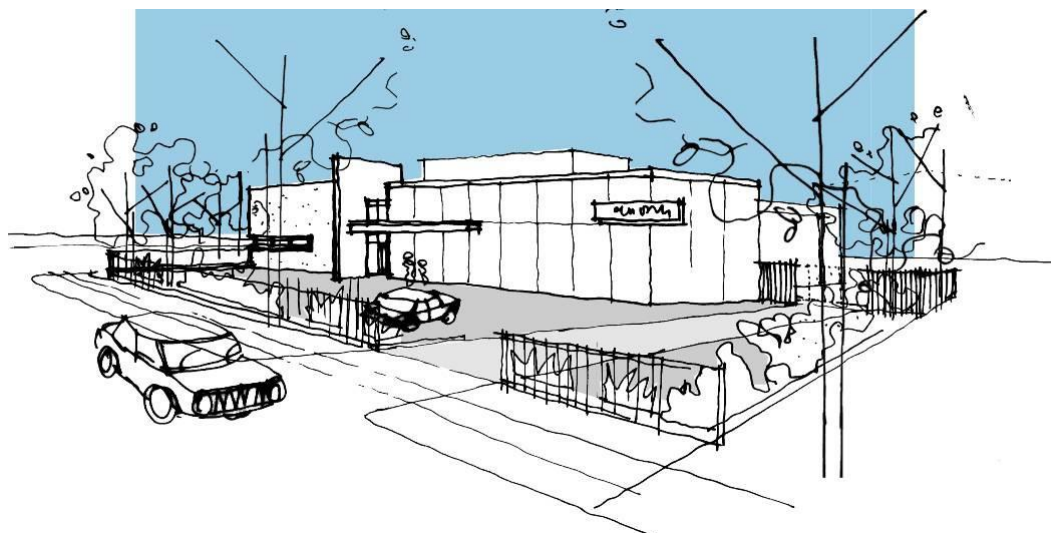


Figure D4.13 (c): Illustration of Possible Techniques to Articulate Large Buildings (Sketch Perspective)



4.5. Storage of Materials and Chemicals

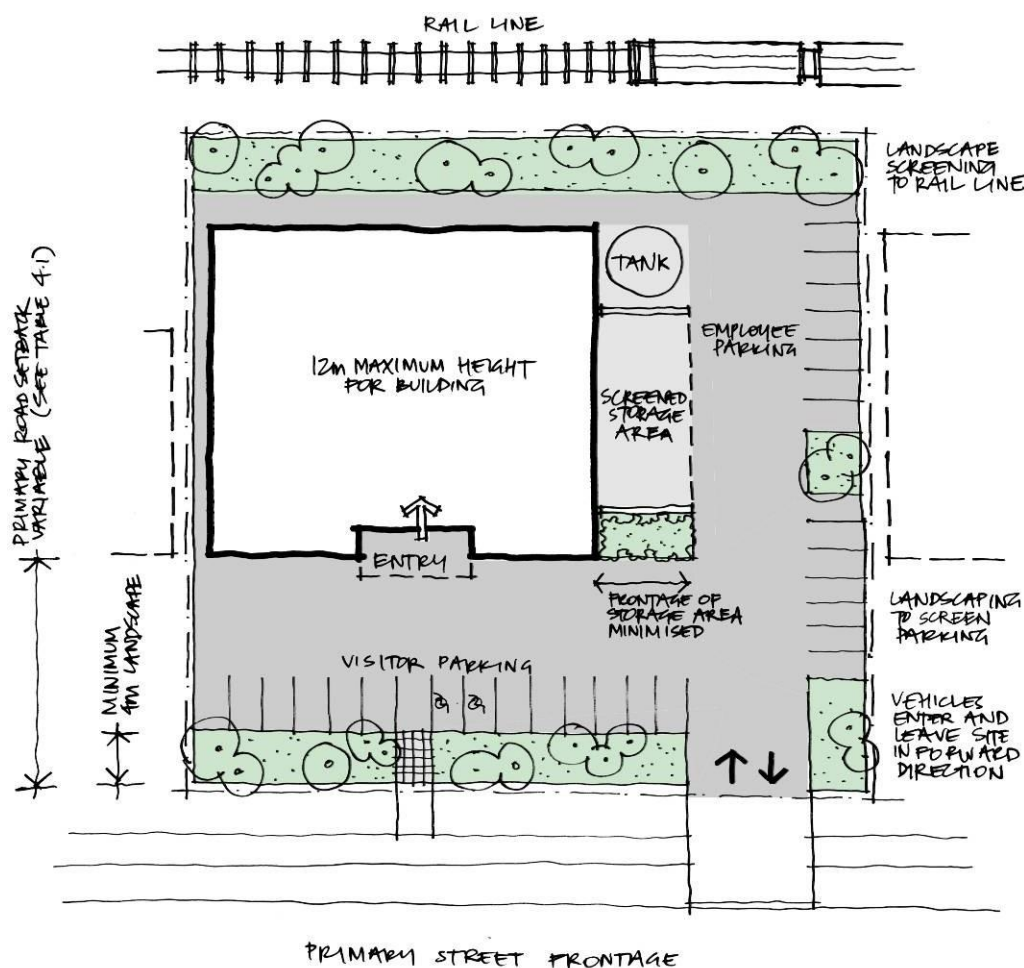
A. Objectives

- a) To ensure that external storage of goods does not detract from the visual amenity of industrial areas, streetscapes or adjoining residential areas;
- b) To ensure that the storage and use of chemicals that are potentially hazardous to humans occurs in a safe and responsible manner and minimises the risk of accidental injury or loss of life; and
- c) To ensure that the storage and use of potentially polluting substances occurs in an environmentally responsible manner, and will not have any detrimental impact on the environmental quality of the surrounding area.

B. Controls

- 1) External storage of goods must be avoided, wherever possible. Where the nature of the activity or the materials means that internal storage is impractical, all external storage areas must be located behind the front building setback. In addition, when assessing development applications involving external storage of goods, Council will take into consideration:
 - a) The proposed height and on-site arrangement of stored goods;
 - b) The visual impact of the storage area and how this is proposed to be minimized (orientation, screening with landscaping and/or solid fencing, etc.);
 - c) Access arrangements; and
 - d) Safety issues.
- 2) For sites with multiple frontages, either to roads or to the main western railway line, the location and orientation of external storage areas shall minimise visual impact from all potential view points (see Figures D4.9 and D4.14).
- 3) Rain water tanks are not to be visually intrusive from the main street frontage or other public areas (see Figures D4.9 and D4.14).
- 4) If the development involves the storage of chemicals on the site, a Chemical Use and Storage Report may be required (see Appendix F3 'Submission Requirements' for further details). A chemical use and storage report will not be required when:
 - a) The use of chemicals is for routine cleaning and the chemicals 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; and
 - d) The application outlines the methods proposed to be used to minimise the potential for spills.

Figure D4.14: Illustration of Screening of Storage Areas (Front and Rear Visibility) (Plan View)



4.6. Accessing and Servicing the Site

A. Objectives

- 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;
- 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;
- To encourage the development of a parking layout that enhances the function and appearance of the industrial development; and
- To ensure that cyclist and pedestrian needs are adequately and safely accommodated in all industrial areas.

B. Controls

- 1) New industrial developments with direct access onto Castlereagh Road, the Great Western Highway or Parker Street will need to provide a deceleration lane in accordance with the Roads and Traffic Authority Guidelines.

- 2) Development on newly created allotments that front Castlereagh Road, the Great Western Highway, Parker Street 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.
- 3) Industrial 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.
- 4) In determining access and servicing requirements, Council 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.
- 5) Full details of the volume, frequency and type of vehicle movements shall be submitted with the development application.
- 6) 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 semi-trailers. In the case of the conversion of an existing development, should it appear that a truck turning circle may prove difficult, a practical demonstration may be required.
- 7) Council will assess the suitability of manoeuvring areas provided for large vehicles 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 Roads and Maritime Services publication "Policies Guidelines and Procedures for Traffic Generating Developments".
- 8) Adequate space is to be provided within the site for the loading, unloading and fuelling (if applicable) of vehicles. These areas shall be screened from the road.
- 9) 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. In addition, the following elements should also be considered:

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;
- 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;

Major developments such as multi unit industrial developments and other significant industrial developments shall make adequate provision for bicycle parking.

4.7. Fencing

A. Objectives

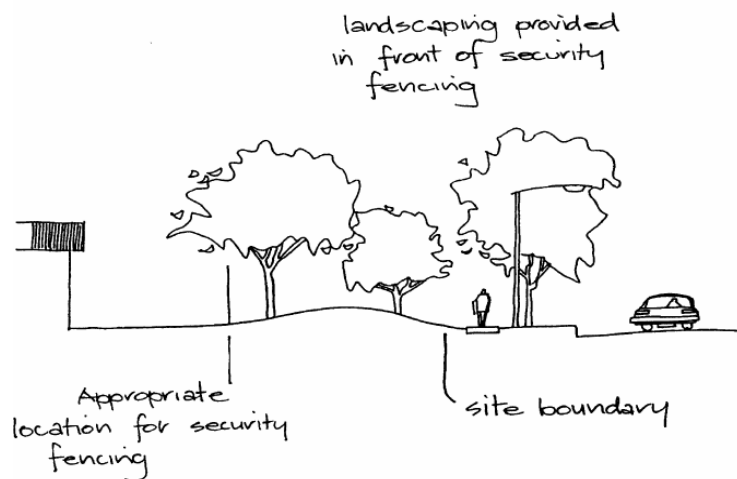
The objective for this section is to ensure that the design and location of fencing is integrated within the development, and is suitable for its purpose and setting.

B. Controls

General

- 1) The location and design of fences, including the materials used to construct the fencing, should:
 - a) Be sympathetic to the natural setting and character in form, materials and colour;
 - b) Maximise natural surveillance from the street to the building and from the building to the street;
 - c) Minimise the opportunities for intruders to hide;
 - d) Not impede the natural flow of stormwater drainage;
 - e) Be located wholly on the property and not encroach on another property without the consent of the adjoining property owner(s). This includes land that may be owned by Penrith City Council or another public authority;
 - f) Be constructed of non-combustible materials if located in an asset protection zone or in an area identified in a bushfire risk management plan; and
 - g) Be structurally adequate, in accordance with the Building Code of Australia, and meets the Dividing Fences Act 1991.
- 2) Fencing proposals that require development consent shall be:
 - a) positioned behind the landscaping and not along the front property boundary (as illustrated in Figure D4.16);
 - b) in circumstances where on-site detention is required within the front setback then consideration can be given to locating fencing along the property boundary however, consideration must be given to the existing streetscape character; and
 - c) a maximum height of 2.1m and of an "open" nature, e.g. decorative metal and coloured dark grey or black, or complement the adjacent fencing type.

Figure D4.16



- 3) Fencing may be positioned along the front property boundary only if:
 - a) the site is not located on, facing or fronting:
 - i) Andrews Road, Castlereagh Road, Christie Street, Forrester Road, Great Western Highway, Mulgoa Road, Old Bathurst Road, Parker Street or any other classified road or major road; or
 - ii) The main road or collector road of the industrial precinct; and
 - iii) it is decorative fencing that has an open style appearance (metal, pool type fencing); and
 - iv) the fencing is complementary to the landscaping.
- 4) Fencing shall be integrated with the overall design of the development and associated security structures, where possible.
- 5) Where site security is required, fencing shall be constructed of black plastic coated 'Chain-link' fence or an approved alternative such as a metal palisade type fence. The overall height of fencing shall be no more than 2.4m. 'Chain-link' or similar fences are not suitable to the site frontage.
- 6) Consideration shall be given to the site's front fence being a reduced height particularly around the visitor or employee parking. Alternatively, the front of the premises shall be open to the street to provide a sense of address and to contribute to the streetscape.
- 7) Gates, security structures, letter boxes and signage must complement the fencing and be considered in the overall design of the development.
- 8) Landscaping adjacent to front fencing shall not form a tall dense screen, except where required to screen outdoor storage areas or plant and equipment.
- 9) For fencing behind the building setback line, Council will consider:
 - a) Solid fencing up to a height of 2m;
 - b) Fencing up to a maximum of 2.5m (measured from natural ground level), provided that any fencing above 2m is of an open style;
 - c) Council may require such fencing to be screened with landscaping if viewed from the street or any public area, such as public open space. Appropriate landscaping can, for example, assist in minimising the occurrence of graffiti.

- 10) Barbed, razor or electric wire can be considered behind the building setback line, but must be mounted on the inside of the fence, so as not to be significantly visible from the street. Electric fencing must display appropriate warning signs and otherwise comply with all relevant legislation and standards.
- 11) On sites abutting non-industrial lots, these variations will not generally be supported because of their impact on the amenity of the adjoining property or non-industrial streetscape.
- 12) Fencing along secondary streets, unless of an open style design, must be setback behind the required landscaping.
- 13) Service yards visible from a street must be adequately screened.

4.8. Lighting

A. Objectives

- a) To encourage the installation of external lighting which does not detract from the appearance of the development or amenity of the locality;
- b) 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); and
- c) To minimise energy waste by providing the correct lighting orientation and minimising overspill lighting.

B. Controls

- 1) Lighting details shall be provided as part of any relevant development application.
- 2) Lighting design should address the principles of CPTED (see the Site Planning and Design Principles section of this DCP) 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 also be considered.
- 4) External lighting shall be provided around doorways and windows, and in areas where goods and equipment are stored outside.
- 5) Where premises are used outside daylight hours, car parks and entrances shall be adequately illuminated.
- 6) 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.
- 7) The use of lighting poles and fixtures in adjacent developments should be considered for improved precinct amenity.
- 8) All lighting shall comply with Australian Standard AS4282.

C. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section will need to demonstrate that the proposed

development complies with the objectives relevant to the development controls it seeks to vary.

- a) Improved sustainability outcomes including vegetation management and landscape, water management, land management and waste management in accordance with this DCP;
- b) Increased landscape setbacks, landscape areas, street tree planting, green roofs and improved streetscape outcomes;
- c) High quality building design that is visually attractive, innovative, integrated into the landscape design, takes into account the visual catchment, and is articulated to reduce building scale and bulk;
- d) No impacts on sensitive adjacent land uses through careful site planning, building design and landscape treatment; and
- e) Conservation and adaptive reuse of industrial buildings listed as heritage items such as the World War II ammunition factory buildings in Precincts 1 and 2 (Dunheved and St Marys).

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D5 Other Land Uses

5.1 Application of Certification System

A. Background

This section of the DCP seeks to encourage applicants to design, construct and operate significant non-residential developments in a sustainable manner by applying an appropriate certification system.

B. Objectives

- a) The objective of this section is to ensure that development is undertaken in a sustainable manner, demonstrating this through the application of the Green Star and/or Australian Buildings Greenhouse Ratings (now part of the National Australian Built Environment Rating System (NABERS)) certification systems, where appropriate.

C. Controls

- 1) Non-residential developments, including mixed use developments, 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.

5.2. Child Care Centres

A. Background

Child care centres are an increasingly important service to families with parents who work outside the home. Centres need to be conveniently located close to homes or to centres of employment, and need to be in surroundings which are both safe and enjoyable for the children.

Child care centres are increasingly becoming popular in larger commercial centres as workers can drop off/pick up children on their way to work, especially if their workplace is located in these centres.

Standards for work based child care may be varied from those expressed in this section. In particular, standards for parking and location may be varied provided that the variation does not have an adverse impact on the amenity and safety of the children in care.

Child care centres generally will not be supported if:

- a) the service provided by the centre does not meet a demonstrated need for child care services in the local area;
- b) access is from a major road or in close proximity to a major intersection where there may be safety concerns;
- c) access is from a local street where there may be impacts on amenity due to traffic and parking;
- d) the current use or any permissible use under the zoning of the adjoining premises produces unacceptable levels of noise, fumes or emissions, or poses a potential hazard by reason of activities or materials stored on site;
- e) noise produced by roads, railways and aircraft are likely to have an adverse impact on the site; or

- f) the site may be subject to contamination, within close proximity to high-voltage electricity transmission lines, or subject to external impacts that may be harmful to the staff and children;

unless the applicant can demonstrate satisfactorily that the matters listed will not have a detrimental impact on the child care centre.

B. Objectives

- a) To provide a clear planning framework for the development of child care services in the City of Penrith;
- b) To ensure that child care centres are located and designed to minimise any impact on the amenity of the surrounding area, particularly from noise and traffic;
- c) To ensure a safe and efficient road system, and to prevent direct vehicular access to or from any child care centre from a designated road;
- d) To ensure the provision of safe, convenient and attractive car parking areas;
- e) To ensure child care centres are not adversely affected by safety hazards; and
- f) To encourage the provision of facilities which aim to satisfy identified unmet demands within the City for child care.

C. Controls

1) Work Based Child Care Centres

- a) Child care centres in business or industrial areas require special consideration in respect to environmental quality and land use conflicts. Particular attention must be paid to:
 - i) Provision of an outdoor play area away from driveways or parking areas or any other source of noise or fumes;
 - ii) Protection of children from dust, fumes, noise and vibration, or other potentially dangerous impacts from industrial uses;
 - iii) Adequate safety provisions to prevent children from gaining access to other parts of the building or site; and
 - iv) Depending on the location of the centre and the size of the site, requirements for a drop off area.

2) Location

- a) Any proposed centre which:
 - i) Will cater for in excess of 40 children (including 2 or more centres in very close proximity which together will cater for more than 40 children); and
 - ii) Does not propose to cater for 0 – 2 year olds;must demonstrate that the service to be provided meets an unmet need in the community. Unmet demand in the community can be assessed through waiting lists of centres in surrounding areas, a comparison of the number of children aged 0-5 recorded in the census for the area and the number of child care places available.
- b) Child care centres shall be located in close proximity to other community activities and facilities, such as schools, community facilities, places of public worship, parks that contains child play equipment, larger formal public reserves and local shopping centres.
- c) The site shall not rely on direct access from, nor be located on, a designated road, unless it can be demonstrated that the safe operation of the road and the amenity of the children attending the centre will not be affected.

- d) Access to the site shall not be located in a cul-de-sac, at an intersection, or on a minor residential road unless it can be demonstrated that additional vehicles associated with the child care centre will not create traffic conflict or have an adverse impact on the amenity of the locality.
- e) A child care centre shall not be located on land within an 85m radius of an existing or approved service station, or on land in a specific radius of an existing/approved flammable storage area under State Environmental Planning Policy No 33 Hazardous and Offensive Development.
- f) A child care centre shall not be located on land that is directly opposite to or adjacent to (including behind) an existing and lawful sex services premises and/or restricted premises.
- g) A child care centre shall not be permitted on land on which there is an electricity transmission easement, mobile phone tower or similar, or on land immediately adjacent to those structures. Centres should be located at least 500m from mobile phone towers or electricity transmission easements.
- h) A child care centre should not be located on land below the flood planning level and on land that cannot be safely and effectively evacuated during a 1:100 ARI flood event. (See the Water Management section of this Plan for further details on the flood planning level and 1:100 ARI flood event).

3) Design, Scale and Site Frontage

- a) The scale and character of the development shall be compatible with surrounding development.
- b) The design of the child care centre must take into account nearby traffic generators, street design and the existing environment for pedestrians and cyclists.
- c) Sites must be of sufficient area to accommodate the child care centre, all required associated parking and traffic manoeuvring areas.
- d) To ensure the safe operation of car parking areas and the amenity of neighbouring residents, sites shall have a minimum frontage of 22m.
- e) Safe sight distances must be provided for all points of access to the site.

4) Built Form

- a) Child care centres catering for 15 or more children shall be purpose designed and built, to satisfy the requirements of this section and the requirements of the NSW Department of Community Services. Modifications to existing dwellings will not be supported.
- b) In residential areas, the built form of the child care centre shall be sympathetic to adjoining development in terms of height, bulk and scale.
- c) The external façade of the centre shall incorporate building materials and colours that complement the surrounding development. Council discourages the use of bright or garish colours.
- d) Whilst it is preferable that child care centres are located at ground level, this may not be possible in commercial or industrial areas. Applications for centres above ground level will need to address the following:
 - i) Access for parents and caregivers to drop off/pick up children; and
 - ii) Availability of outdoor play space, or its equivalent.

5) Vehicle Access, Circulation and Parking

- a) Vehicle circulation and car parking areas shall be designed to allow safe drop-off and collection of children as well as the safe movement and parking of staff, parents, visitor and service vehicles.
- b) Access driveways should not be located opposite, or in close proximity to, road intersections.
- c) Parking shall be provided in accordance with the standards in the Transport, Access and Parking section of this Plan.
- d) The parking area is to be designed to ensure:
 - i) The safe drop off and collection of children, including direct, safe pedestrian access between the parking area and the entrance to the centre;
 - ii) Safe movement and parking of staff, parents, visitors and service vehicles; and
 - iii) All vehicles can enter and exit the site in a forward direction.
- e) Layout of the parking area must allow for safe access for service and emergency vehicles, such as ambulances, delivery and maintenance vehicles.
- f) Where the child care centre is located in the same building or development as other land uses, the parking and access arrangements for each separate use will need to be separately calculated and provided on site.
- g) A traffic impact assessment may be required for the development of a child care centre proposing to cater for 40 children or more. The assessment should address:
 - i) Site characteristics and the surrounding area;
 - ii) Expected trip generation;
 - iii) Parking requirements, including the design of parking areas, and any pick-up and drop-off facilities;
 - iv) Existing traffic conditions and any future changes expected to the traffic conditions;
 - v) Current road safety conditions, including an accident history in the locality; and
 - vi) The expected impact of the proposed development on the existing and future traffic conditions.

6) Noise

- a) Outside playing areas shall be designed and located to minimise noise impact on any noise sensitive adjacent properties. Separation between boundary fencing and areas occupied by the children may be required.
- b) Where there may be noise impact on adjacent properties, fencing shall be of a height, design and material (e.g. masonry) suitable to contain noise generated by the children's activities. This ensures the children may play outside without time limitations in accordance with licensing requirements.
- c) Where a site may be affected by traffic, rail or aircraft noise, the child care centre shall be designed to minimise any impact on the children and staff. A report from an acoustic consultant may be required to support the proposal. (Design elements may include double glazing, insulated walls, locating sleeping rooms in protected areas and solid fencing).
- d) A noise impact assessment may be required for the development of a child care centre proposing to cater for 40 children or more, or where surrounding land uses may have an impact on the proposal.

The objectives should be to limit the impact of the child care centre on adjacent properties, and also to limit the impact noise from external sources may have on the child care centre. While noise can be measured, the intent is to also minimise nuisance which is subjective by nature. This may be achieved either by physical separation, design and layout of the centre or by implementing noise mitigation measures, such as acoustic treatments to buildings.

- e) A noise impact assessment report should address the relevant provisions of the Noise and Vibration section of this Plan.

7) Shade

- a) Outdoor play areas and transition areas (between indoor and outdoor areas) are to be provided with appropriate safe shade requirements. Safe shade may be created by vegetation or shade structures.
- b) All active areas containing play equipment or areas where children play for extended periods of time (such as a sand pit) are to be shaded throughout the year.
- c) Movable play equipment used for active play should be placed in the shade. (This should be a combination of built and natural shade).
- d) All shade structures in the play areas should be designed in accordance with AS/NZS 4486.1. If located over play equipment, the shade structure should not have footholds or grip surfaces that will allow for climbing.
- e) Outdoor teaching areas are to be provided with year round protective shade.
- f) Outdoor eating areas are to be provided with year round protective shade.
- g) Other open areas are to be partially shaded.
- h) Any transition zone, between indoor and outdoor areas, such as a verandah, should be permanently shaded and protected in wet weather.
- i) The minimum width of a verandah should be 4m to allow for shaded play space underneath.

8) Landscaping

- a) Landscape planting shall complement the building(s) and the streetscape, and provide screening for car parking and outdoor playing areas.
- b) Landscaping shall be established prior to the use commencing.
- c) Childproof fencing and gates shall be provided around the outdoor play areas, and to the entrance of the child care centre. Details of all fencing shall be included on the landscape plan.
- d) Landscape planting (a minimum width of 2m) shall be provided along the front boundary of the site.
- e) Additional landscape planting may be required along the side boundaries to integrate the development with neighbouring buildings and the streetscape, and to reduce the impact of vehicle lights on adjoining properties.
- f) A landscape plan shall be prepared and submitted with the development application, in accordance with the Landscape and Design section of this Plan.
- g) Plant species shall be chosen to address the characteristics of the site and shall:
 - i) Provide protection from prevailing winds;
 - ii) Provide screening to minimise impacts on privacy and/or the streetscape and adjacent buildings;

- iii) Provide shelter and shade;
- iv) Reduce reflection from bright surfaces;
- v) Emphasise pedestrian and vehicular routes;
- vi) Ensure visibility of outdoor playing areas;
- vii) Not include plants which may be toxic, create allergic reactions, or which are prickly or otherwise unsafe; and
- viii) Provide interest and variety to enhance children's experience.

9) Private Dwelling

- a) A dwelling may be attached to, part of, or associated with, a child care centre.
- b) The dwelling shall be provided with a separate and private open space area (with minimum dimensions of 4m x 6m), which is directly accessible from the internal living areas of the dwelling and orientated to optimise solar access.
- c) The dwelling shall include a kitchen, bathroom, laundry, living area and amenities, which are separate to those for the child care centre, for the use of the residents.
- d) A minimum of one separate parking space shall be provided for the residents of the dwelling.
- e) The species and location of trees and planting provided for a dwelling associated with a child care centre should ensure there is no likelihood of falling branches, and should not be toxic, create allergic reactions, or be prickly or otherwise unsafe.
- f) A swimming pool or spa pool, existing or proposed, associated with a dwelling attached to a child care centre must be securely fenced (in accordance with the requirements of the *Swimming Pool Act 1992*) to prohibit access to the children in care.
- g) The pool shall be suitably screened from view of the children in care.

10) Out-of-School Hours Care (OOSH)

Council's approval is required for the operation of out-of-school hours care (OOSH) – either as part of an existing child care facility or as a separate activity.

- a) Where the operator of an existing child care centre proposes to establish an OOSH service, the centre shall provide permanent separation of the OOSH facilities.
Operational elements which shall be provided separately for each service include:
 - i) Amenities;
 - ii) Playroom(s);
 - iii) Outdoor play area(s), and
 - iv) Staff.
- b) Car parking spaces for the OOSH care shall be provided in accordance with the requirements of the Transport, Access and Parking section of this Plan and, if applicable, shall be in addition to the parking area for the child care centre.

D. Lifting the Bar

The following represent some ways in which applicants can demonstrate additional commitment to the principles expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section of this Plan will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

- a) All child care centres are to demonstrate a commitment to achieving no less than 4 stars under the Australian Building Greenhouse Rating Scheme. An Energy Efficiency report is to be provided to Council as part of the development.
- b) All home-based child care or family day care home services are encouraged to:
 - i) Provide food consistent with the principles outlined in the National Quality Improvement and Accreditation System for Child Care;
 - ii) Participate in available training opportunities concerning food safety and nutrition (e.g. the 'Caring for Children' program) or other programs run by Council, TAFE, the University of Western Sydney or Sydney West Area Health Service; and
 - iii) Seek professional advice, where appropriate, from trained dietitians and/or nutritionists.
- c) All child care centres (including centre based and home based) are encouraged to:
 - i) Minimise waste through the use of recycling programs for paper, cardboard, aluminium, glass and PET products;
 - ii) Provide facilities/services which will satisfy identified unmet demands within the City for child care; and
 - iii) Participate in the NSW Cancer Council's SunSmart Early Childhood program.

E. Other Relevant Information

Consent and Licensing Requirements

- a) All child care centres must be approved by Council and licensed by the NSW Department of Education and Communities under the Children (Education and Care Services) National Law (NSW); Education and Care Services National Regulations and National Quality Framework prior to commencing operation.
- b) Home-based child care may be licensed as a Family Day Care service or within the requirements of the Department of Education and Communities.
- c) Where a child care centre for pre-school aged children and an OOSH service operate together, or from the same building, both services must be approved by Council, and the Department of Education and Communities must be notified.
- d) Development consent is required from Council for an expansion or alteration to an existing, approved child care centre. Changes may include an increase to the approved number of children, an alteration to the hours of operation or the establishment of OOSH care.
- e) Any application for an expansion or alteration to an existing child care centre will be considered on its merits, and include an assessment of the current operation of the centre.

Any subsequent development consent issued by Council may require a new licence from the Department of Education and Communities.

5.3 Health Consulting Rooms

A. Background

Health consulting rooms are different to medical centres in that they tend to operate in residential neighbourhoods, often on the fringe of commercial centres. Although this can provide better access to health care services, it can also lead to a greater potential for negative impacts on the amenity of the surrounding area.

The provisions contained in this section apply to the establishment of new health care consulting rooms and the enlargement or expansion of existing health consulting rooms.

B. Objectives

- a) To clarify those health care services considered appropriate to be incorporated in health consulting rooms;
- b) To provide clear guidelines for the establishment of health consulting rooms within the City; and
- c) To ensure that health consulting rooms are located and designed in a manner which minimises the likely impact on the amenity of the surrounding locality.

C. Controls

1) Location

- a) Health consulting rooms in residential areas shall not include procedures such as X-rays, ultrasounds, cat-scans, radiography, pathology tests or the like. These services are to be separated from residential activities and only located either in or immediately adjacent to commercial centres or precincts established specifically for other non-residential activities.
- b) Health consulting rooms shall not be located on sites where they are likely to have a significant impact on adjoining and surrounding residences, including but not limited to traffic and noise impacts.
- c) Health consulting rooms should not be located in a cul-de-sac or on a no through road, or in a location where additional vehicles may create traffic conflict or an adverse impact on the amenity of the area.
- d) The site is to have a minimum effective lot width of 18m to provide sufficient area for parking and access, as well as achieve an appropriate separation between the development and adjoining properties.

2) Access and Parking

- a) Parking areas shall be easily accessible from the street and suitably screened by landscaping. Vehicular access into the car parking area is to include a landscaped area, which will act as a noise and visual buffer to adjoining properties. Parking areas, where possible, are to be located to the rear of sites where they do not impact on streetscape character.
- b) Parking for a health consulting room shall be provided at the rate specified in the Transport, Access and Parking section of this Plan.
- c) In instances where one practitioner is operating as a home business, the parking arrangements will be assessed on merit.

3) Visual and Noise Impact

- a) Landscaping is to be established and maintained to adequately screen the development from adjoining residential properties. Landscaping shall be established prior to the use commencing.
- b) The development is to be compatible with the existing residential streetscape. Renovations and/or additions, which seek to remove the residential character of the dwelling house, will not be supported.
- c) The scale and character of the development is to be compatible with surrounding residential development.
- d) Fencing shall be of a height, design and material suitable to contain noise generated from cars accessing and parking within the site, while being compatible with the residential environment.
- e) Business identification signs should be appropriately designed and located to ensure that it is visually compatible with the surrounding development.
- f) A standard doctors' 'cube' (having minimum dimensions of 3m by 4m) may be erected in the front boundary setback of the property.

5.4 Educational Establishments

A. Background

Given their scale, form and potential impact, there is a need to ensure educational establishments are located and designed in such a way as to minimise their impacts, particularly on surrounding areas. It is also important to ensure that nearby land uses do not have an adverse impact on children's health and learning.

B. Objectives

- a) To ensure that the design and location of educational establishments does not adversely impact on the amenity of the area or neighbouring properties, including properties used for agriculture;
- b) To ensure that educational establishments are located on sites of sufficient size to accommodate buildings, sports fields, parking areas and other associated facilities;
- c) To ensure that educational establishments are located on sites which have sufficient infrastructure and services to support the use;
- d) To ensure that the road access to educational establishments is sufficient to cater for expected traffic with minimal impact;
- e) To ensure that educational establishments do not locate near uses that will have an adverse effect on children's health or learning; and
- f) To ensure that, where they are located on a major road, the visual impact of educational establishments is consistent with the character of the area.

C. Controls

1) Location and Design

- a) Educational establishments must locate on sites which comply with the minimum areas set out in Table D5.1 below.

Table D5.1: Minimum site requirements

Type of educational establishment	Minimum area
Primary School (Kindergarten to Year 6)	3 hectares
High School (Year 7 to Year 12 OR Kindergarten to Year 12)	6 hectares
Tertiary Institution (University or TAFE College)	6 hectares

b) Educational establishments must be designed with regard to:

- i) Buffer zones to minimise impact on adjoining land uses, including agricultural uses in rural areas;
- ii) Landscaped front setbacks to reduce visual impact;
- iii) Appropriate building heights and setbacks to minimise visual intrusion in rural areas; and
- iv) Separate play areas for primary and secondary students.

2) Servicing

- a) Educational establishments catering to over 50 students must be connected to all services, including power, reticulated water and reticulated sewer.
- b) Educational establishments catering to less than 50 students must demonstrate how servicing needs will be met. Applications should also address the provision of services should growth in student numbers require it.

3) Transport, Access and Parking

- a) Schools catering to over 50 students must have access to public transport. Applications should outline measures to be taken to encourage use of public transport.
- b) Educational establishments must be designed to ensure:
 - i) Separate parking areas for staff and parents/students;
 - ii) Adequate drop off/pick up zones, separate to bus access; and
 - iii) Safe pedestrian access from bus stops and drop off/pick up zones.
- c) A traffic impact assessment may be required for the development of an educational establishment. Applicants should confirm this requirement with Council prior to lodging a development application.

D. Penrith Anglican College

The following controls apply specifically to Penrith Anglican College, Wentworth Road, Orchard Hills.

- 1) The rural viewscape and character of the site is to be protected by locating buildings, recreation areas and ancillary structures in distinct areas as follows:
 - a) School extension area – to be used for substantial structures, car parking and main access roads;
 - b) Active recreation areas – to be used for the purposes of active recreation facilities, including sports fields and minor or ancillary structures;

- c) Transmission easement – to be used primarily for passive recreation and drainage infrastructure, with some encroachment of playing fields acceptable provided that Transgrid or any other relevant authority has given written approval for the encroachment.
- 2) The proposed development is to allow the existing watercourse on the site to be relocated and rehabilitated without the use of pipes or other engineering devices:
- a) To emulate a naturally functioning stream with a minimum riparian width of 10m along both sides of the watercourse (measured from the top of bank);
 - b) To provide vegetated habitat refuges (both terrestrial and aquatic); and
 - c) To facilitate treatment of stormwater runoff outside the riparian corridor before it enters the watercourse.

5.5 Parent Friendly Amenities

A. Background

Parent friendly amenities provide facilities for the use of carers to attend to the personal needs of babies/toddlers. This includes breastfeeding, feeding fluids and solids, changing nappies, etc. These rooms need to be purpose designed by the builder/designer so that they are in an accessible location and are functional.

Council is committed to ensuring and promoting the health of its residents, with particular focus on the health and safety requirements of babies, young children and their parents.

B. Development Covered by this Section

This section applies to all new development classed as 6 or 9 under the Building Code of Australia (BCA) and may also be required to be provided as a result of substantial alterations and additions or a change of use to one of the above premises. “Class 6 or 9 of the Building Code of Australia” is defined in Appendix F1 – Definitions.

C. Objectives

- a) To ensure that all developments likely to be frequented by parents and children have suitable parenting facilities in public places that support and encourage breastfeeding;
- b) To ensure that safe and accessible toilets are provided in developments that cater for young children and their parent(s);
- c) To ensure that parent friendly amenities are suitable for use by both male and female carers;
- d) To provide parent friendly toilets that are appropriately located to minimise likelihood of embarrassment to all users;
- e) To ensure that all baby care rooms are of an adequate design and size, and are appropriately equipped.
- f) To ensure that all baby care rooms are maintained to appropriate standards.
- g) To ensure that approved baby care rooms continue to be used in accordance with development consent.

D. Controls

1) Provision of Parent Friendly Amenities

- a) Parenting rooms and parent friendly accessible toilets are to be provided for all developments classed as 6 or 9 under the BCA, including substantial alterations and

additions, and where a change of use is proposed resulting in the tenancy being classed as 6 or 9 buildings.

- b) Certain types of class 10a buildings are to be provided with parent friendly accessible toilets.
- c) Table D5.2 outlines the minimum requirements for various types of development.

Table D5.2: Minimum requirements for various types of development

Type of development	What is required
<ul style="list-style-type: none"> Community facilities (such as neighbourhood centres, community halls, other types of publicly owned facilities including temporary buildings), which are less than 300m² Gross Floor Area (GFA). Restaurants with greater than 30 seats (including any outdoor dining area). Amenity building associated with a sporting field/recreation facility less than 1,000m² GFA. All other development (classed 6, 9 and 10a buildings) covered by this section which is less than 1,000m² GFA. 	<ul style="list-style-type: none"> Change table in male, female and disabled toilets. Where public sanitary facilities are required or provided, the facilities should be designed to incorporate parent friendly accessible toilets.
Community facilities (such as neighbourhood centres, community halls, other types of publicly owned facilities including temporary buildings) and places of public worship which are 300m ² – 1,000m ² GFA	<ul style="list-style-type: none"> 10m² Parenting Room (see sections 2 and 3 below for details). Where public sanitary facilities are required or provided, the facilities should be designed to incorporate parent friendly accessible toilets.
All development covered by this section with GFA between 1,001m ² – 2,000m ² .	Parenting rooms and parent friendly accessible toilets should be incorporated, with the baby care room having a minimum 20m ² GFA (see sections 2 and 4 below for details).
All development covered by this section which is greater than 2000m ² GFA	Parenting rooms and parent friendly accessible toilets should be incorporated, with the baby care room having a minimum 30m ² GFA (see sections 2 and 5 below for details).

- d) All parent friendly accessible toilets are to be appropriately sign posted, with the signage to be approved by Council.
- e) Details of the minimum standards, as described in Table D5.2, should be shown on the plans submitted with the development application.
- f) The applicant is also required to submit a cleaning procedure, routine and schedule.

- g) Upon completion of any parenting room, an initial inspection must be made by Council's Environmental Health Officer (EHO) to ensure that the parenting room can be accredited by the Australian Breastfeeding Association. Council will conduct an annual inspection of parenting rooms to ensure the room is appropriately maintained and continues to be used in accordance with the development consent.

2) Common Requirements for All Sizes of Parenting Rooms

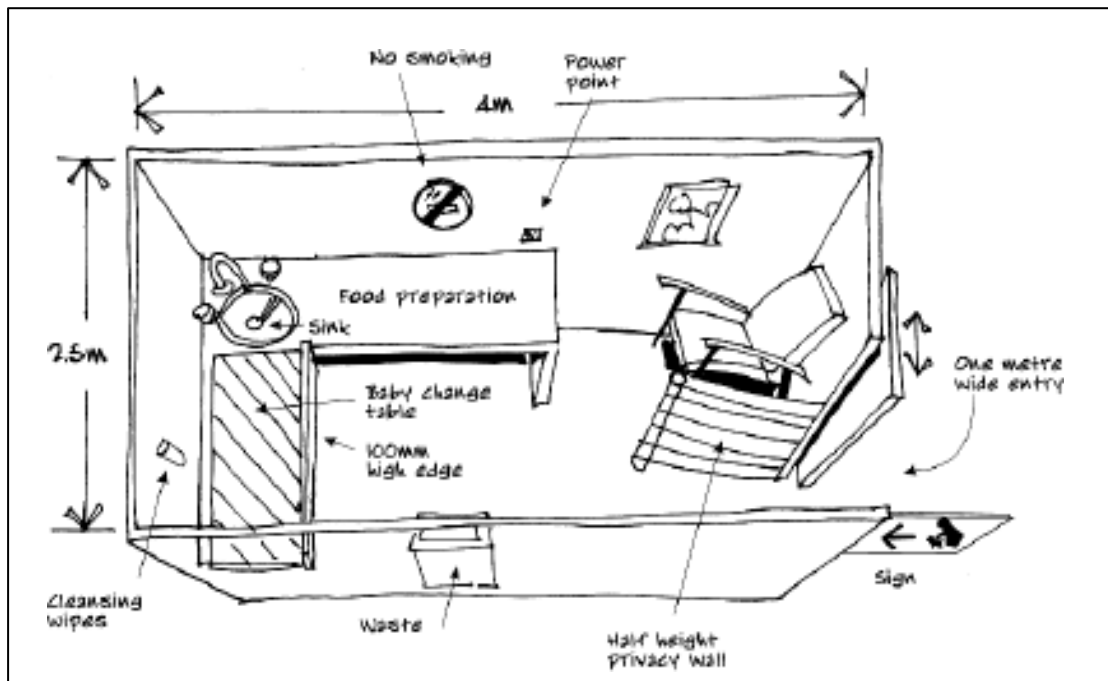
- a) The design and construction of the room must facilitate easy cleaning.
- b) The facility must be kept in a clean and tidy state at all times. A regular maintenance and cleaning program is to be implemented.
- c) A minimum of one sink with hot and cold water must be provided. All hot water is to be thermostat regulated to ensure the water temperature is not above 50 degrees Celsius. Hand drying facilities are to be provided adjacent to the sinks.
- d) Bench space to allow food preparation is to be provided. The bench space is to be a minimum 950mm wide by 1.8m long.
- e) A baby change table is to be provided, which must have either a protective side of 100mm or a belt, to prevent a baby from rolling off.
- f) Cleansing wipes are to be provided to clean the baby change table.
- g) A nappy disposal unit is to be provided.
- h) The parenting room must be a non-smoking facility and signposted as such. Signs can be obtained at <http://www.health.nsw.gov.au>.
- i) Adequate directional signage is to be provided to ensure the room is easily found. Signs should use a symbol that will be easily interpreted by people of culturally and linguistically diverse backgrounds, and will enable male parents/carers to also access and use the room.
- j) Ventilation must be provided in accordance with the AS 1668 Part 2 Acceptable indoor air qualities.
- k) A door entry of a minimum width of 1m is to be provided to allow access for single and double prams. The doors are to be manual, light to push and have the ability to be propped open for pram access.

3) Additional requirements for 10m² parenting rooms

The following controls are in addition to the general requirements listed above.

- a) The parenting room component is to have a minimum GFA 10m².
- b) Parenting rooms with a GFA of 10m² must have a minimum of one comfortable seat, a power point and a waste container with tight fitting lid. The seat should be suitably screened from the remainder of the room to ensure there is less likelihood of embarrassment should a male parent/carer also require use of the parenting room.

Figure D5.1: Example of baby care room within 10m²

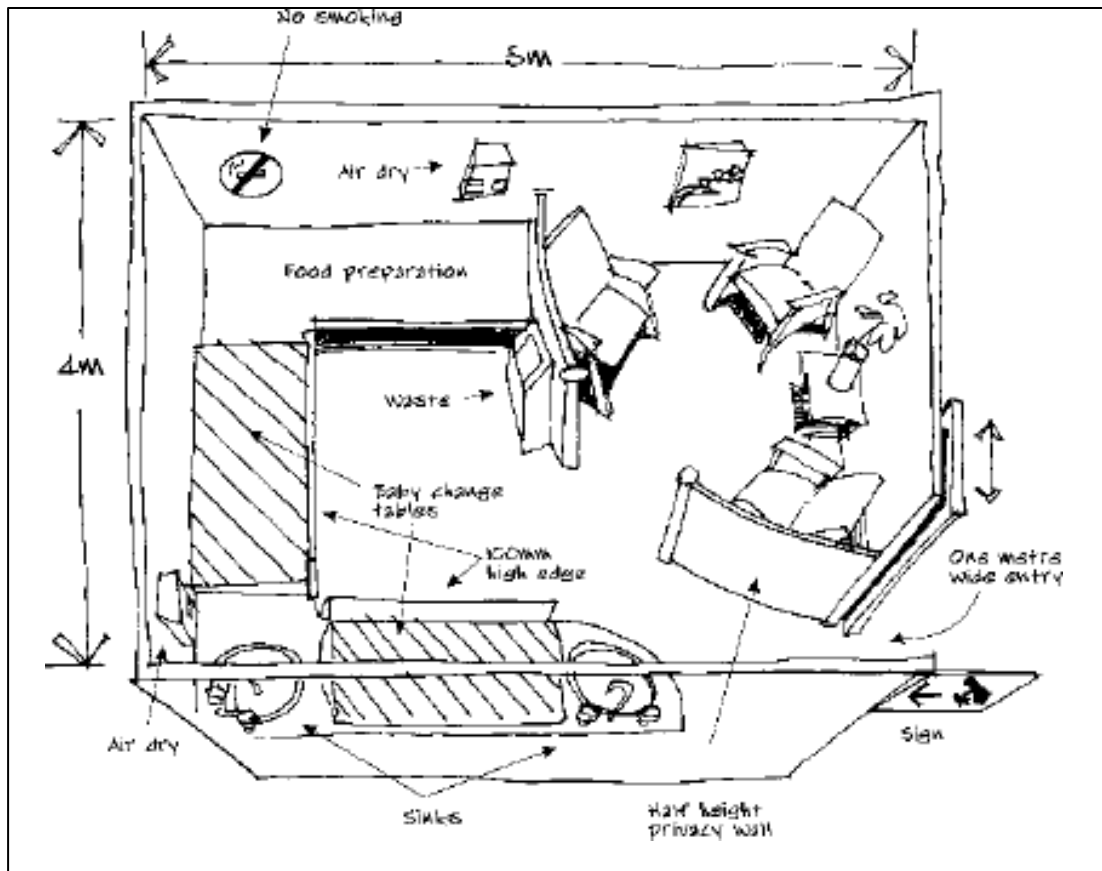


4) Additional requirements for 20m² parenting rooms

The following controls are in addition to the general requirements listed above.

- a) The parenting room component is to have a minimum GFA of 20m².
- b) Parent friendly accessible toilets are to be incorporated in parenting rooms.
- c) The parent friendly accessible toilets should include a toddler toilet and adult toilet. The toddler toilet should have a low wash basin with automatic cut off taps. The door to the toddler toilet should be able to be pushed open from the inside. Appropriate directional signage indicating the parent friendly accessible toilets and parenting rooms is to be installed.
- d) A private area should be provided for mothers breastfeeding, so that male carers can access the room without disturbing them.
- e) There should be two comfortable seats, a power point, and a waste container with tight fitting lid.
- f) The seats should be suitably screened from the remainder of the room/parent friendly accessible toilets to ensure there is less likelihood of embarrassment should a male parent/carer also require use of the parenting room.

Figure D5.2: Example of baby care room within 20m²

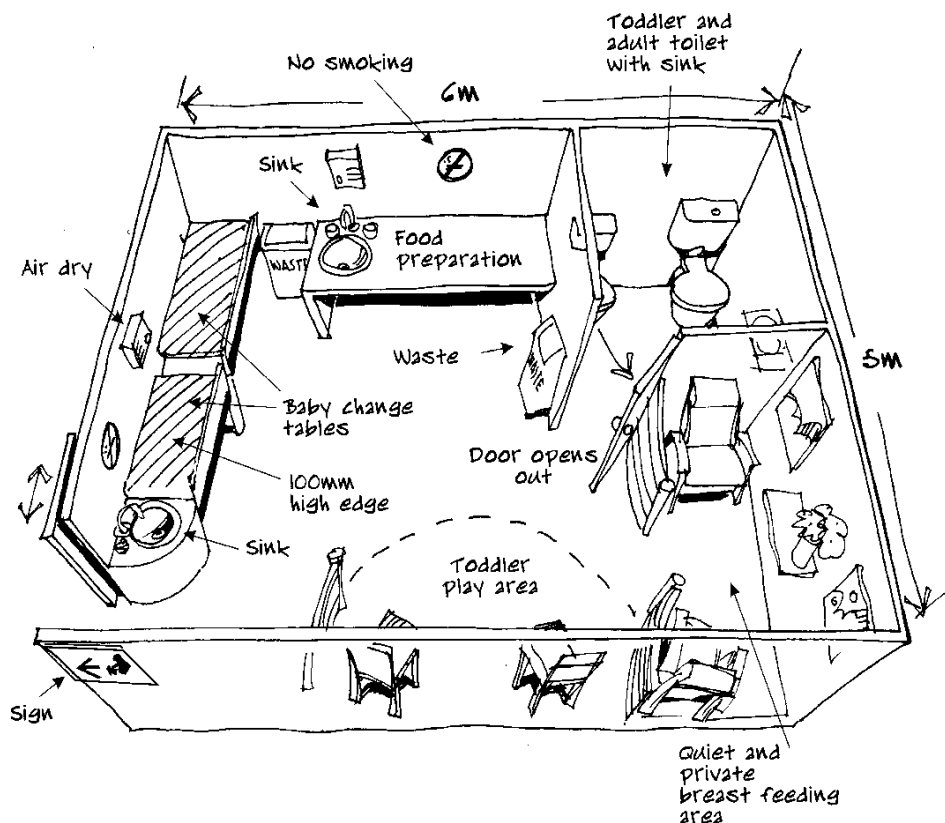


5) Additional requirements for 30m² parenting rooms

In addition to the general requirements for 20m² parenting rooms, the parenting room component with a GFA of 30m² is to provide:

- a) A minimum of 3 comfortable seats and one power point;
- b) A minimum of 2 baby change tables, which must have either a protective side of 100mm or a belt, to prevent a baby from rolling off;
- c) 2 sinks with hot and cold water;
- d) A waste container and nappy disposal units with tight fitting lids;
- e) A private area within the parenting room for breastfeeding mothers so that male carers can access the room without causing discomfort to either party;
- f) A confined and safe play area for toddlers; and
- g) Provision of a toddler toilet and adult toilet. The toddler toilet is to meet the following requirements:
 - i) Low wash basin with automatic cut off taps.
 - ii) A door able to be pushed open from the inside.

Figure D5.3: Example of baby care room within 30m²



D. Lifting the Bar

The following represents some ways in which applicants can demonstrate additional commitment to the principles for parent friendly amenities expressed in this DCP. Demonstration of this commitment may lead to Council considering variation of development controls. Applications that vary the development controls listed in this section of this Plan will need to demonstrate that the proposed development complies with the objectives relevant to the development controls it seeks to vary.

Suggested additional standards for all baby care rooms:

- Provision of a paper cup dispenser
- Provision of a dispenser machine to buy disposable nappies.
- Entry doors, if made of glass, should be safety glass.

Suggested additional features for 10m² parenting rooms

- Provision of cleansing wipes for cleaning the baby change table;
- Provision of a nappy disposal unit;
- Access for fathers and male carers who need to care for an infant without disturbing breastfeeding women;
- Provision of bench space (minimum 950mm wide and 1.8m long) to allow for food preparation; and
- Incorporation of parent friendly accessible toilets within the parenting room.

Suggested additional features for 20m² parenting rooms

- a) Provision of cleansing wipes for cleaning baby change table;
- b) Provision of a nappy disposal unit;
- c) Provision of a dispenser for disposable nappies; and
- d) Provision of bench space (minimum 950mm wide and 1.8m long) to allow for food preparation.

Suggested additional features for 30m² parenting rooms

- a) Provision of cleansing wipes for cleaning baby change table;
- b) Provision of a dispenser for paper cups;
- c) Provision of a dispenser for disposable nappies; and
- d) Entry doors, if made of glass, should be safety glass.

Other development

- a) Development that may not require provision of parent friendly amenities may still benefit from the provision of such a facility.

5.6. Places of Public Worship

A. Background

Places of public worship can vary remarkably in size and impact, from a high intensity, urban use to a small scale, low impact use.

Although small scale, traditional places of public worship may have minimal impact, it is increasingly common for this type of use to incorporate activities which operate 7 days per week, including for youth groups, community groups, parent groups, etc. This can create an essentially urban use. It is also becoming common for places of public worship to be quite large, so additional restrictions need to be placed on these larger establishments to minimise their impact on surrounding uses.

B. Objectives

- a) To ensure that the design and location of places of public worship do not adversely impact on the amenity of the area or neighbouring properties, including properties used for agriculture;
- b) To ensure that places of public worship are located on sites of sufficient size to accommodate buildings, parking areas and other associated facilities;
- c) To ensure that places of public worship are located on sites which have sufficient infrastructure and services to support the use;
- d) To ensure that the road access to places of public worship is sufficient to cater for expected traffic with minimal impact; and
- e) To ensure that, where they are located on a major road, the visual impact of places of public worship is consistent with the character of the area.

C. Controls

1. Location and Design

- a) A place of public worship with a capacity of more than 100 persons must locate on a road with sufficient capacity to accommodate likely traffic generation.

- b) Where a place of public worship will be visible from a designated road, information must be submitted with the development application to demonstrate how the visual impact of the building will be minimised.
- c) Places of public worship in rural or environmental zones must be designed to complement the character of the surrounding area.
- d) Places of public worship must be located on sites of sufficient size to accommodate all proposed buildings, parking areas, outdoor areas, etc.
- e) Where a place of public worship is to be located immediately adjacent to a property used primarily for residential purposes (including rural living or seniors living), a buffer zone of a minimum 10m in rural or environmental zones or 5m in all other zones must be provided to the side and rear boundaries. This buffer zone shall be landscaped and shall not be used for parking areas or the like.
- f) Buffer zones should also be considered to minimise the impact of places of public worship on agricultural uses in rural areas.

2. Servicing

- a) A place of public worship with a capacity of more than 100 persons must be connected to all services, including power, reticulated sewer and reticulated water.

3. Transport, Access and Parking

- a) A place of public worship with a capacity of more than 100 persons must demonstrate how sustainable modes of transport will be encouraged. This may include location close to public transport, provision of transport for worshipers (mini bus or similar) or some other means to reduce the reliance on transport by private vehicle.
- b) A traffic impact assessment may be required for the development of a place of public worship.
- c) Parking shall be provided in accordance with the standards in the Transport, Access and Parking section of this Plan.

4. Noise

- a) A noise impact assessment may be required for the development of a place of public worship and, if required, should address the provisions of the Noise and Vibration section of this Plan.

5.7. Vehicle Repair Stations

A. Background

Vehicle repair stations have particular impacts relating to the storage of chemicals, storage of vehicles awaiting repair and the parking of vehicles.

B. Objectives

- a) To ensure that satisfactory arrangements are made for landscaping, parking and disposal of wastes;
- b) In rural villages, to allow vehicle repair stations of a scale oriented to providing a local service; and
- c) To discourage developments which have an impact on rural amenity and the rural character of the villages.

C. Controls

1. General

- a) Adequate parking for employees and visitors should be provided (including cars waiting for servicing).
- b) Satisfactory arrangements should be made for the disposal of wastes including installation of a grease trap as determined necessary by Council's Health and Building Unit.

2. Rural areas

- a) Applications for vehicle repair stations which service the local community will be considered. Applicants should demonstrate the area from which customers are likely to be drawn.
- b) A maximum of two work bays will be permitted.
- c) Work bays should be screened from public view by orientation of the building or landscaping and fencing works.
- d) The building should be designed to minimise adverse visual impacts on the villages and integrate with the landscape and character of the locality.
- e) Noise generated by the development shall not adversely affect nearby properties or the rural amenity.

5.8 Cemeteries, Crematoria and Funeral Homes

A. Background

Cemeteries and crematoria can require large sites, and can have an impact on the amenity of the surrounding area, primarily due to traffic generation.

B. Objectives

- a) To ensure the operation of cemeteries, crematoria and funeral homes does not have a significant negative impact on the surrounding area, including properties used for agriculture;
- b) To ensure sufficient buffer zones are provided around the edge of sites to minimise impact on adjoining land uses; and
- c) To ensure that uses locate on roads with sufficient capacity to accommodate likely traffic generation.

C. Controls

- 1) Cemeteries, crematoria and funeral homes may not locate immediately adjacent to properties used primarily for residential development only (including rural residential/rural living or seniors housing) unless a sufficient separation can be obtained between any buildings on the site and any adjacent dwellings. The extent of the separation needed will vary with the scale of the proposed development.
- 2) Sufficient separation should also be provided to minimise potential conflicts between cemeteries and crematoria and properties used for agriculture in rural areas.
- 3) Cemeteries and crematoria must locate on a site with a minimum area of 10 hectares.
- 4) A landscaped buffer zone 15m wide must be provided to the side and rear boundaries of the site.

- 5) Cemeteries, crematoria and funeral homes must locate on a road with sufficient capacity to accommodate likely traffic generation.
- 6) A traffic impact assessment may be required for the development of a cemetery, crematorium or funeral home.
- 7) Cemeteries and crematoria must comply with relevant legislation including the *Public Health Act 1991* and *Protection of the Environment Operations Act 1997* and supporting regulations.

5.9 Extractive Industries

A. Background

Extractive industry includes the winning of sand, soil, gravel, rock or similar materials from the ground, and includes excavating, dredging, tunnelling or quarrying. It also includes the storage, stockpiling and processing of extracted materials.

B. Objectives

- a) To consider the social, economic and environmental issues in the assessment and management of extractive industries;
- b) To implement the objectives of international and nationally recognised environmental standards;
- c) To encourage community participation in all phases of extractive industry development;
- d) To provide sound technical parameters to facilitate the orderly development of extractive resources within environmentally sensitive regions; and
- e) To conserve the biological and cultural diversity and quality of the City of Penrith.

C. Controls

1) Setbacks

- a) Extractive industries including all facilities, buildings and operations should be setback no less than:
 - i) 40m from adjoining property boundaries;
 - ii) 40m from a public road;
 - iii) 40m from any boundary to a National Park or State Forest or Unalienated Crown Land;
 - iv) 40m from any site or relic of heritage, archaeological, geological, cultural significance;
 - v) 40m from the top bank of a watercourse or otherwise to the requirements of the NSW Office of Water;
 - vi) 50m from an agricultural or rural land use;
 - vii) 100m from a public or community facility; and
 - viii) 100m from a residence not associated with extraction.

2) Visual Amenity and Scenic Quality

- a) Applicants must submit a Landscape Site Analysis Plan, which identifies and assesses the scenic qualities, landscape constraints and options for landscape protection of the proposed extraction site; and demonstrates that areas of high visual sensitivity are

protected or enhanced (see Appendix F3 – DA Submission Requirements for more detail).

- b) Machinery and equipment associated with extraction should be stored in buildings and structures which are of a height, bulk and scale which is proportional to the surrounding landscape, and which are constructed of non-reflective materials;
- c) Perimeter screen planting of sufficient height to soften the visual impact of extraction sites when viewed from surrounding places must be provided;
- d) Extraction sites are to be rehabilitated to a final landform compatible with the shape, grade, level, form, land use, landscape quality and biodiversity of the surrounding terrain.

3) Dust and Noise Suppression

- a) Proponents shall submit a Noise Impact Statement which is to demonstrate that noise from the proposal will not have a significant negative impact on the surrounding area (see Appendix F3 - DA Submission Requirements for more detail).
- b) Proponents are encouraged to implement the extraction “cell” technique as a means of facilitating acoustic shielding around worked extraction sites.
- c) Proponents should ensure that road traffic noise is minimised to reduce potential impacts upon the acoustic environment of residents and community facilities within the locality.

In this regard, proponents should indicate the special transport needs of the activity, which are most likely to generate noise outside normal operating hours.

- d) The hours of operation of extraction and the transportation of materials are between 7.00am to 6.00pm Monday to Friday inclusive, and 7.00am to 4.00pm Saturday.

Variations to these hours may be justified having regard to the nature and location of a particular project.

- e) Proponents shall prepare a Dust Suppression Plan which identifies the range of measures to be used to minimise dust generation from both operations and stockpiles (see Appendix F3 – DA Submission Requirements for more detail).

4) Transport and Access

- a) All internal access roads associated with extractive industries should be at least 12m wide.
- b) Designs of internal access and intersection points will be considered by Council having regard to the requirements of the relevant road design guidelines, the specific needs of the operation and the site characteristics. Applicants should contact Council to determine the guidelines applicable to their proposal prior to lodging a development application.
- c) Internal access roads associated with extractive industries should be set back no less than:
 - i) 10m from adjoining property boundaries;
 - ii) 50m from environmentally sensitive areas including creek lines and habitats of threatened species; and
 - iii) 100m from residences not associated with extraction.

5) Other Impacts

- a) A truck wash down area shall be provided at the exit to the site.

- b) All wastewater or runoff exiting the site shall be treated to ensure that there is no detrimental impact on receiving waters through sedimentation or pollution. Means to achieve this shall be submitted with the development application.

5.10 Telecommunication Facilities

A. Background

This section is intended to be considered by the telecommunication carriers when looking for site facilities within the City of Penrith and undertaking the consultation process required under Commonwealth legislation.

B. Objectives

- a) To apply a precautionary approach to the deployment of radio communications infrastructure, by minimising Electro Magnetic Radiation (EMR) exposure to the public and avoiding sensitive locations;
- b) To achieve equity for the various stakeholders by endeavouring to balance their various needs;
- c) To promote good industrial design of infrastructure;
- d) To design and site telecommunications facilities to minimise visual impact;
- e) To provide infrastructure that is visually compatible with the surrounding character and visual context of the locality, with particular regard to heritage items, conservation areas and cultural icons;
- f) To minimise adverse impacts on the natural environment;
- g) To assess whether the proposed infrastructure is consistent with the amenity of the area and with permitted development in adjacent areas;
- h) To restore the site after discontinuation or removal of infrastructure;
- i) To identify the type of land use areas suitable for infrastructure;
- j) To accommodate the planning requirements of new technology;
- k) To provide equitable availability of locations to carriers; and
- l) To provide certainty for stakeholders and a consistent approach to the implementation/assessment of telecommunications infrastructure.

C. Controls

1) Siting

- a) In selecting a site, the proponent should demonstrate that it has adopted a 'precautionary principle' approach in terms of minimising the Electro Magnetic Radiation (EMR) exposure.
- b) Towers, structures and sites for telecommunications services should be co-located with other facilities or towers that supply or are proposed to supply telecommunications services or facilities, wherever possible. In this regard, a carrier should either co-locate antennas on an existing tower that has been established by a previous carrier, or as close as practicable to an existing tower that facilitates telecommunication services.

Where co-location is proposed, the assessment should address the cumulative emissions of all co-located telecommunications facilities.

If facilities are not co-located, details of the process employed in identifying opportunities for co-locating and reasons why this was unsuitable or inappropriate should be included in the assessment.

- c) Where possible, telecommunications facilities should not be located:
 - i) Close to possibly vulnerable populations (including the elderly, children and hospitals or nursing homes);
 - ii) Close to heavily populated sites;
 - iii) Within or at the termination of a significant vista or focal point of a streetscape;
 - iv) Within a visually sensitive area or at a 'gateway' site (see the Site Planning and Design Principles section of this Plan); or
 - v) Within a streetscape or landscape dominated by its heritage significance and identified in Schedule 5 Environmental heritage of Penrith LEP 2010.
- d) Carriers should take into consideration the proximity of a potential site to the following land uses:
 - i) Residential;
 - ii) Seniors housing;
 - iii) Hospitals;
 - iv) Schools;
 - v) Child care centres; and
 - vi) Heritage items.
- e) Wherever possible, facilities should be located outside of residential zones. Preferred locations include industrial areas, low use open space areas and commercial centres.
- f) Consideration of the proposed or future use of land, as well as its existing use, should be included in any assessment.

2) Visual Impact

- a) Towers should be located where possible to minimise visual impact. Assessments should outline screening measures considered, including painting and finishes of towers and ground level structures, and site landscaping. Location of towers at the rear of buildings should also be considered, rather than on street frontages, impacting on the streetscape.

3) Notification and consultation

- a) Carriers must comply with the relevant sections of the ACIF (Australian Communications Industry Forum) code in relation to:
 - i) Installing low RF (radiofrequency) Power Infrastructure and Fixed Radio links;
 - ii) Communicating with Council when no development application is required; and
 - iii) Consulting with the local community when no development application is required.

5.11 Boarding Houses

A. Background

The following developments are covered by this section:

- a) boarding houses; and
- b) alterations and additions to existing boarding houses.

This section provides supplementary directions for Boarding Houses in addition to those contained within State Environmental Planning Policy (Affordable Rental Housing) 2009 (SEPP) and the general controls elsewhere in this DCP.

Where controls specified elsewhere in the DCP are inconsistent with this section and would otherwise apply, this section prevails.

Boarding house developments should be compatible with local character and provide suitable amenity for tenants and the community.

B. Objectives

- a) To ensure that boarding houses fit the local character or desired future local character of the area.
- b) To minimise negative impacts on neighbourhood amenity.
- c) To ensure boarding house premises are designed to be safe and accessible.
- d) To respond to increasing neighbourhood densities resulting from boarding house development.
- e) To ensure that boarding houses operate in a manner which maintains a high level of amenity, health and safety for residents.

C. Controls

1) Local Character

- a) Boarding house development applications shall be accompanied by detailed site analyses to assist with the determination of local character.
- b) A neighbourhood analysis must be completed to identify the desired future character of the neighbourhood. It is recommended that community consultation be undertaken as part of the analysis to determine aspirations for the future character.
- c) Key elements that contribute to consideration of local and neighbourhood character include:
 - Surrounding land uses
 - Social and Historic Context
 - Scale
 - Built Form
 - Natural Environment
 - Density
 - Amenity
 - Safety and Security
 - Social dimensions and housing affordability
 - Aesthetics

2) Built Form, Street Impact and Appearance

- a) The entrance to the boarding house must be in a prominent position addressing the street.

- b) New boarding houses must not reduce the achievement of access to a minimum of 3 hours sunlight in the main living area and in at least 50% of private open space between 9am and 3pm on 21 June for adjoining properties.
- c) Boarding houses must be designed to have a sympathetic relationship with adjoining development.
- d) Proposals must demonstrate that neighbourhood amenity will not be adversely impacted by factors such as noise and privacy.
- e) There must be no basement encroachments to setbacks either above or below ground.
- f) Minimum setbacks for boarding houses in R2 and R3 Zones are provided in table D5.3. The intent of this control is to ensure consistency with local character by replicating streetscape patterns of buildings and private gardens in established neighbourhoods, which have visual and symbolic richness that are valued by their community.

Table D5.3: Minimum setback and building envelope requirements for boarding houses in R2, R3 and R4 Zones, and residential flat buildings or high density mixed use development. Where controls specified elsewhere in this part of the DCP are inconsistent with this table and would otherwise apply, the controls in this table prevail.

Setbacks	Minimums in R2 and R3 Zones	Minimums for Multi dwelling housing scale development in an R4 zone	Minimums for Residential flat building or high density mixed use development
Front	a) average setbacks of the adjoining neighbours; or b) a 5.5m minimum setback, whichever is the greater.	a) average setbacks of the adjoining neighbours; or b) a 5.5m minimum setback, whichever is the greater.	a) average setbacks of the adjoining neighbours; or b) a 5.5m minimum setback, whichever is the greater.
Side	2m along not more than 50% of the building length. The remaining 50% is to achieve a minimum setback of 3m, these areas are to be a minimum of 1.5m wide.	2m along not more than 50% of the building length. The remaining 50% is to achieve a minimum setback of 3m, these areas are to be a minimum of 1.5m wide.	Zero setbacks from the side boundary are not permissible.
Rear	4m for a single storey building (or any single storey component of a building) 6m for a two storey building (or any two storey component of a building)	4m for a single storey building (or any single storey component of a building) 6m for a two storey building (or any two storey component of a building)	4m for a single storey building (or any single storey component of a building) 6m for a two storey building (or any two storey component of a building)

Secondary Street Frontages	3m In an R3 Zone, 5.5m with a 3m minimum setback for single storey verandahs	5.5m 3m minimum setback for single storey verandahs	Zero setbacks from the side boundary are not permissible, other than awnings to main building entrances.
Building Envelope	Refer to Figures D5.4 and D5.5 below.	Comply with controls for <i>Multi Dwelling Housing</i> in this DCP	Comply with controls for <i>Residential Flat Buildings</i> in this DCP
Compatibility of Landscaping with Streetscape in the Front Setback	In an R2 Zone 50% landscaped area In an R3 Zone 40% landscaped area	40% landscaped area	40% landscaped area

Figure D5.4: Building Envelope for Boarding Houses in R2 Zones, for consistency with desired local character.

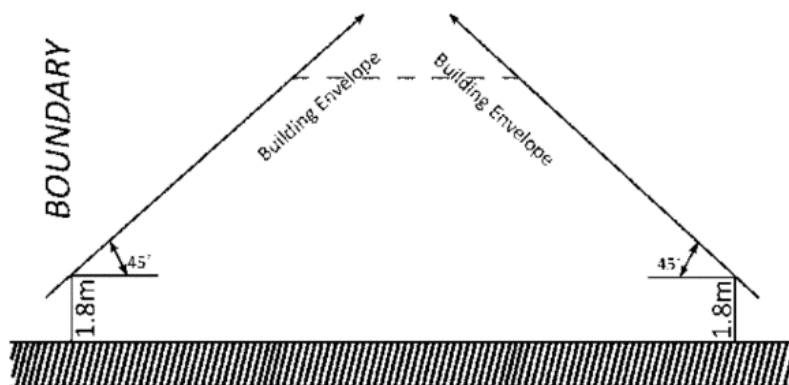
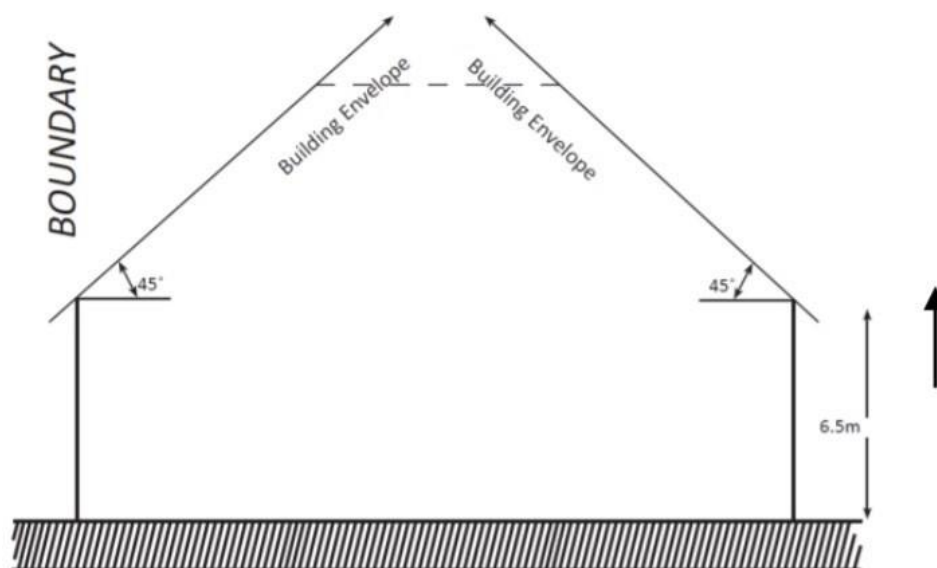


Figure D5.5: Building Envelope for Boarding Houses in R3 Zones, for consistency with desired local character.



- g) In an R2 or R3 Zone, boarding houses should comply with controls for *Single Dwellings* where these controls do not conflict with the requirements of the SEPP.
- h) A boarding house proposal of a scale similar to a multi dwelling housing development should comply with the controls and objectives for *Multi Dwelling Housing* within this DCP, where they are not in conflict with the requirements of the SEPP and the objectives of the zone.
- i) A boarding house proposal of a scale similar to a residential flat building or high density mixed use development should comply with the controls and objectives for *Residential Flat Buildings* within this DCP, where they are not in conflict with the requirements of the SEPP, and the objectives of the zone.

3) Compatibility with Streetscape in the Front Setback

In order to be compatible with the streetscape, boarding houses must supply the following elements within the front setback, in addition to complying with other relevant *Landscape Design* controls in this DCP and *Built form, streetscape impact and appearance* controls in this section:

- a) A minimum of 18m² deep soil area must be provided to support larger plants and trees used to soften the form of the building and provide shade. Deep soil areas are to be a minimum width and length of 3m. Deep soil zone may form part of the landscaped area calculation.
- b) A watering system that does not rely on lodgers to maintain plantings.

4) Tenant Amenity, Safety and Privacy

Boarding houses are to maintain a high level of resident amenity, safety and privacy by ensuring:

- a) communal spaces including laundry, bathroom, waste facilities, private open space, kitchen and living areas are accessible to all lodgers;
- b) if over 10 boarding rooms are supplied, 10% of the total number of dwellings (rounded up) must be accessible;
- c) cross ventilation should be achieved in common areas including corridors, common kitchen areas, living areas, laundry, waste and kitchen facilities;
- d) all opening windows are to be provided with fly screens; and
- e) secure mailboxes shall be provided on the property allowing resident only access.

- f) Communal kitchen facilities must be provided with a minimum area of:
 - a. 7m² for up to 6 lodgers,
 - b. or 11m² for more than 6, up to 12 lodgers.
 - c. A minimum of 15m² will be provided above 12 lodgers, plus 1m² for each additional lodger over 12; or all bedrooms shall contain kitchenette facilities with a fridge, adequate cupboards and shelves and a microwave. For fire safety reasons no other cooking appliances are permitted.
- g) Common rooms must be provided at a minimum rate of 2m² per lodger, or a minimum of 13m² where there are fewer than 6 lodgers. Common rooms do not include circulation space or laundry, bathroom, waste and kitchen facilities.

5) Visual and Acoustic Amenity Impacts

Boarding houses are to provide:

- a) bedrooms separate from significant noise sources;
- b) sound insulation between bedrooms to provide reasonable amenity;
- c) communal areas and bedroom windows away from the main living area or bedroom windows of any adjacent buildings; and
- d) screen fencing, plantings, and acoustic barriers in appropriate locations.

6) Location

Boarding Houses shall not be located in cul-de-sacs.

7) Plan of Management

An operating 'Plan of Management' is to be submitted with each development application for a boarding house (including new and existing boarding houses). The Plan of Management is to include, but is not limited to:

- a. boarding house staffing arrangements, including the location of 24/7 contact details for any on-site manager or resident caretaker, who has overall responsibility for the operation, administration, cleanliness, maintenance and fire safety of the premises;
- b. house rules and how they will be publicised to residents, including details of:
 - i. guest behaviour;
 - ii. activities and noise;
 - iii. visitor policy;
 - iv. the use of alcohol and/or drugs;
 - v. cleaning of communal spaces following use, and
 - vi. location of smoking area.
- c. plans outlining the occupancy rate for each sleeping room, room furnishings, provisions of communal areas and facilities, and access and facilities for people with disabilities;
- d. measures to minimise unreasonable impact to the habitable areas of adjoining properties, including the management of communal open spaces, which, for boarding houses within residential areas or where adjoining sites contain residential activities, should be restricted to 10pm;
- e. waste minimisation, recycling and collection arrangements are to be identified;
- f. maintenance strategy including, but not limited to:
 - i. monthly gardening and pruning of vegetation;
 - ii. pest management plan;
 - iii. cleaning and sanitation program including end of lease arrangements;
 - iv. quarterly external clean and graffiti removal;
 - v. waste management plan; and

- vi. indicative arrangements for council officer's 12 month inspection, required under the Boarding House Act 2012.
- g. internal signage arrangements, including:
 - i. the name and contact number of the property caretaker or manager;
 - ii. emergency contact numbers for essential services;
 - iii. house rules;
 - iv. a copy of the annual fire safety statement and current fire safety schedule;
 - v. floor plans that will be permanently fixed to the inside of the door of each sleeping room which indicate the available emergency egress routes from the respective sleeping room; and
 - vi. information on local social services.
- h. minimum lease period with conditions including:
 - i. resident agreement to comply with boarding house rules;
 - ii. minimum lease period of 3 months; and
 - iii. 6 and 12 month rental terms available.
- i. a social impact assessment;
- j. a complaint register that is available for inspection by Council;
- k. indicative arrangements for Council monitoring and review of required management actions; and
- l. any further relevant considerations. Council may request further information to be provided.