

Liverpool Development Control Plan 2008

Part 1

General Controls for all development

11 October 2019

Part 1 must be read for all development

Check if other Parts are also needed for the particular development

Liverpool Development Control Plan 2008

Part 1 General Controls for all Development

Table of Contents

1. Preliminary	6
2. Tree Preservation	11
3. Landscaping and Incorporation of Existing Trees	13
4. Bushland and Fauna Habitat Preservation	17
5. Bushfire Risk	19
6. Water Cycle Management	22
7. Development near a watercourse	28
8. Erosion and Sediment Control	29
9. Flooding Risk	32
10. Contaminated Land Risk	49
11. Salinity Risk	52
12. Acid Sulfate Soils Risk	56
13. Weeds	59
14. Demolition of Existing Developments	60
15. On-Site Sewage Management Systems (OSMS)	62
16. Aboriginal Archaeology	68
17. Heritage and Archaeological Sites	69
18. Repealed	75
19. Used Clothing Bins	76
20. Car Parking and Access	79
21. Subdivision of Land and Buildings	98
22. Water Conservation	107
23. Energy Conservation	109
24. Landfill	110
25. Waste Disposal & re-use Facilities	111
26. Outdoor Advertising and Signage	115
27. Social Impact Assessment	136
28. Shopping Trolleys	139
Appendix 1 – Definitions	140
Appendix 2 – Recommended Plant Species List for Landscaping	148
Appendix 3 – List of Noxious Plants for Liverpool LGA	150
Appendix 4 – Flood Compatible Materials	153

Table of Figures

Figure 1 Retention of Trees.....	14
Figure 2 Key Components of an APZ (NSW Rural Fire Service 2002)	20
Figure 3 Discharging to a creek system.....	25
Figure 4 Flow chart for the determination of flood risk	34
Figure 5 Map for identification of relevant floodplains	39
Figure 6 Moorebank Floodway	40
Figure 7 Model for Contaminated Lands Investigation.....	51
Figure 8 How development can impact on landscape functions as well as how development may be impacted upon salinity processes	53
Figure 9 Model for how salinity assessment, investigation and management strategies should be undertaken (Adapted from WSROC 2003).....	54
Figure 10 Model for how acid sulfate soils assessment, investigation and management strategies should be undertaken (adapted from Acid Sulfate Soil Manual 1998)	57
Figure 11 Example of a proposed subdivision with a total of 1200m ² of available effluent disposal area demonstrated on each lot	67
Figure 12 Opposite Adjacent Notification.....	76
Figure 13 Car Parking Layout.....	89
Figure 14 Driveway Gradients	90
Figure 15 Internal Driveway widths.....	91
Figure 16 Locations of Driveway Crossings.....	95
Figure 17 Tree Guard and Planting Details	103
Figure 18 Signage Requirements	117
Figure 19 Tourist Directional Signs.....	118
Figure 20 Proliferation of Signs	118
Figure 21 Signs should complement the architecture	119
Figure 22 Corporate Identity.....	120
Figure 23 Illuminated pole sign in neighbourhood area	120
Figure 24 Protecting residential amenity.....	120
Figure 25 Sign Envelope	121
Figure 26 Advertising zone at the Ingress to Development.....	121
Figure 27 Signage locations for industrial units	122
Figure 28 Areas of environmental significance	122
Figure 29 Considering building design	123
Figure 30 Traditional sign.....	124
Figure 31 Sign at entry point to recreational facility	125
Figure 32 Advertising opportunity at play field	125

Figure 33 Advertising sign at service station	126
Figure 34 Pole sign for exhibition home.....	126
Figure 35 Illuminated street name sign.....	128
Figure 36 Inflatable sign	129
Figure 37 Types of signs	132
Figure 38 Horizontal and vertical panels.....	134
Figure 39 Establishing the façade grid	134
Figure 40 Developing patterns and themes	135
Figure 41 Improving discontinuities in streetscape	135

List of Tables

Table 1 Plans for stormwater soils management	29
Table 2 Nepean River Floodplains (includes South Creek, Kemps Creek, Bonds Creek and other tributaries of the Nepean River).....	41
Table 3 Cabramatta Creek and all other Floodplains (includes Hinchinbrook Creek, Maxwells Creek, Brickmakers Creek, upper parts of Anzac Creek and other tributaries)	42
Table 4 Georges River Floodplain (includes Harris Creek and Williams Creek Lower parts of Anzac Creek but not Cabramatta Creek).....	43
Table 5 Local Overland Flooding	44
Table 6 Explanation of Development Controls.....	44
Table 7 Controls applicable to the Moorebank Floodway	48
Table 8 Minimum setbacks for effluent disposal areas	65
Table 9 Level of Notification	76
Table 10 Distances for Notification	79
Table 11 Disabled Car Parking Provision	80
Table 12 Bicycle Parking Provision	82
Table 13 Car Parking, Servicing & Loading Provision.....	84
Table 14 Dimensions of off street car parking for bays at 90°	88
Table 15 Internal driveway widths	90
Table 16 Car Parking spaces served by the Driveway type	96
Table 17 Driveway Crossing width	96
Table 18 Minimum lot widths	101
Table 19 Frontage width.....	104
Table 20 Hatchet allotment access handle	106
Table 21 Types of development for which a social impact assessment is required	137

1. Preliminary

Applies to

This plan applies to all land in Liverpool Local Government Area (LGA). The plan is known as *Liverpool Development Control Plan 2008*.

Structure of Liverpool Development Control Plan 2008

Part 1 General Controls for all Development

Part 2 Locality Specific Controls

- Part 2.1 Green Valley (Subdivision of land)
- Part 2.2 Hoxton Park, Carnes Hill and Prestons (Subdivision of land)
- Part 2.3 Georges Fair Moorebank (Subdivision of land and residential development)
- Part 2.4 Moorebank Defence Lands (Subdivision of land and industrial development)
- Part 2.5 Middleton Grange (Subdivision of land and residential development)
- Part 2.6 Holsworthy Station Area (Subdivision of land and residential development)
- Part 2.7 Greenway Views (Subdivision of land and residential development)
- Part 2.8 Voyager Point (Subdivision of land and residential development)
- Part 2.9 Former Hoxton Park Airport (Subdivision of land)
- Part 2.10 Moorebank East (Subdivision of land and residential development)
- Part 2.11 Edmondson Park (Subdivision of land and residential development)
- Part 2.12 Repealed
- Part 2.13 Pleasure Point (Subdivision of land)
- Part 2.14 Elizabeth Hills (Subdivision of land and residential development)
- Part 2.15 New Brighton Golf Course (Subdivision of land, residential and golf course development)

Part 3 Development in Residential Zones

- Part 3.1 Dwelling houses in the R5 Zone
- Part 3.2 Dwelling houses on lots greater than 400sqm in the R2, R3 & R4 zones
- Part 3.3 Dwelling houses on Hatchet Shaped Lots
- Part 3.4 Semi-Detached and Attached Dwellings in the R2 and R3 zones
- Part 3.5 Dwelling houses on lots less than 400sqm
- Part 3.6 Multi Dwelling Housing in the R3 & R4 zones
- Part 3.7 Residential Flat Buildings in the R4 zones
- Part 3.8 Non Residential Development in Residential Zones
- Part 3.9 Boarding House Development

Part 4 Liverpool City Centre

Part 5 Development in Rural and E3 Zones

Part 6 Development in Business Zones

Part 7 Development in Industrial Zones

Adoption of Plan

This plan was made under Section 74C of the Environmental Planning and Assessment Act 1979 and Part 3 of the Environmental Planning and Assessment Regulation 2000.

The plan was adopted by Council on 28 July 2008. The plan came into force on 29 August 2008.

This plan was subsequently amended as follows:

Amendment No.	Trim Container	Date of amendment	Part(s) Amended
1	2008/1477	8 July 2009	Part 1.1, 1.2, 2.2, 2.5, 2.10, 2.11, 2.13, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4, 5, 6 & 7
2	2008/0171	9 June 2010	Part 1.1 & 2.14
3	2009/1725	15 September 2010	Part 1.1, 1.2, 2.2, 2.3, 2.5, 2.7, 2.8, 2.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4, 5, 6 & 7
4	2010/0769	15 September 2010	Part 1.1 & 6
5	2010/1253	8 December 2010	Part 1.1 & 5
6	2011/6089	11 April 2012	Part 1.1, 1.2, 2.2, 2.3, 2.5, 2.8, 2.9, 2.10, 2.11, 2.14, 3.2, 3.3, 3.4, 3.5 & 6
7	RZ-9/2011	19 April 2013	Insertion of Part 2.15
Reformatted as part of Amendment No 10			
10	2012/3187	19 February 2014	Merging of Parts 1.1 and 1.2, 2.3, 2.11, 3.3, 3.6 and 7.
9	2012/1606	4 April 2014	Part 3.1 and Part 5
16	2013/2409	18 June 2014	Part 5 and Part 7
13	2014/0925	2 July 2014	Part 1
12	2013/3913	25 July 2014	Part 1, Part 4 and Part 6
15	2014/1149	3 September 2014	Parts 2.2, 2.3, 2.5, 2.14, 3.1 and 7
14	2014/0929	12 November 2014	Part 2.11
17	2014/1508	1 April 2015	Part 5
20	2014/3813	26 May 2015	Part 1
21	2015/1066	8 July 2015	Part 1
18	2014/3695	19 August 2015	Part 2.11
19	2015/1050	9 September 2015	Part 1
22	RZ-4/2015	20 April 2016	Part 2.11
23	2016/1961	2 November 2016	Part 1
26	2014/1947	22 February 2017	Part 8
24	2016/3822	8 March 2017	Part 1.27
27	2017/0584	23 August 2017	Part 1.15
28	2017/3312	17 January 2018	Part 1
29	2016/1769	18 April 2018	Part 2.11
30	2006/0610	21 November 2018	Part 1.20
31	2018/3364	6 March 2019	Insertion of Part 3.9
32	2018/4071	20 March 2019	Part 1
33	2018/4049	17 April 2019	Parts 1, 4 and 7
34	2019/0942	11 October 2019	Part 1

Background

Council's Corporate Plan provides an overview of its Strategy for the Liverpool LGA. It also provides a framework for the objectives of this plan. The Corporate Plan is divided into the following strategic areas:

- The regional city for south west Sydney
- Neighbourhoods and villages
- the land between two rivers, where city and country meet
- Communities and governments working together
- A place for people
- Sustainability
- Improved organisational management and development

Liverpool Local Environmental Plan 2008

The *Liverpool Local Environmental Plan (LEP) 2008* provides the broad land use controls for Liverpool LGA. It covers most of the Liverpool LGA. In some cases land will be covered by other planning controls such as a *State Environmental Planning Policy* or a *Regional Environmental Plan*. It is advisable to check the zoning of land prior to the use of the DCP.

Some planning controls are contained in the *Liverpool LEP 2008* rather than in the DCP. These are not part of the DCP for the purpose of the *Environmental Planning and Assessment Act 1979*.

State and Regional Planning Provisions

In some cases a *State Environmental Planning Policy* or *Regional Environmental Plan* may also apply to land. It is advisable to check the impact of this prior to use of the DCP.

Contributions

Council requires contributions from development to fund infrastructure needed to support that development. Part 2 of the DCP includes a number of new areas where land is converted from rural to urban. The maps that accompany each chapter in Part 2 show public infrastructure needed to support development in the area. Much of this public infrastructure is to be funded from contributions from development.

The extent and anticipated staging of development in an area, the scope and cost of infrastructure required to service it, and the cost to development for the infrastructure is embodied in the contributions plans, which is a companion document to the DCP and LEP.

For details on current contribution rates, please refer to Council's web page at, www.liverpool.nsw.gov.au.

Standards in the Liverpool Development Control Plan 2008

Any variation to the standards in the DCP that will apply to a development will need to be justified before Council can consider any variation.

1.1 The Vision of Liverpool Development Control Plan 2008

Background

Liverpool Directions provides the background for Council's Management Plan, *Liverpool Local Environmental Plan 2008* and forms the framework for the vision for *Liverpool Development Control Plan 2008*.

The NSW Government's Sub Regional Plan for South West Sydney provides the context for Council's guiding document *Liverpool Directions*.

Change

Liverpool will experience significant growth as a result of Sydney's growth. This will involve creation of new suburbs as well as redevelopment in existing suburbs.

Some areas in Liverpool will experience substantial change over a short period. These include the new residential suburbs that were previously rural areas. Areas around Liverpool City Centre and some other centres will also experience substantial change with redevelopment. Other areas will also experience more gradual redevelopment, which will nevertheless bring change.

Liverpool Development Control Plan 2008, in conjunction with *Liverpool Local Environmental Plan 2008* aims to manage this change so that any change, which is inevitable, will make Liverpool a better place.

The Vision

Liverpool – A highly connected and vibrant City, with a strong City Centre supported by a hierarchy of neighbourhood and local centres. Identified as one of five Regional Cities for Sydney, Liverpool will experience rapid population and employment growth.

Liverpool Development Control Plan 2008 will guide this growth to ensure high quality and sympathetic urban development outcomes are achieved, significant environmental land is protected, appropriate open space is provided and the rural character outside the Growth Centres will be maintained and enhanced.

The Future

1. There will be new suburbs in Liverpool. These will have leading urban design outcomes for both individual developments and public areas that will be created.
2. Some existing localities, particularly Liverpool City Centre, will experience significant change through substantial redevelopment, although largely within the existing street pattern. There will be increased development that will result in a different but improved urban design outcome for the locality, which enhances the local amenity. It will also create opportunities for improved public spaces.
3. Other suburbs will experience more gradual redevelopment. New development will have an urban outcome that will be compatible with existing development.
4. Liverpool City Centre will be the Regional Centre for employment, health, education, recreation and cultural life.
5. High quality medium and high density infill development will occur in a targeted manner along public transport routes near shops, which will provide greater choice for all people as to what type of housing that they want, and enable greater access to public transportation.
6. There will be a concentration of activities such as shops, community, health, high density housing around local centres in new and existing suburbs. Local centres will be enhanced with shop-top housing, which are apartments above these shops.
7. Local centres in new and existing suburbs will have active and attractive street frontages, including out of hours.
8. Centres in new suburbs will be designed to be public transport user friendly. Centres in existing suburbs will become more public transport user friendly as they redevelop.
9. New suburbs will have attractive landscaped streetscapes while existing areas will have improved streetscapes as development takes place.
10. New suburbs and redevelopment in existing suburbs will be compatible with adjoining creeks, parkland and major transport corridors.
11. There will less development that is subject to risks such as flooding, salinity etc.
12. Development in new and existing suburbs will assist in making creeks and rivers attractive and clean.

13. Development in new and existing suburbs will preserve attractive natural areas.
14. Development in new and existing suburbs will contribute to a clean and sustainable environment.
15. Development in new suburbs will provide attractive and easily accessible open space.
16. There will continue to be open space linked along creek networks.
17. New development near the Georges River will allow access to the foreshore.
18. Development in new suburbs will have attractive and efficient transport corridors. Redevelopment in existing suburbs will improve the attractiveness and efficiency of existing transport corridors.
19. Development in new and existing suburbs will allow for good safe access to cycle and pedestrian ways.
20. There will be a sense of community.
21. Conflict between land uses will be minimised.
22. New industrial areas will be attractive. Redevelopment in existing industrial areas will improve the amenity of these areas.
23. Industrial/Employment areas will provide employment and provide sufficient space for local and start-up industry with some ancillary land uses to service the local workforce.
24. New industrial areas will be easily serviced and accessible. Redevelopment in existing industrial areas will improve the serviceability and accessibility of these areas.
25. Rural areas will keep a high level of rural amenity, with new development sympathetic and appropriate to the locality.

1.2 The Objectives of Liverpool Development Control Plan 2008

The objectives of this DCP are:

- a) To provide more detailed provisions for regulating the carrying out of development.
- b) To protect and improve the natural environment in the City of Liverpool.
- c) To protect and improve the amenity of the City of Liverpool.
- d) To protect personal safety and to minimise the risk of damage to areas subject to environmental hazards, particularly flooding.
- e) To promote a high standard of urban and environmental design.
- f) To conserve, protect and enhance the environmental heritage of the City of Liverpool.
- g) To encourage a diversity of housing to meet the needs of the residents of the City of Liverpool.
- h) To facilitate development that is environmentally sustainable.

There are also additional specific objectives for each section of each part of the DCP.

2. Tree Preservation

Applies to

This section applies to applications to remove trees with or without a development application for a development and involves:

- a) Any perennial plant that has a:
 - Height greater than 3.5m and/or
 - Canopy spread of greater than 4m and/or
 - Primary trunk diameter greater than 400mm when measured 1m above the existing ground level of the tree.
- b) Any tree that forms part of a heritage item or is situated within a heritage conservation area.

This section does not apply to:

- a) Any species, populations or communities listed under the provisions of the *Threatened Species Conservation Act (TSC) 1995*; or their habitats.
- b) Any plant that is on the Noxious Weeds Register for Liverpool City Council or listed in Appendix 3. (These plants must be removed, and destroyed in a way to ensure that they do not spread. It can be an offence to leave a noxious weed on a site.)

Background

Trees provide a natural amenity and appeal to urban environments. They are an integral part of built and natural landscapes and perform a key role in recycling oxygen, energy and important soil nutrients within ecological systems. They provide many benefits by reducing climatic extremes, improving air quality and providing habitat, which supports much of life on earth. Insects, birds, frogs and mammals and including familiar wildlife such as parrots and possums are attracted to the areas where we live.

Consequently, tree preservation is an important consideration for urban dwellers and Council. This DCP and Council's Tree Preservation Policy will help ensure these values are preserved for the future. The DCP overrides any inconsistency between these two documents.

Any proposal to prune or remove a tree located on private property requires development consent from Council. Legal action may be taken against any person in either the Local Court or Land and Environment Court who fails to obtain consent prior to pruning or removing a tree.

Objectives

- a) To ensure the protection of trees that are contributing to the ecological and aesthetic values of the Liverpool LGA.
- b) To protect the integrity of heritage items through preservation of all trees occurring within the heritage place, precinct or land.
- c) To ensure trees are maintained in an appropriate manner as not to cause harm or damage to the tree or community.
- d) To ensure that construction works and the ultimate design treatments protect the identified trees.
- e) To ensure that trees that provide high ecological or amenity benefits are protected wherever possible.

Controls

1. Any approvals to remove or prune trees issued with a development consent shall lapse when the development consent lapses or becomes invalid or void.

2. An application to remove a tree may be refused by Council if the tree:
- Form(s) a prominent part of the streetscape.
 - Stands alone and is thus of more significant than if it were part of a group of trees.
 - Is of historic or cultural significance or is/are registered on any Council register of significant trees.
 - Is prominent due to its height, size, position or age.
 - Is a locally indigenous, rare or endangered species.
 - Provides a significant visual screen.
 - Is part of an important habitat for wildlife.
 - Is part of remnant or riparian vegetation.
 - Can be effectively treated by applying appropriate remedial treatment such as pruning of branches, pruning of roots and removal of deadwood or by other appropriate action as recommended by an arborist.
 - Is listed under the provisions of the *Threatened Species Conservation Act 1995*. (Listed as a threatened species, is habitat to a threatened species or is part of a threatened ecological community).

Note: Council may refuse an application to remove a tree(s) but may give conditional consent for the appropriate remedial “branch or root pruning” for that tree(s).

3. An application to remove a tree may be consented to by Council if the tree:
- Has sustained severe damage, e.g. from wind, lightning, flood or impact from a vehicle, and cannot respond to remedial treatment.
 - Causes or is likely to cause structural damage to property including any building or pipeline, only if the damage cannot be contained by appropriate pruning of the tree’s roots and installation of a root barrier.
 - Is causing an allergic reaction in any local resident, and the reaction has been certified in writing by a medical allergy specialist.
 - Causes considerable overshadowing to dwellings (restricts potential sunlight penetration to habitable rooms to under three hours per day).
 - Obstructs the line-of-sight for motorists and presents dangerous traffic conditions.
 - Is essential to mitigate a fire hazard.
 - Is dead, dying, or has become dangerous.
4. Applications for trees that have Aboriginal markings and/or constitute an item of Aboriginal significance shall be referred to the *NSW Department of Environment and Climate Change (DECC)*. Intensive management options such, as fencing or buffer provisions will be considered to ensure adequate preservation.
5. Any pruning shall be undertaken in accordance with *AS 4373/2007 – Pruning of amenity Trees*.
6. All existing indigenous trees shall be retained or replaced. Where approval is given to remove trees, appropriate replacement planting will be required.
7. Significant trees that are identified as having habitat value shall not be relocated or removed.

3. Landscaping and Incorporation of Existing Trees

Applies to

This section applies to land, which will need to provide landscaping or retain existing trees as part of a development.

Background

Vegetation is an integral part of the environment, with the type and quantity of vegetation provided being one of the key influences in determining the quality and character of Liverpool's urban and rural environments. Many urban and even rural environments have been largely cleared of trees and shrubs. The provision of landscaping is a step to reintroduce vegetation into these environments in a way that complements the built environment.

Landscaping provides visual interest and amenity, provides recreation areas, and assists in managing the climate of the built environment. The use of existing vegetation assists with the provision of landscaping. In particular native trees in urban and rural environments have many valuable functions:

- Soften the visual impact of large-scale developments and increased densities.
- Assist in managing the climate of the built environment.
- Supports native plants and animals by providing habitat.
- Add to aesthetic and environmental values.
- Serve as a natural screen to the sun, wind and noise.

Good design recognises that landscape and buildings operate together as an integrated system, resulting in greater aesthetic quality and amenity for the occupants, neighbours and the public domain. Landscape design builds on the existing site's natural and cultural features to contribute to a development's positive relationship to its context and site.

Objectives

- a) Promote landscape planning and design as part of a fully integrated approach to site development.
- b) Assist in improving the climate of the local environment.
- c) Retain as many existing trees as possible.
- d) To provide habitat for locally indigenous plants and animals and contribute to biodiversity.
- e) To encourage landscaping that is appropriate to the natural, cultural, built and heritage characteristics of its locality.
- f) Improve the amenity of developments and adjoining areas by ensuring proposals adequately complement the proposed building forms and surrounding streetscape.
- g) Ensure that the proposed landscape designs provide functional attributes such as privacy, shade and wind protection, while discouraging the opportunity for crime and vandalism.

3.1 Retention of existing on site trees

Controls

1. Existing trees and native vegetation are to be retained, protected and incorporated into the development proposal. This is particularly important for vegetation which forms part of a ridgeline tree canopy and in foreshore and riparian areas (with the exception of weed species).
2. Prior to the commencement of the design of a development existing trees should be identified. The design of a development should consider options to retain existing trees.
3. Existing indigenous trees within any building setback should be retained where possible, as an integral component of the site's landscaping, and to protect local habitats.
4. It is important that all plans accompanying the development application including engineering and hydraulics plans are consistent with the landscape plan. This is particularly important where trees are to be retained. For example storm water lines and excavation should not be within the drip line of trees to be retained.

Note: Where trees are located outside the normal building envelope for a development, Council will give particular attention to the retention of those trees.

The following shows some ideas for retention of existing on site trees.

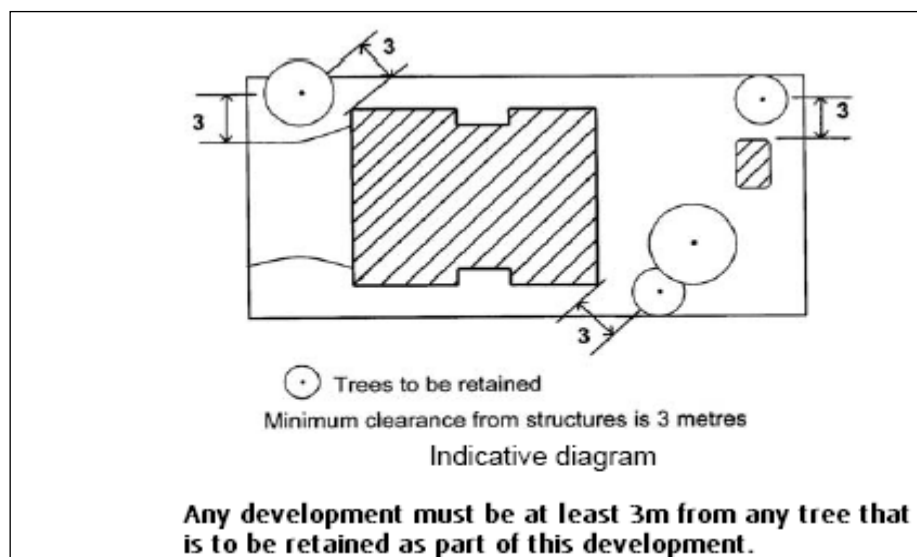


Figure 1 Retention of trees

3.2 Retention of existing street trees

Controls

1. Prior to the commencement of the design of a development existing street trees should be identified. The design of a development should consider options to retain existing street trees.
2. The design and location of access driveways should wherever possible be located to avoid removal of any existing street trees.

3.3 Protection of existing trees during construction

Controls

1. Trees nominated for protection must be enclosed within a 1.8m high protection fence that is installed to conform to a Tree Protection Zone (TPZ) that is consistent with current Arboriculture industry standards.
2. A report which outlines the condition, dimensions and species of existing trees contained within a development site is to be included as part of any development application documents and is to be accompanied by a Tree Retention Management Plan which shows the dimension of any proposed TPZs and outlines any other protection/enhancement methods that are appropriate to encourage the viable retention of trees.
3. All reports pertaining to trees on development sites are to be prepared by a suitably qualified person.

3.4 Landscape Specifications

Controls

1. Landscape planting should be principally comprised of native species to provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access. Environmental and noxious weeds in Liverpool shall not be used in the landscape design
2. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 – 1.8m) especially along paths and close to windows and doors.
3. Landscaping in the vicinity of a driveway entrance must not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
4. Trees, which are planted around high use facilities such as car parking areas, children's, play areas and walkways should have clean trunks to a height of 1.8m.
5. All topsoil used shall be sourced from a recognized commercial topsoil supplier. Site topsoil will only be considered suitable where the material has a high organic content. The consultant shall inspect and approve all top soiling prior to commencement of planting and application of mulch. An imported light and free draining topsoil mix is to be used in all planters.
6. The following minimum topsoil and mulch depths are to apply:

- Garden beds	300mm
- Turfed areas	100mm
- Planters on structure	750mm
- Mulch over garden beds	75mm
7. Trees shall be planted well clear of underground services or overhead wires. Trees shall be planted in general accordance with the following minimum distances from buildings:

- Small trees less than 6m mature height	2m
- Medium trees 6 – 15m mature height	3m
- Large trees more than 15m mature height	4m

Refer to Appendix 2 for the Preferred Species.

8. To maintain tree health, all trees in lawn areas are to have a 75mm deep x 1m diameter layer of mulch around its base. The mulch layer is to be reduced in depth directly around the base of the stem to form a shallow watering dish. The tree is to be staked well clear of the root ball and tied using Hessian ties as required.
9. All approved landscaping must be maintained at all times to the satisfaction of Council.
10. All trees are to be planted at not less than 45 litre pot size.
11. Use low water/low maintenance plant selection by selecting drought tolerant species.
12. Applicants need to demonstrate that plant selection is suitable for the particular soil type of the site and comply with any site constraints such as Bushfire Prone Land.
13. Where possible, all landscaping designs should incorporate permeable paving options. Permeable paving includes the use of porous paving units, ornamental gravel and paving on a compacted sand bed. Permeable paving ensures that air and water is made available to tree roots while providing a safe and stable pedestrian surface and around trees. Benefits include:
14. Ensuring that air and water are available to tree roots to ensure healthy and secure growth.
15. Assisting in the protection of established trees where the root system extends beyond the drip line.
16. Reducing the amount of surface water runoff entering the stormwater system.
17. Maintaining the existing natural drainage patterns.
18. All landscaping should consider soil salinity. Sites identified as having moderate to high levels of salinity shall incorporate the following measures in the landscape plan:
19. Selection of salt tolerant plant species (generally natives).
20. Use mulch in all gardens beds.
21. Minimise large areas of lawn, as this requires large quantities of irrigation.
22. Use “water-wise” garden and landscape design.
23. Plant large native trees and shrubs.

4. Bushland and Fauna Habitat Preservation

Applies to

This section applies to:

- a) All land, which contains or is adjacent to bushland.
- b) All land that contains known or potential habitat for threatened species, populations or communities.
- c) Any Land zoned:
 - W1 – Natural Waterways
 - SP1 – Drainage
 - Land shown on the Environmental Significant Land Maps of the *Liverpool LEP 2008*.
 - E2 – Environmental Conservation
 - E3 – Environmental Management
 - Any land under the definition of a waterbody in the *Liverpool LEP 2008*.
- d) Development that has potential to directly or indirectly destroy or adversely affect bushland.

Background

Bushland provides a variety of positive values to an urban area, including education, conservation, scientific and aesthetic values. It consists of native groundcovers, shrubs and trees that combine to produce a community that provides habitat for fauna. In many areas only a small number of native species remain and their health and existence are increasingly threatened by urban development.

As well the positive contributions at a local level to the urban and rural environments, bushland preservation contributes to total catchment health and preservation of biodiversity.

Objectives

- a) To protect and manage natural assets in association with the development of land.
- b) To conserve the natural heritage of Liverpool.
- c) To maintain and improve the amenity and scenic qualities of Liverpool.
- d) To maintain and enhance the biodiversity and natural ecology of Liverpool.

Controls

- 1. Bushland, particularly that identified as a threatened community or habitat for a threatened species shall be substantially retained and incorporated within a development. Clearing of bushland in association with any development shall be limited to the extent necessary to facilitate the safe and orderly use of the land.
- 2. Where impacts on threatened biodiversity are unavoidable, offsetting utilising the NSW Government BioBanking Scheme will be required where practicable.
- 3. Where bushfire management measures are required that involve clearance or alteration to bushland, details of proposed measures shall be submitted. Clearing for the purposes of bushfire management involving a substantial loss of bushland shall not be permitted.
- 4. Prior to the commencement of the design of a development, existing bushland and fauna habitat should be identified. The design of the development should consider retention of this bushland and fauna habitat.

5. Development shall not adversely impact on the long term viability of bushland. Existing connectivity and contiguity of bushland stands and fauna corridors shall be retained.
6. Where a proposal is likely to adversely impact on bushland, a Vegetation Management Plan (VMP) for the conservation of the bushland shall be submitted. The VMP shall be undertaken in accordance with pertinent NSW Office of Water Guidelines.
7. Any imported soils and/or mulches used shall be purchased from an appropriate supplier and be free of contaminants, seeds, propagules of weeds and undesirable species. Mulch shall not be used on flood liable land and/or areas where it is likely to be washed away.
8. Any proposed re-vegetation shall:
 - Augment remaining bushland.
 - Consist predominately of species which occur naturally on the site or are of local provenance.
 - Reflect the structure of natural bushland.
 - Be undertaken in accordance with a vegetation management plan which forms part of the consent.
9. Any proposed re-vegetation, seed collection and weed removal to be undertaken as part of the implementation of the approved vegetation management plan shall be undertaken by an appropriately qualified and licensed bushland restoration contractor.
10. Council may require measures to restrict access to bushland areas where it considers necessary, to ensure the conservation of bushland.
11. A flora and fauna assessment is required where a site is identified as containing native vegetation or habitat for threatened flora or fauna. The flora and fauna assessment shall consider all impacts associated with the development on the habitat, including the impacts of APZ's and water management practices. Flora and Fauna Assessments should be prepared in accordance with pertinent NSW Office of Environment and Heritage survey and assessment guidelines. The assessment must be prepared by a suitably qualified person.

5. Bush Fire Risk

Applies to

This section applies to:

1. Land identified as being Bushfire Prone Land or designated as Bushfire Prone Lands Buffer Zones on Liverpool City Council Bushfire Prone Land Maps.
2. All land that requires bushfire hazard reduction (burning).

Background

The desire to live close to nature means that many homes are built in areas that are at risk of bush fire. The *NSW Rural Fire Service* advises that 80% of homes destroyed by bushfire are built within 100m of bushland.

Council maintains many areas of bushland and reserves systems. As development continues to expand throughout the southwest there is an increasing number of developments encroaching or in close proximity to areas of bushland and are subsequently placed at bushfire risk.

Adequate planning and construction provisions need to be implemented and maintained to ensure the protection of developments in bushfire prone areas. Bushfire hazard maps have been developed by Bush Fire Risk Management Committees to assist in identifying areas of low, moderate and high bushfire hazard, based upon the surrounding vegetation and topography of the area.

It should be noted that despite planning and construction provisions to protect developments from bushfire risk, these would not guarantee the lifetime safety of the development though it will assist in minimising the severity of the risk.

Objectives

- a) To reduce the possible loss of life or property in the event of a bushfire and provide a safer environment.
- b) To ensure that development in bushfire prone areas is accessible by emergency services at all times.
- c) To ensure that development in bushfire prone areas is designed to enhance the survivability of the building and is prepared for its defence in the event of a bushfire.
- d) Implement an ongoing maintenance regime to manage surrounding vegetation and asset protection zones to reduce possible bushfire fronts and protect the development.
- e) To ensure that Asset Protection Zones (APZ) do not have a significant impact upon biodiversity.

Controls

1. Construction of single dwellings on or adjacent to bushfire prone land is to be carried out in accordance NSW Rural Fire Service's Single Dwelling Application Kit.
2. All development shall comply with provisions of the Rural Fires and Assessment Act 2002 and *Planning for Bushfire Protection 2006*.
3. Asset Protection Zones shall be provided within the boundary of the land on which a development is proposed but may include public streets located between the land and bushland.
4. Development controls which shall be addressed to ensure bushfire risk is reduced include the following.

- Clearing for the purposes of bushfire management shall not be permitted where loss of bushland is deemed to be unacceptable by Council in terms of quantitative and qualitative aspects.
- Where development requires bushfire management measures involving clearance or other alteration to bushland, details of proposed measures shall be submitted with a development application.
- Asset Protection Zones are to be placed primarily within the Residential zones. APZs shall not be located on land in the E1, E2 or E3 zones, particularly where altering these lands to create an APZ may conflict with the LEP objectives. Key aspects of an APZs are illustrated below.

5. The key components of APZs are illustrated below in Figure 2.

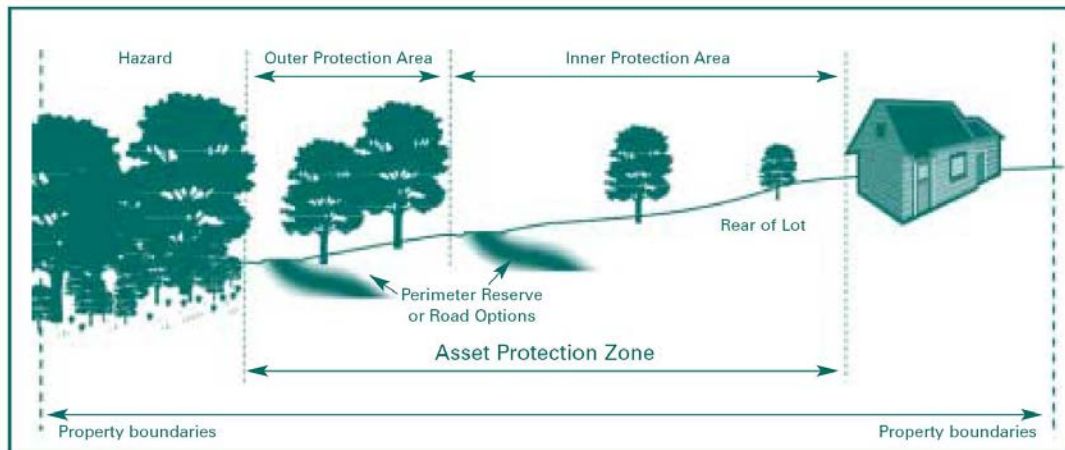


Figure 2 Key Components of an APZ (NSW Rural Fire Service 2002)

6. The APZs are to be placed as restrictions on the burdened allotments. No habitable or storage structures are permitted within those zones. Developments permitted in these zones include cycleways, footpaths, children's playgrounds and gas barbeques.
7. APZs shall be combined with active recreational uses where possible.
8. APZs may be landscaped with native grassland species that occur naturally on the site or on surrounding lands.
9. Minimal quantities of combustible materials shall be stored within inner protection zone.
10. New subdivisions in bushfire interface areas shall include a perimeter road.
11. A perimeter fire trail instead of a perimeter road may be acceptable where:
 - The perimeter fire trail is located on an east facing slope.
 - A small subdivision is being added to an existing urban area, where the pattern of development does not allow for a perimeter road.
 - Adequate arrangements are provided for ongoing maintenance of the perimeter trail.
12. Development shall be located to minimise the risk of loss of life and property from bushfire.
13. Development applications relating to land identified on the Bushfire Prone Land Map shall be accompanied by a bushfire hazard assessment report prepared by a suitably qualified professional.
14. Any development in a bushfire interface area shall not reduce the effectiveness of any existing APZ.

15. The APZ shall be located and designed to allow ongoing maintenance to be readily carried out by the responsible landowners or occupiers.
16. Hazard reduction (burning or mechanical) proposals shall be in accordance with the *Liverpool Bush Fire Risk Management Plan* and the Bush Fire Environmental Assessment Code. Landowners wishing to undertake hazard reduction shall contact the *NSW Rural Fire Service* (NSWRFS) for any requirements. Applications to undertake hazard reduction will be assessed by the NSWRFS.
17. Guidelines for hazard reduction include:
 - As far as possible, the frequency, time of year and intensity of any hazard reduction burning in native vegetation is to approximate the natural regime.
 - Periodic weed monitoring and control shall be undertaken after bushfires and hazard reduction burning, and appropriate action taken as necessary.
 - All Asset Protection Zones shall be provided within the boundary of the subject land. National Parks, Crown Reserves, water catchments, easements, Council managed reserves and riparian corridors shall not be considered as part of Asset Protection Zones.

6. Water Cycle Management

Applies to

This section applies to all developments, which involve additional buildings or hard surface areas.

It does not involve on site disposal of sewage. Refer to Section 15 – On Site Sewage Disposal.

Background

Stormwater has the potential to cause loss of life, serious property damage, erosion and sedimentation. The management of stormwater is however part of a larger management of the water cycle. This management not only includes managing stormwater events, the quality of rainwater runoff, erosion and sedimentation but also the use of rainwater to supplement reticulated water supplies. The management of the water cycle has its impacts on the design of developments.

Objectives

- a) To ensure that there is no adverse impact from stormwater runoff on downstream properties as a result of development in the catchment for all storm events up to and including a 100-year ARI event.
- b) To collect and use rainwater from roof tops to reduce town water consumption.
- c) To ensure adequate drainage is provided for developments.
- d) To protect properties from localised flooding.
- e) To prevent contaminated run-off from entering watercourses.
- f) To minimise erosion and reduce the volume of waste water entering waterways.
- g) To minimise sedimentation and pollution in waterways and drainage systems.
- h) To maintain and enhance the quality of natural water bodies such as creeks, rivers and groundwater.

6.1 Gravity Drainage to Council's drainage system

Applies to

This sub-section applies to development, which drains to a drainage system constructed by or on behalf of Council. This includes drainage to the pipe system, constructed drains, detention basins and constructed swales.

Controls

Stormwater runoff shall be connected to Council's drainage system by gravity means. Mechanical means (i.e. pump) for disposal of stormwater runoff will not be permitted except for basement car parks. Charged systems will not be permitted.

Easements to drain stormwater

1. The acquisition of drainage easements over downstream properties will be required where direct access is not possible to Council's drainage system (i.e. street kerb and gutter, piped system or open channels and watercourses).
2. All costs associated with the value of land and easement creation are to be borne by the developer.
3. Written consent for the piping and acquisition of an easement is to be obtained from adjoining owners and provided to Council at the time of lodging the Development Application. Inability to provide a gravity stormwater drainage system and easement to drain water in favour of the development site will prevent the granting of Development Consent. Creation of easement(s) shall be completed prior to the issue of the Construction Certificate.
4. Where negotiations between a developer and a downstream property owner have failed to obtain an easement, an easement may be granted via the Land and Environment Court.
5. Exception to acquiring an easement may be given for sites that do not drain to the street, only where extensions to an existing residential building or replacement of an existing house or dual occupancy is proposed, and genuine attempts at acquiring a downstream easement have failed. Written documentation of these attempts, including reasonable financial consideration, must be included for any application for exemption. If an exception is granted an alternative drainage system may be considered by Council.

Stormwater Drainage Concept Plan (SDCP)

For developments that require construction of stormwater drainage, a SDCP shall be submitted with the Development Application demonstrating the feasibility of the proposed drainage system within the site and connection to Council's system. Early consultation between engineers and architects is required to reduce possible conflicts in the final plan.

Visual impact

All drainage structures and storage areas are to be designed to be visually unobtrusive and sympathetic with the environment. This requirement is necessary to help ensure that future occupants do not adjust or remove facilities for aesthetic reasons without understanding the functional impact of such actions.

Surface flow Paths

1. Surface flow paths, including the provision of an emergency overflow to cater for blockage of the system or flows in excess of the 100-year ARI storm flow must be provided.
2. The flow route must be capable of carrying the flows generated by a 100-year ARI storm with a freeboard of 300mm to the adjacent habitable floor levels of the development site and adjoining properties.
3. Development must not cause any adverse impact on adjoining or any other properties. This includes maintaining surface flow paths and not increasing water levels in these flow paths. Diverting flows from one catchment to another will not be permitted.

Runoff from adjacent properties

Surface runoff from upstream properties shall not be allowed to enter OSD systems. On Site Detention systems must not be located in overland flow paths, which convey catchment flows through the site.

Floor and Ground Levels

All habitable floor levels are to be a minimum of 300mm and garage/non habitable floor levels to be a minimum of 150mm above the maximum design storage water surface level and flow path levels.

On-Site Stormwater Detention

1. On-Site Detention (OSD) systems provide temporary storage of stormwater runoff from developments and restrict discharge from the site at a rate which council's existing drainage system is capable of accommodating.
2. OSD may only be used where:
 - The existing or proposed stormwater pipe system that is unable to cater for the increase in discharge due to development.
 - The development will involve an increase in impervious area on the site.
 - It is intended to connect stormwater directly to the street kerb and gutter only and the discharge exceeds 20 litres per second for the 10-year ARI.
3. OSD will not be required where:
 - The increased discharge for all storms up to and including a 100-year ARI can be accommodated by the existing stormwater pipe system.
 - A building addition or internal alteration is within the footprint (plan area) of the existing building.
 - The additional impervious surfaces (e.g. roof, driveway, paving) total is less than 30sqm in plan area. (NOTE: the designer is advised to confirm with council engineer first to ensure the cumulative total of previous and future additions still remain less than 30sqm, otherwise OSD will apply).
 - The sub-division of an existing development does not change the buildings or the impervious areas of the site.
 - Sites substantially inundated by flooding.
 - The development contributes funds to a major basin strategy that mitigates the impact of the increased impervious area and there are no other local drainage issues requiring OSD.
4. Calculations shall account for the total development site area.

Refer to Council's *On Site Stormwater Detention Policy and Design Specification*.

6.2 Gravity drainage to a creek system

Applies to

This sub-section applies to development, which drains to a natural creek or river. It does not apply to development, which drains to a constructed swale or other similar drainage work.

Controls

All buildings shall be setback a minimum of 40m from the top of the bank of a creek or river, subject limitations imposed by flooding or Foreshore Building Lines.

Nutrient loading/effluent

Depending on the proposed use there may be a need to provide a permanent water quality basin to minimise any contaminated runoff.

Erosion protection of creek banks

All outlet structures discharging to a creek system shall provide scour protection and energy dissipaters.

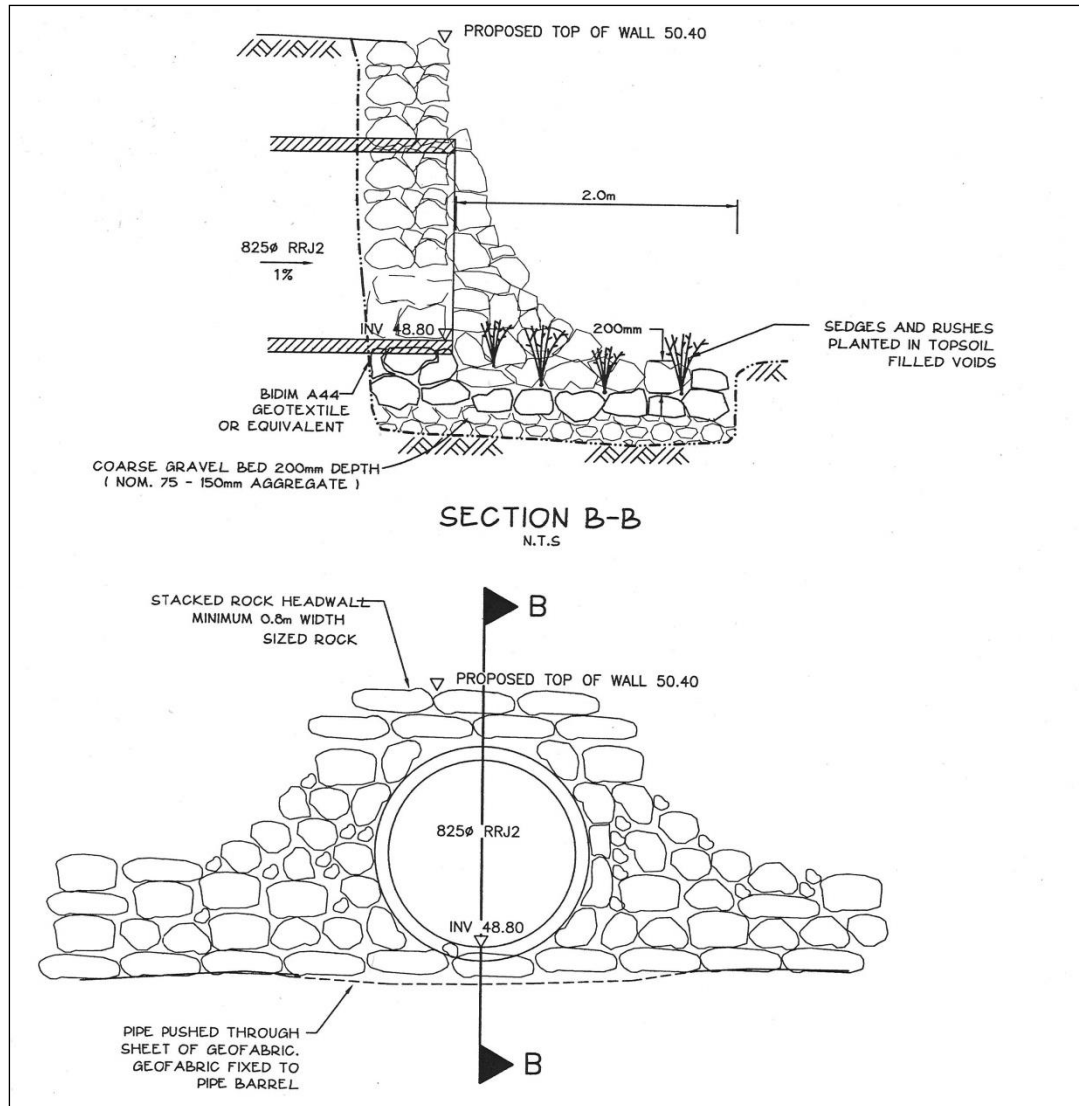


Figure 3 Discharging to a creek system

For more information on water cycle management please refer to *Council's Stormwater Design Specification*.

6.3 Gross Pollutant Traps

Applies to

This sub-section applies to:

- a) Development on land within a Business or Industrial zone.
- b) Development on private land that includes the construction of car parks or other significant impervious areas where there is a potential for the generation of gross pollutants.
- c) Locations where gross pollutant traps are required by Part 2 of the DCP

Background

Stormwater runoff has the potential to mobilise significant quantities of gross pollutants or sediment from a development and deposit this pollution in local waterways. This pollution can significantly impact on waterways in terms of aesthetics, damaging plants, destroying the environment / habitats and introducing chemical water quality pollutants.

Objectives

- a) To prevent the transportation of gross pollutants and sediment from a site by stormwater runoff during the operational stages of a development.
- b) To install gross pollutant traps or utilise equivalent water sensitive urban design treatment train prior to discharge of stormwater from a site.
- c) To require developments to capture or prevent the generation of gross pollutants and sediment on site and at their own cost.
- d) Ensure that any gross pollutant traps on Council land are installed in accordance with a master plan or water cycle management plan to the satisfaction of Council.

Controls

- 1. A minimum of one gross pollutant trap shall be required between the last downstream stormwater pit or pollution source and prior to discharge from the site.
- 2. Gross pollutant traps shall not be located within the banks of watercourses or within riparian zones.
- 3. Where a valve is required to isolate a site during a pollution spill, consideration shall be given to the location of the valve in relation to gross pollutant traps.
- 4. The design of the gross pollutant trap shall comply with Council's drainage design specifications.
- 5. Details of the proposed gross pollutant trapping system, performance and compliance with Council's drainage design specifications shall be included in the Stormwater Drainage Concept Plan.

Note: The impact of the device and cleaning activities on adjacent areas shall be considered.

6.4 Stormwater Runoff Quality

Applies to

This sub-section applies to all development except for development applications for single dwelling houses and dual occupancy housing.

Background

Waterbodies in urban or agricultural areas usually, suffer from decreased water quality. This adversely impacts on the biodiversity of the waterbody and the use of watercourses by humans.

Objectives

- a) To ensure that stormwater runoff is of suitable quality to protect the aquatic ecosystems of waterbodies within Liverpool and downstream receiving catchments.
- b) To protect the aquatic environment of the Georges River catchment and the Hawkesbury Nepean River catchment.
- c) To maintain and enhance freshwater and estuarine ecosystems, including biodiversity, relative abundance and ecological processes.

Controls

1. The post development water quality shall be reduced to the following targets when compared to pre development water quality:
 - 45% reduction in the mean annual load of total nitrogen.
 - 45% reduction in the mean annual load of total phosphorus.
 - 80% reduction in the mean annual load of total suspended solids.
2. In the case of areas where council has adopted a master plan or in Part 2 specifying water quality targets. The requirements of those documents shall be utilised in preference to the targets listed above.
3. In the case of green field developments where Council has not adopted a master plan or is not included in Part 2 of the DCP specifying water quality targets the above targets shall be utilised by comparing post development water quality with that of a conventional stormwater drainage design without water quality treatment for an urbanised development.

6.5 Environmental Flows

Applies to

This sub-section applies to all development except for development applications for dwelling houses, semi detached dwellings, attached dwellings and dual occupancy housing.

Background

Urbanisation of catchments can increase the frequency and size of smaller stormwater runoff events. This has a significant impact on channel morphology, bed and bank stability as well as significantly influencing aquatic ecosystems. Furthermore, excessive harvesting of stormwater may reduce the water available to support aquatic ecosystems.

Objectives

- a) To ensure that development does not adversely impact on flow patterns from that of a natural undeveloped catchment.
- b) Prevent bed and bank erosion and instability of waterways.
- c) Provide sufficient environmental flows to support aquatic environments and ecological processes.

Controls

1. The peak runoff for the 1-year ARI post development does not exceed that of an undeveloped catchment.
2. The peak runoff for the 1-year ARI post development is not less than 50% from that of an undeveloped catchment.

7. Development near a Watercourse

Applies to

This section applies to:

- a) Development within 40m of a watercourse, creek or river except where separated from the watercourse, creek or river by land in an
 - RE1 – Public Recreation zone ,
 - E2 – Environmental Conservation zone,
 - E3 – Environmental Management zone or
 - W1 – Natural Waterways zone.
- b) Development that may impact upon, bed, banks or stream flow of a watercourse.
- c) Development, which involves removal of riparian vegetation.

Background

Waterfront areas are often compromised due to lack of awareness and planning resulting in degradation of their environmental value.

Waterfront areas, including riparian zones represent the interface between land and watercourses. These areas are continually under threat from development pressures. These pressures have the potential to trigger the following impacts:

- Increases in sedimentation;
- Modification of flow regimes;
- Destruction of riparian vegetation;
- Visual impacts;
- Bank instability;
- Loss of biodiversity through destruction of habitat.

Waterfront areas are significant in ensuring protection of the aquatic environment through their role in acting as a bio-filter to reduce polluted surface runoff, excessive sedimentation and erosion. Therefore it is important to ensure that adequate controls are in place to maintain and enhance the environmental significance of these areas.

Objectives

- a) To protect, restore and maintain ecological processes, natural systems and biodiversity in wetlands and waterfront areas.
- b) To maintain watercourse bed and bank stability.
- c) To minimise sedimentation and pollution of watercourses and wetlands.
- d) Ensure conservation and long term maintenance of existing native vegetation in waterfront areas.
- e) To maintain lateral connectivity between waterways and riparian vegetation.
- f) To protect the visual amenity of the water and land interface.

Controls

- 1. If any works are proposed near a water course, the Water Management Act 2000 may apply, and you may be required to seek controlled activity approval from the NSW Office of Water. Please consult with the NSW Office of Water regarding your proposal. Section 4 Bushland and Fauna Habitat Preservation of this DCP should also be addressed when pertinent.

8. Erosion and Sediment Control

Applies to

This section applies to all development, which may involve:

- a) Clearing, levelling, shaping, excavation of the existing soil surface and or vegetation on any site or the placement of any material stockpiles on that site;
- b) Placement of any fill upon a site; and
- c) Changes in the rate and or volume or course of runoff entering a waterbody, or overland flow.

Background

The excavation of land removes ground cover and often results in stockpiling of loose soil. This has the potential to create erosion of soils on site and sedimentation downstream from a development site. The sedimentation can result not just on adjoining land or streets but on creek and river systems quite some distance away. The impact on the ecosystem of creeks and rivers can be very significant.

Objectives

- a) To avoid soil erosion through the use of effective erosion and sediment control measures both during and following any works.
- b) To reduce pollution by avoiding land degradation and disturbance of vegetation on site, hence reducing pollution impact to downstream areas and receiving waters and their ecosystem.
- c) To minimise costs involved in unblocking drains and water bodies, cleaning of roads and compensating for the loss of topsoil through improved sedimentation and erosion control.
- d) To improve water quality by reducing sedimentation.

Controls

1. The development application shall be accompanied by either a Soil and Water Management Plan (SWMP) or an Erosion and Sediment Control Plan (ESCP) as shown in Table 1.

Table 1 Plans for stormwater soils management

Plan Required	Area of Disturbance
ESCP	Up to 2,500sqm
SWMP	Greater than 2,500sqm and/or where development consent is required.

2. These plans shall be prepared in accordance with *Managing Urban Stormwater Soils and Construction*, also known as the *Blue Book* (current edition) produced by the *NSW Department of Housing*. The plans should form part of the engineering design drawings and be documented in the construction plans.
3. The SWMP and ESCP are to include the following:
 - A set of plans drawn to scale which show the layout of appropriate sedimentation and erosion control in accordance with the requirements of this DCP;
 - Outline of appropriate sedimentation and erosion control measures;
 - Proposed control of erosion and sedimentation shall be prepared by referencing and incorporating the requirements of Council's *Specification for Control of Erosion and Sedimentation*.

4. The matters to be considered in the preparation of SWMP and ESCP are detailed in the “Blue Book”. These include but are not limited to:
- Slope and soil characteristics.
 - Conservation of topsoil and consideration of ecologically sustainable principles and measures.
 - Location and details of proposed control measures.
 - Control of stockpiles and re-use of material on site.
 - All weather access to the site.
 - Location of existing vegetation and vegetation to be removed.
 - Proposed method of protection of vegetation.
 - Water bodies, dams and other drainage structures.
 - Soil and water implications.
 - Re-stabilisation/revegetation details.
 - Construction site location/disturbed area boundaries.
 - Clean up of downstream sedimentation resulting from breach of erosion and sedimentation controls.
 - Order of works based upon construction and stabilisation of all culverts and surface drainage works at the earliest practical stage.
 - Proposed time schedules for construction of structures and implementation of control measures and details of proposed maintenance, inspection and corrective action.
 - Where practical, all runoff from areas up slope is to be diverted away from the disturbed areas. Diverted stormwater should be discharged onto stable areas and should not be diverted into neighbouring properties unless written permission is obtained from the land owner(s). Avoid directing stormwater towards the site’s access and egress.

8.1 Sediment Basins

Applies to

This sub-section applies to development, which involves the provision of a sediment basin.

Background

The conversion of a sediment basin into a permanent water feature would significantly disturb any flora or fauna in and around the basin. There would be a need to remove accumulated sediment. Typical issues with retaining sediment basins include:

- a) Remobilisation of nutrients from sediment trapped during subdivision causing problems such as algal growth.
- b) Inappropriate design features such as bank treatments causing public safety issues as well as promoting growth and propagation of weeds.
- c) Inappropriate treatment train design promoting the accumulation of gross pollutants, weed infestation and algae growth.

Objectives

- a) To ensure that temporary sediment basins are removed when no longer needed.
- b) To ensure that temporary sediment basins are constructed in a way that there is no long-term adverse environmental impact.

Controls

1. A Sediment Basin shall not be retained as a permanent facility unless required by:
 - Part 2 of the DCP
 - Total Catchment Management Study
 - Floodplain Management Plan
2. A Sediment Basin shall not be located within core riparian areas, land in public ownership or land that is intended to be transferred to public ownership.
3. A Sediment Basin shall have no substantial impact on a natural water body or wetland.
4. A Sediment Basin shall be designed and managed to prevent the establishment of native fauna within the basin.
5. Any approval for the installation of a temporary basin must include approval for removal of that basin and site remediation.
6. Any approval for the installation of a temporary sediment basin must include a plan outlining actions to be undertaken for removal of the basin and a timeline for its removal.
7. Suitable fencing shall be installed and maintained to prevent persons from gaining access to the basin.

9. Flooding Risk

Applies to

This section applies to land identified as at or below the flood planning level.

Background

1. In 1984, the State Government introduced its current flood prone land policy applicable to New South Wales. The first Floodplain Development Manual was published in 1986, providing guidelines for the implementation of the government's flood prone land policy and the merit approach, which underpins its application. Revised guidelines were released in 2005 and are now embodied in the *Floodplain Development Manual, April 2005*. The revised *Floodplain Development Manual* continues to support the NSW Government's Flood Prone Land Policy. The primary objective of the policy is:

"To reduce the impact 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."

2. To achieve this objective the *Floodplain Development Manual* acknowledges a broad risk management hierarchy of:
 - Avoidance of flood risk;
 - Minimisation of flood risk using appropriate planning controls; and
 - Flood risk mitigation.
3. Flood risk mitigation is not always the preferred option, being costly and most likely to adversely affect the natural environment. Avoidance and minimisation of flood risk are the options most likely to be acceptable and are primarily reliant on land use planning and development control for implementation. These planning and development controls are reflected in this Section.
4. Local Government is the primary authority responsible for both flood risk management and land use planning in New South Wales. The NSW Government's flood policy provides for a flexible merit based approach to be followed by local government when dealing with planning, development and building matters on flood prone land. For Council to fully carry out its responsibilities for management of flood prone land, it is necessary to prepare local Floodplain Risk Management Plans.
5. The *Floodplain Development Manual* requires that Councils prepare Floodplain Risk Management Studies as a prelude to the formulation of a Floodplain Risk Management Plan that, among other things, would control development and other activity within the floodplain. This Section of the DCP is consistent with Council's and State Government's "Flood Prone Land Policy" and the *Floodplain Development Manual*.
6. This Section of the DCP is an application of the State Policy, which reflects local circumstances, as identified for some floodplains, through the preparation of Floodplain Risk Management Plans.

Objectives

- a) To minimise the potential impact of development and other activity upon the aesthetic, recreational and ecological value of the waterway corridors.
- b) To ensure essential services and land uses are planned in recognition of all potential floods.
- c) To reduce the risk to human life and damage to property caused by flooding through controlling development on land affected by potential floods.
- d) To ensure that the economic and social costs which may arise from damage to property due to flooding is minimised and is not greater than that which can be reasonably managed by the property owner and general community.
- e) To limit developments with high sensitivity to flood risk (e.g. critical public utilities) to land with minimal risk from flooding.
- f) To prevent intensification of inappropriate use of land within high flood risk areas or floodways.
- g) To permit development with a lower sensitivity to the flood hazard to be located within the floodplain, subject to appropriate design and siting controls.
- h) To ensure that development should not detrimentally increase the potential flood affectation on other development or properties either individually or in combination with the cumulative impact of development that is likely to occur in the same floodplain.
- i) To ensure that development does not prejudice the economic viability of any Voluntary Acquisition Scheme.

9.1 Determining Relevant Controls

Controls

The controls vary depending on:

- 1. Sensitivity of a land use to flooding
- 2. Severity of flood impact on site
- 3. Specific Floodplain in which a site is located

Follow these steps determine the relevant controls.

Step 1. Identify Flood Risk Category (degree of flooding risk). See Section 9.2.

Step 2. Identify Land Use Risk Category. See Section 9.3.

Step 3. Identify relevant Floodplain. See Section 9.4.

Step 4. Identify relevant Floodplain Controls. See Section 9.5 and 9.6.

The following figure summarises this consideration process.

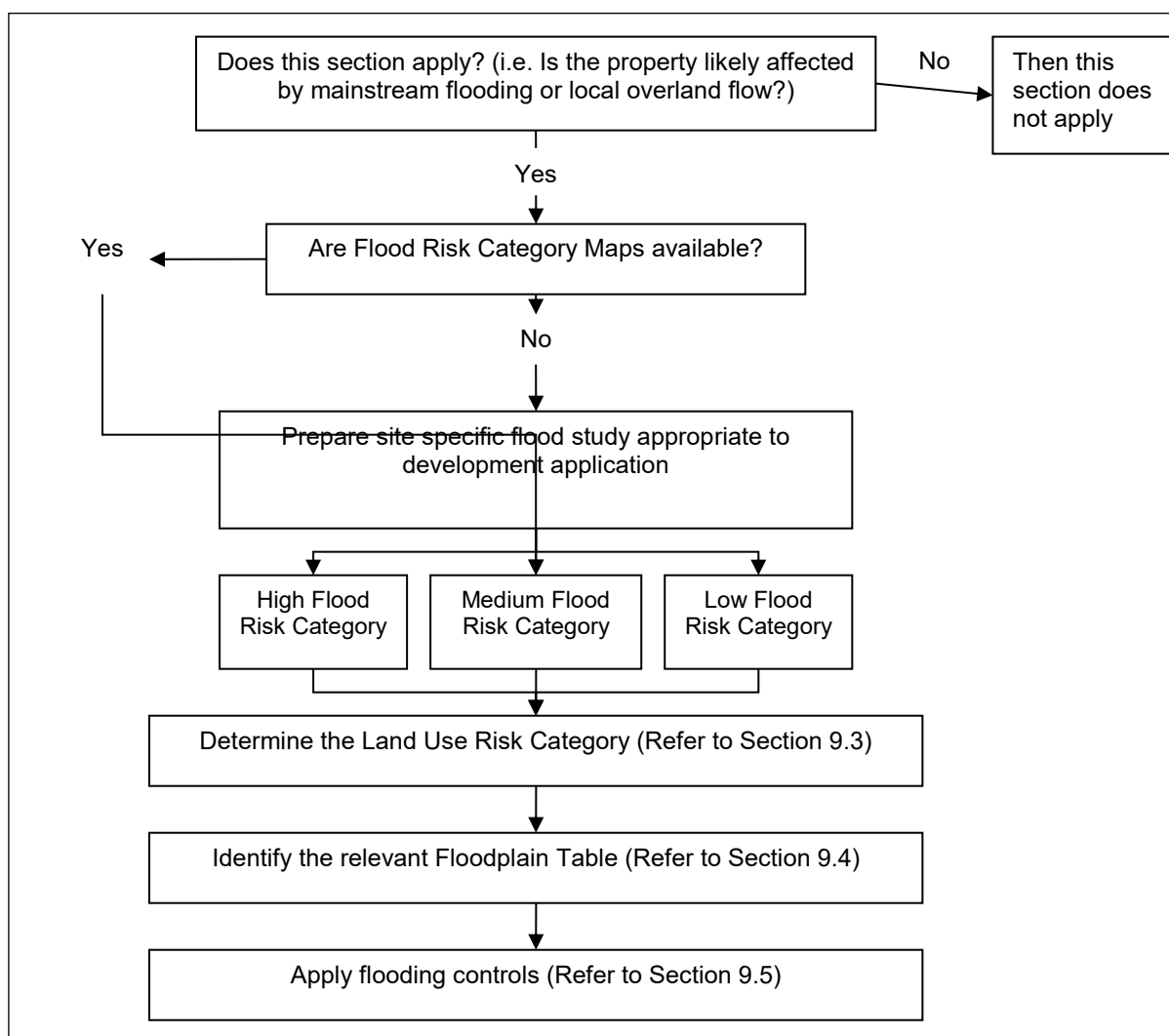


Figure 4 Flow chart for the determination of flood risk

9.2 Step 1 Identify the Flood Risk Category

Controls

1. Flood liable land is categorised according to the levels of potential flood risk as outlined below.

High Flood Risk Category means land below the 1% AEP flood that is either subject to a high hydraulic hazard or where there are significant evacuation difficulties.

Note: The high flood risk Category is where high flood damages potential risk to life evacuation problems would be anticipated or development would significantly and adversely effect flood behaviour. Most development should be restricted in this Category. In this Category there would be a significant risk of flood damages without compliance with flood related building and planning controls.

Medium Flood Risk Category means land below the 1% AEP flood that is not subject to a high hydraulic hazard and where there are no significant evacuation difficulties.

Note: In this Category there would still be a significant risk of flood damage, but these damages can be minimised by the application of appropriate development controls.

Low Flood Risk Category means all other land within the floodplain (i.e. within the extent of the probable maximum flood) but not identified within either the High Flood Risk or the Medium Flood Risk Category.

Note: The Low Flood Risk Category is where the risk of damages is low for most land uses. The Low Flood Risk Category is that area above the 1% AEP flood and most land uses would be permitted within this Category.

No Flood Risk Mapping means that there has not yet been any risk Categories determined for this area.

Note: Flood Risk Category Maps are not available for all Flood Prone Land. Applicants may be required to undertake a flood study to determine the flood extent and Flood Risk Categories in order to apply appropriate controls required by this Development Control Plan.

2. Council has prepared flood risk mapping for the majority of the floodplains within the Liverpool LGA through a number of Floodplain Risk Management Studies and Plans adopted by Council and this information is available from Council.
3. It should be noted that the flood risk mapping prepared by Council has been developed at a broad scale for the purpose of undertaking Floodplain Risk Management Studies. This mapping is considered preliminary and can be subject to refinement as part of the assessment of individual proposals. Furthermore, works consistent with the flooding provisions of this DCP and acceptable to Council could be undertaken to alter the flood risk category of land.
4. If the peak flow rate of an overland flow path, during the 1% AEP flood, exceeds 5 cubic metres per second then the overland flow path shall be treated as mainstream flooding and the development controls for mainstream flooding shall be applied.

9.3 Step 2 Identify Land Use Risk Category

Land use is categorised into 8 Land Use Risk Categories according to the sensitivity of each land use to flooding. The definitions of each land use are based on the *Liverpool LEP 2008*, are categorised as follows.

Critical uses and Facilities

Community facility which may provide an important contribution to the notification or evacuation of the community during flood events

Hospitals

Residential care facility

Sensitive Uses and Facilities

Educational establishments

Schools

Hazardous or offensive industry or storage establishment

Liquid fuel depot

Seniors housing

Utility installations or Public utility undertakings (including generating works) undertakings which are essential to evacuation during periods of flood or if affected would unreasonably affect the ability of the community to return to normal activities after flood events

Telecommunications facility

Waste disposal land fill operation

Group home

Subdivision

Subdivision of land, which involves the creation of new allotments, with potential for further development

Residential

Attached dwelling	Exhibition village	Residential accommodation
Backpackers' accommodation	Family day care centre	Residential flat building
Bed and breakfast premises	Health consulting rooms	Rural workers' dwelling
Boarding houses	Home-based child care service	Secondary dwelling
Canal estate development	Home business	Semi-detached dwelling
Caravan Park	Home occupation	Serviced apartments
Child care centre	Hostel	Shop top housing
Dual occupancy	Information and education facility	Utility installations or Public utility undertakings (other than critical utilities)
Dwelling	Moveable dwelling	Tourist and visitor accommodation
Dwelling house	Multi dwelling housing	
Exhibition home		

Commercial or Industrial

Agricultural produce industry

Amusement Centre

Animal boarding or training establishment

Boat repair facility

Boat shed

Bulky goods premises

Business premises

Cemetery

Charter and tourism boating facility

Commercial port facility

Crematorium

Depot

Electricity generating works

Entertainment facility

Freight transport facility

Function Centre

Funeral chapel

Funeral home

Heavy Industry

Heliport

Hotel accommodation

Industry

Kiosk

Light Industry

Materials recycling or recovery centre

Medical centre

Mortuary

Neighbourhood shop

Office premises

Passenger transport terminal

Place of public worship

Public administration building

Recreation facility (indoor)

Recreation facility (major)

Registered club

Restaurant

Retail premises

Roadside stall

Rural industry

Sawmill or log processing works

Service station

Sex service premises

Transport depot

Take away food or drink premises

Tank based aquaculture

Truck depot

Vehicle body repair workshop

Vehicle repair station

Vehicle showroom

Veterinary hospital

Warehouse or distribution centre

Recreation or Non-urban Uses

Agriculture

Aquaculture

Dam

Environmental facility

Extractive industry

Feedlot

Helipads

Horticulture

Intensive livestock agriculture

Landscape and garden supplies

Marina

Recreation facility (outdoor)

Stock and sale yard

Turf farming

Concessional Development

1. In the case of residential development:
 - An addition or alteration to an existing dwelling of not more than 30sqm or 10% (whichever is the lesser) of the habitable floor area which existed at 1 December 1987. (The date of adoption of the first *Liverpool City Council Floodplain Management Plan*); or
 - The construction of an outbuilding with a maximum floor area of 20sqm (or 50sqm for land zoned for non urban purposes); or
 - Rebuilding dwellings in a manner which substantially reduces the flood risk having regard to property damage and personal safety when compared to the existing building.
2. In the case of other development:
 - An addition to existing premises of not more than 10% of the floor area which existed at 1 December 1987. (The date of adoption of the first *Liverpool City Council Floodplain Management Plan*); or
 - Rebuilding of a development in a manner which substantially reduces the flood risk having regard to property damage and personal safety when compared to the existing development; or
 - A change of use, which does not increase flood risk having regard to property damage and personal safety; or
 - Subdivision that does not involve the creation of new allotments with potential for further development.

9.4 Step 3 Identify relevant Floodplain

Identify the relevant Floodplain on Figures 5 & 6.

9.5 Step 4 Identify relevant Floodplain Controls

1. Each floodplain area has two sets of controls. These are:
 - Mainstream Flooding Controls, identified in Tables 2 – 4 and Section 9.6.
 - Local Overland Flooding Controls, identified in Table 5.
2. Development on flood prone land will be required to comply with either or both of these.
3. An explanation of these controls is in Table 6.

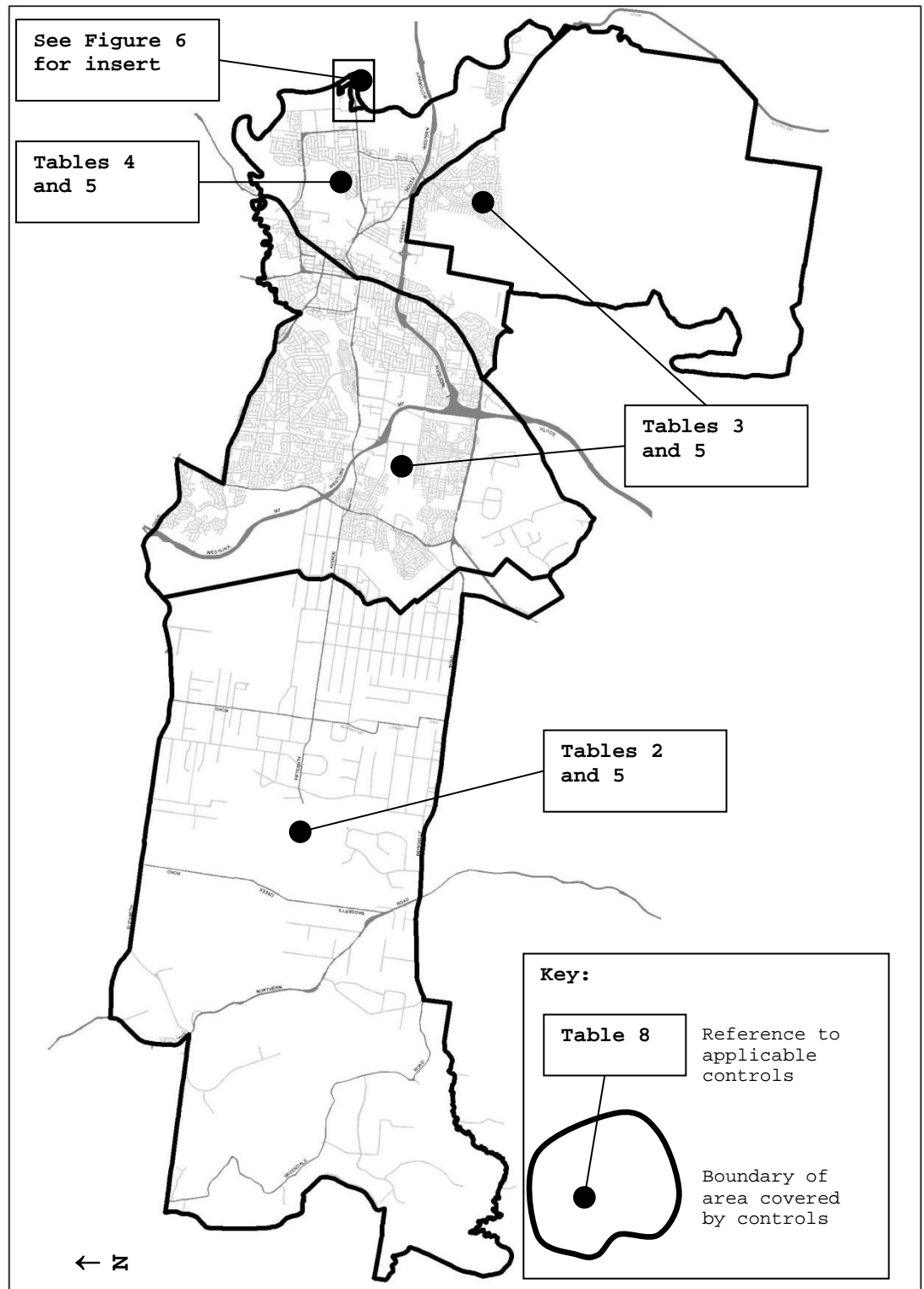


Figure 5 Map for identification of relevant floodplains

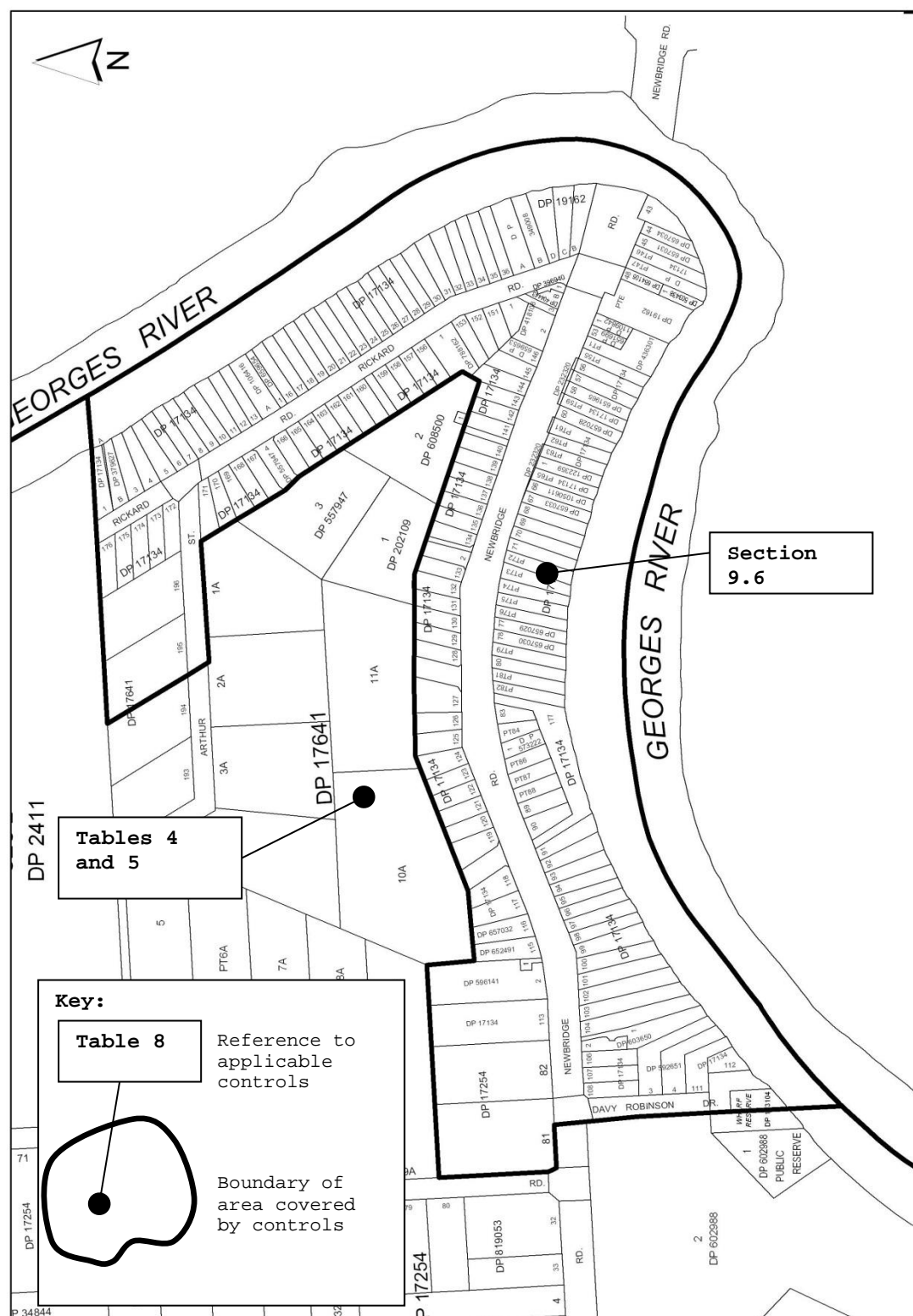
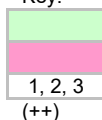


Table 2 Nepean River Floodplains (Includes South Ck, Kemps Ck, Bonds Ck and other tributaries of the Nepean River)

Flood Risk Category	Land Use Risk Category	Planning Controls							
		Floor Level	Building Components	Structural Soundness	Flood Effects	Car Parking & Driveway Access	Evacuation	Management & Design	Fencing
Low Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities	12	4	4	2, 4, 5	2, 3, 6, 7, 8	2, 6, 8	4, 5	
	Subdivision				2, 4, 5			1, 6	
	Residential (++)	2, 6	3	3		2, 3, 6, 7, 8	2, 6		
	Commercial & Industrial	2, 6	3	3	2, 4, 5	2, 3, 6, 7, 8	1, 6	2, 3, 5	
	Tourist Related Development	1, 6, 15	3	3	2, 4, 5	2, 3, 6, 7, 8	2, 6	2, 3, 5	
	Recreation & Non-Urban	1, 9, 15	3	3		1, 5, 7, 8	6, 8	2, 3, 5	
	Concessional Development	14	3	3		1, 3, 5, 7, 8, 9	2, 6	2, 3, 5	
Medium Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities								
	Subdivision				1, 4, 5			1	1, 2, 3
	Residential	2, 6, 15	3	1	2, 4, 5	2, 3, 6, 7, 8	2, 6		1, 2, 3
	Commercial & Industrial	2, 6, 15	3	1	2, 4, 5	2, 3, 6, 7, 8	1, 6	2, 3, 5	1, 2, 3
	Tourist Related Development	1, 6, 15	3	1	2, 4, 5	2, 3, 6, 7, 8	2, 6	2, 3, 5	1, 2, 3
	Recreation & Non-Urban	1, 9, 15	3	1	2, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	1, 2, 3
	Concessional Development	1, 14, 15	3	1	2, 4, 5	1, 3, 5, 7, 8, 9	2, 8	2, 3, 5	1, 2, 3
High Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities								
	Subdivision								
	Residential								
	Commercial & Industrial								
	Tourist Related Development								
	Recreation & Non-Urban	1, 9, 15	3	1	1, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	1, 2, 3
	Concessional Development	1, 14, 15	3	1	1, 4, 5	1, 3, 5, 7, 8, 9	2, 6	2, 3, 5	1, 2, 3

Key:



Not Relevant

Unsuitable Land Use

1, 2, 3
(++)

Control reference number relevant to the particular planning consideration. (see Table 6)
Attached dwellings, Dwelling houses, dual occupancies, multi unit dwelling housing, residential flat buildings (not including development for the purpose of group homes or seniors housing), Secondary dwellings and Semi-detached dwellings are exempt from these controls.

Table 3 Cabramatta Creek and all other Floodplains (Includes Hinchinbrook Creek, Maxwells Creek, Brickmakers Creek, upper parts of Anzac Ck, and other tributaries)

Flood Risk Category	Land Use Risk Category	Planning Controls							
		Floor Level	Building Components	Structural Soundness	Flood Effects	Car Parking & Driveway Access	Evacuation	Management & Design	Fencing
Low Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities	13	4	4	2, 4, 5	2, 3, 6, 7, 8	3, 6, 8	4, 5	
	Subdivision				2, 4, 5			1, 6	
	Residential (++)	2, 6	3	3		2, 3, 7	3, 6		
	Commercial & Industrial	2, 11, 15	3	3	2, 4, 5	2, 3, 6, 7, 8	(3 or 4), 6	2, 3, 5	
	Tourist Related Development	2, 6, 15	3	3	2, 4, 5	2, 3, 6, 7, 8	3, 6	2, 3, 5	
	Recreation & Non-Urban	2, 7	3	3	2, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	
	Concessional Development	14, 15	3	3	2, 4, 5	1, 7, 8, 9	3, 6	2, 3, 5	
Medium Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities								
	Subdivision				1, 4, 5			1, 6	1, 2, 3
	Residential	2, 6, 15	3	1	2, 4, 5	2, 3, 6, 7, 8	3, 6		1, 2, 3
	Commercial & Industrial	11, 15	3	1	2, 4, 5	2, 3, 6, 7, 8	4, 6	2, 3, 5	1, 2, 3
	Tourist Related Development	2, 6, 15	3	1	2, 4, 5	2, 3, 6, 7, 8	3, 6	2, 3, 5	1, 2, 3
	Recreation & Non-Urban	2, 7	3	1	2, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	1, 2, 3
	Concessional Development	14, 15	3	1	2, 4, 5	1, 7, 8, 9	3, 8	2, 3, 5	1, 2, 3
High Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities								
	Subdivision								
	Residential								
	Commercial & Industrial								
	Tourist Related Development								
	Recreation & Non-Urban	2, 7	3	1	1, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	1, 2, 3
	Concessional Development	14, 15	3	1	1, 4, 5	1, 7, 8, 9	3, 6	2, 3, 5	1, 2, 3

Key:

Not Relevant

Unsuitable Land Use

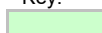
1, 2, 3

(++) Attached dwellings, Dwelling houses, dual occupancies, multi unit dwelling housing, residential flat buildings (not including development for the purpose of group homes or seniors housing), Secondary dwellings and Semi-detached dwellings are exempt from these controls.

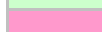
Table 4 Georges River Floodplain (Includes Harris Ck and Williams Ck, lower parts of Anzac Ck, but not Cabramatta Creek)

Flood Risk Category	Land Use Risk Category	Planning Controls							
		Floor Level	Building Components	Structural Soundness	Flood Effects	Car Parking & Driveway Access	Evacuation	Management & Design	Fencing
Low Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities	13	4	4	2, 4, 5	2, 3, 6, 7, 8	6, 8, 9	2, 4	
	Subdivision				2, 4, 5			1	
	Residential (++)	2, 6	2	3	2, 4, 5	2, 3, 6, 7, 8	6, 9		
	Commercial & Industrial	4, 8, 15	2	3	2, 4, 5	2, 3, 6, 7, 8	(4 or 9), 6	2, 3, 5	
	Tourist Related Development	2, 6, 15	2	3	2, 4, 5	2, 3, 6, 7, 8	6, 9	2, 3, 5	
	Recreation & Non-Urban	2, 7	2	3	2, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	
	Concessional Development	14, 15	2	3	2, 4, 5	1, 7, 8, 9	6, 9	2, 3, 5	
Medium Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities								
	Subdivision				1, 4, 5			1	1, 2, 3
	Residential	2, 6, 15	2	2	2, 4, 5	2, 3, 6, 7, 8	6, 9		1, 2, 3
	Commercial & Industrial	8, 4, 15	2	2	2, 4, 5	2, 3, 6, 7, 8	4, 6	2, 3, 5	1, 2, 3
	Tourist Related Development	2, 6, 15	2	2	2, 4, 5	2, 3, 6, 7, 8	6, 9	2, 3, 5	1, 2, 3
	Recreation & Non-Urban	2, 7	2	2	2, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	1, 2, 3
	Concessional Development	14, 15	2	2	2, 4, 5	1, 7, 8, 9	8, 9	2, 3, 5	1, 2, 3
High Flood Risk	Critical Uses & Facilities								
	Sensitive Uses & Facilities								
	Subdivision								
	Residential								
	Commercial & Industrial								
	Tourist Related Development								
	Recreation & Non-Urban	2, 7	2	2	1, 4, 5	1, 5, 7, 8	6, 8	2, 3, 5	1, 2, 3
	Concessional Development	14, 15	2	2	1, 4, 5	1, 7, 8, 9	6, 9	2, 3, 5	1, 2, 3

Key:



Not Relevant



Unsuitable Land Use



1, 2, 3

(++)

Control reference number relevant to the particular planning consideration. (see Table 6)

Attached dwellings, Dwelling houses, dual occupancies, multi unit dwelling housing, residential flat buildings (not including development for the purpose of group homes or seniors housing), Secondary dwellings and Semi-detached dwellings are exempt from these controls.

Table 5 Local Overland Flooding

Flood Risk Category	Land Use Risk Category	Planning Controls							
		Floor Level	Building Components	Structural Soundness	Flood Effects	Car Parking & Driveway Access	Evacuation	Management & Design	Fencing
Local Overland Flood Risk	Critical Uses & Facilities	13	4	5	3	4, 7, 8	7	3, 5	2, 4
	Sensitive Uses & Facilities	13	4	5	3	4, 7, 8	7	3, 5	2, 4
	Subdivision				3		5	1	2, 4
	Residential	3, 5	1	6	3	4, 7, 8	5		2, 4
	Commercial & Industrial	10	1	6	3	4, 7, 8	5	3, 5	2, 4
	Tourist Related Development	3, 5	1	6	3	4, 7, 8	5	3, 5	2, 4
	Recreation & Non-Urban	3, 5	1	6	3	4, 7, 8	5	3, 5	2, 4
	Concessional Development	14	1	6	3	4, 7, 8	5	3, 5	2, 4

Key:

	Not Relevant
1, 2, 3	Control reference number relevant to the particular planning consideration.

Table 6 Explanation of Development Controls

Ref No	Controls
Floor level	
1	All floor levels to be as high as practical but not less than the 20% AEP flood level.
2	Non habitable floor levels to be as high as practical but no less than the 5% AEP flood level.
3	Non-habitable floor levels to be not less than the 1% AEP flood.
4	The level of Non-habitable and general Industrial floor areas to be as high as practical but not less than the 2% AEP flood. Where this is impractical for single lot developments within an existing developed area, the floor shall be as high as practical but no less than the 5% AEP flood.
5	Habitable floor levels to be equal to or greater than the 1% AEP flood level plus 300mm freeboard.
6	Habitable floor levels to be equal to or greater than the 1% AEP flood level plus 500mm freeboard.
7	Habitable floor levels to be no lower than the 1% AEP flood plus 500mm freeboard unless justified by site specific assessment.
8	Habitable and general commercial floor levels to be as high as practical but no lower than the 1% AEP flood plus 500mm freeboard unless justified by site specific assessment.
9	The level of habitable floor areas to be equal to or greater than the 1% AEP flood level plus 500mm freeboard. If this level is impractical a lower floor level may be considered provided the floor level is as high as possible but no less than the 5% AEP flood level.
10	All floor levels to be equal to or greater than the 1% AEP flood level plus 300mm freeboard. Freeboard may be reduced if justified by site specific assessment.
11	All floor levels to be no lower than the 1% AEP flood plus 500mm freeboard. Freeboard may be reduced if justified by site specific assessment.
12	All floor levels to be equal to or greater than the PMF level. If this level is impractical a lower floor level may be considered provided the floor level is as high as possible but no less than the 1% AEP flood level plus 500mm freeboard.

Ref No	Controls
13	Floor levels to be no lower than the PMF level unless justified by a site specific assessment.
14	Floor levels to be equal to or greater than the minimum requirements normally applicable to this type of development. Where this is not practical due to compatibility with the height of adjacent buildings, or compatibility with the floor level of existing buildings, or the need for access for persons with disabilities, a lower floor level may be considered. In these circumstances, the floor level is to be as high as practical, and, when undertaking alterations or additions no lower than the existing floor level.
15	A restriction is to be placed on the title of the land, pursuant to S.88B of the <i>Conveyancing Act</i> , where the lowest habitable floor area is elevated more than 1.5m above finished ground level, confirming that the undercroft area is not to be enclosed.
Building Components & Method	
1	All structures to have flood compatible building components below the 1% AEP flood level plus 300mm freeboard.
2	All structures to have flood compatible building components below the 1% AEP flood level plus 500mm freeboard.
3	All structures to have flood compatible building components below the 1% AEP flood level plus 500mm freeboard or a PMF if required to satisfy evacuation criteria (see below).
4	All structures to have flood compatible building components below the PMF level.
Structural Soundness	
1	Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 1% AEP flood plus 500mm freeboard or a PMF if required to satisfy evacuation criteria (see below). An engineer's report may be required.
2	Engineer's report to certify that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 1% AEP flood plus 500mm freeboard.
3	Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 1% AEP flood plus 500mm freeboard.
4	Applicant to demonstrate that any structure can withstand the forces of floodwater, debris and buoyancy up to and including a PMF. An engineer's report may be required.
5	Applicant to demonstrate that any structure can withstand the forces of floodwater, debris and buoyancy up to and including a PMF.
6	Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 1% AEP flood plus 300mm freeboard.
Flood Effects	
1	Engineers report required to certify that the development will not increase flood effects elsewhere, having regard to: (i) loss of flood storage; (ii) changes in flood levels, flows and velocities caused by alterations to flood flows; and (iii) the cumulative impact of multiple similar developments in the floodplain.
2	The flood impact of the development to be considered to ensure that the development will not increase flood effects elsewhere, having regard to: (i) loss of flood storage; (ii) changes in flood levels and velocities caused by alterations to the flood conveyance; and (iii) the cumulative impact of multiple potential developments in the floodplain. An engineer's report may be required.
3	The flood impact of the development to be considered to ensure that the development will not increase flood affectation elsewhere having regard to changes in flood levels and velocities caused by alteration of conveyance of flood waters. An engineer's report may be required if Council considers a significant

Ref No	Controls
	affectation is likely. The unmitigated obstruction, concentration or diversion of overland flow paths to adjacent property shall not be permitted.
4	A floodway or boundary of significant flow may have been identified in this catchment. This area is the major conveyance area for floodwaters through the floodplain and any structures placed within it are likely to have a significant impact on flood behaviour. Within this area no structures other than concessional development, open type structures or small non habitable structures (not more than 30sqm) to support agricultural uses will normally be permitted. Development outside the Boundary of Significant flow may still increase flood effects elsewhere and therefore be unacceptable
5	Any filling within the 1% AEP flood will normally be considered unacceptable unless compensatory excavation is provided to ensure that there is no net loss of floodplain storage volume below the 1% AEP flood.
Car Parking and Driveway Access	
1	The minimum surface level of open car parking spaces, carports or garages, shall be as high as practical.
2	The minimum surface level of a car parking space, which is not enclosed (e.g. open car parking space or carport) shall be as high as practical, but no lower than the 5% AEP flood level or the level of the crest of the road at the highest point where the site can be accessed. In the case of garages, the minimum surface level shall be as high as practical, but no lower than the 5% AEP flood.
3	Garages capable of accommodating more than 3 vehicles on land zoned for urban purposes, or basement car parking, must be protected from inundation by floods equal to or greater than the 1% AEP flood plus 0.1m freeboard.
4	Basement car parking shall be protected from inundation by the 1% AEP flood.
5	The driveway providing access between the road and car parking space shall be as high as practical and generally rising in the egress direction.
6	The level of the driveway providing access between the road and car parking space shall be no lower than 0.3m below the 1% AEP flood or such that depth of inundation during a 1% AEP flood is not greater than either the depth at the road or the depth at the car parking space. A lesser standard may be accepted for single detached dwelling houses where it can be demonstrated that risk to human life would not be compromised.
7	Basement car parking or car parking areas accommodating more than 3 vehicles (other than on Rural zoned land) with a floor level below the 5% AEP flood or more than 0.8m below the 1% AEP flood level; shall have adequate warning systems, signage and exits.
8	Barriers to be provided to prevent floating vehicles leaving a site during a 1% AEP flood.
9	Driveway and car parking space levels shall be no lower than the minimum requirements normally applicable to this type of development. Where this is not practical, a lower level may be considered. In these circumstances, the level is to be as high as practical and, when undertaking alterations or additions no lower than the existing level.
Evacuation	
1	Reliable access for pedestrians required during a 1% AEP flood.
2	Reliable access for pedestrians or vehicles is required from the building, commencing at a minimum level equal to the lowest habitable floor level to an area of refuge above the PMF level, or a minimum of 20% of the habitable floor area is above the PMF.
3	Reliable access for pedestrians or vehicles is required from the building to an area of refuge above the PMF level, or a minimum of 20% of the habitable floor area is above the PMF
4	Reliable access for pedestrians or vehicles required during a 1% AEP flood to a publicly accessible location above the PMF.

Ref No	Controls
5	The evacuation requirements of the development during flooding shall be considered.
6	The development is to be consistent with any relevant flood evacuation strategy or similar plan.
7	The evacuation requirements of the development are to be considered up to the PMF level.
8	The evacuation requirements of the development are to be considered. An engineer's report will be required if circumstances are possible where the evacuation of persons might not be achieved within the effective warning time.
9	Adequate flood warning is available to allow safe and orderly evacuation without increased reliance upon the SES or other authorised emergency services personnel.
Management and Design	
1	Applicant to demonstrate that potential development as a consequence of a subdivision proposal can be undertaken in accordance with this DCP.
2	Site Emergency Response Flood Plan required where floor levels are below the design floor level, (except for single dwelling-houses).
3	Applicant to demonstrate that area is available to store goods above the 1% AEP flood level plus 500mm freeboard.
4	Applicant to demonstrate that area is available to store goods above the PMF level.
5	No storage of materials below the design floor level which may cause pollution or be potentially hazardous during any flood.
6	Finished land levels in new release areas shall be not less than the 1% AEP flood unless justified by site specific assessment. A surveyor's certificate will be required upon completion certifying that the final levels are not less than the required level.
Fencing	
1	Fencing within a High Flood Risk area, Boundary of Significant Flow or floodway will not be permitted except for permeable open type fences.
2	Fencing is to be constructed in a manner that does not obstruct the flow of floodwaters so as to have an adverse impact on flooding.
3	Fencing shall be constructed to withstand the forces of floodwaters or collapse in a controlled manner so as not to obstruct the flow of water, become unsafe during times of flood or become moving debris.
4	Fencing shall be constructed to withstand the forces of floodwaters.

9.6 Controls Applicable to the Moorebank Floodway

1. Notwithstanding any other provision where a property is identified within the Moorebank Voluntary Acquisition Scheme area, Council will only consent to further development as noted in Table 7.

Table 7 Controls applicable to the Moorebank Floodway

Control	
Development	Development is only for minor works such as small awnings over existing first floor balconies or in-ground swimming pools
	The capital investment shall not materially increase the acquisition costs of the property.

Council will not permit any type of development which would be inconsistent with the objective of discouraging further development in areas of high risk and with Council's commitment to the Moorebank Voluntary Acquisition Scheme.

10. Contaminated Land Risk

Applies to

This section applies to:

- a) Land that is identified as being potentially or actually contaminated in accordance with the relevant guidelines.
- b) Land which has past or current land use of the following:

Agricultural/ horticultural activities	Defence work	Mining and extractive industries
Airports	Drum reconditioning	Photography, rubber manufacture and solvents
Asbestos production/disposal	Dry cleaning	Power stations
Batteries manufacture and recycling	Electrical	Printing shops
Chemicals such as use or manufacture of acid/alkali products, adhesives/ resins, dyes, explosives, fertiliser, flocculants, foam production, fungicides, herbicides, paints, pesticides, pharmaceuticals, Service stations and fuel storage facilities	Engine works such as mechanics and air conditioning repairers	Railway yards
	Foundries	Scrap yards
	Gas works	Sheep and cattle dips
	Iron and steel works	Smelting and refineries
	Landfill sites	Tanning and associated trades
	Marinas	Water and sewage treatment plants
	Metal treatments	Wood preservation

Background

Land contamination is most often the result of past uses. It can arise from activities that took place on or adjacent to a site and be the result of improper chemical handling or disposal practices, or accidental spillages or leakages of chemicals during manufacturing or storage. Activities not directly related to the site may also cause contamination; for example, from diffuse sources such as polluted groundwater migrating under a site or dust settling out from industrial emissions.

The impacts of land contamination can include increased risk to human health, detrimental effects on the biophysical environment and adverse impacts on the safety of existing and new structures. A decision will need to be made as to whether the land should be remediated, or its use of the land restricted, in order to reduce the risk.

Objectives

- a) To identify the presence of contamination at an early stage of the development process and to manage the issues of land contamination to ensure protection of the environment and that of human health is maintained.
- b) Ensure that proposed developments or changes of land use will not increase the risk to human health or the environment;
- c) Avoid inappropriate restrictions on land use;
- d) Ensure that all stakeholders are aware of their responsibilities for the ongoing management of contaminated land.

Controls

Preliminary Contamination Investigation

If the initial evaluation by Council finds insufficient information available, or sufficient information is available, which indicates that contamination is an issue for the site, a Preliminary Contamination Investigation (Stage 1) shall be undertaken.

Detailed Contamination Investigation

If the Preliminary Site Contamination Investigation (Stage 1) indicates a potential for contamination and that the land may not be suitable for the proposed use, a Detailed Contamination Investigation (Stage 2) shall be undertaken.

Remedial Action Plan

1. If the Detailed Contamination Investigation (Stage 2) indicates that the site is not suitable for the proposed use a Remedial Action Plan shall be prepared.
2. If the Remedial Action Plan proposes to undertake Category 1 Remediation:
 - Additional consent may be required. Council shall be consulted for a determination on the appropriate course of action that is whether an additional development application is required.
 - Approval of the application shall be subject to satisfactory remediation. A notice of completion of Category 1 Remediation works shall be provided to Council within thirty (30) days of completion of the works.
 - A validation and/or monitoring report shall be prepared and approved by Council prior to works commencing.
 - A Site Audit Statement may be requested by Council to be prepared and submitted to Council.
3. If the Remedial Action Plan proposes to undertake Category 2 Remediation, Council shall be notified within 30 days upon commencement and completion of remedial works. Documentation associated with or in support of the Remedial Action Plan shall be submitted to Council.
4. Any remedial works shall be undertaken in accordance with the Remedial Action Plan.

5. Any investigations, Remedial Action Plans or reports shall be undertaken or prepared by an appropriately qualified professional with experience in preliminary and detailed investigations, the preparation of Remedial Action Plans as well as validation and/or monitoring reports for contaminated lands.

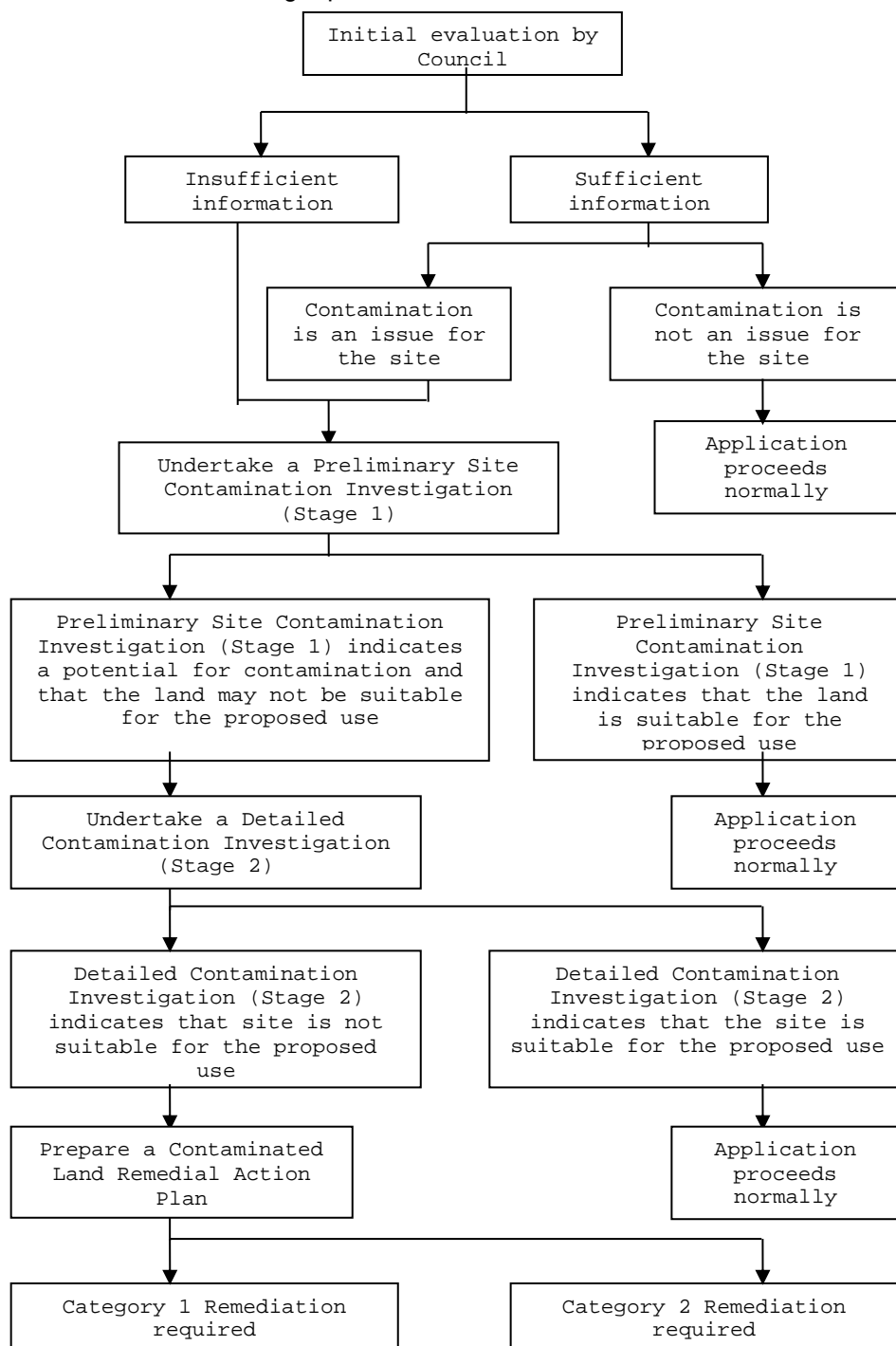


Figure 7 Model for Contaminated Lands Investigation and Management Strategies that should be undertaken. (Adapted from Managing Contaminated Lands, 1998)

11. Salinity Risk

Applies to

This section applies to all development, which:

- a) Is located in an area coloured yellow, orange or red on State Government issued salinity potential maps or
- b) Is in existing or proposed urban areas that may affect the processes of salinisation.
or
- c) Involves lands affected by groundwater salinity.

Background

Salinity is the accumulation of salt in the soil and is one of the major issues facing the NSW landscape. The problem affects both urban and rural landscapes. While salt occurs naturally in our landscape, activities such as land clearing and inefficient water use can exacerbate the problem. This impacts on soil, native vegetation, biodiversity, crops and water quality.

The four main types of salinity are:

1. Dryland: This involves the build up of salts in the soil surface and groundwater in non-irrigated areas.
2. Irrigation: This involves the rise in saline groundwater and the build up of salt in the soil surface in irrigated areas.
3. Industrial: Effluent from rural villages, intensive agriculture and rural industry can contain high levels of salt.
4. Urban: This is mainly caused by rising groundwater bringing salts to the land surface. Towns are often located in areas prone to salinity (such as plains, valleys, or at the foot of a ridge). Urban development can lead to localised salinity because of clearing of native vegetation, over-watering of gardens, parks and sporting fields, water leaking from pipes, drains and tanks, seepage from sillage pits and blocking or changing natural drainage paths (such as by building roads).

Salinity can cause physical damage to buildings, roads and water pipes. Some building methods may also contribute to the development of salinity. Compacted surfaces can restrict groundwater flow and concentrate salt in one area. By cutting into slopes to build, groundwater or saline soil may be intercepted and exposed. Fill used to build up an area may be a source of salt, or it may be less permeable, preventing good drainage.

Salinity can render farming land unproductive and sports grounds and recreation areas unusable. Salinity can also damage wetlands and rivers and affect native vegetation, causing the disappearance of native flora and fauna and poor downstream water quality.

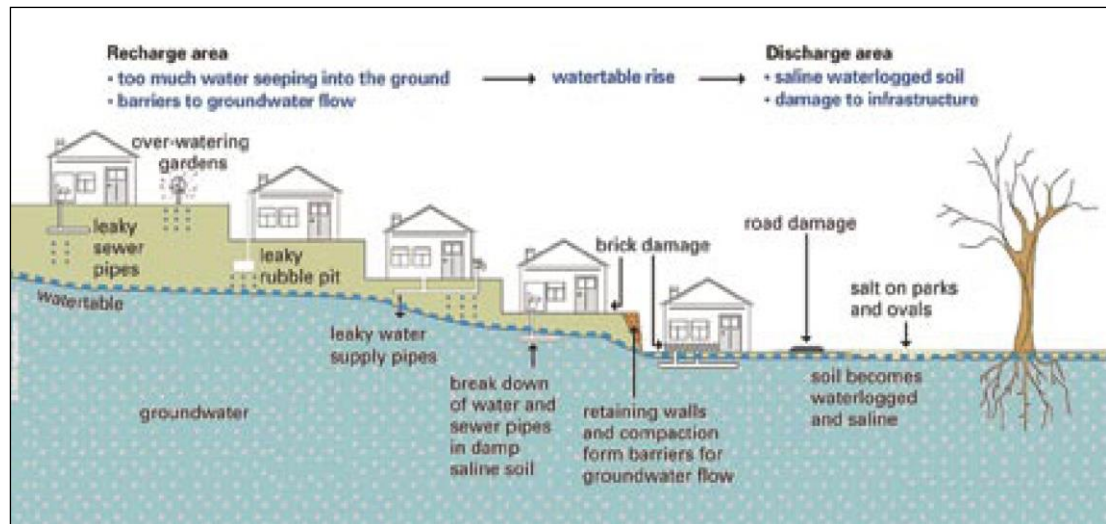


Figure 8 Illustration showing how development can impact on landscape functions as well as how development may be impacted upon salinity processes

Objectives

- a) To prevent further spread of urban salinity and remedy, where possible, existing areas of salinity.
- b) To minimise disturbance to natural hydrological systems as a result of development and appropriately manage land uses affecting land salinisation and/or those affected by salinity.
- c) To ensure that land is used and developed in a manner that does not significantly increase water infiltration to groundwater systems and does not significantly increase salt loads in waterways, wetlands drainage lines, or soils.
- d) To control the impact of a development on prevailing and potential soil or groundwater salinity in the urban environment as well as ensure that soil or groundwater salinity does not impact on the structural integrity of a development.
- e) To ensure that consideration is given to any physical limitations of land, including soil salinity and the impacts of that salinity, to minimise the potential for future adverse economic impacts arising from development.

Controls

1. The following flowchart shall be used to determine an appropriate course of action for salinity investigation and management for single or multi-lot developments.

Note: **Where it is difficult to decide between colours it should be assumed that the salinity potential is denoted by the colour for the higher salinity potential.*

Note: ***Salinity risk activities are those activities which are considered to have a greater risk associated with them in area of salinity potential, based on level of ground disturbance, water-use, and the potential to alter hydrological conditions and/or salt concentrations. This may include, but is not limited to: quarrying, intensive agriculture, activities involving high levels of irrigation, large scale artificial waterbodies, infiltration into the soil or groundwater, waste water re-use or treatment systems or major landscape reshaping.*

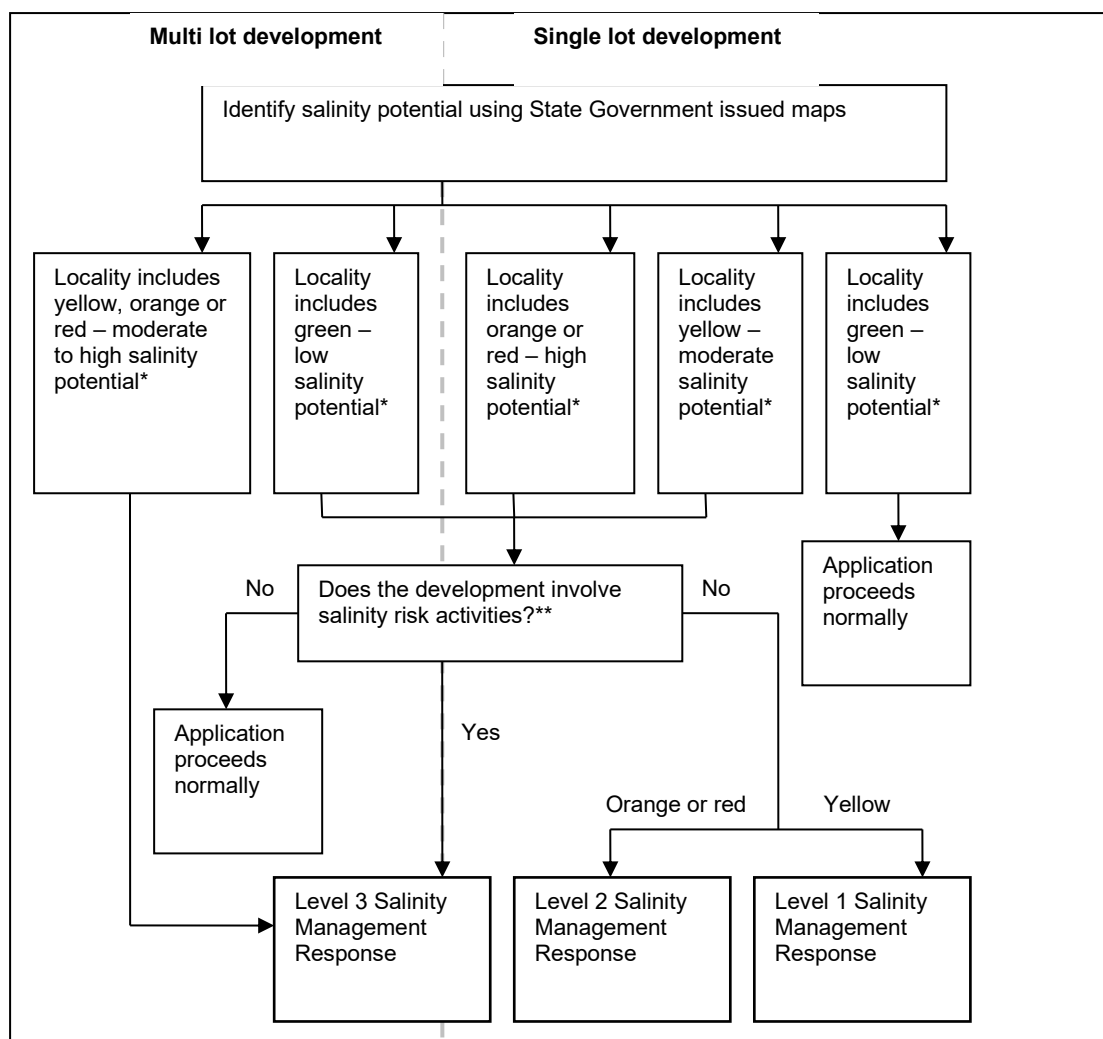


Figure 9 Model for how salinity assessment, investigation and management strategies should be undertaken (Adapted from WSROC 2003)

2. If a Level 1 or 2 Salinity Management Response is required the applicant shall use the Salinity Management Response Checklists to determine appropriate measures to prevent salinity. These measures shall be detailed in the Statement of Environmental Effects or equivalent. These measures shall be approved by Council prior to the issuing of Development Consent.
3. Level 3 Salinity Management Response shall be:
 - Approved by Council prior to the issuing of Development Consent.
 - Integrated into a Total Water-cycle Management Plan for the site for developments where such a plan is required.
4. The Salinity Management Response shall be based on site conditions and the proposed development. It shall include controls to protect buildings and also strategies to protect infrastructure, including roads and underground services and to manage the water cycle. A Response shall assume worst-case scenario for salinity on the site.
5. Salinity investigations shall be undertaken by an appropriately qualified professional with experience in salinity investigations and management.

6. Management strategies for salinity shall be developed in accordance with the approved Guidelines. This includes general management strategies for all sites and salinity processes and strategies including, but not limited to, the following:
 - Building requirements
 - Vegetation and landscaping
 - Roads and pavements
 - Soil landscapes with a shale geology
 - Localised concentrations of salinity
 - Deeply weathered soils
 - Salinity in groundwater.
7. To ensure appropriate measures or management strategies are employed Council may require monitoring reports to be submitted.
8. For developments involving the construction or removal of dams, artificial wetlands or stormwater retention ponds a Level 3 Salinity Management Response is required.
9. For developments involving the construction or removal of dams, artificial wetlands or stormwater retention ponds, water sensitive urban design (WSUD) principles shall be applied.
10. Development shall have minimal impact on the water table.
11. For areas with a moderate to high salinity potential development shall demonstrate no net increase in hydrologic load or water inputs and shall maintain the natural water balance.

12. Acid Sulfate Soils Risk

Applies to

This section applies to

- a) Any development that is located in an area identified as having an acid sulfate soil potential within the *Liverpool LEP 2008*.
- b) Any development involving drainage or excavation, which has the potential to result in the formation of acid sulfate soils.

Background

Acid sulfate soils are sediments deposited under estuarine conditions (that is close to sea level), and which contain the sulfidic mineral pyrite. Acid sulfate soils are found underlying many coastal floodplains, in coastal wetlands, and as bottom sediments in coastal estuaries.

As long as acid sulfate soils are not disturbed or drained, these materials are relatively harmless and are termed potential acid sulfate soils. However, if the sediments are exposed to air, the pyrite is oxidised and sulfuric acid is generated. When the rate of acid production exceeds the neutralising capacity of the soil, actual acid sulfate soils are formed. As a result, soil pH may become highly acidic.

Acid sulfate soils can have considerable effects on:

- Engineering and landscaping works including affecting the type of concrete or steel required for construction, the design of roads, buildings, embankment and drainage system, extractive materials specifications, maintenance programs for drains, water and sewage pipelines and other structures.
- Agricultural management practices including choice of crops, liming practices, fertiliser requirements and drainage practices.
- Aquaculture management practices including choice of site, pond design and management practices
- The management of contaminated soil particularly in relation to mobility of metals
- The conservation of biodiversity and protection of wetlands as well as shallow freshwater systems including degradation of water quality and habitat, killing or disease of fish and other aquatic organisms.

Acid sulfate soils underlie significant areas of coastal Australia including parts of the Liverpool LGA. The cost of testing, treating and monitoring of acid sulfate substantially increase the cost of development.

The impacts of actual acid sulfate soils are one of the most significant water-based environmental problems in coastal areas of NSW. Certain environmental effects of actual acid sulfate soils can last for hundreds or even thousands of years

Appropriate planning and management of urban and agricultural land to prevent damage associated with acid sulfate soils is now recognised as an extremely important issue. A well informed understanding of acid sulfate soils and their distribution is critical for sustainable land use.

Objectives

- a) To provide regulation on the procedures involved in the assessment and management of activities within areas affected by acid sulfate soils.
- b) To identify areas of acid sulfate soil risk to prevent any unnecessary impact to the environment.
- c) To ensure that preliminary acid sulfate soil assessment is undertaken prior to development consent being granted to determine the level of risk proposed by the activity/development.
- d) To ensure that acid sulfate soil management plans are prepared when an activity or development is associated with an acid sulfate soil risk.
- e) To provide effective management of areas where acid sulfate soils are identified.

Controls

The following flowchart shall be used for investigation and assessment of acid sulfate soil potential as well as any management responses, which may be required.

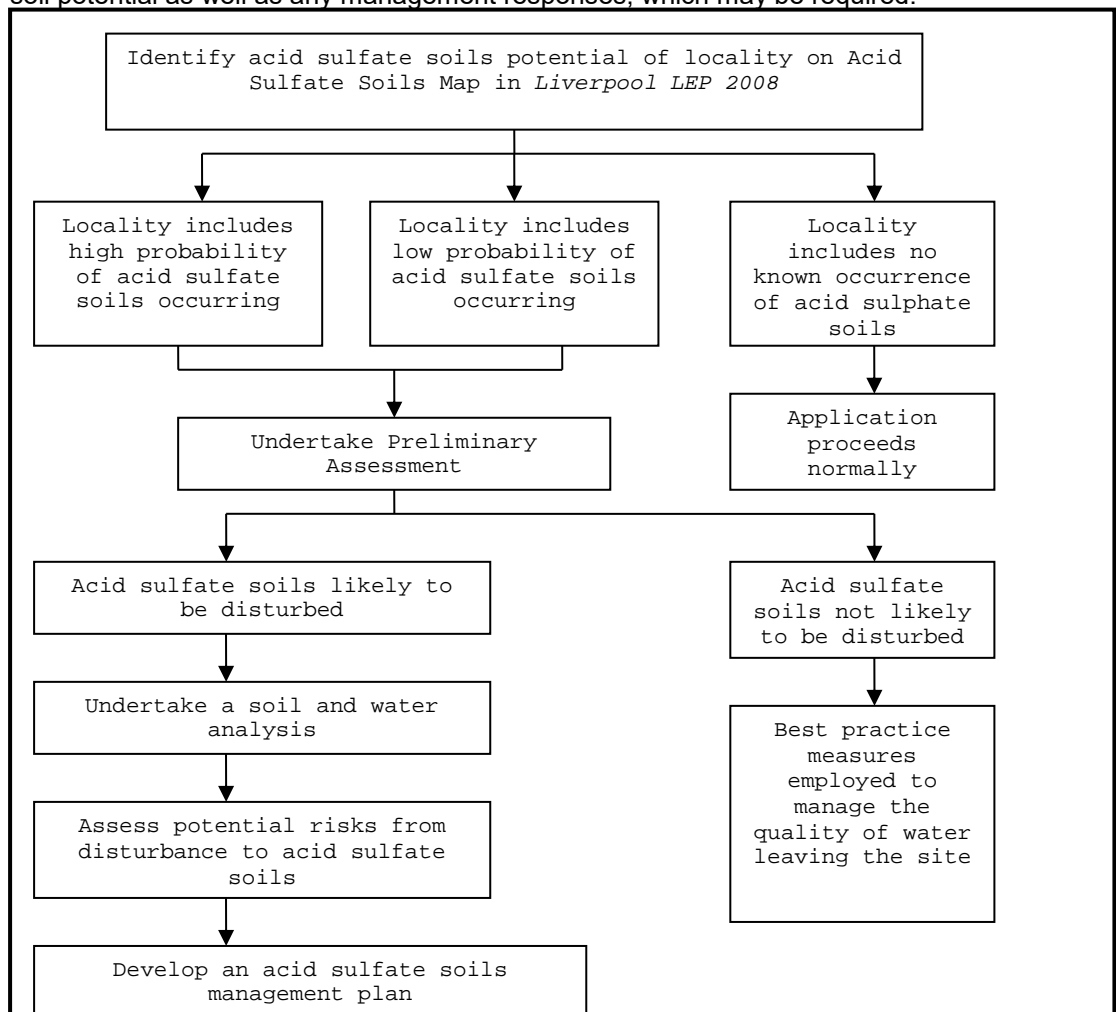


Figure 10 Model for how acid sulfate soils assessment, investigation and management strategies should be undertaken (adapted from *Acid Sulfate Soil Manual 1998*).

- 1. If acid sulfate soils are present and not likely to be disturbed, best practice measures employed to manage the quality of water leaving the site shall be detailed in the SEE or equivalent.
- 2. If acid sulfate soils are present and likely to be disturbed a soil and water analysis and an assessment of the potential risk from disturbance of the acid sulfate soils

shall be undertaken. The analysis and assessment shall be approved by Council prior to the issuing of development consent.

3. If acid sulfate soils are present and likely to be disturbed an acid sulfate soils management plan shall be prepared in accordance with the guidelines. The acid sulfate soils management plan shall be approved by Council prior to the issuing of development consent.
4. Any acid sulfate soils analysis, assessments and management plans shall be undertaken or prepared by an appropriately qualified professional with experience in acid sulfate soils analysis and assessments as well as the preparation of acid sulphate soils management plans.
5. Council may require monitoring reports on the implementation of an acid sulfate soils management plan to be submitted.

13. Weeds

Applies to

This section applies to land where noxious weeds are found.

Background

Noxious weeds have the potential to have an adverse impact on the biodiversity and economic use of land. Some species compete with native tree and shrub species and have the potential to dominate entire landscapes altering their natural condition. Some species are particularly effective at penetrating areas of bushland, others choke waterways and riverbanks, some are toxic and others cause allergic reactions in humans.

Objectives

To remove noxious weeds in conjunction with the development of land.

Controls

Where the site analysis identifies noxious weeds on the site, a Weed Management Strategy (WMS) shall be submitted with any development application. A WMS shall be prepared by a suitably qualified professional and shall include:

1. A complete list of all noxious and environmental weeds on the site;
2. A site plan displaying actual weed infestation densities shown as percentages and grouped into cover classes as follows:
 - R = (Rare): less than 1% cover
 - O = (Occasional): between 1 and 5% cover
 - F = (Frequent) between 5 and 20% cover
 - A = (Abundant) between 20 and 40% cover
 - D = (Dominant) between 40 and 100% cover
3. A treatment program for each weed species identified.
4. The treatment program for each weed species shall detail the following:
 - The method(s) of treatment of weeds e.g. mechanical removal or herbicide application.
 - The herbicide product name (if used), the proposed rates and method(s) of application.
 - The timing of all treatments and control method(s) to be applied.
 - An ongoing maintenance program detailing methods of follow up treatments to ensure all weed infestations present are contained and/or controlled.
 - Details of any weed material disposal methods (i.e. if weed material is to be removed from the development site.)
5. It is an offence to knowingly remove any weed material that is classified as a W1 noxious weed under section 28 of the *Noxious Weeds Act 1993*.
6. Plants that have been declared noxious are listed in Appendix 2.

14. Demolition of Existing Developments

Applies to

This section applies to development, which involves the demolition of an existing building.

Background

The demolition of buildings can have environmental impacts, particularly involving older buildings, which may contain toxic materials. There is also the potential to recycle materials and minimise waste going to land fill.

Objectives

- a) To minimise waste generation and disposal to landfill.
- b) To ensure efficient storage and collection of wastes and recyclables during demolition and construction stages.
- c) To minimise adverse impact on adjoining premises; and
- d) To minimise release of contaminated materials.

Controls

Demolition

1. All demolition work must comply with the *Australian Standard AS2601 - 1991, The Demolition of Structures*.
2. Security fencing such as hoardings must be provided around the perimeter of the demolition site prior to work commencing to prevent access by unauthorised persons at all times during the demolition period. Approval of the fencing by Council must be received prior to erection.
3. Demolition must not be conducted in high winds to ensure dust does not spread beyond the site boundaries.
4. All lead contaminated materials identified in the building must be handled and disposed of in accordance with the *NSW Environment Protection Authority's* requirements.
5. Dust Controls must be implemented on site prior to and during demolition.
6. Asbestos, if identified in the building, must be removed and disposed of in accordance with the requirements of Work Cover.
7. All trucks/trailers entering or leaving the site must have their loads adequately covered. A sign indicating this should be placed at the entry to and exit from the site.
8. Temporary toilet facilities must be provided on the site until all demolition work is completed.
9. Demolition activities on site must be limited to the following hours:
 - Monday to Friday 7:00am to 6:00pm
 - Saturday 8:00am to 1:00pm
 - No work on Sunday and Public Holidays
10. Sound pressure levels emanating from the site must not exceed levels established by the *NSW Environment Protection Authority*.
11. A Waste Management Plan (WMP) is to be submitted with the Development Application. The WMP must include volume or area estimates and information about reuse, recycling and disposal options for all types of waste produced on-site, including excavation materials.

12. The waste management plan together with proof of lawful disposal for all waste that is disposed of, or otherwise recycled from the site must be retained on site. Proof is to include a log book with associated receipt/invoices, waste classification, and site validation certificate. All entries must include:
- Time and Date
 - Description and size of waste
 - Waste facility used
 - Vehicle registration and company name
- Both the log book and the associated receipts must be made available for inspection by authorised Council Officer at any time during site works.
13. Where subdivision works are proposed, relevant sections of the WMP must be completed. If the destination for excavation material is not a licensed waste facility, it must have development consent to receive such material.
14. Where subdivision works are proposed, relevant sections of the WMP must be completed. If the destination for excavation material is not a licensed waste facility, it must have development consent to receive such material.
15. A Dilapidation Report for any demolition within the zone of influence of any other building.

15. On-site Sewage Management Systems (OSMS)

Applies to

This section applies to:

- Development of land that does not have access to a reticulated sewerage system.
- All existing and proposed On-site Sewage Management Systems and Greywater reuse systems.

Background

The rural areas and rural villages of Liverpool are generally not connected to a reticulated sewerage system. Disposal of waste water must take place on site which places limitations on the scope of development that is possible on the site and the extent of the area that can be developed. Disposal of wastewater on site also has potential public health and environmental impacts which must be addressed and minimised.

Application for approval to operate an OSMS

Where a new OSMS is to be installed or an existing OSMS altered, an application under Section 68 of the *Local Government Act 1993* for approval to install or alter an OSMS must be submitted and the prescribed fee paid.

Prior to the operation of an OSMS an application under Section 68 of the Local Government Act 2003 for approval to operate must be submitted along with certification of the installation and commissioning of the system. Approval to operate the OSMS will be granted upon successful installation and certification of the system and this approval will be automatically renewed on an annual basis or at a frequency determined by Council.

Council officers may inspect the OSMS from time to time to ensure that the conditions of approval are being met and that the system is operated and maintained in accordance with the required performance standards set out in the Local Government (General) Regulation 2005.

Council may modify, revoke or withhold an approval or renewal of approval should the system not comply with the conditions of that approval or be found to be inadequately performing or operated in an inappropriate manner.

Objectives

To ensure that the disposal of wastewater and reuse of greywater:

- a) Is carried out in a manner which is economically and environmentally sustainable
- b) Protects the quality of public and environmental health.

Controls

Application Requirements

1. Applications for development of land to which this part applies must be accompanied by an application under s68 of the *Local Government Act 1993* for the installation, alteration and operation of an OSMS. Development consent will not be issued until Council is satisfied that the s68 application can be approved.
2. All development proposals relying on an OSMS or impacting on an existing OSMS must be accompanied by a wastewater report demonstrating that the site can sustainably accept all wastewater generated on the site. This includes the modification of existing developments such as additions/modifications to a dwelling or commercial activity.

3. When a proposed development increases the potential wastewater flow on an existing property, the treatment capacity of the existing system must be reviewed. A new system must be installed where the existing system does not have adequate treatment capacity for all potential flows. A wastewater report will be required to detail the capacity of the existing or proposed system and propose a new or modified effluent irrigation area.
4. All wastewater reports must be prepared by a suitably qualified and experienced person and must contain the following as a minimum:

Plan

The report must include a plan, to scale, showing the location of:

- The sewage management facility proposed to be installed or constructed on the premises,
- Any related effluent application areas,
- Any buildings or facilities existing on, and any environmentally sensitive areas of, any land located within 100 metres of the sewage management facility or related effluent application areas, and
- Any related drainage lines or pipework (whether natural or constructed).

Specifications

The report must include full specifications of the sewage management facility proposed to be installed or constructed on the premises concerned.

Site assessment

The report must include details of the climate, geology, hydrogeology, topography, soil composition and vegetation of any related effluent disposal areas together with an assessment of the site in the light of those details.

Statement

The report must include a statement of:

- The number of persons residing, or probable number of persons to reside, on the premises, and
- Such other factors as are relevant to the capacity of the proposed sewage management facility.

Operation and maintenance

The report must include details of:

- The operation and maintenance requirements for the proposed sewage management facility,
- The proposed operation, maintenance and servicing arrangements intended to meet those requirements, and
- The action to be taken in the event of a breakdown in, or other interference with, its operation.

Standards and guidelines

The report must demonstrate that a system can be installed in accordance with the requirements of the documents listed in control 5 of this section.

Wastewater Flows

The report must consider all potential wastewater flows on the property including all proposed and existing flows.

Specifications

5. Design OSMSs in accordance with:

- a) Local Government (General) Regulation 2005;
- b) Australian/New Zealand Standard 1547:2012, On-site Domestic Wastewater Management, or any updated standard which supersedes AS1547:2012.
- c) Sydney Catchment Authority 2012, Designing and Installing On-site Wastewater Systems.
- d) NSW Health 2001, Septic Tank and Collection Well Accreditation Guideline
- e) Department of Local Government 1998, On-site Sewage Management for Single Households.
- f) Any other relevant guideline documents adopted by Council after the issue of this DCP.

Types of systems not supported

6. Development or subdivision proposals relying on pump-out systems will not be approved by Council.

Pump-out systems are not considered to be economically or environmentally sustainable systems due to the high costs associated with the removal of effluent which can result in unauthorised discharge into the environment.

Connection to reticulated sewer

7. Proposals relying on on-site sewage management will not be approved where a reticulated sewerage service is available within 75m of any property boundary.
8. Decommission OSMSs when a reticulated sewerage service becomes available within 75m of any property boundary, and connect the development to the service.

NOTE: This requirement may also be a condition of development consent and/or be included on the 88b certificate.

Location requirements

9. Locate OSMS tanks a minimum of 1.5m from any building and outside of any overland flow paths or depressions in the land.
10. Setback effluent disposal areas associated with OSMSs with setbacks in accordance with Table 8.

Table 8 Minimum Setbacks for Effluent Disposal Areas

System	Setbacks	
All land application systems	100m	to permanent surface waters (river, stream, lake etc.)
	250m	to domestic groundwater well
	40m	to other waters (farm dams, intermittent waterways and drainage channels)
Surface spray irrigation	6m	if area up-gradient of driveways and property boundaries
	3m	if area down-gradient of driveways and property boundaries
	15m	to dwellings
	3m	to paths and walkways
	6m	to swimming pools
Surface drip and trickle irrigation	6m	if area up-gradient of swimming pools, driveways, property boundaries and buildings
	3m	if area down-gradient of swimming pools, driveways, property boundaries and buildings
Sub-surface irrigation	6m	if area up-gradient of swimming pools, driveways, property boundaries and buildings
	3 m	if area down -gradient of swimming pools, driveways, property boundaries and buildings
Absorption system	12m	if area up-gradient of property boundaries
	6m	if area down-gradient of property boundaries
	6m	if area up-gradient of swimming pools, driveways, and buildings
	3m	if area down -gradient of swimming pools, driveways, and buildings

11. New or replacement systems for horticulture (as defined in Liverpool LEP 2008) must comply with the following:
 - a) A minimum buffer distance of 20m if disposal area is up-gradient and 10m if disposal area is down-gradient of any market garden/igloo.
 - b) The related Effluent Disposal Area is required to be fenced to prevent access of vehicles, animals and any heavy vehicles.
 - c) Fruit and/or Vegetables are not to be grown on top or within the designated related Effluent Disposal Area(s) and associated buffer zones.
12. Exclude any proposed or existing areas designated for effluent disposal from calculations for private open space.
13. Locate the lid to OSMS tanks or holding tanks and all associated electrical components such as motors, blowers and non-submergible pumps etc. above the 1% AEP flood contour.
14. Irrigate only effluent treated to a secondary standard by an Aerated Wastewater Treatment System (AWTS) on land below the 1% flood contour.
15. Do not locate any portion of the Effluent Disposal Area on land within the 5% AEP contour.

Systems no longer in use

16. Remove or reuse any redundant septic tank, collection well or aerated wastewater treatment system in accordance with *NSW Health Advisory Note 3 – May 2006 – Destruction Removal or Reuse of Septic Tanks, Collection Wells, Aerated Wastewater Treatment Systems and other Sewage Management Facility Vessels*.

Note: Demolition of tanks (Methods 1 & 5 of the advisory note) is not permissible.

Design wastewater flow rates - domestic

17. Calculate the design wastewater flow for domestic systems based on the following:

- a) Two people per bedroom for the first three bedrooms and;
- b) One person for each additional bedroom.

NOTE: Rooms which are easily converted into a bedroom without the need for structural modification are to be included in this calculation e.g. studies, sewing rooms and other rooms of a similar size and location to a typical bedroom.

The daily wastewater flow volume must be calculated at the following rate:

- c) 150L per person when serviced by a reticulated water supply.
- d) 120L per person when serviced by on-site rainwater tanks.

Example: The design wastewater flow rate for a five bedroom equivalent dwelling (four bedrooms and one study) serviced by a reticulated water supply must be 1200L per day based on the following;

- Two people per bedroom for the first three bedrooms = 6 people
- One person for each additional bedroom, including the study = 2 people
- 150L per person for a total of 8 people = 1200L per day.

18. Consider each dwelling separately for the purpose of the calculation listed in control 17 of this section when the design wastewater flow is calculated for multiple dwellings on any premises.

Example: The design wastewater flow rate for a five bedroom equivalent dwelling (four bedrooms and one study) and a 2 bedroom granny flat serviced by a reticulated water supply must be 1800L per day based on the following;

Primary dwelling;

- Two people per bedroom for the first three bedrooms = 6 people
- One person for each additional bedroom, including the study = 2 people
- 150L per person for a total of 8 people = 1200L per day.

Granny Flat;

- Two people per bedroom = 4 people
- 150L per person for a total of 4 people = 600L per day

Minimum irrigation area requirements for residential subdivision

Where residential subdivision relying on an OSMS is proposed:

19. Provide an area sufficient to accommodate an effluent disposal area of at least 1,200m² on each lot. This must be demonstrated in the wastewater report.
20. Locate proposed effluent disposal areas to meet the minimum setback distances listed in table 8 considering a potential building envelope representing a dwelling of typical size for the local area on each lot.

Example: Figure 11 shows an example subdivision plan demonstrating the required effluent disposal areas on each lot.

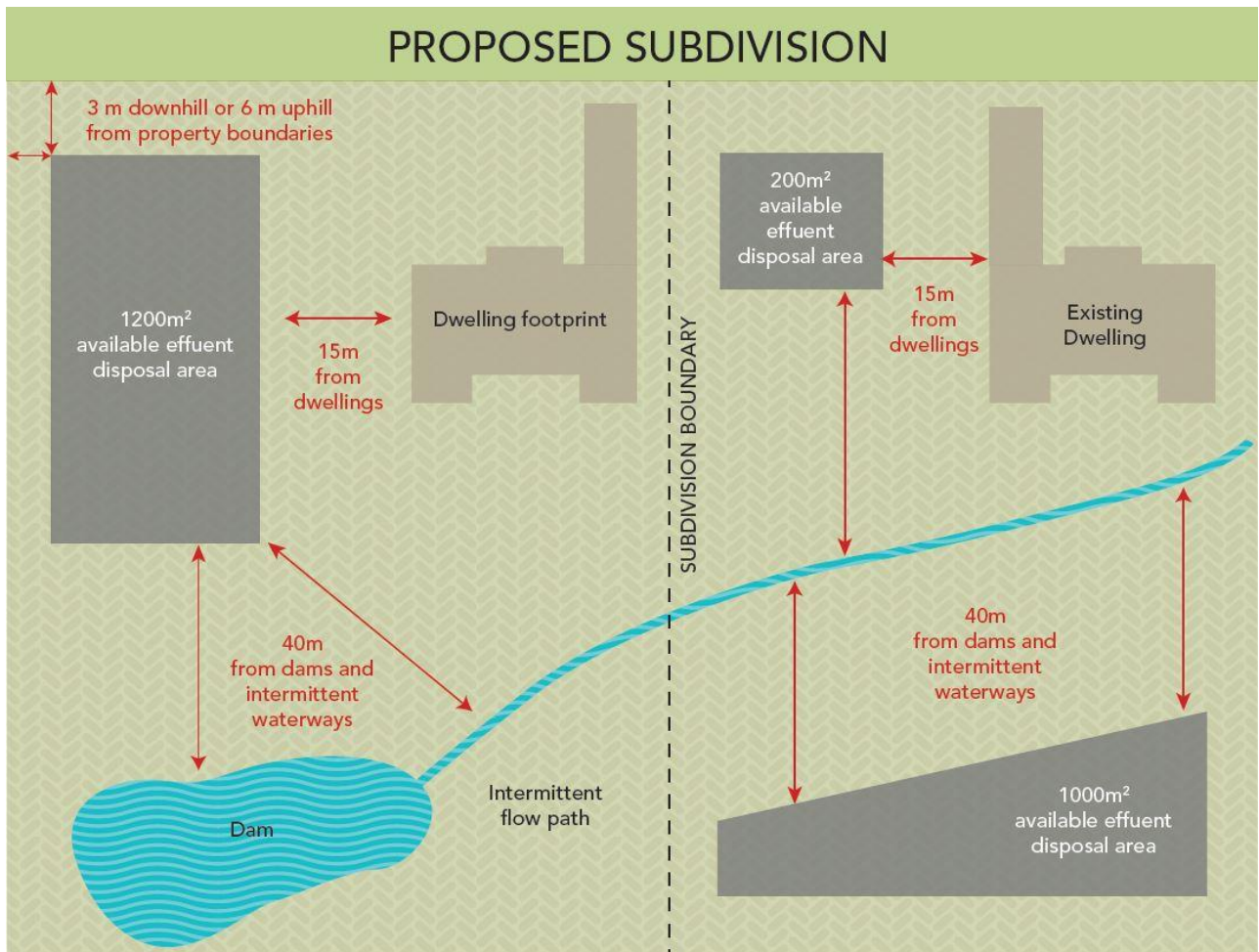


Figure 11: Example of a proposed subdivision with a total of 1200m² of available effluent disposal area demonstrated on each lot.

16. Aboriginal Archaeology

Applies to

This section applies to land:

1. In which Aboriginal sites, places or relics have been previously identified.
2. Within an identified cultural landscape.
3. That has not been cleared.

Background

The Liverpool LGA was occupied by Aboriginal people prior to European settlement. Relics of this still remain.

Objectives

To identify and where possible preserve relics of the occupation of the land by Aboriginal communities.

Controls

Initial Investigation

An initial investigation must be carried out to determine if the proposed development or activity occurs on land potentially containing an item of aboriginal archaeology. If any of the above features apply then the relevant Aboriginal community must be consulted, as part of the initial investigation to ensure that the potential for the land to contain Aboriginal sites, places or relics has not been overlooked by previous studies.

Detailed Investigation

1. If any of the features apply, then an Aboriginal Heritage Impact Assessment (AHIA) must be prepared in accordance with the *NSW Department of Environment and Climate Change Draft Guidelines for Aboriginal Heritage Impact Assessment* and submitted with the initial investigation report.
2. An AHIA will also be required if the relevant local Aboriginal community provides sufficient information to the Council that leads it to conclude that the site may have Aboriginal heritage significance.
3. Once the AHIA is submitted, the Council will send copies to representatives of the relevant local Aboriginal communities and the *NSW Department of Environment and Climate Change* for comment.

17. Heritage and Archaeological Sites

Applies to

This section applies to development affecting a heritage item, land in a heritage conservation area or an archaeological site as identified in the Liverpool Local Environmental Plan 2008, as well as land in the vicinity of a heritage item.

Background

The City of Liverpool local government area has a long and diverse history. The Liverpool area was originally the home of the Cabrogal group of the Darug people. The European settlement of the area began in the early 19th century and was formalised with the founding of the Town of Liverpool by Governor Macquarie in 1810. The buildings, sites and elements of our landscape illustrate the history of our local government area. Places identified as heritage items and heritage conservation areas contribute to forming our living historic environment which enriches the character of the local government area. Heritage places give identity to our neighbourhoods and help make the City of Liverpool an attractive and interesting place to live and work.

Development that affects places of heritage significance needs to be carefully designed to minimise negative impacts on heritage significance. Negative impacts may occur due to actions such as the removal of original fabric, loss of important design features, loss of important views, the removal of important vegetation, unsympathetic bulk and scale of new development and inappropriate selection of materials.

Liverpool Local Environmental Plan 2008 identifies a range of heritage items and heritage conservation areas and provides objectives and provisions for the conservation of Liverpool's heritage. This portion of the DCP provides additional objectives, controls and guidance for regulating development affecting these heritage items and heritage conservation areas.

Conservation Philosophy

The aim of heritage conservation is to ensure that the cultural significance of heritage items and heritage conservation areas is maintained over time. While changes may be necessary to adapt heritage buildings to new uses or modern living standards, it is important to ensure that these changes do not compromise the heritage significance of the item.

The underlying philosophy of the controls for regulating development affecting heritage items and heritage conservation areas is derived from The Burra Charter: The Australia International Council on Monuments and Sites (ICOMOS) Charter for Places of Cultural Significance, 1999 (Burra Charter). The Burra Charter is widely accepted as an industry standard for heritage conservation in Australia.

The Burra Charter advocates a cautious approach to change: do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained.

Objectives

- a) to conserve the heritage significance of heritage items and heritage conservation areas of Liverpool including associated fabric, setting, curtilage and views;
- b) to conserve archaeological sites;
- c) to facilitate the implementation of the objectives and provisions relating to heritage conservation contained in the Liverpool LEP 2008;
- d) to promote and encourage heritage conservation and the consideration of the heritage context in development;
- e) to encourage the retention and appropriate development of significant items;

- f) to encourage a high standard of contemporary design in the heritage context;
- g) to encourage the preservation of culturally significant vegetation;
- h) to enhance the amenity and heritage values of the Liverpool local government area;
- i) to enable appropriate and expert consideration of proposed development to be made by applicants and the Council; and
- j) to encourage and promote public awareness, appreciation and knowledge of heritage conservation.

Development Application Requirements

In addition to the general requirement for development applications the following additional details are required for applications relating to heritage items, places within a heritage conservation area or in the vicinity of a heritage item:

- a Statement of Heritage Impact prepared in accordance with guidelines set out in the NSW Heritage Branch publication titled *Statements of Heritage Impact* and available at their website, www.heritage.nsw.gov.au;
- measured drawings of the existing building including elevations, and clearly indicating existing walls and building elements to be retained and those proposed for removal or alteration;
- details of the materials, finishes and colour schemes;
- a streetscape elevation showing the proposed development within the context of the existing streetscape;
- Additional submission requirements which may include:
 - **Structural Report** – major alterations may also require a report from a structural engineer verifying that the proposed works will not have a detrimental impact on the structural stability of the building, on significant building elements, or on neighbouring properties;
 - **Archaeological Assessment Report** – where there is a likelihood of disturbance of significant archaeology, an Archaeological Assessment will be required;
 - **Interpretation Strategy** – major alterations to a heritage item may also require the production of an interpretation strategy, detailing how the significant aspects and uses of the building may be publicly interpreted;
 - **Demolition Report** – whilst the demolition of heritage items and places within heritage conservation areas is not supported, if there is a proposal to demolish a heritage place this may require the production of a Demolition Report which details the heritage significance of the building and area and the contribution of the building or building element to that significance; the structural stability of the building in the form of a structural engineer's report; and/or a pest inspection report.

In the case of an item listed on the State Heritage Register, an Integrated Development Application or Section 60 Approval from the NSW Heritage Branch may need to be submitted. Exemptions from this requirement are detailed on the NSW Heritage Branch website at www.heritage.nsw.gov.au.

You are advised to contact Liverpool City Council prior to submitting a development application for development affecting a heritage item, heritage conservation area or in the vicinity of a heritage item to clarify what the submission requirements will be for your particular development proposal.

Guidelines for preparing Heritage Impact Statements

A Statement of Heritage Impact is a document which assesses the impact of any proposed development on the heritage significance of a building, site, streetscape, or area. The Statement of Heritage Impact should clearly identify each of the proposed works and should incorporate all development application drawings.

The statement should include options that have been considered for the proposal and document reasons for choosing the preferred option. These should include proposals to minimise the impact of the development on the heritage significance of the building, site, streetscape or area. The statement should also consider compliance with any recommended management policies contained in Council's Heritage Inventory or any Conservation Management Plan available for the place.

The NSW Heritage Branch have produced guidelines for the preparation of Statements of Heritage Impact which are available on their website at www.heritage.nsw.gov.au

A Statement of Heritage Impact must be submitted with any applications for development to:

- Heritage items;
- Properties in the vicinity of heritage items where the works may impact upon the item;
- Properties within heritage conservation areas, including applications for demolition; and
- Fire upgrading of heritage items and buildings in heritage conservation areas.

Where a building has a current Conservation Management Plan, the Statement of Heritage Impact Statement will need to demonstrate compliance with the plan.

Demolition and Demolition Reports

The demolition of heritage items and places within heritage conservation areas is not supported. The onus is on the applicant to demonstrate why the building cannot be retained, taking into consideration:

- The heritage significance of the item or contribution of the building or building elements to the heritage significance of the heritage conservation area; and
- A Demolition Report.

A Demolition Report is a document which should include consideration of:

- The heritage significance of the building and area and the contribution of the building or building element to that significance;
- The structural stability of the building in the form of a structural engineer's report; and/or
- A pest inspection report.

If the application proposes demolition of a structure of heritage significance, the applicant must:

- Submit a Demolition Report demonstrating that the structure is not reasonably capable of retention;
- Submit a factual statement as to why the structure needs to be demolished, including a statement from an appropriately qualified structural engineer; and
- If demolition is recommended primarily on economic grounds, submit a statement from a quantity surveyor comparing the cost of demolition and cost of retention.

The above requirements may be waived in the event of an emergency or danger to the public.

Submitting the necessary reports or justifications in no way implies that the consent authority will agree to the proposed demolition. Liverpool City Council may obtain independent structural engineering advice. Where possible and reasonable, built heritage should be retained.

Where demolition is allowed, a photographic record of the building must be submitted to Council prior to the commencement of the demolition works.

Heritage Inventory

Liverpool City Council maintains the Liverpool State Heritage Inventory database which lists all heritage items and heritage conservation areas within the local government area. Each listing contains an inventory sheet that includes a physical description of the heritage item or heritage conservation area and a statement of significance. The inventory will be considered by the consent authority as part of its assessment of development applications.

Limited information on the inventory sheet does not mean that the item is not significant. Where insufficient detail is available, information provided with the development application may be used to update the database.

Liverpool State Heritage Inventory sheets are available by contacting Council or online through the NSW Heritage Office at: www.heritage.nsw.gov.au

Controls

Development of heritage items

1. Where a proposal involves a heritage item, it will be necessary to lodge a Statement of Heritage Impact;
2. All development of heritage items must be designed by a Registered Architect;
3. All development of heritage items must be designed to respect the heritage significance of these places in terms of:
 - Setting;
 - Scale;
 - Form;
 - Materials and colours;
 - Fenestration;
 - Fencing;
 - Landscaping.
4. Original fabric and landscape elements that contribute to the significance of a heritage item should be retained;
5. Outbuildings should be located to the rear of heritage items and outside important view corridors to or from the place;
6. Additions should maintain the integrity of the heritage item by retaining the significant fabric and form of the place and should be smaller in height and scale than the existing building;
7. Modern technologies (e.g. solar electricity collectors, TV aerials or satellite dishes) are to be located on roof slopes facing the rear yard of heritage items and should not be visible from the public domain nor intrude into significant view corridors to or from the place;
8. Garages and carports should be located as far behind the front building alignment as possible and should not be incorporated into the front façade of a heritage item.

Development in heritage conservation areas

9. Where a proposal involves development within a heritage conservation area, it will be necessary to lodge a Statement of Heritage Impact;
10. All development within heritage conservation areas must be designed to respect the heritage significance of the area in terms of:
 - Character;
 - Setting and views;
 - Scale;
 - Form;
 - Setbacks;
 - Materials and colours;
 - Fenestration;
 - Fencing;
 - Carparking;
 - Landscaping.
11. 11. Modern technologies (e.g. solar electricity collectors, TV aerials or satellite dishes) are to be located on roof slopes outside primary view corridors to or from the place and should not be visible from the public domain nor intrude into significant view corridors to or from the place.

Development in the vicinity of a heritage item

12. Development in the vicinity of a heritage item shall be designed to respect and complement the heritage item in terms of:
 - Scale;
 - Materials, colours and finishes;
 - Building and street alignment;
 - Landscaping and fencing.
13. Development in the vicinity of heritage items is to minimise the impact on the setting of the heritage item by:
 - Retaining and respecting significant views to and from the heritage item;
 - Retaining original or significant landscaping (especially plantings associated with the heritage item);
 - Providing an adequate area around the place to allow interpretation of the heritage item.

Development of Archaeological Sites

14. The Council may grant consent to carry out development involving the excavation or filling of land or the erection (involving disturbance of land) or demolition of buildings on land which is an archaeological site that has non-Aboriginal significance or a potential archaeological site that is reasonably likely to have non-Aboriginal significance only if:
 - It has been considered an archaeological report; and
 - It is satisfied that any necessary excavation permit required by the Heritage Act 1977 has been granted.

Subdivision

15. Subdivision of an allotment that includes a heritage item should not be allowed unless it can be demonstrated that an adequate curtilage of the heritage item is retained and important views corridors conserved.

Signage

16. The significant architectural detailing of a heritage item, or places within a heritage conservation area, is not to be obscured by commercial signage;
17. The façade of a heritage item should not be painted in a corporate colour scheme, especially where the colour is inappropriate in the heritage context or when the façade is traditionally unpainted;

18. Backlit signs and neon signs should only be allowed for under-awning signs on commercial buildings that are heritage items or within heritage conservation areas;
19. Advertising structures should not obstruct or dominate important views to or from a heritage item or within a heritage conservation area.

Adaptive Reuse

20. Adaptive reuse of a heritage item or places within a heritage conservation area should involve minimal change to the significant fabric of the place, particularly features that contribute to the streetscape;
21. Adaptive reuse of a heritage item or places within a heritage conservation area should consider significant associations and meanings of the place.

18. Repealed

19. Used Clothing Bins

Applies to

This section applies to charity bins located on either private or Council land.

Background

Used clothing bins are considered beneficial for the local community as they provide a means for residents to dispose of unneeded clothing items whilst providing an avenue for charities to obtain clothing donations from the public to provide goods, services and financial relief for disadvantaged people. Furthermore, clothing bins have the capacity to divert a substantial amount of recyclable material from landfill, thus ensuring the continued protection of the environment. The use of clothing bins is important as it supports both charitable causes and local residents in need.

Objectives

- a) To recognise used clothing bins form a legitimate and appropriate means of social support while encouraging the recycling of unneeded clothing.
- b) To allow for the operation of used clothing bins in a manner which limits adverse impacts upon visual amenity, health amenity, existing landscaping and the safety of pedestrians and vehicles.
- c) To control the number and location of used clothing bins within the Liverpool LGA.
- d) To regulate the size, appearance and maintenance of used clothing bins.
- e) To provide Council with legal protection from issues that may arise with regard to the placement and operation of used clothing bins.

General controls for all Used Clothing Bins

1. Used clothing bins are permitted in all business zones, the private recreation zone and on compatible sites such as educational establishments and places of public worship.
2. A used clothing bin is permitted on RE1 zoned land, only if the land adjoins a business zone and Council permission is obtained.
3. A maximum of 8 square metres must be identified in each development application for retail/shopping centre, schools and places of public worship for the future placement of used clothing bins.
4. A maximum of 2 used clothing bins are permitted on each shopping centre site. The bins at each shopping centre location/or other site are to be operated by the one charity organisation. Council reserves the right to use its discretion in determining whether additional bins are appropriate, and whether the site is considered suitable.
5. A used clothing bin must clearly display the name and telephone number of the operator and not exceed the following dimensions:
 - Width: 1.2 metres
 - Depth: 1.3 metres
 - Height: 1.9 metres
6. The used clothing bin is to be placed on a concrete slab to allow all weather use.
7. The organisation owning the clothing bin will maintain the bin and its immediate surroundings in a neat and tidy condition at all times and operate it in such a manner so as to minimise any form of nuisance. The bin itself should be kept free of graffiti.

8. Illegally dumped materials within a 5 metre radius of a used clothing bin must be removed by the organisation owning the bin within 24 hours of being informed by Council.
9. A used clothing bin must be emptied at least twice every week or within 24 hours of being notified by Council of the necessity to do so.
10. Used clothing bin should be readily accessible and are not to be located in a designated car parking space and manoeuvring areas, nor in such a way that contravenes any condition of development consent applicable to the site.
11. Used clothing bin proposed to be placed on privately owned land must be supported by a letter giving the consent of the owner of that land.
12. A used clothing bin must not be located in a position where it could cause an obstruction to pedestrian and cycle paths, affect vehicular sightlines, on a road verge or in a manner which contributes to a potentially dangerous situation.
13. At no time will a used clothing bin be permitted on Council's footpaths, cyclepaths or nature strips.
14. Council reserves the right to direct the replacement of a used clothing bin that has become damaged or dilapidated.
15. A used clothing bin will not be permitted in a particular location if, in the opinion of Council, the bin will result in an unacceptably adverse visual impact upon the surrounding area.
16. Each used clothing bin is to be left in the approved location and if moved by accident, or by any other persons, it is to be relocated to the correct position by the owner of the bin within 48 hours of being notified by Council.
17. The owner of a charity bin shall be responsible for compliance with any conditions imposed by the NSW Department of Gaming and Racing and the Charitable Fundraising Act 1991.
18. Breaches of conditions of any development consent granted can lead to the service of Order by the Council or a prosecution or any other action under the provisions of the Environmental Planning and Assessment Act 1979.

Additional controls for Used Clothing Bins on Council owned land

19. An application for the placement of a used clothing bin must be in writing and must address the following criteria:
 - a. The name of the company which will be operating the bin, and the name and contact details of a designated contact person within that company who has control of locating and servicing their bins.
 - b. Proof of membership with the National Association of Charitable Recycling Organisations. An application for the placement of a charity bin will only be approved if the owner of the bin is registered with the National Association of Charitable Recycling Organisation (NACRO). Approved bins are to at all times carry a label, as issued by NACRO, identifying that the owner is a member of that organisation.
 - c. A copy of the current insurance policy which indemnifies Council against any claims that could arise from the operation of the bin.
 - d. A detailed map which shows:
 - The location of the proposed bin,
 - The location of any other bins located within 500 metres of the proposed location,
 - The location of any other bins controlled by the applicant/operator that are located within the Liverpool LGA,
 - Details of the bins dimensions, signage, materials and method of installation,

- Details of the maintenance arrangements for the bin itself (including removal of graffiti) and the area around the bin (including the removal of excess clothing and general waste),
 - Details of the frequency and method with which the bin will be emptied.
- 20. The organisation owning the used clothing bin shall carry public liability insurance providing cover against third party injury or damage. The owner of the bin must submit written evidence of public liability insurance naming Liverpool City Council as an additional insured party and providing a limit of indemnity not less than \$20 million. Details of the insurance cover are to be lodged with Council at the time of making the application for approval.
- 21. The siting of used clothing bins on Council land is permitted only with the written consent of Council.
- 22. The cost of any necessary improvements to Council owned land is to be borne by the bin owner.
- 23. Approval to place a used clothing bin on Council land is conditional on:
 - There being no detrimental impact to the amenity of the area where the charity bin is proposed to be located,
 - Any other condition considered appropriate by Council.
- 24. The applicant will comply with the criteria endorsed by NACRO in relation to the use and operation of the used clothing bin.
- 25. The owner of any charity bin placed on Council property without Council's permission or not carrying a NACRO membership label will be given a written direction to remove the bin.
- 26. Council will review the location of the bin after an initial period of twelve (12) months and may require removal/relocation if the bin and surrounds is not managed appropriately.
- 27. Council will retain the authority to require that any bin, approved or otherwise, shall be removed at any time after reasonable notification.

20. Car Parking and Access

Applies to

This section applies to development, which generates the need to provide car parking and loading facilities, generates vehicle and pedestrian movement and potentially generates the need for public transport.

Background

Most development generates vehicle and pedestrian movements. There is a need to achieve a balance between the need to minimise adverse impacts on the immediate neighbourhood, the street network and adjoining developments. Some developments, due to their scale may require changes to the transport networks.

Good design integrates vehicle access and car parking into the development concept so that it is convenient for the users and safe for pedestrians and vehicles. Access and car parking needs to be carefully considered so that it is balanced with landscape elements and does not dominate the appearance or character of a development.

Objectives

- a) To ensure that adequate parking space and service facilities are conveniently located on site to satisfy the reasonable demand created by the development.
- b) To ensure that access is designed to accommodate the size and volume of vehicles likely to visit the site.
- c) To ensure that loading facilities are provided for vehicles likely to service the site.
- d) To ensure where appropriate that car parking and the manoeuvring of commercial vehicles are separated in the interest of safety and amenity.
- e) To ensure that adequate landscaping/tree planting is provided to improve amenity and reduce visual impact of car parking and loading areas.
- f) To ensure that car parking and driveways do not interfere unreasonably with the amenity of the neighbourhood.
- g) To ensure the provision of the appropriate car parking depending on location.
- h) To ensure that where a development generates the need to augment the local transport network that the development contributes to that work.
- i) To provide highly accessible end-of-trip facilities for bicycle riders, and to provide a network of cycleways which encourages active travel.
- j) To provide safe facilities by ensuring adequate manoeuvring space, and separation where appropriate, between bicycles and motor vehicles in parking areas.
- k) To ensure pedestrian and vehicle safety.

Controls

The controls for Car Parking and Access are contained within clause 20.1 through 20.7. Bicycle parking, facilities, and infrastructure requirements are contained within this section for all development.

20.1 Overall Design Considerations

The layout of a car parking area shall consider the entire facility, including car parking modules, landscaping, circulation aisles and roadways, access driveways and, if necessary, frontage road access as an integrated coordinated design. The management of traffic within a car parking facility should take into account:

1. The need for traffic to move to and from the frontage road with minimum disruption to

passing traffic and maximum pedestrian safety.

2. Provision of adequate capacity in circulation roadways and aisles to handle peak hour movements without congestion.
3. Avoid as far as practicable conflicts between intersecting streams of circulating traffic.
4. Minimum length travel paths between entry/exit points and car parking spaces.
5. Safe treatment of points of conflict with pedestrians and other road users.

20.2 Car Parking Provision and Service Facilities by Land Use

1. Tables 11, 12 and 13 outline the number of car parking spaces and any other facilities required for the accommodation of vehicles on site for each land use type. In proposals where calculations of car parking requirements result in fractions of spaces being required, the fraction will be rounded up to the nearest whole space. Where developments comprise separately defined facilities, for example a hotel with a restaurant; the relevant requirements of each facility must be satisfied.
2. For Development Applications that propose composite developments such as shopping malls, retail plazas (and the like) the common or shared areas (e.g. toilets, corridors) are excluded from the LFA.

Disabled Off-Street Car Parking

Disabled car parking shall be provided in accordance with Table 11 for car parking areas over 20 spaces:

Table 11 Disabled Car Parking Provision

No of spaces	Land Use
1 per 100 spaces	Retail, Commercial, Industry or Transport
2 per 100 spaces	Community, Recreation, Accommodation or Education
3 per 100 spaces	Entertainment or Health

Bicycle Parking and Cycling Facilities

1. Bicycle parking and cycling facilities shall be provided in accordance with Table 12 below.
2. Bicycle parking and cycling facilities shall be clearly signposted and located in an area that is convenient to access from within the building(s) and from the street/public path.
3. In multi-storey developments, bicycle parking and cycling facilities for residents and staff shall be located on the ground floor, or first basement level close to entry/exit points, to ensure they are secure and easily accessible by staff and tenants. The design of buildings must ensure:
 - areas between bicycle parking and the street have a courtesy ramp, if stairs are the primary means of access,
 - paths between the entry point and bike parking and cycling facilities shall be wide enough to accommodate a person walking a bike (particularly around corners)
 - paths adjacent to a driveway are visually or physically separated and marked,
 - bike cages or lockers within basement car parks are not located in, or create, concealed spaces.
4. Any bicycle parking for visitors or customers shall be located adjacent to the main entry point. In developments with multiple entry/exit points, the share of bicycle parking can be divided between each entry point, as per expected demand and design of the development.
5. End-of-trip facilities (showers and change rooms) are to be provided at the rate of 1 per 10 employee bicycle spaces. Where less than 4 facilities are proposed, they should be

unisex. End-of-trip facilities are optional for residential uses or for visitors to other developments.

6. Where shower facilities and change rooms are provided, they should be located adjacent to the employee bicycle parking. This may be near the main entrance/lobby of the building, or in some instances the service entry.
7. At least one personal locker is to be provided for each Class 1 or 2 bicycle parking space.

Note: Bicycle parking facilities have the same classification as Cycling Aspects of Austroads Guidelines and are classified as:

- Class 1. High security facilities are suitable for all-day or night parking. This includes fully enclosed individual lockers. Refer to AS 2890.2
- Class 2. Medium security facilities are appropriate for all-day parking in many areas. These facilities include a lockable shelter/enclosure fitted with Class 3 facilities. Refer to AS 2890.2
- Class 3. Low security facilities are appropriate for short-medium stay parking in highly visible areas. This includes bicycle rails/racks where the wheels and frame can be locked to the rack (traditional 'toaster' racks where the front wheel only is secured is not an appropriate facility).

Table 12 Bicycle Parking Provision

Land Use	Employee/Resident Parking Spaces (Class 1 or 2 facility)	Visitor/Customer Parking Spaces (Class 3 facilities)
Residential		
Residential Flat Buildings, Multi-Dwelling Housing	1 per 2 units, or 1 for every 4 bedrooms (whichever is greater).*	1 per 10 units.
Boarding Houses, Hostels & Group homes	1 per 10 beds.	1 per 10 units/rooms.
Seniors Housing	1 per 10 staff & 1 per 20 units	2 per centre
Caravan Parks, Tourist & Visitor Accommodation	1 per 10 staff.	1 per 20 bedrooms/sites.
Commercial		
Bulky Goods Premises, Garden Centres, Hardware and Building Supplies premises, Industrial Retail Outlets, and Rural Supplies.	1 per 1000sqm GFA or 1 per 10 staff (whichever is greater)	1 per 1000sqm GFA
Cellar Door premises, Kiosks, Roadside Stalls and Timber Yards.	Not Applicable	Not Applicable
Office Premises	1 per 200sqm of GFA.	1 per 750sqm GFA
Other Retail and Business Premises (>500sqm GFA)	1 per 10 staff or 1 per 200sqm GFA (whichever is greater)	2 plus 1 per 100sqm GFA
Shopping Centres	1 per 300sqm LFA	1 per 500sqm LFA
Industry, Depots, Warehouses & Distribution Centres	1 per 10 staff (or 1 per 10 car spaces if staff numbers are undetermined)	Nil
Rural Industry (Fixed Location)	Not Applicable	Not Applicable
Community/Other		
Medical Centres and Health Consulting Rooms	1 per 10 staff	2 per centre, plus 1 for every 5 th consulting room
Educational Facilities	1 per 10 staff	1 per 10 students
Child Care Centres	1 per 10 staff	2 per centre
Community Centre/Museums	1 per 10 staff	2, plus 1 per 1500sqm GFA
Places of Public Worship	1 per 10 staff	1 per 20 seats
Libraries	1 per 10 staff	4 plus 1 per 200sqm GFA
Registered Club & Function Centres	1 per 10 staff	1 per 140sqm GFA
Recreational Facilities		
Major Facilities	1 per 1500 spectator places	1 per 250 spectator places
Swimming Pools	1 per 10 staff	1 per 15sqm of pool
Other Indoor Facilities	1 per 10 staff	2 plus 1 per 100sqm GFA

*The storage of bicycles for a unit in a residential flat building or multi-dwelling housing may be combined with a unit's allocated basement storage area. The bicycle parking space may also be combined with a storage room within the dwelling. The area for bicycle parking must be larger than a Class 1 locker. If the storage room is in a basement it must satisfy control 3 above.

Bike Paths and Facilities

The Liverpool Bike Plan provides for new on-road and off-road bicycle routes to be provided across Liverpool. In an effort to avoid instances of providing 'tack-on' widenings or reconstruction of new footpaths, new developments must consider any proposed routes in the Bike Plan.

1. Any development which would otherwise be required to rehabilitate, or provide a new footpath, shall provide a shared-path (or other facility as specified) if it forms part of a route in the bike plan.
2. In addition to control 1 above, any developments involving more than 10 dwellings may be required to join any shared paths (or other facilities) required as part of the development with that of other nearby facilities if the paths would not meet.
3. Shared paths shall be at-least 2.5m wide, and designed in accordance with any applicable Council paving policy, the Cycling Aspects of Austroads Guidelines and NSW Bicycle Guidelines (RTA).
4. In an effort to reduce streetscape clutter, regulatory shared-path signage should not be installed until a reasonable portion of the route has been constructed (e.g. a length of approximately 50m or more, such as an uninterrupted length between two streets).

Car Parking in Liverpool City Centre

Car parking shall be provided in Liverpool City Centre in accordance with the following:

Residential Development

- 1 space per two studio apartments
- 1 space per one bedroom or two bedroom apartments
- 1.5 spaces per three or more bedroom units
- 1 space per 10 units or part thereof, for visitors
- 1 space per 40 units for service vehicle (including removalist vans (and car washing bays, up to a maximum of 4 spaces per building).

All other development

- 1 space per 100sqm of floor area
- Sufficient service and delivery vehicle parking adequate to provide for the needs of the development.

Motorcycle parking for all development

- Provision is to be made for motorcycle parking at the rate of 1 motorcycle space per 20 car spaces

Minimum Car parking requirements for people with disabilities

- Provide 2% of the total demand generated by a development, for parking spaces accessible, designed and appropriately signposted for use by persons with disabilities.

Bicycle parking for all development

- 1 bicycle space per 200sqm of leasable floor area. 15% of this requirement is to be accessible to visitors.

Off-Street - Car Parking Provision other than Liverpool City Centre

Off street car parking provision and service and loading provision shall be provided in accordance with Table 13.

Table 13 Car Parking, Servicing and Loading Provision

Land Use	Minimum Number of Car Parking Spaces	Service and Loading
Boarding houses	1 space per, 2 bedrooms or 1 space per 3 beds, whichever is the greater	Servicing facilities for 1 small rigid vehicle
Bulky Goods Premises (in the B5 zone)	Developments of LFA < 600sqm: 1 space per 30sqm LFA, Developments of LFA 600 to 3,000sqm: 1 space per 90sqm LFA, Developments of LFA > 3,000sqm: 1 space per 150sqm LFA	Developments of LFA < 600sqm require occasional access for an articulated vehicle and service facilities for a heavy rigid vehicle Developments of LFA > 3,000sqm require service facilities for an occasional articulated vehicle
Caravan Parks and Camping Areas	1 space per unit/site plus 1 space per employee	Waste collection vehicle service access Loading space for a coach
Child care centres		
Residential & industrial zones	1 space per staff member and 1 space per 10 children (Stack parking of employees cars, maximum 2 deep, will be considered if there is good design for flow-through of short term car parking) Pick up and set down of children must address their safety	Service facilities for a van
Business zones	1 space per 35sqm of LFA	Service facilities for a van
Drive-in food Outlets For type definitions refer to Appendix 1 in Part 1	Type 1 - 1 space per 8sqm of LFA Type 2 - 1 space per 8sqm of LFA plus 1 space per 5 seats Type 3 - 1 space per 6 seats plus queuing area for 10 cars	Waste collection vehicle service access Service facilities for a heavy rigid vehicle
Drive-in Liquor Stores	Parking while browsing is provided for without interfering with through traffic Internal roadway: Two parallel lanes, minimum 3m wide, with queuing min. length 30m. Entry & exit driveways min 4m wide & minimum 1m apart	Waste collection vehicle service access Heavy rigid vehicle service facilities
Dwelling houses	2 spaces	
Educational establishments		
Rural, Residential & Industrial zones	1 space per 1 staff member, plus 1 space per 30 students Car parking is to be convenient to the distribution of destinations on campus A traffic and car parking report will be required, as these uses are land intensive, including student car traffic generation	Loading facilities for a coach

Land Use	Minimum Number of Car Parking Spaces	Service and Loading
Business zones	1 space per 35sqm of LFA A traffic and car parking report will be required, as these uses are land intensive, including student car traffic generation	
Entertainment facility	1 space per 10sqm LFA of audience area or per 6 seats whichever is the greater OR subject to traffic report (at the applicant's expense) if required by Council, due to the scope of a particular development	Service access for a small rigid vehicle
Exhibition home Exhibition villages	5 spaces per dwelling used for exhibition purposes Temporary car parking can use the front setback area	
Group homes - (transitional & permanent)	1 Space per employee, plus 1 space per 4 bedrooms	
Health consulting rooms & veterinary hospitals	3 spaces per consulting room or health care professional, whichever is greater, plus 1 space per person employed on the premises, plus any residential requirement	Service access for an occasional small rigid vehicle
Home business Home occupation Home industry	1 space per employee not resident on the site plus the residential requirements	Service access for an occasional small rigid vehicle
Hospitals	A traffic and car parking report will be required to define the need and demonstrate its fulfilment Car parking is to be convenient to the distribution of destinations on site	Service facilities for a heavy rigid vehicle Facilities are designed for waste collection
Hotel accommodation (Reductions available if peaks of facilities do not coincide)	1 space per room/unit plus 1 space per 2 employees engaged in accommodation For developments exceeding 200 bedrooms, provision must be made for short-term lay by for a tourist coach, couriers and taxis	Waste collection vehicle service access Loading facilities detailed in Sub Section 4
Industry	1 space per 35sqm of office LFA 1 space per 75sqm factory/warehouse LFA or 1 space per 2 employees, whichever is the greater Warehouse developments of GFA >1000sqm: 1 space per 250sqm in GFA	Developments of LFA > 1,000sqm require occasional access for an articulated vehicle Service Facilities detailed in Section 4
Landscape and garden supplies	Minimum 15 spaces plus 1 space per 200sqm of nursery site area	Service access for a heavy rigid vehicle

Land Use	Minimum Number of Car Parking Spaces	Service and Loading
Markets	2.5 spaces per stall	Occasional access for an articulated vehicle (to transport temporary structures) Loading facilities to be convenient to stalls
Materials recycling or recovery centre	Traffic Report Required	
Medical centres	1 space per 25sqm of LFA for typical situation Traffic report required where specialised services are provided	Developments > 2,000sqm LFA require waste collection vehicle service access
Multi dwelling housing and residential flat buildings		
Residential & Business zones	1 space per small dwelling (< 65sqm) or 1 bedroom 1.5 spaces per medium dwelling (65 - 110sqm) or 2 bedrooms 2 spaces per large dwelling (> 110sqm) or 3 or more bedrooms 1 visitor car space for every 4 dwellings or part thereof	Service access for removalists and garbage servicing
Office premises		
Business zones	1 space per 35sqm of LFA	Developments of LFA > 2,000sqm require waste collection vehicle service facilities
Place of Public Worship		
Rural, Residential & Recreation zones	1 space per 5sqm LFA or 1 space per 6 seats, whichever is the greater OR subject to traffic report (at the applicant's expense) if required by Council, due to the scope of a particular development	Service access for a small rigid vehicle
Business zones	1 space per 35sqm of LFA	Service access for a small rigid vehicle
Industrial zones	1 space per 70sqm of LFA	Service access for a small rigid vehicle
Recreation facilities		
Industrial & Recreation zones	Gymnasia, Fitness Centres and Indoor Cricket 1 space per 22sqm of LFA Tennis or Squash Court & Bowling Alleys - 3 spaces per court/alley Bowling Green 30 spaces for first green and 15 spaces for each additional green Other sports subject to traffic report	Service access for a small rigid vehicle

Land Use	Minimum Number of Car Parking Spaces	Service and Loading
Business zones	1 space per 20sqm of LFA For major or large recreation facilities a traffic report may be required.	Service access for a small rigid vehicle
Registered club		
All areas	1 space per 5sqm of LFA of uses under license OR a traffic report	Service access for a small rigid vehicle Waste collection vehicle service access
Restaurant		
Residential zones (where permitted)	1 space per 7sqm of LFA of uses under license OR 1 space per 3 seats, whichever is the greater	Waste collection vehicle service access
Business zones	1 space per 20sqm of LFA	Waste collection vehicle service access
Industrial zones	1 space per 7sqm of LFA of uses under license OR 1 space per 3 seats, whichever is the greater	Waste collection vehicle service access
Retail premises		
Business zones	Developments of LFA < 12,000sqm: 1 space per 20sqm LFA, Developments of LFA 12,000 to 30,000sqm: 1 space per 25sqm of LFA, Developments of LFA > 30,000sqm: 1 space per 30sqm LFA	Developments of LFA < 4,400sqm require service access for an articulated vehicle Service Facilities as per Section 4
Transport depot	Traffic Report Required	
Roadside stalls	4 spaces per stall	Occasional access for an articulated vehicle (to transport temporary structures) Loading facilities to be convenient to stalls
Service station	2 spaces per fuel outlet plus 3 spaces per service bay plus 1 spaces per employee 1 space per 20sqm of LFA of any convenience store	Service access for an articulated vehicle Service facilities for a heavy rigid vehicle
Serviced apartments	1 space per bedroom/suite plus 1 space per 2 employees	Service access and facilities for an occasional heavy rigid vehicle (e.g. Furniture van)
Sex service premises (in Industrial Areas)	1 space per 70sqm of LFA or 1.5 car spaces per employee, whichever is the greater	

Land Use	Minimum Number of Car Parking Spaces	Service and Loading
Vehicle Repair Station		
Business zones	1 space per 70sqm of LFA	Service access for a small rigid vehicle
Industrial zones	1 space per 70sqm of LFA	Service access for a small rigid vehicle
Vehicle showroom	1 space per 130sqm	
Veterinary hospital	1 space per 35sqm of LFA	
Business zones	1 space per 20sqm LFA	Service access for a small rigid vehicle
Warehouses	<p>1 space per 35sqm of office LFA</p> <p>1 space per 75sqm factory/warehouse LFA or 1 space per 2 employees, whichever is the greater</p> <p>Where it can be shown that employee numbers will be significantly less than the required car parking provision, some of the car spaces may be set aside as unformed car parking</p> <p>Warehouse developments of GFA >1000sqm: 1 space per 250sqm in GFA</p>	<p>Developments of LFA > 1,000sqm require occasional access for an articulated vehicle</p> <p>Service Facilities detailed in Section 4</p>

20.3 Car Parking Design

Car Space Dimensions

Table 14 Dimensions of Off-Street Car parking for bays at 90°

Land use types	Width	Length 1	Length 2	Aisle Width
Tenant, employee and commuter car parking, universities (generally all day car parking)	2.4m	5.4m	4.8m	6.2m
Long-term city and town centre car parking, sport facilities, entertainment centres, hotels, motels, airport visitors (generally medium term car parking)	2.5m	5.4m	4.8m	5.8m
Short-term city and town centre car parking, shopping centres, department stores, supermarkets, hospitals and medical centres (generally short term car parking and where children and goods can be expected to be loaded into vehicles)	2.6m	5.4m	4.8m	5.8m
Car parking for people with disabilities (see next section)	3.2m	5.4m	4.8m	5.8m

1. Length 1 - Where car parking is to a wall to high kerb not allowing any overhang.
2. Length 2 - Where car parking is controlled by wheel-stops or a kerb no higher than 100mm, which allows 600mm overhang.
3. Refer to AS 2890.1: 2004 for more details.
4. *Adjacent Obstruction* - If the side boundary of a space is a wall or fence, or if there are obstructions such as columns placed so as to restrict door opening, 300mm shall be added to width required for the space.
5. *Blind Aisles* - The end spaces shall be made 1m wider than the remaining spaces. In car parks open to the public, the maximum length of a blind aisle shall be equal to the

width of six, 90-degree spaces unless provision is made for cars to turn around at the end and drive out forwards.

Landscaping within car parking areas

An outdoor car park with 20 or more car parking spaces must include at least 1 tree per 10 car parking spaces to the following specifications:

1. A tree must be a single trunk species to allow a minimum visibility clearance of 1.5m measured above natural ground level; and
2. A tree must be planted in an island bed that is a minimum 2m in width and 4m in length.

Layout for car parking spaces

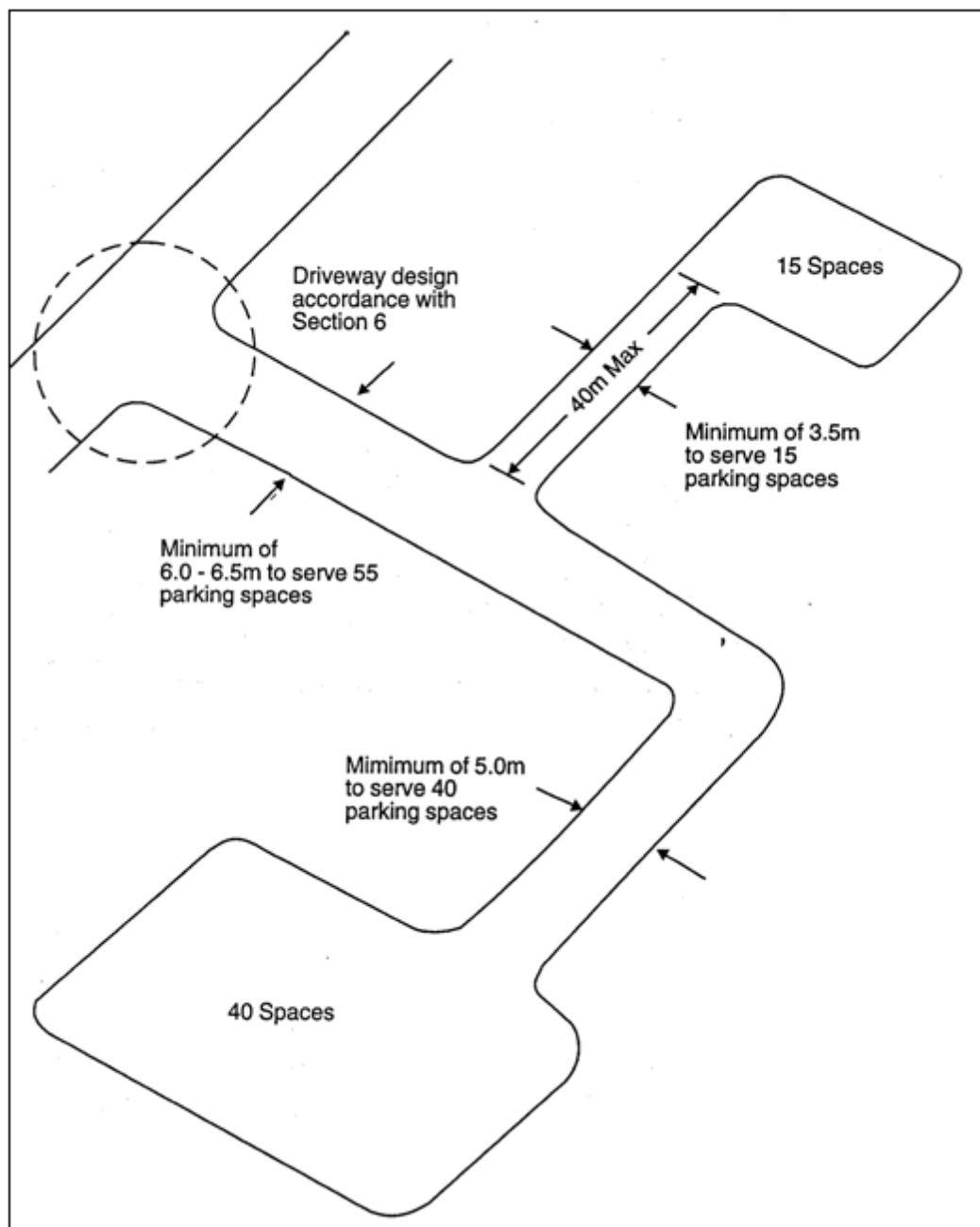


Figure 13 Car parking layout

20.4 Internal Driveways

Gradient

1. Driveways are to be in accordance with the relevant Australian Standard. The maximum change in gradient is to be as shown in the "Maximum Gradients of Internal Driveway" diagram (See Figure 3).
2. Measured parallel to the angle of car parking 1 in 20 (5%); and
3. Measured at 90° to the angle of car parking – 1 in 16 (6.25%).

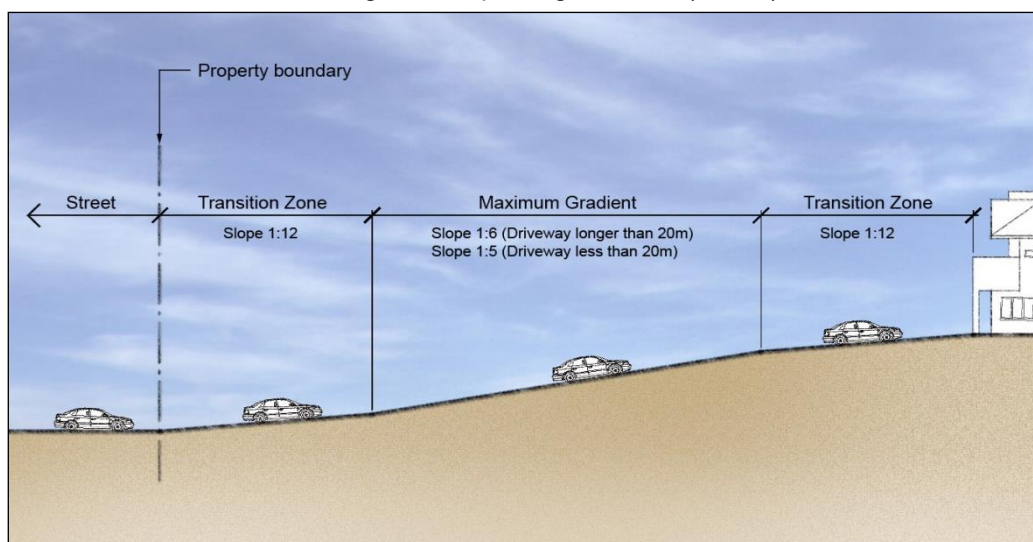


Figure 14 Driveway gradients

Widths

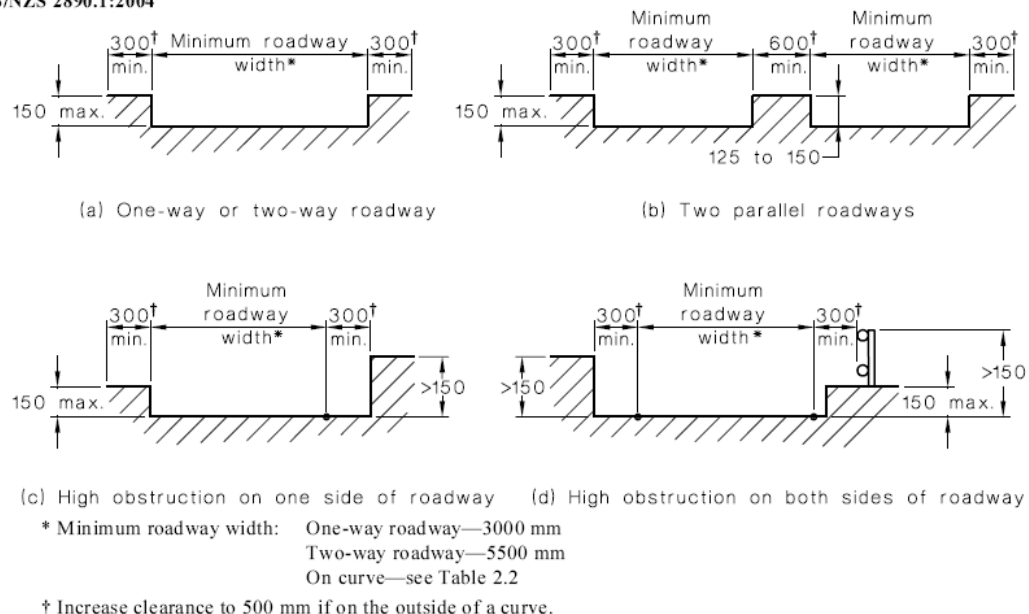
1. For internal driveways between the access driveway and the car parking area the minimum carriageway width depends on the number of car parking spaces and service bays served.
2. Consideration should be given to increase these widths where high levels of heavy vehicles usage are anticipated.
3. By definition circulation driveways should not have car parking on them.
4. The minimum internal driveway widths are to be provided in accordance with Table 4.

Table 15 Internal driveway widths

Number of Car Parking Spaces / Service Bays			
	1 - 15 spaces and length not exceeding 40m	15 - 40 spaces	Over 40 spaces
Width	3.5m	5m	6 - 6.5m

The following illustrates this table.

AS/NZS 2890.1:2004



DIMENSIONS IN MILLIMETRES

MINIMUM ROADWAY WIDTHS ON CURVED ROADWAYS AND RAMPS

Turn radius R_o (Note 1)	Single lane		metres
	Public facilities	Domestic property	Two-way, no separator All cases (Note 3)
7.6 to 11.9	3.9	3.6	—
12.0 to 19.9	3.4	3.1	6.7 (Note 4)
20.0 to 50.0	3.2	3.0	6.3
>50.0	3.0	3.0	5.5

Figure 15 Internal driveway widths

Design

1. Locate and design car-parking areas so they can be observed by adjoining uses.
2. Minimise the number of pedestrian and vehicular entry and exit points, and ensure they are in close proximity to each other and to nearby active uses.
3. Staff car parking areas should be separated and secured.
4. Provide surveillance measures such as security cameras or devices and security guards where possible.
5. Underground car parking areas should provide security grilles in the roofs or upper walls to allow some street surveillance.
6. Lighting must comply with relevant Australian Standards, with brighter lighting located at entrances and pedestrian path or accessways. Lighting should be placed to sufficiently illuminate car parking bays as well as the driveways. Light fittings should be vandal resistant and easily maintained to ensure continued compliance with the Australian Standard.
7. Clear directional signs must be provided to stairs, lifts, and exits to shops or businesses, as well as signs to advise users of security measures in place.
8. Pedestrian pathways should be integrated into the design and allow for maximum safety, especially for people with a disability and people using prams. Pathways should be clearly marked and well lit.
9. Internal driveway should be designed for a low speed environment.

Loading Facilities

1. Adequate facilities for servicing developments shall be provided on-site to ensure loading/unloading activities do not occur on street and compromise the safety, amenity and capacity of the public road system.
2. Provision for loading facilities shall be provided for development in accordance with AS 2890.2 – 2002.
3. Service facilities shall be conveniently located close to service entrances (or other building entrances) to discourage loading/unloading in other than the designated areas.
4. Areas where heavy vehicles are manoeuvring shall be separated from areas of car parking or pedestrian movement with safety being the over-riding consideration.

20.5 Driveway Crossings

Location of Driveway Crossings

1. Driveway Crossings shall be located a minimum distance from the following items:
 - 0.5m from all drainage structures on the kerb and gutter;
 - 1.0m from side property boundaries;
 - 6m from a kerb tangent point of a street corner.
2. Driveway Crossings should avoid the need to remove existing street trees and any replacement tree (species determined by Council) is to be at the development's cost.
3. Driveway Crossings should avoid changes to existing public utility infrastructure including drainage and any relocation of such shall be the development's expense.
4. Where a development site has frontage to a Classified Road, the Driveway Crossings should be located on an alternative street.
5. Where a Driveway Crossing is proposed directly from a Classified Road, a deceleration lane may be required.
6. Locate the entrance at the first Driveway Crossing from the adjacent kerbside lane.
7. Avoid a driveway layout, which may result in on-street queuing.
8. All vehicles must enter and leave the property in a forward direction (except in the case of dwelling houses and Attached dwellings and Semi detached dwellings).
9. Locate each Driveway Crossing so that it is clear of all obstructions, e.g. poles, trees, which may prevent drivers from having a timely view of pedestrians.

Design of Driveway Crossings

1. Design each Driveway Crossing so that it is relatively level within 6m of the site boundary or any pedestrian way, the recommended maximum gradient is 5%.
2. Signpost each Driveway Crossing with appropriate entry, exit and keep left signs.
3. Decorative Driveway Crossings over the footpath area will only be permitted if it is compatible with the amenity of the locality.
4. In business zones any Driveway Crossing shall be compatible with the existing and future paving pattern.

Second Driveways (for Residential Dwellings)

1. A second Driveway Crossing for dwelling houses, attached dwellings and semi-detached dwellings are to be consistent with the relevant Australian Standards and all other provisions in the DCP, specifically:
 - Minimum distances from public domain infrastructure, including drainage structures, street signage, bus stops, kiosks, lighting, power poles and the like;
 - Minimum distances from property boundaries and kerb tangent points;
 - Minimum and maximum driveway widths;
 - Cut and fill of the land (including any associated retaining wall);
 - Minimum landscaping requirements for the site, as indicated in the relevant DCP provision; and
 - Removal of existing vegetation, including street trees.
2. Second driveways will only be considered in instances where:
 - The lot width, measured at the lot boundary which faces the road, is greater than 15 metres;

- The combined driveway width between the lot boundary and the face of the dwelling is not more than 50% of the total lot frontage, or 12m, whichever is the lesser;
 - There is at least a 6m space between driveway crossings, to allow for an on-street parking space;
 - The existing driveway cannot be augmented;
 - The second driveway will not involve the net loss of any street tree;
 - The second driveway will not reasonably invoke obstruction of a footpath (or area outside the property boundary) due to vehicle overhang;
 - The second driveway will not decrease pedestrian and other road user safety due to poor visibility to/from the driveway;
 - There is a demonstrated lack of available on-street parking for registered vehicles; and
 - The existing driveway, and any garages or carports, approved by Council, have not been converted for other uses which reduces the availability of on-site parking
3. An application for an additional driveway must include a dimensioned plan of the site, which shows:
- Location of dwelling;
 - Location of the existing and proposed driveway, including any garage, or carport;
 - Width of the property frontage;
 - Distance between existing and proposed layback;
 - Dimensions of the proposed and existing driveways;
 - The area of impervious surfaces and pervious surfaces within the front setback;
 - The area of landscaped area on the site as a whole; and
 - Indication of any vegetation to be removed

The following illustrates the requirements for the location of Driveway Crossings.

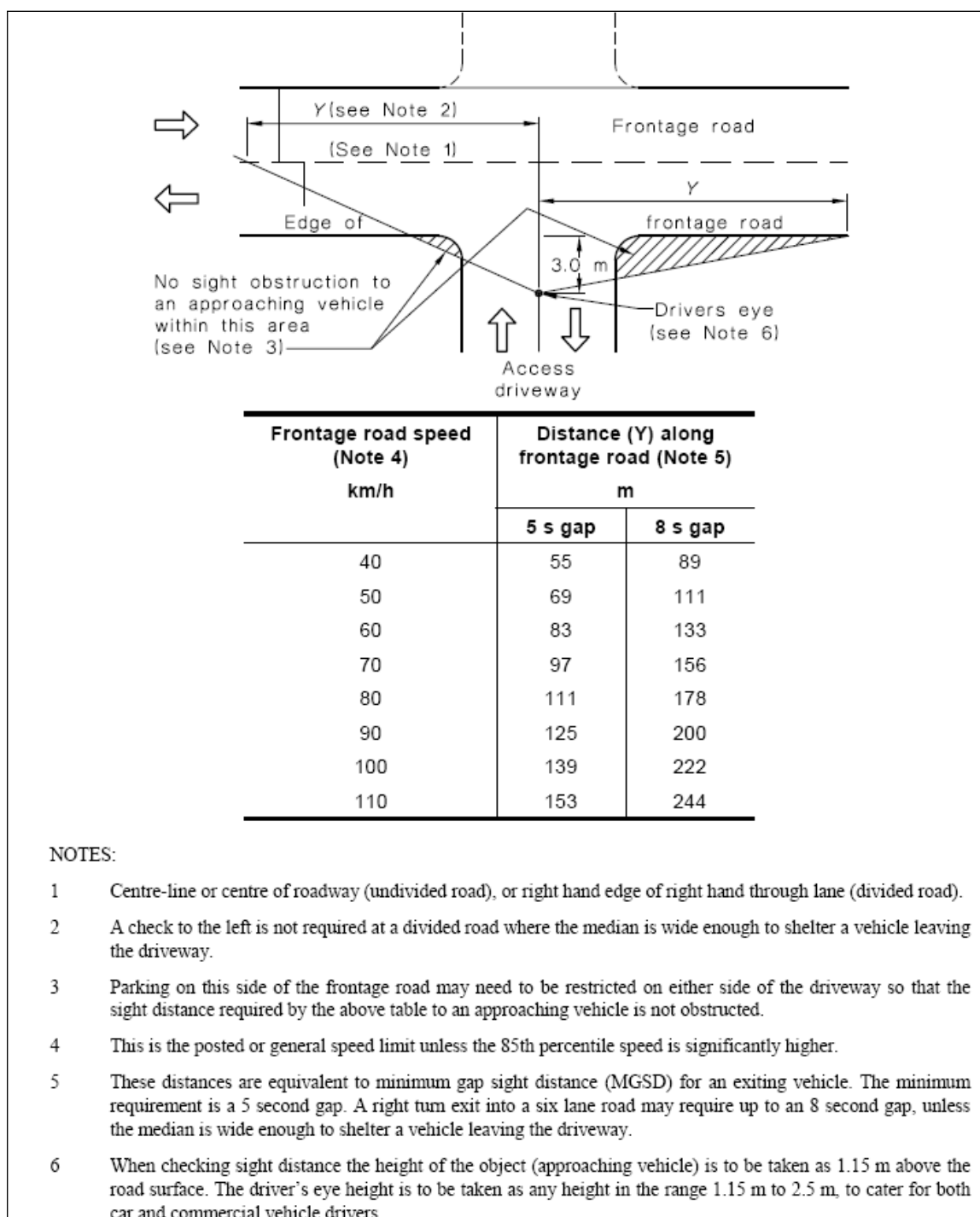


Figure 16 Locations of Driveway Crossings

Width of Driveway Crossings

1. Driveway crossing widths shall be in accordance with tables 5 and 6.

Table 16 Car Parking Spaces served by the Driveway Type

Street Frontage	Number of Car Parking Spaces served by the Driveway Type					
	Less than 25	25-100	101-300	301-600	More than 600	Heavy Vehicles
Major	1-2	2-3	3-4	4	5	7
Minor	1	1-2	2-3	3-4	4	6

2. Major Street Frontage includes Classified Roads and Sub Arterial Roads under Council's Road Hierarchy.
- Maximum for residential: 6m.

Table 17 Driveway crossing widths

Type	Entry Width	Exit Width	Minimum separation of driveways	Splay at kerb line	Kerb return turnout radius
	W	W		S	R
1	3 – m	Combined	NA	0.5m	-
2	6 – 9m	Combined	NA	1m	-
3	6m	4 – 6 m	1 - 3m	1m	2 – 9m
4	6 – 8m	6 – 8 m	1 - 3m	1m	2 – 9m
5	Direct feed from a controlled intersection via a public street				
6	8 – 10m	8 – 10m	3m	1m	2 – 9m
7	10 – 12m	10 – 12m	3m	1m	2 – 9m

Cost of Driveway Crossing Works

The cost of any adjustment to a public road, including kerb and gutter, road shoulder and deceleration lane shall be borne by the development.

20.6 Pavement requirements

Access driveways, internal driveways and car parking spaces are to be paved to a standard to carry the anticipated loadings, unless otherwise specified elsewhere in the DCP. Porous paving materials will be considered, provided that sufficient detail is provided to show that such paving is sustainable. Driveway material must not be allowed to spill or be carried onto road pavement.

20.7 Transport Impact

Transport Management Plan

For major developments a Transport Management Plan shall be submitted with the development application. The Transport Management Plan shall address the following:

1. The existing traffic environment.
2. Traffic generation anticipated from the proposed development.
3. The cumulative impact of traffic in the locality.
4. The need for traffic improvements in the locality.
5. The need for public transport works on site and in the locality.
6. Proposed traffic egress/ingress to Classified/Sub Arterial Roads.
7. Sight distance and other safety issues.

Construction Transport Plan

A Construction Transport Plan may also be required where it is likely that the construction phase of a development will have a significant impact on traffic movement in the locality. A Construction Transport Plan shall address the following:

1. The existing traffic environment.
2. Traffic generation anticipated from the construction of the proposed development.
3. The impact on traffic in the locality.
4. Proposed heavy vehicle routes.
5. The need for transport management and hours of operation and access in the locality.
6. Sight distance and other safety issues.

Cost of Transport Impact Works

The cost of any works directly attributable to the development, including dedication and or construction of road works, traffic management facilities or any public transport facilities either on site or off site shall be borne by the development.

21. Subdivision of Land and Buildings

Applies to

This section applies to development, which involves subdivision of land or buildings.

Background

The subdivision of land has a major impact on the use of land in terms of density and type of development, impacts on adjoining development, impact on the natural environment, demands on public infrastructure, usability of land, access to roads and future development potential. The subdivision of buildings also has impacts on the future management of buildings and on the adjoining areas.

Objectives

- a) To provide a functional, attractive and safe environment for residents that are consistent with community standards and needs.
- b) To minimise adverse effects on the natural environment.
- c) To provide for the needs of future users of the land in respect to building requirements vehicular and pedestrian access, provision of services and an amenity appropriate to the zoning of the land.
- d) Provide for the economic utilisation of the land resource of the area.
- e) To achieve a balance between the development / subdivision of residential, commercial and industrial land and the amenity of existing occupants.
- f) To provide for an equitable and efficient distribution of public amenities and services.
- g) To minimise Council's future maintenance costs for roads, services and open spaces.

Controls

21.1 Specifications

Subdivision works shall be carried out in accordance the Council Subdivision Specification.

Splay corners

Minimum 6 x 6m splays for all subdivisions involving creation of a road junction.

21.2 Rural Zones – RU1 and RU4

Minimum lot sizes

Refer to *Liverpool LEP 2008* written statement and the maps for the minimum allotment sizes in the RU1 and RU4 zones. Note that this varies depending on the location.

Minimum Lot Width

The minimum lot width in the RU1 and RU4 zone is 24m.

Street widths

All new streets shall be a minimum 20m wide, unless specified elsewhere in a Locality Part of the DCP.

All Weather Roads

Development involving the creation of new streets in RU1 and RU4 zones will be required to provide an all-weather road system to provide a functional and safe vehicular access to each allotment or development.

Sealing of Roads

1. Bitumen sealing of the road system will be required on all new roads and existing roads, which will be an extension of existing sealed roads unless specified otherwise by Council.
2. Council will not approve the development/subdivision of lands proposing non- dedicated road access (e.g. private road systems). However consideration will be given to the creation of a right-of-way to serve allotments having the minimum dedicated road frontage but not having road access.
3. Such right-of-way is to link directly to an existing or proposed dedicated road and constructed in accordance with Councils standards.
4. Minor subdivisions in isolated rural areas require a reasonable standard of all-weather access road suitable for all year round access for essential services, i.e. school bus, ambulance etc.
5. Each proposal will be considered on its merits in accordance with the following guidelines:
 - The status of the road.
 - Existing road surface condition.
 - Cost of upgrading.
 - Flooding frequency and hazards of creek or river crossings.
 - Potential population catchment.
 - Bush Fire Hazard.

Electricity

1. The extension of electricity mains to each allotment within the subdivision is required.
2. Subdivisions in areas remote from electricity mains may be relieved of this requirement, if special circumstances prevail and details of such circumstances are submitted to Council, together with the written agreement from *Integral Energy*.

Sewerage

1. Effluent disposal will normally be by way of appropriate on-site disposal.
2. Where the development is in near proximity to an existing sewered area or where, in the opinion of the *NSW Department of Health* or Council, the land is unsuitable for site disposal of effluent, connection to sewerage will be required.
3. A geotechnical report to support sewerage treatment proposals is to accompany an application for onsite sewage management this type of the development.

Street signage

1. Street name and information signs shall be provided to facilitate accessibility and mobility.
2. Approval for the naming of all new streets shall be obtained from Council prior to the erection of any new street signage.

21.3 Rural Zone – RU2 and Residential Zone – R5

Minimum lot sizes

Refer to *Liverpool LEP 2008* written statement and the maps for the minimum allotment sizes in the RU2 and R5 zones. Note that this varies depending on the location.

Minimum Lot Width

The minimum lot width in the RU2 and R5 zone is 24m.

Street widths

All new streets shall be a minimum 20m wide, unless specified elsewhere in a Locality Part of the DCP.

Kerb & Gutter

1. Development involving the creation of new streets in RU2 and R5 zones shall require kerb and guttering and underground stormwater drainage where specified in Council's standards.
2. Concrete lined table drains shall be required where scour velocities are exceeded and/or the soils are susceptible to erosion from stormwater.

Sewerage

1. Effluent disposal will normally be by way of appropriate on-site disposal.
2. Where the development is in near proximity to an existing sewered area or where, in the opinion of the *NSW Department of Health* or Council, the land is unsuitable for site disposal of effluent, connection to sewerage will be required.
3. A geotechnical report to support sewerage treatment proposals is to accompany an application for onsite sewage management this type of the development.

Natural Features

1. The configuration of the subdivision is to have consideration for natural features such as rivers, creeks, topography of the land, tree groupings and prominent natural features.
2. The design should also consider buffers for conflicting land uses, watercourses, etc.

Street signage

1. Street name and information signs shall be provided to facilitate accessibility and mobility.
2. Approval for the naming of all new streets shall be obtained from Council prior to the erection of any new street signage.

Street lights

Street lighting is to be provided in accordance with AS1158.

21.4 Residential Zones (Except R5)

Minimum lot sizes

Refer to *Liverpool LEP 2008* written statement and the maps for the minimum allotment sizes in the Residential Zones. Note that this varies depending on the location.

Minimum Lot Width

1. Subdivision of land shall meet the minimum lot width requirements as set out in Table 18.
2. Subdivision of land involving the creation of lots less than 300sqm or less than 10m lot width shall include the dwelling house as part of the development application.
3. The subdivision plan will not be released until the dwelling which was approved in conjunction with the subdivision is completed to above ground floor level.

Table 18 Minimum Lot Widths

Zones	Minimum Lot Size	Minimum lot Width
	(as per LLEP 2008 minimum lot size map)	
R4	Any lot size shown on the Lot Size Map greater than 300sqm	24m
R1, R2	600-1000sqm	20m
R2	450sqm	15m
R1, R3	450sqm	12m
R1, R2	400sqm	11m
R1, R2	300sqm	9m
R1, R2	300sqm (Area 3)	9m
R1, R2, R3	300sqm (Area 2)	8m
R1, R4	300sqm (Area 1)	7m

Note: Minor variations may be considered if the average width of the lot is greater than the Minimum Lot Width as stated in Table 18.

Road widths

All new streets shall be a minimum 18m wide, unless specified elsewhere in Part 2 of this DCP.

Road works

1. Development involving the creation of new streets in Residential Zones will be required to provide fully serviced subdivisions including the provision of a sealed road system with drainage, and kerb and gutter, to adequately and safely provide both vehicular and pedestrian access to each allotment.
2. Development in established residential areas shall meet the full cost of kerb and guttering across all existing street frontages of any development/subdivision except where direct vehicular access is restricted.

3. Streets adjoining a public reserve shall provide kerb and gutter to adequately and safely provide both vehicular and pedestrian access. Footpaths may also be required.

Stormwater

Legal easements of width as determined by the Council Codes and Specifications are to be provided over stormwater drains and watercourses.

Water and Sewerage

New development will be required to extend augment and meet the full cost of water and sewerage reticulations, as arranged with *Sydney Water* within developments / subdivisions plus the cost of connecting to existing services.

Electricity

1. Electricity services are to be extended to the development / subdivision and in accordance with the requirements of Integral Energy and at full cost to the development.
2. Underground electricity services will be required except where it can be shown that it is not appropriate.

Street lighting

Street lighting shall be designed by the applicant to *AS1158* and the development will be required to meet the full cost of street lighting installation.

Telephone

The development will be required to provide for telephone facilities within the design. Where underground electricity is used, underground telephone facilities are also to be provided by the development.

Stormwater Runoff

Urban stormwater runoff will need to be assessed in terms of satisfactory performance both within the development and external to the development to a legal point of discharge.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted for each allotment created.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 17 for details.

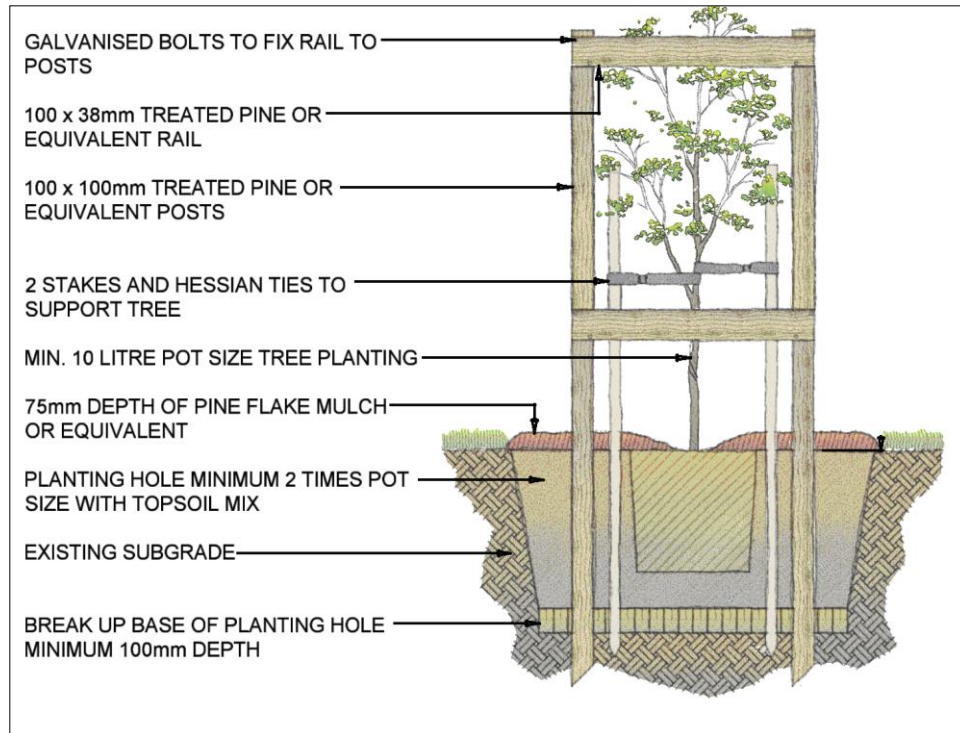


Figure 17 Tree Guard and Planting Details

Street signage

1. Street name and information signs shall be provided to facilitate accessibility and mobility.
2. Approval for the naming of all new streets shall be obtained from Council prior to the erection of any new street signage.

21.5 Industrial and Business Zones

Road widths

All new streets shall be a minimum 20m wide, unless specified elsewhere in Part 2.

Minimum Lot Width

B1 and B2 zones

The minimum lot width in the B1 and B2 zones is 20m.

B6 Zone (Enterprise Corridor)

1. Development shall not be permitted for a new building (other than a maximum 10% addition to an existing structure) in the B6 zone unless the site has a frontage width to the Classified road of at least:
 - 30 m, where the site also has frontage to a local street that intersects with and would permit access to and from the classified road; or
 - 90m otherwise.
2. Development for a new building (other than a maximum 10% addition to an existing structure) in the B6 zone must not leave adjacent land such that it cannot achieve either:
 - A site frontage with of at least 30m (where the site also has frontage to a local street that intersects with and would permit access to and from the Classified Road); or
 - 90m otherwise.

IN 1, IN 2 and IN 3 Zones (Industrial)

The minimum frontage for new lots shall be in accordance with Table 19.

Table 19 Frontage Width

Street	Width of Frontage
Classified Roads, Bernera Road, Kurrajong Road and Moorebank Avenue	65m
Other streets	30m
Cowpasture Road (Site adjacent to future link road across Hinchinbrook Creek to former Hoxton Park Airport)	120m

Road works

1. Development involving the creation of new streets in Industrial and Business Zones will be required to provide fully serviced subdivisions including the provision of a sealed road system with drainage, and kerb and gutter, to adequately and safely provide both vehicular and pedestrian access to each allotment.
2. Development in established areas shall meet the full cost of kerb and guttering across all existing street frontages of any development/subdivision except where direct vehicular access is restricted.
3. Streets adjoining a public reserve shall provide kerb and gutter to adequately and safely provide both vehicular and pedestrian access. Footpaths may also be required.

Street Lighting

Provide Street lighting to AS1158.

Pavement for Heavy Traffic

Engineering Road Design and Pavement Design will need to provide for heavy traffic conditions as specified by Council.

Water and Sewerage

New development will be required to extend augment and meet the full cost of water and sewerage reticulations, as arranged with *Sydney Water* within developments / subdivisions plus the cost of connecting to existing services.

Electricity

Electricity services are to be extended to the developments/subdivision and in accordance with the requirements of Integral Energy at full cost to the development. Integral Energy will make determination of the maximum loading of the electricity service, and whether the service is provided above ground or underground.

Telephone

Developments will be required to provide for telephone facilities. Where underground electricity is used, underground telephone facilities are also to be provided by the development.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted for every 20m of street frontage.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 17 for details.

Street signage

1. Street name and information signs shall be provided to facilitate accessibility and mobility.
2. Approval for the naming of all new streets shall be obtained from Council prior to the erection of any new street signage.

21.6 Hatchet shaped Allotments

1. The minimum width of the accessway to a hatchet shaped allotment shall be as shown in Table 20.

Table 20 Hatchet allotment access handle

No of Allotments	Rural and Residential zones	Industrial and Business zones
One allotment	5m	7m
Two allotments	5m	7m

2. There shall be a maximum of 2 allotments from any access way in the Residential, Business and Industrial zones.
3. Where 2 allotments are proposed to be created having an adjacent access ways to a public street, the access ways shall have reciprocal rights of way created over each of the access ways in order to minimise separate driveway access points.
4. Where traffic generation from use of a hatchet shaped allotment is likely to be significant an additional width for the access way may be required.

21.7 Strata subdivision

Applications for strata subdivision of buildings, space or land will need to ensure that the strata plan is consistent with the development consent particularly the allocation of private and common property. In particular visitor or customer car parking identified in a development consent shall remain as common property.

There must be a minimum requirement of three buildings, spaces, or land parcels for strata subdivision.

22. Water Conservation

Applies to

This section applies to all development involving the use of water.

Background

Building design can contribute to environmental sustainability by integrating measures for improved water quality and efficiency of use. Water can be conserved in a number of ways, including; reducing water demand from the mains and re-using water, which would otherwise be lost as run off or waste water.

By integrating water use efficiency, water collection and water reuse measures into building and associated infrastructure design development can contribute to environmentally sustainable outcomes.

All mains water is treated to drinking water standard. However, only about 1% of domestic water consumption is actually used for drinking.

Uses such as toilet flushing, laundry and outdoor uses do not require water to be treated to such a high standard. Such uses can be satisfactorily supplied using rainwater collected from roofs and stored in tanks. Benefits include significant water cost savings and substantial reductions in stormwater discharges.

Objectives

- a) To reduce per-capita mains consumption of potable water.
- b) To harvest rainwater and urban stormwater runoff for use.
- c) To reduce wastewater discharge.
- d) To capture, treat and reuse wastewater where appropriate.
- e) To safeguard the environment by improving the quality of water run-off.
- f) To ensure infrastructure design is complementary to current and future water use.

Controls

Residential

New dwellings, including a residential component within a mixed-use building and serviced apartments intended or capable of being strata titled, are to demonstrate compliance with *State Environmental Planning Policy – Building Sustainability Index (BASIX)*.

Non-Residential

1. Development or redevelopment under the \$1 million threshold of control 2 shall:
 - Installed water fixtures (shower heads, taps, toilets, urinals, etc.) are to be 3 stars under the WELS system or better rated.
 - Installed appliances (dishwashers, clothes washers etc.) are to be 3 stars under the WELS system or better rated with respect to water use efficiency. Demonstrate, if necessary, how these requirements will be achieved for replacement appliances, appliances not installed at construction, or bought in by occupants following construction.
2. A comprehensive Water Management Plan is to be submitted with all non-residential development to address the following criteria, for any development above \$1 million:
 - Stormwater runoff control, capture and reuse, including water quality management in accordance with Council guidelines.
 - Select water efficient plants and/or, indigenous vegetation for landscape in accordance with Council's recommendations.

- Use non-potable water for watering gardens and landscape features.
 - For development of more than \$1 million construction cost, consideration of separate pipe-work for the utilisation of recycled stormwater for non-potable purposes should be considered.
 - Operating details for swimming pools and water features including filling, draining and maintenance activities.
3. Covers are to be included in the design and operational aspects of swimming pool installations.
 4. Alternatives to the above water savings methods can be presented to Council and they will be assessed on merit.
 5. Any development that contains a rainwater tank is to satisfy the following criteria:
 - Rainwater is to be sourced only from roof structures via a tank storage system.
 - The tank capacity, or combined tank capacity, is to be at least 5,000L (10,000L preferred).
 - Tanks may be connected to toilets and garden/outdoor taps (the common tanks in residential flat buildings are to be connected to common outdoor taps only).
 - Tanks may be connected to laundry taps with suitable filters.
 - The system is to be fitted with an effective first flush device for removing roof surface contamination.
 - The system is to contain a facility for periodic de-sludging.
 - Tanks are to be connected to main water to top them up during times of low rainfall with supplemental inflow not taking places until the tank is 80% empty.

23. Energy Conservation

Applies to

This section applies to development involving the use of energy.

Background

The ability of development to optimise thermal performance, thermal comfort and day lighting will contribute to the energy efficiency of the buildings, provide increased amenity to occupants and reduce greenhouse emissions and, with them, the cost of supplying energy.

Objectives

- a) To reduce the necessity for mechanical heating and cooling.
- b) To minimise greenhouse gas emissions.
- c) To provide thermal comfort by minimising temperature variations within buildings.

Controls

Residential

Dwellings, including multi-unit development within a mixed use building and serviced apartments intended or capable of being strata titled, are to demonstrate compliance with *State Environmental Planning Policy – Building Sustainability Index (BASIX)*. A complying BASIX report is to be submitted with all development applications containing residential activities.

Non-Residential

1. All Class 5 to 9 non-residential developments are to comply with the Building Code of Australia energy efficiency provisions.
2. Improve the control of mechanical space heating and cooling by designing heating/cooling systems to target only those spaces which require heating or cooling, not the whole building.
3. Encourage passive solar designed dwellings.
4. Improve the efficiency of hot water systems by:
 - Insulating hot water systems.
 - Installing water saving devices, such as flow regulators, 3 stars rated shower heads, dual flush toilets and tap aerators.
5. Maximise natural light to reduce reliance on artificial lighting and utilise energy efficient lamps, reflectors and fittings to reduce requirements for artificial lighting.

For all commercial office development over \$5 million

1. Provide an Energy Efficiency Report from a suitably qualified consultant to accompany any development application for new commercial office development.
2. The report is to demonstrate that the building can achieve no less than 4 stars under the *National Australian Built Environment Rating System (NABERS)*.

24. Landfill

Applies to

This section applies to development, which involves cutting and or filling of land. It does not involve land cut and filling in conjunction with a development application for a building(s).

Background

The cutting and filling of land has the potential to have significant environmental and visual impacts on the environment.

Objectives

- a) To minimise any land cut and filling.
- b) To minimise any adverse impact of land cut or filling on adjoining or nearby lands.

Controls

- 1. All fill applied should be Virgin Excavated Natural Material (VENM), as defined by the *NSW Department of Environment and Climate Change*. Any fill involving material other than VENM is subject to referral to the State Government as potential Integrated Development or contaminated land assessment.
- 2. All filling in the vicinity of native vegetation must be local material (in order to minimise the spread of weeds).
- 3. Any excavation within the zone of influence of any other building will require a Dilapidation Report.
- 4. Refer to the section on Salinity if cutting greater 500mm is to be undertaken.
- 5. No retaining wall structures will be permitted within any easements such as drainage easements. Retaining walls located on the boundary of two allotments or boundary to a public street or public reserve shall be of masonry construction. Other types of retaining wall structure may be permitted if the structure is located wholly within the property.

25. Waste Disposal and Re-use Facilities

Applies to

This section applies to all applications that propose:

1. Subdivision and excavation of land.
2. Demolition of an existing building.
3. Construction of any development including alterations and additions.
4. Any development that requires a waste bay or the like.

Background

The construction and demolition of buildings and excavations generates the need for waste disposal and opportunities to minimise waste disposal and maximise recovery of resources from those activities. For new buildings, the occupation of those buildings generates an ongoing need for waste disposal and recycling. There are potential environmental and human health impacts associated with waste generation, storage and disposal. Under current waste legislation there is a need to minimise disposal of waste to landfill and recover resources to minimise depletion of natural resources.

Objectives

- e) To minimise waste produced during demolition and construction of new development and maximise resource recovery.
- f) To ensure waste management for the end use of the development is designed to provide satisfactory amenity for occupants and provide appropriately designed collection systems.
- g) To minimise ongoing waste to landfill and maximise recycling of ongoing waste.

Controls

16. A Waste Management Plan (WMP) shall be submitted with a Development Application for any relevant activities generating waste. The WMP is provided in three sections:
 - Demolition
 - Construction
 - On-going waste management.
17. The WMP shall show:
 - Estimated volumes of waste generated according to type
 - Information about reuse, recycling and disposal options for all types of waste produced on site during demolition, construction or ongoing waste generation activities.
18. The WMP must then be implemented on site throughout the development process, demolition, construction and use of the development. During demolition and construction the WMP together with proof of lawful disposal for all waste that is disposed of or otherwise recycled from the site must be retained onsite in a Waste Data File. Proof is to include a log book with associated receipt/invoices, waste classification and site validation certificate.

19. All entries in the Waste Data File must include:
 - Time and Date
 - Description and size of waste
 - Waste facility used
 - Vehicle registrations and Company name
20. The Waste Data File must be made available for inspection by any authorised Council Officer at any time during site works and at the conclusion of site works should be retained by the person responsible and made available for inspection by authorised Council Officers.

Waste Management Facilities

1. Waste management facilities shall be provided for in all new buildings (except dwelling houses, Attached dwellings, Semi-Detached Dwellings and Dual Occupancy). These shall be designed to ensure that the storage and collection of waste and recyclables is user friendly for both the occupant and the waste collection contractor.
2. Where a communal Waste Management Facility for Multi dwelling housing and Residential flat buildings is required, on site storage details are to be submitted on the plans and set out as below:
 - Location of space within the dwelling for the separation and temporary storage of waste, recyclables and compost with sufficient capacity for a minimum of one days waste or recycling
 - Location and design of the Waste Storage and Recycling Area (Bin bay) on the premises. This must be readily accessible for both residents and waste and recycling contractors.
 - Where applicable design details of any Volume Reduction Equipment. The use of volume reduction equipment (to compact waste materials) may be appropriate where space is a problem. In normal circumstances there will not be a reduction in area requirements where such equipment is proposed, to accommodate future variations to development management and waste disposal options. Volume reduction equipment should not be used on recyclables; removing contaminants from compacted recyclables is almost impossible and compacted contaminated loads will be rejected by end markets.
 - For buildings more than three (3) storeys, or where elevator access is required for dwellings on the upper levels a waste service room, or compartment must be provided on each floor of the building for the intermediate storage of garbage and/or recycling. Sufficient space must be allocated for access by residents, storage of bins, and easy manoeuvring of bins.
 - The area must be suitably located on premises in terms of accessibility for both the occupants and the waste and recycling contractor. The system for waste management must be compatible with available collection services – collection occurs at the front of the land.
 - Measures for protecting bins and any associated waste equipment from theft or damage are to be indicated within the WMP.
3. Provision of ongoing waste management facilities shall include:
 - In the case of multi dwelling housing of 8 or fewer dwellings individual 240L waste bins are to be provided and stored within the courtyard of each dwelling. If such storage is not possible an easily accessible garbage bin bay is to be provided.
 - In the case of multi dwelling housing of 9 or more dwellings and residential flat buildings one or more garbage and recycling enclosures (bin bays) are to be provided within the site.

- Bin bays are to be well ventilated and screened to a minimum height of 1.5m by a structure and landscaping. Construction materials are to be compatible with the proposed development and adjoining development.
- Bin bays or waste service rooms are to be sufficiently open and well lit to allow safe use after dark
- A hose cock for hosing the garbage bin bay and a sewerage drainage point are to be provided in or adjacent to the bin storage area. The drainage point should have a fine grade drain cover sufficient to prevent coarse pollutants from entering the sewer. If the hose cock is located inside the bin storage bay it is not to protrude into the space indicated for the placement of bins. Responsibility for cleaning of all waste storage areas should be determined when designing the system and clearly stated in the waste management plan. Frequency of cleaning to eliminate odour and pests should also be indicated on the WMP.
- Sufficient space must be allocated within the bin bays to allow for access to all required bins by residents and waste collectors, as well as manoeuvring of bins within the bay and for the removal and return of bins by the waste collector.
- The agreed numbers of bins that will require storage are given as a consent condition.
- In the case of secure developments where garbage and recycling bins are stored within the secure area, the WMP needs to indicate:
 - Arrangements for supervised access by Council Contractors to collect waste must be shown to the satisfaction of Council; or
 - Arrangements for delivery of bins to kerbside and removal when emptied to within the development must be shown.
 - Council waste and recycling contractors are not to be provided with keys, pass keys, or other mechanical or electronic means of entry to secure developments.

Access to waste and recycling storage

1. Bin bays are to be adjacent to a street frontage, or if not possible then at a designated point adjacent to the common access driveway provided sufficient level areas (<5% grade) is available for bin collection to be carried out, away from vehicle ramps and steps. The bin bay is to be located so that distance from bin bay to the nearest waste collection point accessible by the collection vehicle is no further than 15m. The bin bay shall be positioned so as to minimise noise impacts on residents from the usage of bins and waste or recycling collection.
2. The access routes should be highlighted on the plan. Access must be made available by wheelchair for occupants. Bin bays should allow for bins to be wheeled by to the street kerb over flat or ramped surfaces with a maximum grade of 7% and not over steps, gutters, or landscape edging. The need for manual handling by collection staff should be kept to a minimum.
3. Residents should not be required to carry waste or recyclables more than 30m to a waste storage area such as a bin bay, or in the case of a residential flat building greater than three storeys, a waste service room for interim storage of waste and/or recyclables. Recycling bins are not to be stored in isolation, but in close proximity to garbage bins or chutes.
4. Waste service rooms or compartments where provided, shall be enclosed and of design compatible with the proposed development. Adequate ventilation shall be provided for the room or compartment. Suitable arrangements for transfer of any interim storage to the main bin bay are to be indicated in the WMP.
5. Waste and recycling collection vehicles should be able to service the development efficiently and effectively and with no need to reverse. Current collection vehicles are

fitted with a left side lifter for handling MGBs, with a minimum height clearance of 3.6 m when lifting and 4.7m width when lifting.

6. Council and waste collection contractor vehicles will not enter private property including driveways to collect waste or recycling.

Other Waste Considerations

1. In the case of multi dwelling housing or residential flat buildings of more than 25 dwellings, a designated space reflecting the number of dwellings shall be provided for temporary storage of disposed bulky items awaiting Council clean up or contracted removal. The minimum allocated space must be 6sqm, with a minimum height of 2m. The space shall be signed as to its purpose.
2. No waste incineration devices are permitted.
3. Council will consider applications for buildings more than three (3) storeys or where elevator access is required for dwellings on the upper levels that utilise garbage chutes as a means of transferring waste from each level to a centralised garbage room, with the following criteria:
 - Garbage chute access can only be located within a waste service room or compartment.
 - Recycling chutes are not permitted. Recycling bins for interim storage are to be provided in each waste service room.
 - Garbage chutes are not to be situated adjacent to habitable rooms
 - Applications must state the material the chute is to be made from, how the chute is to be cleaned, how often the chute will be cleaned, how any blockages will be removed and any fire protection measures to be used.
 - The waste collection system that the chute feeds into must be stated (compactor, carousel, open bin) and suitable for the number of dwellings in the development.
4. Signage should be in English, and consideration given to other languages reflective of the most recent demographics of Liverpool LGA. Illustrative graphics will form a minimum 50% of the area of the signage. Council can provide appropriate bin bay usage signs if required. Signage is to be prominently posted in each bin bay, or waste service room indicating that:
 - Garbage is to be placed wholly within the garbage bins provided.
 - Only recyclable materials accepted by Council shall be placed within the recycling bins.
 - The area is to be kept tidy.
 - A telephone number for arranging the disposal of bulky items.
 - Should garbage chutes be incorporated, signage on how to use the chutes is to be located prominently next to the chute itself.

26. Outdoor Advertising and Signage

Applies to

This section applies to applications for Outdoor Advertising and Signage.

Background

The provision of signage is an integral part of any business to identify its presence to the potential customers. Depending on the size, number and location, signage may have a substantial visual impact on a locality.

Objectives

- a) To ensure that outdoor advertising signage is complementary to and compatible with both the development on which it is displayed and the character of the surrounding locality.
- b) To encourage the rationalisation of existing and proposed advertising signs so as to minimize the extent of visual clutter caused by the proliferation of signs.
- c) To provide guidelines for the display of outdoor advertising to ensure that they communicate effectively and contribute positively to the urban and rural environment.
- d) To ensure that outdoor advertisements are designed and located so that they do not adversely affect the safety of motorists and pedestrians.

Controls

26.1 Need for Consent

A combined DA/CC could be submitted to save time in processing the applications.

26.2 Outdoor Advertising without Consent

Some outdoor advertisements have a minimal effect on the appearance of the building, structure or place where they are displayed and, as such, have a low level of environmental impact. However, if a structure is used to display such advertisements, a construction certificate may be required.

Advertisements without Consent include:

All Zones

1. Advertisement other than on a heritage item or in a heritage conservation area which is not visible from outside the land on which it is displayed
2. Temporary signs other than those on awnings provided they comply with the Design Criteria in Section 8.7.
3. A public notice displayed by a public body giving information or direction about the services provided.
4. Signs behind the glass line of a shop window provided they are not flashing or moving and do not occupy more than 25% of the shop window for heritage items or 50% in all other situations.
5. Street sign.
6. Advertisements on a public seat or bus shelter.
7. Advertisements on motor vehicles used principally for the conveyance of goods or passengers.

8. Business identification sign not including a moving sign or flashing sign and other than on a heritage item or in a heritage conservation area provided they comply with Sub-section 9.7 Design Criteria.

Rural Zones

1. One pole or pylon sign of not more than 2sqm in area and not exceeding 2m in height above ground level per lot.
2. One additional sign of not exceeding 0.75sqm in area on the face of a building where the business is carried out in an architecturally compatible manner.

Residential Zones

One sign of not more than 0.75sqm in area attached to a solid masonry fence or one pole or pylon sign of not more than 0.75sqm in area and not exceeding 2m in height from ground level for each business operation or activity.

Business Zones

One under-awning sign, one fascia sign and one top hamper sign on each shop or business premises.

Industrial Zones

1. One pole or pylon sign (including directory board for multiple occupancies) not exceeding 5sqm in area and 5m in height from ground level for each development. Such a sign is to be located within an area of 5 x 3m on either side of the ingress or combined ingress/egress, subject to compliance with sight distance requirement.
2. For multiple occupancy development, one additional company identification sign, not exceeding 2 x 0.6m at the entrance to each occupied unit.
3. For single user development, one additional company identification sign is permitted at the rate of not exceeding 1sqm of advertising area per 3m of street frontage or a maximum of 50 sqm whichever is the less.

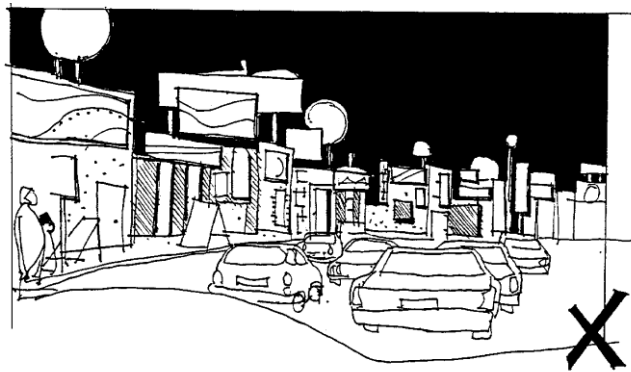
Real Estate Signs

1. Real estate signs other than flashing signs or moving signs or those on awnings provided they comply with the design criteria specified in Schedule 1 and the following:
2. In residential or rural premises:
 - Does not exceed 2.5sqm in area;
 - Has returns not exceeding 180mm.
3. In business and industrial premises does not exceed 4.5sqm in area;
4. In land development on subdivision does not exceed 6sqm for each 25 lots or part thereof.

26.3 Outdoor Advertising

1. All proposals for Outdoor advertising shall comply with the following:

- Conforms to the desired future character of the area or zone as described in the objectives for the zone.
- Complements the dominant character of an urban or rural landscape.
- Complements the character of a building, site or area, e.g. an historic building, public garden, view of urban or rural landscapes.
- Conveys the advertiser's message or image while conforming to the surrounding character.
- Rationalises or reduces the number of existing signs.
- Does not adversely affect traffic and/or pedestrian safety.
- Complements any established theme or pattern of signage.
- Refers to an approved or lawful use of the site or building.



Limiting sign numbers

1. The following design factors are relevant:

- Number of existing signs on the building (and adjacent buildings);
- Placement - visibility;
- Dimensions (including depth);
- Scale (dimensional or proportional relationship to spaces, other physical urban elements including buildings, trees, other signs or people);
- Shape;
- Materials, construction details - means of attachment;
- Colour;
- Purpose of sign (identification, directional or general advertising);
- Reflectivity;
- Means of illumination;
- Movement;
- Provision of services;
- Durability;
- Maintenance provisions.

Figure18 Signage Requirements

26.4 Signage Controls in Zones

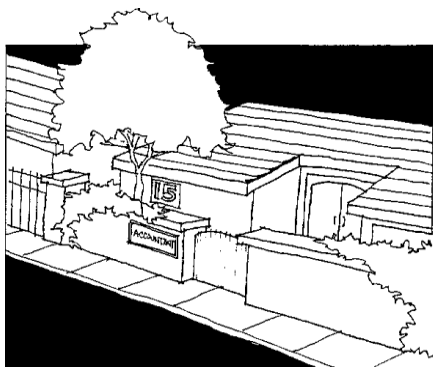
Rural Zones

Objectives

- a) To preserve the rural amenity of the locality.
- b) To minimise the visual impacts of signs in rural areas.
- c) To coordinate tourism signs.
- d) To avoid undue distraction to motorists and to maintain traffic safety on rural roads.

Controls

1. One pole or pylon sign is permissible per lot. Sign is not to exceed 2sqm in area and 2m in height above ground level.



2. One additional sign is permitted on the face of a building where the business is carried out in an architecturally compatible manner. The size of the sign is not to exceed 0.75sqm in area.

3. Illuminated signs are only permitted to operate during those times when the business is open for trading.

Figure 19 Tourist directional signs

4. Moveable signs are not permitted.
5. Signs for tourist facilities are to be considered on individual merits.
6. Signs are not permitted at locations where they are hazardous to traffic.
7. Third party advertising is not permitted.
8. Advertising structures shall comply with Sub-section 9.7 Design Criteria.

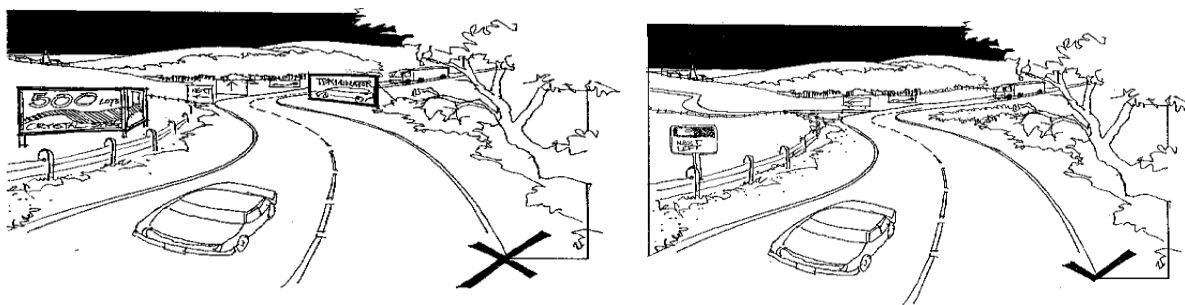


Figure 20 Proliferation of signs

Residential Zones

Objectives

- a) To preserve the residential amenity of the locality.
- b) To minimise the visual impact of signs.
- c) To permit adequate identification of permissible uses (e.g. convenience store, home occupations, home industries, professional services, place of public worship, child care centre) without interfering with the amenity of the area.

Identification sign

Controls

1. Signs are to be placed wholly within the allotment boundary.
2. Signs are not permitted on walls facing adjoining residences.
3. The number and size is restricted to 1 sign of not more than 0.75sqm per business operation or activity.
4. Signs shall not be affixed to or displayed on the fence other than solid masonry fence.
5. Maximum height of a free standing sign is 2m from ground level.
6. Illuminated signs, except for doctors or veterinarians, are not permitted.
7. Third party advertising other than on public seat and bus shelter is not permitted.
8. Advertising structures shall comply with Sub-section 8.7 Design Criteria.

Business Zones

Objectives

- a) To permit adequate identification and business advertising.
- b) To recognise that advertising signs can help to express the character of commercial and entertainment environments, creating a lively daytime and evening atmosphere.
- c) To ensure that signs are in keeping with the scale and character of the building they are on and do not detract from the architecture.
- d) To ensure that the number, size and positioning of signs do not crowd the advertiser's message and defeat the purpose of advertisement.
- e) To reduce the visual complexity of a streetscape by providing fewer, more effective signs.
- f) To ensure compatibility with the desired urban character of the adjacent land uses.
- g) To ensure that advertising signs do not adversely affect the safety of motorists and other road users.

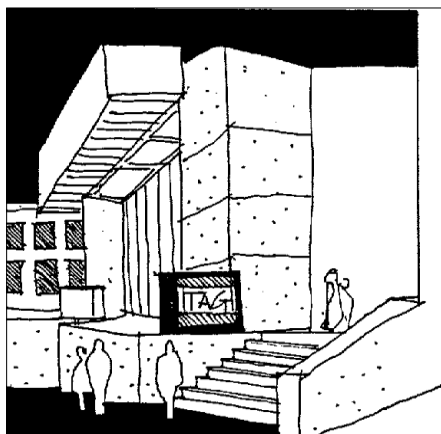


Figure 21 Signs should complement the architecture

Controls

1. One under-awning sign is permitted on each shop or commercial premises. For shop or premises with wide frontage, under-awning signs are permissible at the rate of not more than one sign per 8m of shop front.
2. Under-awning signs are to be at least 6m apart to provide adequate visibility.
3. Signs including real estate signs and temporary signs are not allowed to stand on awnings.

4. One projecting wall sign is permitted for each shop or commercial premises.
5. Total area of all signs is not to exceed 1sqm of advertising area per 1m of shop frontage. This includes signs painted on blinds or window blinds.
6. Signs in excess of a total of 50sqm in area are to be considered on its merits.



Figure 22 Corporate identity

7. Special consideration will be given to commercial uses along Classified Roads where signs are required to be bigger in order to be seen by people travelling in vehicles.
8. Applications for high wall signs are to be considered on individual merits. They are not allowed in local centres unless it can be demonstrated that it is compatible with the scale of development and amenity of the surrounding land uses.
9. Roof signs are not permitted.
10. Moving signs will be considered on individual merits having regard to the objective of creating a lively day time and evening atmosphere, the safety of motorists and pedestrians and the amenity of adjacent developments.
11. For development with wide street frontage and adequate setback, pole signs are permissible at the rate of not more than one pole sign per development. Application for additional pole signs will be considered on individual merit.
12. Advertising structures shall comply with Sub-section 8.7 Design Criteria.



Figure 23 Illuminated pole sign in neighbourhood areas



Figure 24 Protecting residential amenity

Outdoor cafes

1. Only the name and/or logo of the business and/or core product and/or service associated with the outdoor cafes may be placed on any item of furniture, as a minor element of the furniture design to the Council's satisfaction.
2. No other advertising is permitted on any outdoor furniture or elsewhere in the outdoor cafe or adjacent area, unless Council grants development consent.

Industrial Zones

Objectives

- a) To permit the display of information concerning the identification of premises, and the name of the occupier and activity conducted on the land or in the building.
- b) To encourage a coordinated approach to advertising where there is multiple occupancy of site.
- c) To enhance the architectural and landscape presentation of industry so that advertising signs appear proportional to the scale of the building or space within which they are located.
- d) To minimize the negative visual impact of cluttered and untidy advertising signs, in particular at gateway sites and entry points to industrial precincts, so as to promote the townscape qualities of Liverpool.

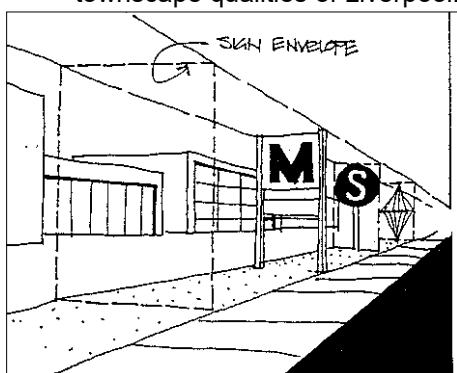


Figure 25 Sign envelope

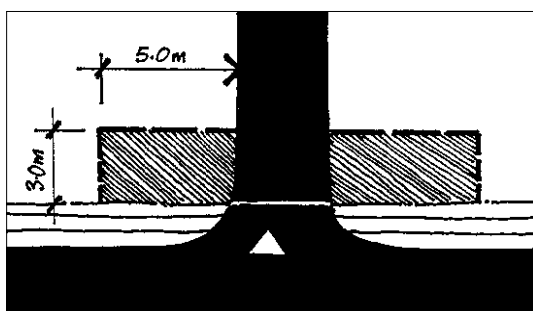


Figure 26 Advertising zone at the ingress to development

Controls

1. Pole or pylon sign for building or site (including directory board for multiple occupancies) is limited to a single structure at the entry to the site from a public road, along the road frontage.
2. Pole or pylon sign not exceeding 5sqm in area and 5m in height from ground level are to be located within an area of 5 x 3m on either side of the ingress or combined ingress/egress, subject to compliance with sight distance requirements.

3. For multiple occupancy development, one company identification sign not exceeding 2 x 0.6m is permitted at the entrance to each occupied unit. Such signs are to be of a uniform shape, size and general presentation.
4. For single user development, additional company identification sign is permissible at the rate of not exceeding 1sqm of advertising area per 3m of street frontage or a maximum of 50sqm whichever is the less. (Corner lots will be assessed on the length of the main presentation frontage of the building only.)
5. Roof signs are not permitted.
6. Third party advertising is not permitted.
7. Sign exceeding 50sqm in area will be dealt with on individual merits.
8. Advertising facing back/side boundaries and abutting a Classified Road will be assessed on individual merits.
9. Advertising structures shall comply with Sub-section 8.7 Design Criteria.

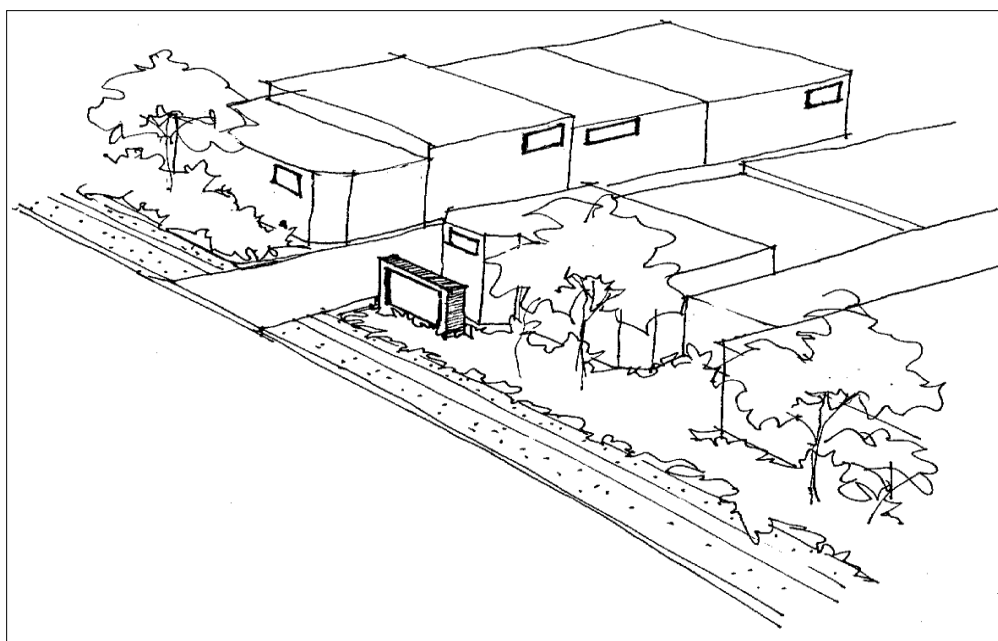


Figure 27 Signage locations for Industrial units

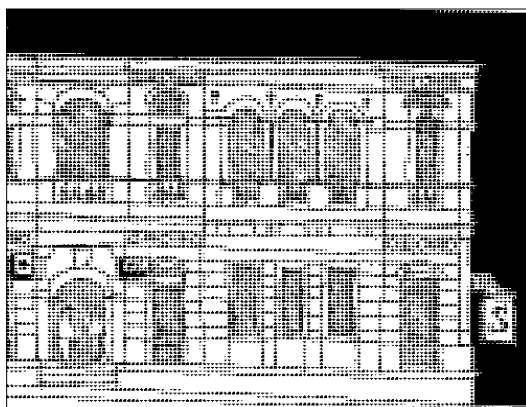


Figure 28 Areas of Environmental Significance (including Environmentally Significant Land, Heritage Conservation Areas and Heritage Item)

Multiple occupancy development

Objective

To ensure that outdoor advertising is designed and located in a manner, which preserves and enhances an area of environmental significance.

Controls

1. Signs on individual buildings or within an area of environmental significance are to be discreet and complement the building or the area. The architectural characteristics of a building always dominate. (For example, signs are not to be placed on cast-iron, first floor verandahs and balustrades or in front of cast-iron verandah frieze work.).
2. Advertising is placed in locations on the heritage item, which traditionally have been used as advertising areas. If such areas do not exist, advertising is generally inappropriate.
3. No signs are permitted to break an historic parapet or roofline of a building or buildings.
4. The form and content of all signs must enhance the heritage significance of the heritage item or area. Particular attention is to be given to location, choice of colours, size of lettering and means of illumination.
5. Permanent signs on shop windows are not to occupy more than 25% of the window area.
6. The size of signs may vary according to the design and history of the building or its environment.
7. Complies with Sub-section 8.7 Design Criteria.



Figure 29 Considering building design

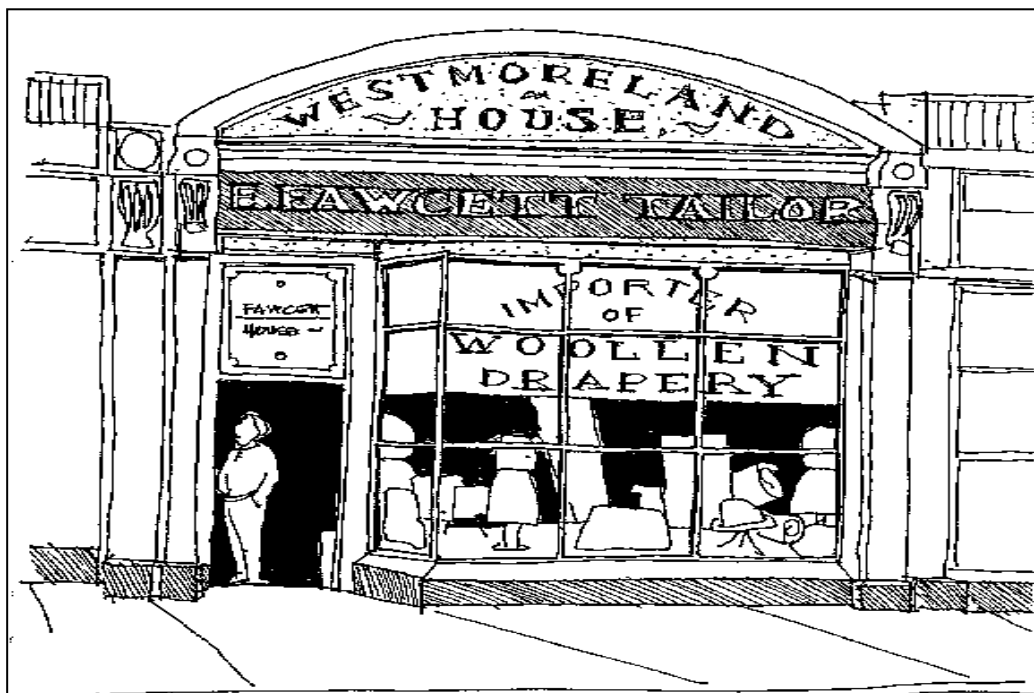


Figure 30 Traditional sign

Special Uses Zones

Objectives

- a) To permit adequate identification and/or business advertising.
- b) To ensure that signs are in keeping with the scale and character of the buildings and are compatible with the amenity of the area.
- c) To ensure that advertising does not adversely affect the safety of road users.

Controls

1. Owing to the variety of special uses, it is not possible to design control guidelines that are relevant and common to all situations. Every application for outdoor advertisement is to be considered on individual merit.
2. For applications within the 'Special Use - Classified Road' zone, advertising signs are to be a minimum of 1 km apart. Their location and dimension are not to adversely affect the amenity of the locality and the safety of motorists and other road users.
3. For applications within the 'Special Use - Airport' zone, concurrence is to be obtained from the operator of the airport.
4. Advertising structures shall comply with Sub-section 8.7 Design Criteria.

Recreation Zones

Objectives

- a) To recognise the opportunity for outdoor advertisement for the promotion of commodities and services associated with recreational activities.
- b) To ensure that outdoor advertisement is compatible with the character of the development on which it is displayed and the character of the surrounding land uses.
- c) To permit the display of information associated with the recreational activities carried out on the land or in the building on which the sign is displayed.



Figure 31 Sign at entry point to recreational facility

Controls

1. Pole or pylon signs are permitted at the rate not exceeding one pole sign per vehicular entry point to the recreational facility.
2. Each pole sign is not to exceed 10sqm in area and not more than 7m in height from ground level.
3. Signs in sports grounds are permissible on the perimeter fencing of the play area and on scoreboards and shall face the play area. The maximum height above ground level of any sign, except signs on scoreboards, is 1.2m.
4. Advertising structures shall comply with the Sub-section 8.7 Design Criteria.



Figure 32 Advertising opportunity at playing field

26.5 Signage in Particular Developments

Service Stations

As service stations are land extensive and are permissible within a wide range of zones, it is considered necessary to have controls for advertising on such development.

Objectives

- a) To ensure that advertisement is compatible with the amenity of the surrounding locality.
- b) To ensure that advertisement is designed and located so that it does not adversely affect the safety of motorists and other road users.

Controls

1. One pole or pylon sign of not exceeding 7m in height from ground level.
2. Pole or pylon sign of not exceeding 2.5m in height from ground level for the display of prices of fuels is permitted at the rate of not more than one sign per ingress point to the development.
3. Fascia signs on the canopy of forecourt and top hamper signs for the sales office and associated convenience store, workshop or food outlet are permissible.

4. The total advertisement area in excess of 50sqm is to be considered on individual merits.
5. Roof signs and fin signs are prohibited.
6. The location and design of signs (including their illumination) are not to adversely affect the amenity of adjacent development and the character of the locality and not to obstruct any traffic lights and traffic signs.
7. Advertising structures shall comply with the Sub-section 8.7 Design Criteria.

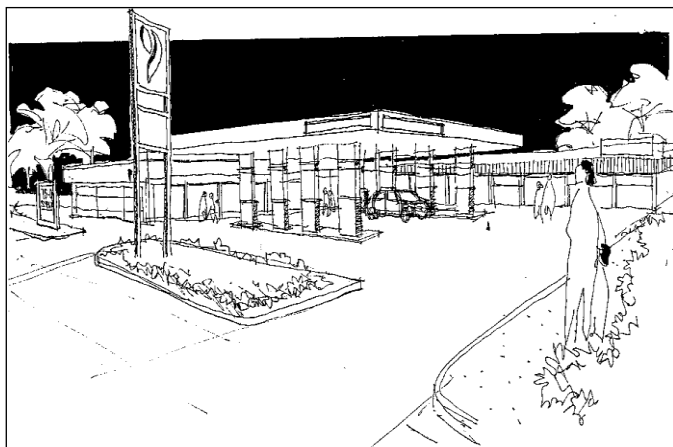


Figure 33 Advertising sign at service station

Exhibition Home and Exhibition Village

Although exhibition home and exhibition village are temporary in nature, they are usually located within residential zones. Their use is also associated with strong promotion through outdoor advertising.



Figure 34 Pole sign for exhibition home

Objectives

- a) To recognise the need for outdoor advertising, business identification and promotion.
- b) To ensure that outdoor advertising is compatible with the amenity of the surrounding locality.

Controls

1. One pole or pylon sign with an area of not exceeding 2.5sqm and a height of not more than 3m from ground level is permitted for an exhibition home. For each exhibition home within an exhibition village, one pole or pylon sign with an area of not exceeding 2.5sqm and a height of not more than 5m from ground level is permissible.
2. For exhibition village advertising signs are to be of a uniform shape, size and general presentation.

3. Additional signs for ancillary uses such as sales office, home financing and materials display are to be considered on individual merits.
4. All advertisements must be placed wholly within the allotment boundary.
5. Third party advertising is prohibited.
6. Illuminated signs are prohibited.
7. The location and design of advertisements are not to adversely affect the amenity of the locality in general and adjacent occupied dwellings in particular.
8. Advertising structures shall comply with Sub-section 8.7 Design Criteria.

26.6 Other Types of Signage

Illuminated Street Name Signs

Objectives

- a) To facilitate the use of Illuminated Street Name Signs (ISNS) in providing directional information and the identification of street names, in conjunction with the display of an appropriate advertising/ sponsor message.
- b) To ensure that ISNS do not have an adverse impact on the amenity of residential areas by restricting their use to Classified Roads.
- c) To ensure that ISNS are designed and located so that they do not have an adverse impact on pedestrian and motorist amenity and safety, by providing controls which clearly identify the required location of ISNS within the road reservation.
- d) To ensure that ISNS are complementary to and compatible with the existing streetscape and the character of the surrounding area, and do not obstruct the view of RTA traffic signs and traffic controls for road users.
- e) To ensure that the external shape, style, colour, text and graphics of ISNS are consistent with Liverpool City Council colours and existing Council signs and street furniture.

Controls

1. To maintain the amenity of residential and rural areas ISNS shall be restricted to Classified Road reservations.
2. One ISNS will be permitted per intersection only. Provided that where signs are located 20m or more apart, two signs per intersection may be permitted.
3. ISNS shall be located at a sufficient distance so as to not obstruct the view of traffic control signals and RTA directional signage for road users.
4. ISNS shall be restricted to corner locations within road reservations only. The sign pole shall be located at a minimum distance of 1.5m from each kerb line forming the edge of the carriageway at the intersection.
5. The ISNS shall comprise an advertising sponsor panel, in conjunction with separate finger panels displaying at least two street names and locality or other community facility directional information approved by Council. The advertising/ sponsor panel shall display the use of appropriate messaging conforming to standards of decency and morality acceptable to Council; Advertising of local products and services is preferred and in all cases Council approval is to be obtained for the content of the sign.
6. The maximum height of the ISNS shall not exceed 5.2m above the ground, measured as a vertical distance from the existing ground level to the uppermost portion of the sign. The clearance to the underside of the advertising/sponsor panel shall be a minimum of 2.6m. To ensure pedestrian amenity, the clearance to the underside of the street name/finger panel shall not be less than 2.1m.

7. The total area of the advertising/sponsor panel shall not exceed 2.2sqm in dimensions (excluding the street name portion of the sign), including any city identification.
8. The external shape, colour, text and graphics of an ISNS shall be generally consistent with the shapes, colours and design used in existing Council signs (such as park and community signs) and Council street furniture, and standard RTA text and graphics in the locality.
9. Written approval of the Roads and Traffic Authority (RTA) shall be provided to Council with each ISNS application proposing installation on a road reservation under the control of that Authority.
10. Each application for approval of an ISNS shall be accompanied by an engineer's certificate verifying structural integrity and frangibility conforming to the requirements of the RTA.
11. As a condition of any consent being given to install an ISNS, Council will require the applicant to meet its requirements covering operational aspects of the system, including such matters as: agreement commencement and term, community messages, compliance with Australian Standards, maintenance and repairs, payment of electricity charges, public risk, annual licence fee, use of sponsor panel vacant space, pavement restoration, relocation, temporary removal and default by company.

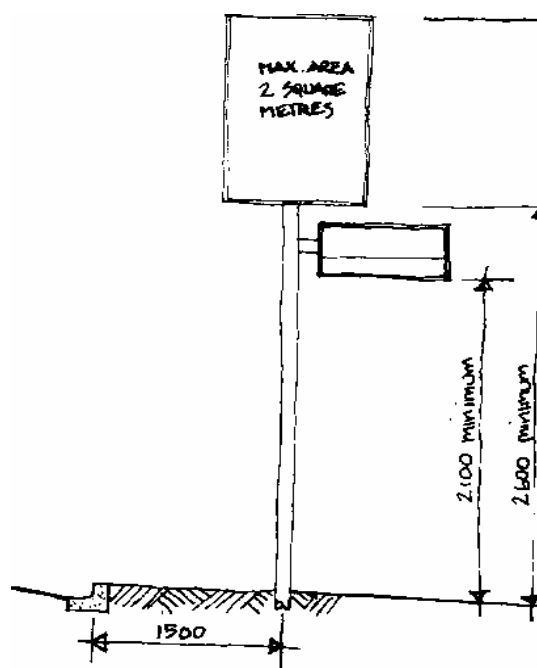


Figure 35 Illuminated Street name Signs

Inflatable Signs

Inflatable sign as a promotion tool is becoming more common. In view of the visual attraction it captures and the impact it may have upon the locality special controls are considered necessary.

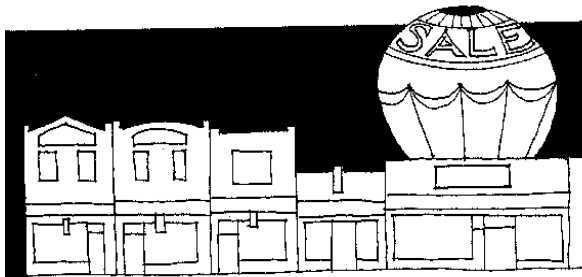


Figure 36 Inflatable sign

Objectives

- a) To ensure that inflatable signs are compatible with the character of the surrounding land uses and do not adversely affect the amenity of the locality.
- b) To ensure that inflatable signs are designed and located so that they do not adversely affect the safety of motorists and pedestrians.

Controls

1. Inflatable signs are not normally permissible in residential zones and areas of environmental significance.
2. The size, shape and colour of signs do not adversely affect the amenity of the locality and adjoining areas.
3. The operation of inflating mechanical services is not to cause noise nuisance to neighbouring properties.
4. Illumination of signs is not to cause nuisance to neighbouring properties by spillage of light and glare.
5. The size, shape, colour, location and illumination of signs are not to interfere with traffic signals and cause undue distraction to motorists.
6. Any other requirements as may be stipulated by Council and/or other agencies.

26.7 Design Criteria

Specific Requirements Relating to Advertising Structures

Compliance with these requirements does not imply that an application will be approved.

Advertising Panel

(Any advertising structure, other than those described in other parts of this section, which is illuminated, including hoarding or bulletin board)

1. Not to extend laterally beyond or vertically above the top of the wall to which it is attached.
2. Not to cover any windows or architectural features.

Underside Awning Sign

(Sign attached to the underside of an awning, other than the fascia or return end)

1. Maximum size not to exceed 2.5m in length and 0.5m in height.
2. Erected horizontally to the ground and a minimum clearance of 2.6m from the ground level to the underside of the sign.
3. A minimum of 0.6m clearance inside the kerb.
4. Not to project beyond the awning.
5. Securely fixed by metal supports.

Upper side Awning Sign

(Sign attached to the upper side of an awning, other than the fascia or return end)

Normally not permitted, if approved, the design criteria are:

1. Size to be considered on individual merits.
2. Not to project beyond the awning.
3. Securely fixed by metal supports.

Fascia Sign

(Sign attached to the fascia or return of an awning)

1. Not to project above or below the fascia or return end of the awning to which it is attached.
2. Not to extend more than 0.3m from the face of the fascia or return end of the awning.

Fin Sign

(Sign erected on or above the canopy of a building e.g. canopy of a service station)

Normally not permitted, if approved, the design criteria are:

1. Not to extend more than 2.6m above the canopy on or above which it is erected.
2. Securely fixed by metal supports.

Flashing Sign

(Illuminated as to any part of the advertising area at frequent intervals by an internal or external source of artificial light and whether or not included in any other class of advertising sign)

A minimum of 6.1m above ground level.

Floodlit Sign

Illuminated as to any part of the advertising area by an external light source and whether or not included in any other class of advertising sign.

Lighting medium must be at least 2.6m above the ground if the sign projects over a public road.

Moving Sign

Sign attached to a building and capable of movement by any source of power whether or not included in any other class of advertising sign.

A minimum of 4.6m from ground level.

Pole or Pylon Sign

Sign erected on a pole or pylon independent of any building or other structure.

Unless otherwise stated in this DCP, not to project more than 7m from ground level. A minimum of clearance of 2.6m from ground level to the underside of the sign.

Roof/Sky Sign

Sign erected on or above the roof or parapet of a building. (It is also called a sky sign)

Normally not permitted. If approved, subject to specification by Council.

Top Hamper Sign

(Sign attached to the transom of a doorway or display window of a building)

1. Not to extend more than 0.2m beyond any building alignment;
2. Not to extend below the head of the doorway or window above which it is attached.

Flush Wall Sign

(Sign attached to the wall of a building (other than the transom of a doorway or display window) and not projecting more than 300mm from the wall) Painted wall sign:

Sign painted onto a wall of a building.

1. Not to project above or beyond the wall to which it is attached;
2. Where it is illuminated, it must be at least 2.6m above the ground level.

Projecting Wall Sign

(Sign attached to the wall of a building (other than the transom of a doorway or display window) and projecting more than 300mm)

1. Not to project above the top of the wall to which it is attached;
2. Not to project more than 1.2m from the wall to which it is attached;
3. A minimum clearance of 2.6m from the ground level to the underside of the sign;
4. A minimum of 0.6m clearance inside the kerb.

Other types of Signs

Illuminated Street Name Sign

Freestanding pole sign comprising an internally illuminated sponsor panel and up to two internally illuminated street name cabinets erected within a road reservation.

Parapet Sign

Sign attached to or painted on the parapet of a building, but not extending above the parapet.

Spandrel Sign

Sign attached to the wall below the sill of windows.

Street Sign

Sign erected on public road which include guide sign, warning sign, temporary warning sign, regulatory sign, car parking sign, hazardous markers and service symbols as defined under AS 1742.

Window Sign

Sign attached to, or displayed on, the shop window.

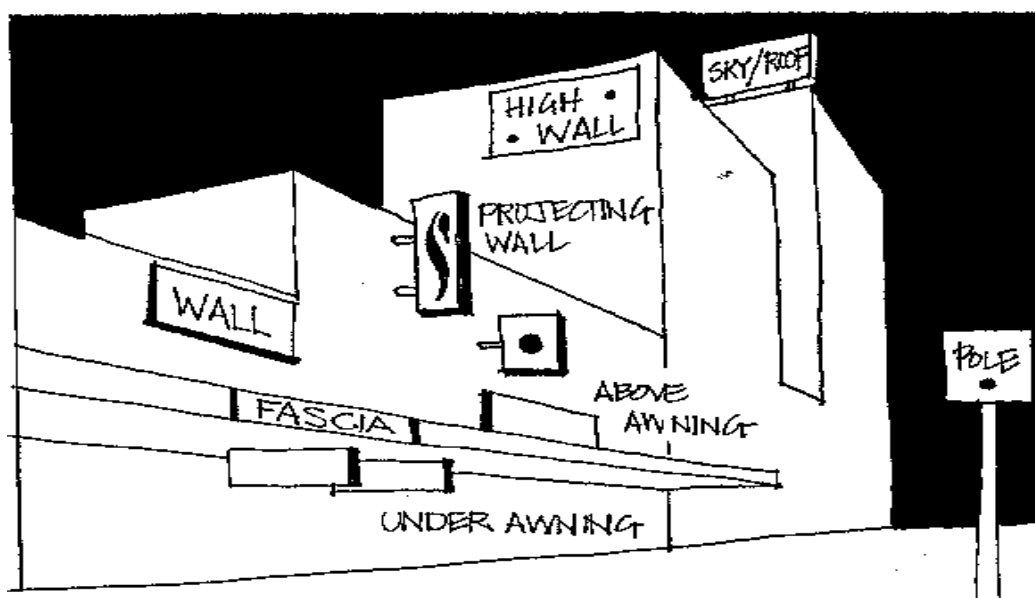


Figure 37 Types of signs

26.8 The Facade - Grid Analysis Technique

While the technique relates specifically to traditional building facades (such as those commonly found in strip-shopping centres), the principles apply to all building forms.

Signs do not have to be on a building's front facade. For example, they can be placed on sidewalls provided they do not interfere with the adjoining development. In these circumstances the principles of the technique still apply.

The technique

Step 1

To identify sign opportunities the facade could be subdivided using the main design lines to form a series of panels. Many traditional building designs can be easily broken into a grid based on the alignments of the parapet (skyline), cornice, verandah, window and door. An example of this procedure is shown in Figure 38.

Step 2

To identify possible sign panels the rectangles of the grid may be used separately or be joined together to form horizontal or vertical panels. Figure 39 shows examples of such panels.

The scale of advertising signs should be compatible with the buildings they are on, as well as with nearby buildings, street widths and other existing signs. In most cases, appropriate dimensions are achieved by restricting signs to grid locations or panels. This ensures that the original architectural character (set by the lines of awnings, windows and door openings, parapet lines and setbacks) remains dominant.

On buildings with decorative facades, signs should not be placed on the decorative forms or mouldings. Instead, they should appear on the undecorated wall surfaces, unless architecturally designed panels are provided.

Figure 39 also shows that a building may be given a horizontal or vertical appearance simply by the way in which the sign panels are arranged across or down a building.

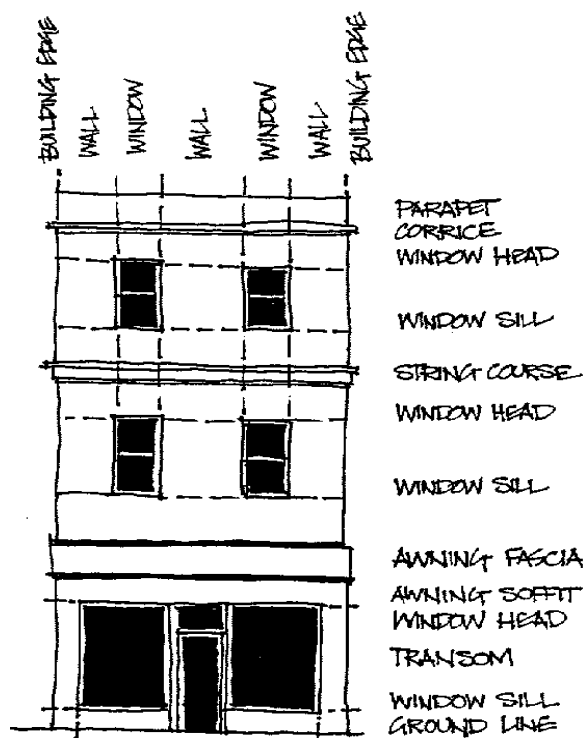


Figure 38 Horizontal or vertical panels

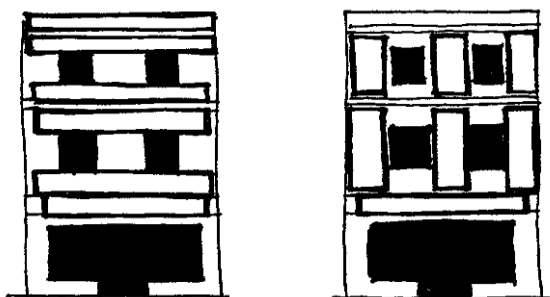


Figure 39 Establishing the façade grid

Step 3

Applying the technique to a series of buildings shows the possible panels for the streetscape and provides the basis for developing patterns and themes. Figure 40 shows how the technique produces a uniform and clean series of sign possibilities instead of a haphazard array.

Figure 40 also shows that sign panels do not have to be rectilinear in design or contained in a perimeter margin unless these impose an architectural formality or introduce continuity with the surrounding area, which is presently lacking in the building.

Figure 41 shows how a variation of the technique can be used to help correct discontinuities in streetscape. The lines of adjacent buildings may be projected across the facade of the building, thereby defining horizontal panels in which signs may be located. This will achieve visual continuity with neighbouring buildings.

Step 4

Not every panel identified using this technique should be used to display a sign. Consideration should be given to placing signs in locations compatible with those on adjoining buildings to develop a pattern or theme in streetscape.



Figure 40 Developing patterns and themes



Figure 41 Improving discontinuities in streetscape

27. Social Impact Assessment

Applies to

This section applies to applications for the types of development listed in Table 1, and any other types of development if notified in writing by Council. This section does not apply to development that is otherwise permitted without consent.

Background

Social impacts include the intended and unintended effects of a change or activity on the well-being of a community, families and individuals. Demand for a greater focus on social impacts has been driven by:

- a changing demographic profile and pressures arising from the growth and positioning of Liverpool as the regional city for South Western Sydney;
- increasing awareness of planning authorities to apply social criteria in making decisions about development and land use;
- increasing emphasis by Council and the community in considering social issues.

Council has a statutory obligation under Section 79C of the Environmental Planning and Assessment Act 1979 to consider the social impacts of development applications. The Liverpool Local Environmental Plan 2008 aims to “foster economic, environmental and social well-being so that Liverpool continues to develop as a sustainable and prosperous place to live, work and visit”.

Social impact assessment is a process that aims to identify and manage the potential positive and negative consequences of development to optimise social outcomes, consistent with Council’s objectives for the community. Council is committed to the process of social impact assessment as a means of considering social issues more comprehensively and consistently in its planning and decision making. Council requires a social impact assessment to be submitted with development applications for specific types of development. In addition, Council may, at its discretion, require a social impact assessment for other types of development.

Objectives

- a) To ensure distributional equity of positive and negative social impacts of development, to help build healthier communities where people want to live and work;
- b) To apply a precautionary approach to, and encourage effective community engagement and participation in, planning and development decisions that may have significant impact;
- c) To ensure social impact assessments are undertaken in a consistent and transparent manner, by an appropriately trained person, and contain the information required to enable objective evaluation of potential impacts by Council.

Controls

1. A social impact assessment shall be submitted with a development application for all types of development listed in Table 21. The social impact assessment shall take the form of a Social Impact Comment or a Comprehensive Social Impact Assessment, as specified in Table 21.
2. Council may, at its discretion, alter the requirements for social impact assessment at any stage of the development assessment process, if it deems a proposal to foreseeably generate or contribute to social impacts that are substantially less or more significant than envisaged in Table 21. This discretion rests with the Executive Management Team, with consideration of recommendations made by Council staff.

3. A social impact assessment shall be submitted for any types of development not listed in Table 21 if, at any stage of the development assessment process, Council deems the proposal to foreseeably generate or contribute to significant social impacts. The social impact assessment shall take the form of a Social Impact Comment or a Comprehensive Social Impact Assessment.
4. Any social impact assessment shall be prepared in accordance with Council's Social Impact Assessment Policy.

Note:

Applicants are advised to consult with Council before lodging a development assessment, to discuss Council's specific requirements relating to social impact assessment. Council will notify applicants in writing of any changes to requirements for social impact assessment.

Table 21 Types of development for which a social impact assessment is required

Type of development	Social Impact Comment	Comprehensive Social Impact Assessment
Residential development	<p>Applications for development of, or major changes to:</p> <ul style="list-style-type: none"> - Residential flat buildings greater than 20 units - Multi-dwelling housing greater than 20 dwellings - Residential subdivision greater than 20 dwellings - Affordable housing, within the meaning of SEPP (Affordable Rental Housing) 2009 – excluding secondary dwellings - Housing for seniors or people with a disability, within the meaning of SEPP (Housing for Seniors or People with a Disability) 2004 - Student housing - Caravan parks 	<p>Application for development of, or major changes to:</p> <ul style="list-style-type: none"> - Residential flat buildings greater than 250 units - Development that results in a reduction of affordable housing

Commercial development	<p>Applications for development of, or major changes to:</p> <ul style="list-style-type: none"> - Entertainment facilities - Amusement centres - Function centres (greater than 100 persons capacity) - Retail centres and other commercial development, including tattoo parlours 	<p>Applications for development of, or major changes to:</p> <ul style="list-style-type: none"> - Packaged liquor outlets - Hotels (bars, pubs, taverns), nightclubs and registered clubs - Applications for liquor licences and gaming machines* - Extension of trading hours for licensed premises - Gaming outlets - Restricted premises (e.g. sex shops) - Sex services premises (e.g. brothels) - Gun shops
Other types of development	<p>Applications for development of, or major changes to:</p> <ul style="list-style-type: none"> - Childcare centres (more than 20 places) - Places of public worship (greater than 200 persons capacity) - Educational establishments - Health consulting rooms - Council-owned community facilities, including community centres, libraries, childcare centres and recreation facilities - Community land, as classified by the Local Government Act 1993 	<p>Applications for development of, or major changes to:</p> <ul style="list-style-type: none"> - Drug rehabilitation services – including methadone clinics and safe injecting rooms - Hospitals, medical centres and community health service facilities - Freight transport facilities - Major public transport facilities

28. Shopping Trolleys

Applies to

This section applies to any development that will provide shopping trolleys for customers.

Background

Abandoned shopping trolleys are a major problem throughout the Liverpool LGA as they tend to end up in streets, parks and waterbodies.

Objectives

To minimise the abandonment of shopping trolleys.

Controls

1. A management plan is required for all businesses that offer the use of trolleys to their customers. At a minimum the management plan must contain the following elements:
 - A list of contacts for the store/premises (including phone numbers).
 - A statement verifying that trolley management will be undertaken in accordance with the relevant consent (the consent is to be attached as an addendum once issued).
 - Methods for identifying shopping trolleys that belong to a specific business (e.g. serial numbers, company logo, tracking device etc.).
 - A schedule for the daily collection of abandoned shopping trolleys, including details of trolley collection routes.
 - Details of a trolley containment system which restricts the removal of trolleys from the premises.
 - Measures to ensure that any trolleys reported as posing a risk or nuisance, are collected immediately upon notification (this may require an "after hours" collection service).
 - A register of all trolleys that have been reported or collected (including instances where the trolley was not found at the reported location).
 - Methods for warning customers about the consequences of abandoning or removing trolleys from the premises.
 - A site plan of the premises showing the location of trolley bays and exit points.

Note:

Council must be notified of any updates to the plan of management.

2. A trolley containment system must be provided for businesses with 20 or more trolleys. Such examples include:
 - Coin/token operated system with refund
 - Trolleys with wheel locks activated by a radio signal or magnetic strip
 - Radio signal transmitters on trolleys

Appendix 1 - Definitions

The following list of definitions used in the DCP which are not defined in *Liverpool LEP 2008* or the *Environmental Planning and Assessment Act 1979*. Please refer to these for the appropriate definition.

Access Driveway	A roadway extending from the edge of the frontage to the property boundary to connect with the first ramp, circulation roadway or aisle encountered, and carrying one or two-way traffic.
Active Frontage	A street frontage that is characterised by lively pedestrian activity.
Adaptable Housing	The definition as contained within <i>Adaptable Housing Australian Standard AS 4299 (1995)</i> .
Adaptation or adaptive reuse	means the modification of a heritage place to a new use that conserves its heritage values. Adaptation may involve the introduction of new services, or a new use, or changes to safeguard a heritage item. A good adaptation is one that is sympathetic to the existing building and its historic context, and inserts new work, or makes changes that enhance and complement the heritage values of the heritage item.
Adjoining land	Land, which abuts the land, which is the subject of an application, or is separated from it only by a pathway, driveway or similar thoroughfare.
Affected person means a person:	(a) who owns or occupies land that adjoins a site which is the subject of an application in which their enjoyment may be detrimentally affected by a proposed development; or (b) who owns or occupies neighbouring land.
ANZECC	(<i>Australian New Zealand Environmental Conservation Council</i>) Guidelines for the Assessment and Management of Contaminated Sites.
Annual Exceedance Probability (AEP)	Is the probability of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 500m ³ /s has an AEP of 1%, it means that there is a 1% probability (that is one-in-100 chance) of a peak flood of 500m ³ /s or larger occurring in any one year (see average recurrence interval).
Apron	The area in front of the loading dock including the service bay.
Arborist	A person who is qualified in arboriculture or tree surgery.
Atrium	A void intersecting all building levels that brings light (and sometimes air) into a building core.
Australian Height Datum (AHD)	A common national plain of level corresponding approximately to mean sea level.
Australian Noise Exposure Forecast (ANEF) contour	A contour marked on a map to determine a level of noise exposure by aircraft. Certain restrictions apply to development within these contours.
Average Recurrence Interval (ARI)	The long-term average number of years between the occurrences 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 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event.
Basement car parking	Car parking areas generally below ground level, or above natural ground level and enclosed by bunding, where inundation of the surrounding areas may raise water levels above the entry level to the basement, resulting in rapid inundation of the basement to depths greater than 0.8m. Basement car parks are areas where the means of drainage of accumulated water in the car park has an outflow discharge capacity significantly less than the potential inflow capacity.
Batter	The slope of a dam embankment wall.

Berm	Soil piled against the length of a wall at an angle to reduce the exposure of surface area to solar radiation and to assist in the maintenance of equilibrium between subsoil ground temperature and the building's thermal mass. Berms also provide insulation against noise.
Borrow pit	An area from which excavated soil is taken to construct the embankment of a dam.
Buffer zone	An area of land, set aside to minimise the impacts of land uses on each other.
Building footprint	The area of the site occupied by buildings and includes other structures attached to the main building such as decks, verandas, garages and carports.
Bushland	means land on which there is vegetation which is either a remainder of the native plants of the land or, if altered, is still representative of the structure and floristics of the natural vegetation.
Canopy	That part of the tree above the main stem comprising primarily branches and foliage.
Car Space	The area of pavement required to park one car, and is usually delineated.
Character	is defined by the combination of the particular characteristics or qualities of a place.
Collector street	A non-Classified Road, which collects and distributes traffic in an area, as well as servicing the abutting property.
Commercial Vehicle	The trucks and vans used for commercial purposes. Cars, station wagons and utilities may also be used for commercial purposes but are, by definition, not included because they become submerged in the large number of such vehicles, which are used for private purposes. Dimensions of typical commercial vehicles are found in Section 4 of this document.
Compatible use	means a use that involves no change to the culturally significant fabric, changes which are substantially reversible or changes which require a minimal impact.
Composting	The breakdown of organic matter by microbial action.
Conservation	means all the processes of looking after a place so as to retain its cultural significance. It includes maintenance, and may according to circumstance, include preservation, restoration, reconstruction and adaptation and will commonly be a combination of more than one of these.
conservation management plan	means a document prepared in accordance with the NSW Heritage Branch guidelines which establish the heritage significance of an item, place or heritage conservation area, and identify conservation policies and management mechanisms that are appropriate to enable that significance to be retained.
Contaminated soil	Soil that contains a concentration of chemical substances that are likely to pose an immediate or long-term hazard to human health or the environment.
Council	The Council of the City of Liverpool.
cultural significance	means aesthetic, historic, scientific, or social value for past, present or future generations.
dB(A)	Decibels of the 'A-scale' – a set frequency-weighted scale of noise which allows for lack of sensitivity of the ear to sound at very high and very low frequencies.
Design floor level	The minimum floor level that would apply to development if it was not categorised as Concessional Development. The floor level standards specified for the relevant land use category (excluding Concessional Development) in the low flood risk precinct are to be applied.
Drip Line	The area directly beneath the outer canopy of the tree.
Demolish a building	To wholly or partly dismantle the building.

Drive-in Food Outlets	<p>One of three types of drive-in facilities:</p> <ol style="list-style-type: none"> 1. Where customers park on site and walk to the food outlet, with no seating for the onsite consumption of food. 2. Similar to 1 but with seating for onsite food consumption. 3. With the features of 1 and/or 2 plus a drive through service for customers not wishing to consume food on the premises.
Effective warning time	The time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions being undertaken. The effective warning time is typically used to move farm equipment, move stock, raise furniture, evacuate people and transport their possessions.
Embankment	The low permeability earth fill wall of a dam comprising crest, batter slopes and foundation.
Extreme flood	An estimate of the probable maximum flood, which is the largest flood that could conceivably occur at a particular location.
fabric	means all the physical material of the place.
Fenestration	The disposition of glazing on a facade.
Flood	A relatively high stream flow, which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding, associated with major drainage as defined by the FMM before entering a watercourse.
Flood awareness	An appreciation of the likely effects of flooding and knowledge of the relevant flood warning and evacuation procedures.
Flood compatible building components	A combination of measures incorporated in the design and/or construction and alteration of individual buildings or structures subject to flooding, and the use of flood compatible materials for the reduction or elimination of flood damage.
Flood compatible materials	Materials used in building which are resistant to damage when inundated. A list of flood compatible materials is attached in Appendix 3.
Flood evacuation strategy	The proposed strategy for the evacuation of areas within effective warning time during periods of flood as specified within any policy of Council, the FRMP, the relevant State government disaster plan, by advices received from the <i>State Emergency Services (SES)</i> or as determined in the assessment of individual proposals.
Flood hazard	The potential for damage to property or persons due to flooding.
Flood storage	Parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood.
Floodplain	The portion of a river valley, adjacent to the river channel, which is covered with water when the river overflows during floods.
Floodplain Development Manual (FDM)	Refers to the document dated April 2005, published by the New South Wales Government and entitled " <i>Floodplain Development Manual: the management of flood liable land</i> ".
Floodplain Risk Management Plan (FRMP)	A plan prepared for one or more floodplains in accordance with the requirements of the FDM or its predecessor.
Floodplain Risk Management Study (FRMS)	A study prepared for one or more floodplains in accordance with the requirements of the FDM or its predecessor.
Floodways	Areas where a significant volume of water flows during floods. They are often aligned with obvious naturally defined channels. Floodways are areas, which, even if only partially blocked, would cause a significant redistribution of flood flow, which may in turn adversely affect other areas. They are often, but not necessarily, the areas of deeper flow or the areas where higher velocities occur.

Form	means the overall shape and volume and the arrangement of its parts.
Freeboard	A factor of safety expressed as the height above the design flood level. Freeboard provides a factor of safety to compensate for uncertainties in the estimation of flood levels across the floodplain, such as wave action, localised hydraulic behaviour and impacts that are specific event related, such as levee and embankment settlement, and other effects such as “greenhouse” and climate change.
Frontage	The width of an allotment at the street boundary.
Full supply level	The top water level of a dam, equivalent to the spillway intake level.
Greenhouses / Igloos / Market Gardening	A free - standing outbuilding covered in plastic / fabric / or other rigid coverings such as glass or poly-carbonate used to provide a controlled environment and improved crop production rates associated with the cultivation / propagation or growth of vegetables, flowers, mushrooms and other agricultural products.
Habitable floor area	means: <ul style="list-style-type: none"> (a) in a residential situation: a living or working area, such as a lounge room, dining room, rumpus room, kitchen, bedroom or workroom; (b) in an industrial or commercial situation: an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.
Habitable room	A main living room, such as a living room, dining room, family room or bedroom.
Hatchet shaped allotment	A lot which has frontage to a public street by only an access way.
Height	In relation to a building, means the vertical distance measured between ground level at any point at which the building is sited, and the ceiling of the topmost floor of the building above that point.
Hazard	A source of potential harm or a situation with a potential to cause loss. In relation to this plan, the hazard is flooding which has the potential to cause harm or loss to the community.
High hazard	Possible danger to life and limb; evacuation by trucks difficult; potential for structural damage; social disruption and financial losses could be high.
In the vicinity	means surroundings, context, environment or vicinity of a heritage item
Item	means a place, building, work, relic, movable object or precinct.
LEP	Local Environmental Plan
Leasable Floor Area (LFA)	Means the sum of the areas of each floor of a building where the area of each floor is taken to be the area within the outer face of the external enclosure walls as measured at a height of 1400 millimetres above each floor level, excluding: <ul style="list-style-type: none"> - Columns, fin walls, sun control devices, awnings and any other elements, projections or works outside the general lines of the outer face of the external wall; and - Lift towers, cooling towers, machinery and plant rooms, ancillary storage space and air conditioning ducts; and - Car parking needed to meet any requirements of the Council and any internal designated vehicular or pedestrian access thereto; and - Space for loading and unloading of goods; and - Internal public arcades and thoroughfares, terraces and balconies with outer walls less than 1400 millimetres high and the like.
LGA	Local Government Area

Loading Dock	The specific area set aside for loading and unloading of a commercial vehicle. Commonly the operation is carried out from a raised platform to which the vehicle is backed. Loading and unloading can, however take place from the side and/or ground level.
Local overland flooding	The inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.
Local street	A road or street used primarily for access to abutting properties.
Loft	The gross floor area contained within the roof space of a dwelling where: <ul style="list-style-type: none"> (a) the pitch of the roof creating the space does not exceed 35 degrees; and (b) the external enclosing walls do not exceed a height of 300mm measured vertically from the floor level of the loft (not including gabled end walls); and (c) there is no balcony, terrace, and the like forming part of the loft; and (d) the floor space of the loft does not exceed 60% of the footprint of the storey immediately below; and (e) one or more dormers may form part of the loft.
Lopping	The incomplete removal of branches leaving stumps attached to the tree.
Low hazard	Should it be necessary, people and their possessions could be evacuated by trucks. Able-bodied adults would have little difficulty wading.
m	Metre
Merit approach	An approach, the principles of which are embodied in the Floodplain Development Manual which weighs social, economic and ecological impacts of land use options for different flood prone areas together with flood damage, hazard and behaviour implications, environmental protection and wellbeing of the State's rivers and floodplains.
Natural ventilation	A range of techniques that combine natural airflow with building design characteristics to induce fresh air into a building and exhaust stale air. Natural ventilation is also sometimes used as a means to reduce the temperature of a building's thermal mass.
Neighbouring land	Any land, other than adjoining land, which in the opinion of Council, may be detrimentally affected by a proposed development (and may include properties in a neighbouring Local Government area).
Notified Development	Where Council writes to those people identified as requiring notification advising of the submission of an application.
Number of Employees	The number of persons anticipated to be working for re-numeration at a given development site, whether for salary or wages, part time or full time at the time of day, day of the week, which is being assessed. It should not be confused with employment which is the expected number of persons registered as working and which is thus equal to or greater than the number of employees on site at any given time.
Outbuilding	A building, which is ancillary to a principal residential building and includes sheds, garages, car ports and similar buildings.
Outdoor cafes	An area that exhibits these characteristics: <ul style="list-style-type: none"> (a) Food and drink are provided for public consumption. (b) Items of furniture, such as tables and chairs, are provided for use by cafe patrons. (c) The site is accessible, out-of-doors and available for public use. (d) There is an adjacent associated business such as a cafe, coffee bar, milk bar, restaurant, ice-cream parlour, dining hall, food court or sandwich shop. (e) The associated business extends its supervised activities within the outdoor cafe location.

Outdoor Markets	Places or temporary structures / stalls for the purpose of retailing goods able to be carried away by the purchaser. Stalls are combined on suitable sites to form an outdoor market place.
Permeable ceiling	A false ceiling that allows air to come in direct contact with a slab above it.
Place	means an area of land, with or without improvements.
Potential koala habitat	Areas of native vegetation where the trees of the types listed in Schedule 2 of the <i>State Environmental Planning Policy No 44 - Koala Habitat Protection</i> constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.
Poultry	All forms of farmed bird including chickens, waterfowl, turkeys, ostriches, quail, squab and emus.
Poultry farming	Birds such as domestic fowls, turkeys, ducks geese, game birds, squab, quail and emus, whether as meat birds, layers or breeders and whether as free range or shedded birds.
Poultry processing plants	Poultry abattoirs and plants for the further processing of poultry (e.g. cutting up, filleting etc.), packaging and dispatch.
Probable maximum flood (PMF)	The largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation.
Probable maximum precipitation (PMP)	The greatest depth of precipitation for a given duration meteorologically possible over a given size storm area at a particular location at a particular time of the year, with no allowance made for long-term climatic trends (World Meteorological Organisation, 1986). It is the primary input to the estimation of the probable maximum flood.
Probability	A statistical measure of the expected chance of flooding (see ARI).
Private open space	An open area of land or building attached to a dwelling (e.g. balcony or roof garden) intended for the exclusive use of the occupants of the dwelling, being located and designed so as to offer maximum privacy to occupants and neighbours.
Primary frontage	means: <ul style="list-style-type: none"> (a) the single frontage where an allotment has a single frontage to the street; or (b) the shortest frontage where an allotment has two or more frontages to the street; or (c) the two frontages where an allotment (not including a corner allotment) runs between two streets.
Prune	To remove some of the branches or roots of a tree.
Ramp	The circulation roadway, which connects an access driveway to an off-street car park, or service facility on a substantially different level, or which, connects two levels in a multi-level development.
Rebuilt dwelling	Refers to the construction of a new dwelling on an allotment where an existing dwelling is demolished.
Reliable access	<i>During a flood</i> means the ability for people to safely evacuate an area subject to flooding, having regard to the depth and velocity of flood waters, the suitability of the evacuation route, and without a need to travel through areas where water depths increase.
Remnant vegetation	Any patch of native vegetation around which most or all of the native vegetation has been removed. Remnant vegetation can range in size from a few plants to a very large group of plants.
REP	Regional Environmental Plan
Ridgeline	The highest point at which upward angled roof planes meet.

Ring barking	Cutting through the bark and sapwood of the tree so as to stop the flow of water and nutrients between roots and leaves.
Riparian Corridor	That component of land (including floodplains) adjacent to creeks.
Riparian vegetation	Any vegetation, which is adjacent to a water body and is reliant upon and contributes to the hydrological regime and ecology of that water body.
Risk	The chance of something happening that will have an impact. It is measured in terms of consequences and probability (likelihood). In the context of this plan, it is the likelihood of consequences arising from the interaction of floods, communities and the environment.
Road	A public thoroughfare used for the passage of vehicles or animals.
Root plate	The volume of roots of a mature tree.
Run-off	The amount of water that actually ends up as storm flow.
Rural shed	A building or structure erected on a rural zoned property for uses associated with agriculture or other permissible rural land uses on the site. This does not include buildings for the keeping of poultry or intensive horticultural activities.
Scale	means the size of a building and its relationship with its surrounding buildings or landscape.
Secondary frontage	means: (a) the longer frontages where an allotment has two or more frontages to the street; or (b) the frontage that adjoins a lane where an allotment (not including a corner allotment) runs between a street and a lane. A lane is a roadway that is 6m wide or less.
Sensitive populations	Population groups that include Childcare centres, Hospitals, Education facilities and Retirement villages.
Separation distance	The distance between the point of generation of an environmental impact and a receptor sensitive to that impact that will allow for the effects to be minimised.
SEPP	State Environmental Planning Policy
Service Aisles	The roadways, which connect, service areas with driveways and the street system. They may be part of the internal circulation road system. Required widths for straight sections of service aisles are 4.5m one way and 6.5m two-way. The width of curved sections should be determined by the swept path of the largest, relevant design vehicle.
Service Bay/Area	The service bay/area is the specific area delineated for a commercial vehicle to stand within a service area.
Service Facility	The service facility is the area in a development set aside for the manoeuvring lay-by, loading and unloading of commercial vehicles, together with shelter and equipment, which might be provided for the receipt and dispatch of freight. Normally included among the facilities is the storage of waste (garbage), prior to its removal by a special purpose vehicle.
Setback	The horizontal distance measured from an external enclosing wall (including an above ground deck, balcony, and the like), a window, or the eaves of a building, to the: (a) allotment boundary; or (b) a window to a bedroom or living area of another dwelling.
Setting	means the area around a heritage item that contributes to its heritage significance. It may include views to and from the heritage item. The listing boundary of a heritage item does not always include the whole of its setting
Shopping Trolley	A basket, frame or flat base on wheels (or castors), usually of metal construction that is provided by a business for customers to transport items within the store and within any car parking area allocated for use by customers of the store.

Side boundary	The boundary between adjacent properties
Site Emergency Response Flood Plan	A management plan that demonstrates the ability to move goods above the flood level within the available warning time, and includes a strategy to safely evacuate persons.
Spillway	The earth swale (or pipe) used to divert water from a dam.
sqm	Square metre
Stacked Car Parking	The car parking, which may require the removal of other vehicles in order to gain access
Street sign	A street name sign or a sign under <i>Australian Standard AS 1742</i> being <ul style="list-style-type: none"> (a) guide sign; (b) warning sign; (c) temporary warning sign; (d) regulatory sign; (e) parking sign; (f) hazardous markers; (g) service symbol; (h) which is on a public road.
Survey plan	A plan prepared by a registered surveyor, which shows the information required for the assessment of an application in accordance with the provisions of this Policy.
The Act	The <i>Environmental Planning and Assessment Act 1979</i> .
The Plan	This <i>Development Control Plan</i> .
Third party advertising	The content of the advertisement is not related to the land, building or premises or goods sold on the land, building or premises to which the advertisement is attached.
Threatened species, population or community	means any species, population or ecological community which is scheduled under the Threatened Species Conservation Act 1995.
Topping	The removal of the top portion of a tree including a section of trunk.
Vegetative screening	Naturally occurring or purpose planted vegetation (preferably species native to an area) to lessen the impacts of a development on the surrounding area.
Waste Data File	A File or Folder containing the Waste Management Plan together with records (waste receipts or dockets) of disposal and/ or recycling of demolition and construction materials. The Waste Data File is to be retained by the person responsible for the site.
Waste Management Plan or WMP	An outline of any waste or recycling materials to be produced during <ul style="list-style-type: none"> (a) Demolition (b) Construction and (c) Future Use for a particular demolition and/ or construction project. It is to include estimates of volumes or weights of waste produced as well as a description of reuse, recycling and final destination. A blank Waste Management Plan is shown in Appendix 4.

Appendix 2 - Recommended Plant Species List for Landscaping

- The following plant list is a guide only. It is a list of shrub and tree species known to grow well in the heavy clay soils of Liverpool. The list is a substitute for independent Landscape Architectural advice. It is recommended that a qualified Landscape Architect shall prepare all Landscape Plans submitted for Council approval.

Tall Evergreen Shrubs up to 3m high

Botanic Name	Common Name	Yr 1	Yr 2	Maturity
Westringia fruticosa	Coast Rosemary	0.5 m	1 m	1.5 m
Westringia longifolia	Westringia	0.5 m	1 m	1.5 m
Grevillea 'Robyn Gordon'	Grevillea 'Robyn Gordon'	0.5 m	1.5 m	1.5 m
Grevillea rosmarinifolia	Rosemary Gevillea	0.5 m	2 m	2 m
Melaleuca hypericifolia	Hillock Bush	0.5 m	1 m	2 m
Callistemon 'Captain Cook'	Bottlebrush	0.5 m	1 m	2 m
Grevillea 'Sandra Gordon'	Grevillea 'Sandra Gordon'	0.5 m	1.5 m	3 m
Banksia ericifolia	Heath Banksia	0.5 m	2 m	3 m
Leptospermum laevigatum	Coast Tea Tree	0.5 m	2 m	3 m
Melaleuca ericifolia	Melaleuca ericifolia	0.5 m	2 m	3 m
Melaleuca nesophyla	Melaleuca nesophyla	0.5 m	2 m	3 m
Hakea salicifolia	Silky Hakea	0.5 m	2 m	3 m
Doryanthes excelsa	Gynea Lily	0.5 m	2 m	3 m
Leptospermum spp.	Tea tree	0.5 m	2 m	3 m
Baekea spp.	Heath Myrtle	0.5 m	2 m	3 m
Pittosporum tenuifolium	New Zealand Pittosporum	0.5 m	2 m	3 m
Michelia figo	Port Wine Magnolia	0.5 m	2 m	3 m

Small Trees less than 9m high (D) = Deciduous

Botanic Name	Common Name	Yr 1	Yr 3	Maturity
Planted a minimum of 1.5m from the building				
Callistemon hannah ray	Hannah Ray Bottlebrush	2 m	3 m	4 - 5 m
Callistemon citrinus	Lemon Scented Bottlebrush	2 m	3 m	4 - 5 m
Leptospermum petersonii	Lemon-scented Tea tree	1.5 m	3 m	4 - 6 m
Acacia floribunda	Gossamer Wattle	2 m	3 m	4 - 6 m
Acacia baileyana	Cootamundra Wattle	2 m	3 m	5 - 8 m
Ceratopelum gummiferum	NSW Christmas Bush	2 m	4 m	5 - 8 m
Elaeocarpus reticulatus	Blueberry Ash	1.5 m	2 m	6 - 8 m
Banksia integrifolia	Coast Banksia	2 m	5 m	6 - 8 m
Tristanopsis laurina	Water Gum	2 m	3 m	6 - 8 m

Medium Sized Trees 9 - 15m high

Botanic Name	Common Name	Yr 1	Yr 3	Maturity
Planted a minimum of 3m from the building				
Melaleuca bracteata	Melaleuca bracteata	3 m	5 m	8 - 10 m
Melaleuca decora	White Cloud Tree	3 m	5 m	6 - 12 m
Melia azedarch	White Cedar (D)	2 m	4 m	8 - 12 m
Brachychiton acerifolium	Illawarra Flame Tree (D)	2 m	4 m	8 - 12 m
Hymenosporum flavum	Native Frangipani	2 m	4 m	8 - 12 m
Melaleuca quinquenervia	Broad-leaved Paper bark	3 m	5 m	8 - 15 m
Eucalyptus scoparia	Willow Gum	3 m	5 m	8 - 15 m
Angophora bakeri	Narrow leaved Apple	2 m	4 m	9 - 15 m
Brachychiton populneus	Kurrajong	2 m	4 m	9 - 15 m

Large Trees greater than 15m Tall

Native

Botanic Name	Common Name	Yr 1	Yr 3	Maturity
Planted a minimum of 4.0m from the building				
Acacia elata	Cedar Wattle	2 m	5 m	10 – 18 m
Casuarina glauca	Swamp She Oak	3 m	5 m	10 – 18 m
Casuarina littoralis	Black She Oak	3 m	5 m	10 – 18 m
Callistemon viminalis	Weeping Bottlebrush	3 m	5 m	10 – 18 m
Planted a minimum of 5.0m from the building				
Eucalyptus molucanna	Grey Box	3 m	5 m	12 - 18 m
Eucalyptus crebra	Narrow Leaved Ironbark	3 m	5 m	12 - 18 m
Eucalyptus fibrosa	Broad Leaved Ironbark	3 m	5 m	12 - 18 m
Eucalyptus sclerophylla	Hard Leaved Scribbly	3 m	5 m	12 - 18 m
Eucalyptus haemastoma	Scribbly Gum	3 m	5 m	12 - 18 m
Planted a minimum of 6.0m from the building				
Eucalyptus microcorys	Tallow-wood	3 m	5 m	15 - 20 m
Eucalyptus botryoides	Bangalay Tree	3 m	5 m	15 - 20 m
Eucalyptus tereticornis	River Red Gum	3 m	5 m	15 - 20 m
Eucalyptus sideroxylon	Red Ironbark	3 m	5 m	15 - 20 m
Syncarpia glomulifera	Turpentine	2 m	4 m	15 - 20 m
Casuarina cunninghamiana	River She Oak	3 m	5 m	15 - 20 m

Appendix 3 - List of Noxious Plants for Liverpool LGA

The following weeds are declared noxious in the Liverpool LGA:

Weed	Class	Legal requirements
<u>African feathergrass [Pennisetum macrourum]</u>	5	1
<u>African turnipweed [Sisymbrium runcinatum]</u>	5	1
<u>African turnipweed [Sisymbrium thellungii]</u>	5	1
<u>Alligator weed [Alternanthera philoxeroides]</u>	3	2
<u>Anchored water hyacinth [Eichhornia azurea]</u>	1	3
<u>Annual ragweed [Ambrosia artemisiifolia]</u>	5	1
<u>Arrowhead [Sagittaria montevidensis]</u>	5	1
<u>Artichoke thistle [Cynara cardunculus]</u>	5	1
<u>Athel pine [Tamarix aphylla]</u>	5	1
<u>Bear-skin fescue [Festuca gautieri]</u>	5	1
<u>Bitou bush [Chrysanthemoides monilifera subspecies rotundata]</u>	3	4
<u>Black knapweed [Centaurea nigra]</u>	1	3
<u>Blackberry [Rubus fruticosus aggregate species] except cultivars Black satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smoothstem, Thornfree</u>	4	5
<u>Boneseed [Chrysanthemoides monilifera subspecies monilifera]</u>	3	4
<u>Bridal creeper [Asparagus asparagoides]</u>	5	1
<u>Broomrapes [Orobancha species] Includes all Orobancha species except the native O. cernua variety australiana and O. minor</u>	1	3
<u>Burr ragweed [Ambrosia confertiflora]</u>	5	1
<u>Cabomba [Cabomba caroliniana]</u>	5	1
<u>Castor oil plant [Ricinus communis]</u>	4	5
<u>Cayenne snakeweed [Stachytarpheta cayennensis]</u>	5	1
<u>Chilean needle grass [Nassella neesiana]</u>	4	5
<u>Chinese violet [Asystasia gangetica subspecies micrantha]</u>	1	3
<u>Clockweed [Gaura lindheimeri]</u>	5	1
<u>Clockweed [Gaura parviflora]</u>	5	1
<u>Corn sowthistle [Sonchus arvensis]</u>	5	1
<u>Dodder [Cuscuta species] Includes All Cuscuta species except the native species C. australis, C. tasmanica and C. victoriana</u>	5	1
<u>East Indian hygrophila [Hygrophila polysperma]</u>	1	3
<u>Espartillo [Achnatherum brachychaetum]</u>	5	1
<u>Eurasian water milfoil [Myriophyllum spicatum]</u>	1	3
<u>Fine-bristled burr grass [Cenchrus brownii]</u>	5	1
<u>Fountain grass [Pennisetum setaceum]</u>	5	1
<u>Gallon's curse [Cenchrus biflorus]</u>	5	1
<u>Glaucous starthistle [Carthamus glaucus]</u>	5	1

Weed	Class	Legal requirements
<u>Golden thistle [Scolymus hispanicus]</u>	5	1
<u>Green cestrum [Cestrum parqui]</u>	3	2
<u>Harrisia cactus [Harrisia species]</u>	4	5
<u>Hawkweed [Hieracium species]</u>	1	3
<u>Horsetail [Equisetum species]</u>	1	3
<u>Hygrophila [Hygrophila costata]</u>	2	3
<u>Hymenachne [Hymenachne amplexicaulis]</u>	1	3
<u>Karoo thorn [Acacia karroo]</u>	1	3
<u>Kochia [Bassia scoparia] except Bassia scoparia subspecies trichophylla</u>	1	
<u>Lagarosiphon [Lagarosiphon major]</u>	1	3
<u>Lantana [Lantana species]</u>	4	6
<u>Lantana [Lantana species]</u>	5	1
<u>Leafy elodea [Egeria densa]</u>	5	1
<u>Long-leaf willow primrose [Ludwigia longifolia]</u>	3	2
<u>Long-leaf willow primrose [Ludwigia longifolia]</u>	5	1
<u>Ludwigia [Ludwigia peruviana]</u>	3	2
<u>Mexican feather grass [Nassella tenuissima]</u>	1	3
<u>Mexican poppy [Argemone mexicana]</u>	5	1
<u>Miconia [Miconia species]</u>	1	3
<u>Mimosa [Mimosa pigra]</u>	1	3
<u>Mossman River grass [Cenchrus echinatus]</u>	5	1
<u>Onion grass [Romulea species] Includes all Romulea species and varieties except R. rosea var. australis</u>	5	1
<u>Oxalis [Oxalis species and varieties] Includes all Oxalis species and varieties except the native species O. chnoodes, O. exilis, O. perennans, O. radicata, O. rubens, and O. thompsoniae</u>	5	1
<u>Pampas grass [Cortaderia species]</u>	3	2
<u>Parthenium weed [Parthenium hysterophorus]</u>	1	3
<u>Pellitory [Parietaria judaica]</u>	4	6
<u>Pond apple [Annona glabra]</u>	1	3
<u>Prickly acacia [Acacia nilotica]</u>	1	3
<u>Prickly pear [Cylindropuntia species]</u>	4	5
<u>Prickly pear [Opuntia species except O. ficus-indica]</u>	4	5
<u>Red rice [Oryza rufipogon]</u>	5	1
<u>Rhus tree [Toxicodendron succedaneum]</u>	4	6
<u>Rubbervine [Cryptostegia grandiflora]</u>	1	3
<u>Sagittaria [Sagittaria platyphylla]</u>	5	1
<u>Salvinia [Salvinia molesta]</u>	2	3

Weed	Class	Legal requirements
<u>Sand oat [Avena strigosa]</u>	5	1
<u>Senegal tea plant [Gymnocoronis spilanthoides]</u>	1	3
<u>Serrated tussock [Nassella trichotoma]</u>	4	5
<u>Siam weed [Chromolaena odorata]</u>	1	3
<u>Smooth-stemmed turnip [Brassica barrelieri subspecies oxyrrhina]</u>	5	1
<u>Soldier thistle [Picnemon acarna]</u>	5	1
<u>Spotted knapweed [Centaurea maculosa]</u>	1	3
<u>St. John's wort [Hypericum perforatum]</u>	4	6
<u>Texas blueweed [Helianthus ciliaris]</u>	5	1
<u>Water caltrop [Trapa species]</u>	1	3
<u>Water hyacinth [Eichhornia crassipes]</u>	2	3
<u>Water lettuce [Pistia stratiotes]</u>	1	3
<u>Water soldier [Stratiotes aloides]</u>	1	3
<u>Willows [Salix species]</u> Includes all Salix species except S. babylonica, S. x reichardtii, S. x calodendron	5	1
<u>Witchweed [Striga species]</u> Includes all Striga species except native species and Striga parviflora	1	3
<u>Yellow burrhead [Limnocharis flava]</u>	1	3
<u>Yellow nutgrass [Cyperus esculentus]</u>	5	1

- 1 The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with.
- 2 The plant must be fully and continuously suppressed and destroyed
- 3 The plant must be eradicated from the land and the land must be kept free of the plant
- 4 The plant must be fully and continuously suppressed and destroyed
- 5 The growth and spread of the plant must be controlled according to the measures specified in a management plan published by the local control authority and the plant may not be sold, propagated or knowingly distributed
- 6 The growth and spread of the plant must be controlled according to the measures specified in a management plan published by the local control authority
- 7 except B.scoparia subspecies trichophylla
The plant must be eradicated from the land and the land must be kept free of the plant

Appendix 4 - Flood Compatible Materials

Building Component	Flood compatible material	Building Component	Flood compatible material
Flooring and Sub-floor	Concrete slab-on-ground monolith construction	Doors	Solid panel with water proof adhesives
Structure	Suspension reinforced concrete slab.		Flush door with marine ply filled with closed cell foam
			Painted metal construction
			Aluminium or galvanised steel frame
Floor Covering	Clay tiles	Wall and Ceiling Linings	Fibro-cement board
	Concrete, precast or in situ		Brick, face or glazed
	Concrete tiles		Clay tile glazed in waterproof mortar
	Epoxy, formed-in-place		Concrete
	Mastic flooring, formed-in-place		Concrete block
	Rubber sheets or tiles with chemical-set adhesives		Steel with waterproof applications
	Silicone floors formed-in-place		Stone, natural solid or veneer, waterproof grout
	Vinyl sheets or tiles with chemical-set adhesive		Glass blocks
	Ceramic tiles, fixed with mortar or chemical-set adhesive		Glass
	Asphalt tiles, fixed with water resistant adhesive		Plastic sheeting or wall with waterproof adhesive
Wall Structure	Solid brickwork, block work, reinforced, concrete or mass concrete	Insulation	Foam (closed cell types)
		Windows	Aluminium frame with stainless steel rollers or similar corrosion and water resistant material.
Roofing Structure (for Situations Where the Relevant Flood Level is Above the Ceiling)	Reinforced concrete construction	Nails, Bolts, Hinges and Fittings	Brass, nylon or stainless steel
	Galvanised metal construction		Removable pin hinges
			Hot dipped galvanised steel wire nails or similar

Article II. Electrical and Mechanical Equipment	Heating and Air Conditioning Systems
Article III. For dwellings constructed on land to which this DCP applies, the electrical and mechanical materials, equipment and installation should conform to the following requirements.	Article IV. Heating and air conditioning systems should, to the maximum extent possible, be installed in areas and spaces of the house above the relevant flood level. When this is not feasible every precaution should be taken to minimise the damage caused by submersion according to the following guidelines.
Main power supply Article V. Subject to the approval of the relevant authority the incoming main commercial power service equipment, including all metering equipment, shall be located above the relevant flood level. Means shall be available to easily disconnect the dwelling from the main power supply.	Fuel Article VI. Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off.
Wiring Article VII. All wiring, power outlets, switches, etc., should, to the maximum extent possible, be located above the relevant flood level. All electrical wiring installed below the relevant flood level should be suitable for continuous submergence in water and should contain no fibrous components. Earth core linkage systems (or safety switches) are to be installed. Only submersible-type splices should be used below the relevant flood level. All conduits located below the relevant designated flood level should be so installed that they will be self-draining if subjected to flooding.	Installation Article VIII. The heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks should be vented to an elevation of 600mm above the relevant flood level.
Equipment Article IX. All equipment installed below or partially below the relevant flood level should be capable of disconnection by a single plug and socket assembly.	Ducting Article X. All ductwork located below the relevant flood level should be provided with openings for drainage and cleaning. Self-draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a watertight wall or floor below the relevant flood level, the ductwork should be protected by a closure assembly operated from above relevant flood level.
Reconnection Article XI. Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection.	Article XII.

**LIVERPOOL
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COUNCIL**



LIVERPOOL CITY COUNCIL

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Liverpool Development Control Plan 2008

Part 2.1

Subdivision of land in

Green Valley Release Area

19 February 2014

Part 2.1 must be read in conjunction with Part 1

Refer to Parts 3.2 - 3.6 & 3.8 for development in Residential Zones

Liverpool Development Control Plan 2008

Part 2.1 Green Valley Release Area

Table of Contents

1. Preliminary	4
2. Controls for Public Domain.....	5
2.1 Street Network and Access	5
2.2 Open Space	6

Table of Figures

Figure 1 Land to which this Part applies	Error! Bookmark not defined.
Figure 2 Road Network.....	6

1. Preliminary

Applies to

1. Part 2.1 applies to the land, shown in Figure 1.
2. Part 1 also applies to the land.
3. The controls in this Part relate to the subdivision of land.
4. Controls on development in Residential Zones in this locality are in Parts 3.2 – 3.6 & 3.8.

Background

The Green Valley area was rezoned under Liverpool LEP 108 on 24 October 1984 and added to subsequently. The area was originally subject to Liverpool Development Control Plan No. 2 was originally adopted on 18th December 1984, and came into force on 9th January 1985.

There is still area in the release area that is not yet developed and is accordingly incorporated into this DCP.

Objectives

- a) To provide for a road layout incorporating as far as is possible:
 - A clear definition between the collector street and other local streets.
 - Safe vehicular and pedestrian movements.
 - Suitable engineering principles.
- b) To retain as far as is practicable the maximum number of existing trees in the area.

2. Controls for Public Domain

2.1 Street Network and Access

1. Streets and pathways shall be located generally in the positions shown on Figure 1.
2. Road widths and configuration and pathway widths shown on Figure 1 are to apply.
3. To approve a change in the location of the roads proposed by this plan, Council would need to be satisfied that:
 - The roads provide for a safe movement system.
 - Intersections are safety designed.
 - Other property owners are not unduly disadvantaged by the change.
 - Drainage paths are adequately maintained.
 - Road planning does not close off options for future development of adjoining land.
 - The requirements of servicing authorities are met.
4. For changes to the proposed road system which Council considers minor, Council will consult with affected property owners prior to determining the application.
5. For changes to the proposed road system, which Council considers major, Council may seek to amend the DCP prior to determining the application.

2.2 Open Space

Open space areas are to be provided in accordance with Figure 1.



Figure 1 Land to which this Part applies and Street Network



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Liverpool Development Control Plan 2008
Part 2.2
Carnes Hill, Hoxton Park &
Prestons Residential Release Areas
Includes Carnes Hill Centre and Inghams land

3 September 2014

Part 2.2 must be read in conjunction with Part 1
Refer to Parts 3.2 – 3.6 and 3.8 for Development in Residential Zones
Refer to Part 6 for Development in Business Zones

Liverpool Development Control Plan 2008

Part 2.2 Carnes Hill, Hoxton Park & Prestons Residential Release Areas

Table of Contents

1. Preliminary	5
2. Controls for Public Domain	7
2.1 Street Network	7
2.2 Open Space	18
2.3 Street Tree Planting	18
3. Sites	20
3.1 Horningsea Park Heritage Area	20
3.2 Carnes Hill Centre	22
3.3 Bushland Preservation	24
4. Controls for Residential Development for land adjacent Carnes Hill Shopping Centre	25
4.1 Land to which this Chapter applies	25
4.2 Site Planning	26
4.3 Setbacks	28
4.4 Landscaped Area and Private Open Space	30
4.5 Cut and Fill, Building Design, Streetscape and Layout	32
4.6 Landscaping and Fencing	37
4.7 Car Parking and Access	39
4.8 Amenity and Environmental Impact	39
4.9 Site Services	41
4.10 Secondary dwellings (Granny Flats)	37
4.6 Landscaping and Fencing	42
Appendix 1 Street and Landscape Design	43
Appendix 2 Drainage and Open Space Landscape Design	59

Table of Figures

Figure 1 Land to which this Part applies	6
Figure 2 Street Network	8
Figure 3 Classified Road Landscaping.....	9
Figure 4 Landscaping.....	10
Figure 5 Subdivision of land near classified road	10
Figure 6 Trunk Collector Streets	11
Figure 7 Trunk Collector Street and Collector Street.....	12
Figure 8 Collector Streets.....	13
Figure 9 Intersection of Access and Collector Streets.....	14
Figure 10 Traffic Calming Measures	15
Figure 11 Example of Traffic Calming Device	13
Figure 12 Appropriate Subdivision Patterns	17
Figure 13 Tree Guard and Planting Details	19
Figure 14 Land to which Chapter 4 applies	25
Figure 15 Example of a site analysis plan	26
Figure 16 Zero Lot Lines	28
Figure 17 An example of Landscaped Area and Private Open Space	30
Figure 18 Cut and Fill requirements	32
Figure 19 Example of Building Appearance	33
Figure 20 Maximum total first floor wall length of a two storey dwelling	34
Figure 21 Fence treatments on secondary frontage.....	37
Figure 22 Privacy and Amenity	38
Figure 23 Typical Classified Road Grade.....	43
Figure 24 Elevated Classified roads.....	44
Figure 25 Classified roads in cutting	45
Figure 26 Trunk Collector Street in Cutting	46
Figure 27 Drainage of road	47
Figure 28 Intersections.....	48
Figure 29 Typical collector streets.....	49
Figure 30 Landscape speed control device.....	50
Figure 31 Tree Islands in roads.....	51
Figure 32 Speed control device.....	52
Figure 33 Roundabout	53
Figure 34 Signage.....	54
Figure 35 Signage.....	55
Figure 36 Signage.....	56

1. Preliminary

Applies to

1. Part 2.2 applies to the land, shown in Figure 1.
2. Part 1 and Parts 3.3 - 3.6 applies to the land except as stated in point 3 below.
3. Part 1 and Chapter 4 of this Part (2.2) applies to the land shown in Figure 14.
4. Part 3.8 also applies for non residential development on the land.

Background

These release areas form parts of the Hoxton Park Stage 2 Release Areas Structure Plan. Hoxton Park was rezoned under Liverpool LEP No. 236 (Precinct 1) on 15 May 1992. Prestons was rezoned under Liverpool LEP 238 (Precinct 5) on 15 May 1992. Carnes Hill was rezoned under Liverpool LEP No. 237 (Precinct 4) on 10 July 1992. The area was originally subject to Liverpool Development Control Plan No 31, which adopted on 10 December 1995 and came into force on 11 March 1996.

A number of planning studies were undertaken prior to the preparation of the plan and form the basis of the controls in this plan. These studies included the following: Drainage / Flooding, Traffic, Retailing, Heritage, Archaeology, Open Space / Recreation and Vegetation

Objectives

- a) A high quality standard of subdivision is carried out.
- b) The subdivision of the many land parcels in the release areas is co-ordinated.
- c) A framework for a high quality amenity and character for new neighbourhoods is set.
- d) The requirements relating to development are clarified.
- e) Greater certain outcomes for both applicants and the community are provided.
- f) The environmental integrity of the area is protected.
- g) The subdivision that facilitates solar design of residential development is encouraged.
- h) High quality landscaped areas in public spaces are provided and maintained.

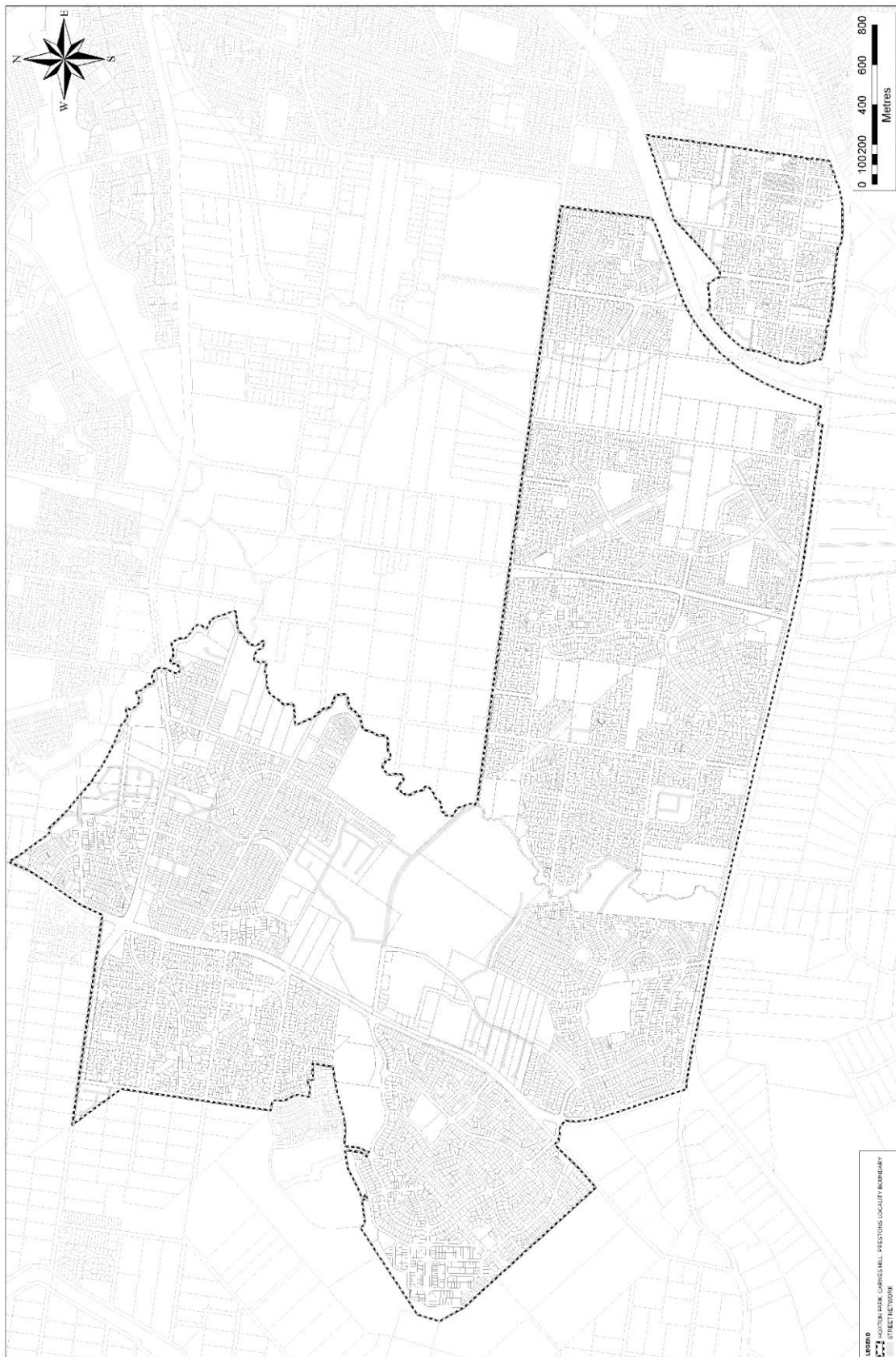


Figure 1 Land to which this Part applies

2. Controls for Public Domain

2.1 Street Network

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To minimise the amount of through traffic in residential areas.

Controls

- 1. All applications to subdivide and/or develop land shall be consistent with the street network shown on Figure 2 unless a variation can be justified.
- 2. The design of the street network has generally been based on the *Australian Model Code for Residential Development 1990*, referred to in this plan as the "Model Code".
- 3. Any development of Lot B DP 418231 shall ensure vehicular access is provided to Lot 100 DP 1126218.



Figure 2 Street Network

Sub-Arterial Roads

Objectives

- a) To minimise the impact of development on traffic capacity and safety, of the classified road and sub-arterial road.
- b) To minimise the impact of a classified road or sub-arterial road on adjoining development.
- c) To provide an attractive landscaped streetscape.

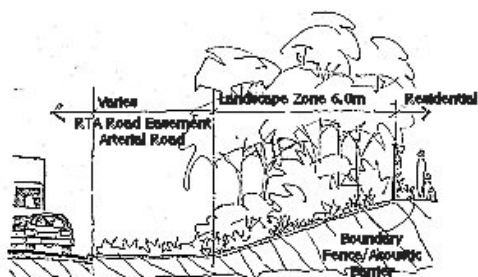
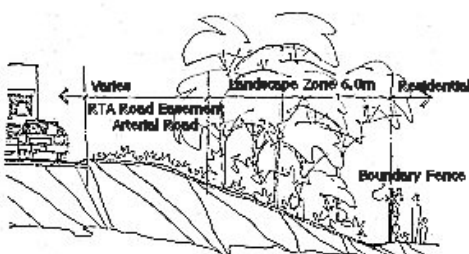
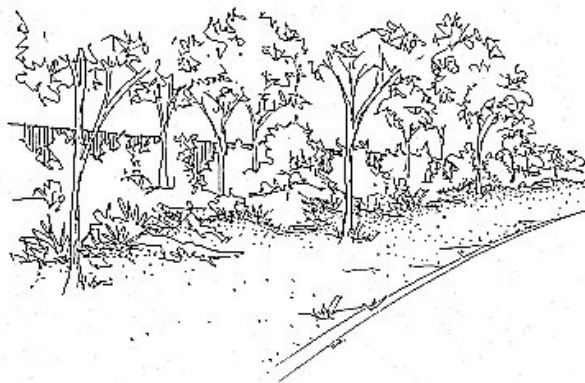


Figure 3 Classified Road Landscaping.

Controls

1. A 3m wide landscaped area and noise attenuation barrier shall be provided along the frontage to a sub- arterial road in accordance with the details give in drawing A4, A5 and Appendix 1.
2. No access will be permitted from land to a classified road.
3. No access will be permitted to a sub-arterial road from residential development.
4. Where land has an existing access from a Classified or sub-arterial road, any proposed subdivision shall provide access to that land from an alternate street and remove the existing access.

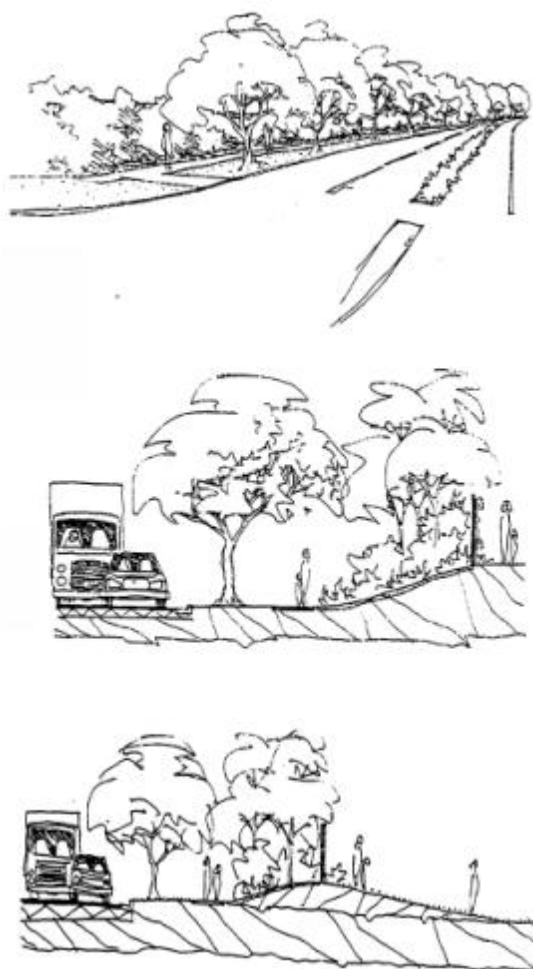


Figure 4 Landscaping

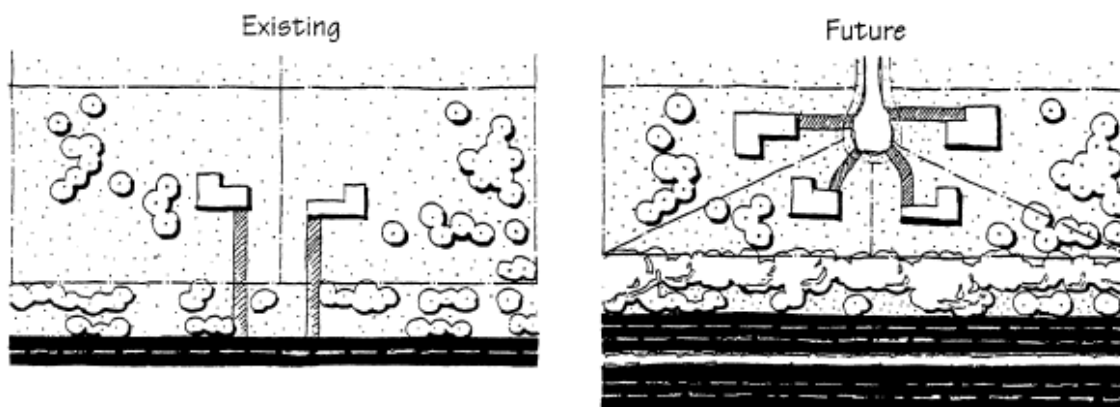


Figure 5 Subdivision of Land near Classified Road

Details of landscaping and the noise attenuation barrier shall be provided with the engineering plans.

Trunk Collector Streets

Objectives

- a) To provide a controlled connection between traffic signals or roundabout, residential streets and the classified road system.
- b) To concentrate local traffic to an outlet, but not to attract through traffic.
- c) To form a gateway to the residential areas.



Controls

1. Access to Trunk Collector Streets is denied to residential lots.
2. All applications to subdivide and/or develop land shall be consistent with the street network shown on the maps, which show:
 - location and width of trunk collector streets;
 - width of landscaped area; and
 - location of entrance signage.
3. Trunk collector streets shall be constructed and landscaped in accordance with the details given in drawings A4, A5, A13 and A14 in Appendix 1.

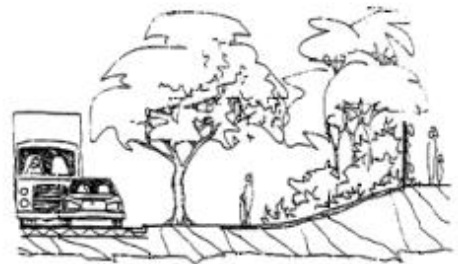
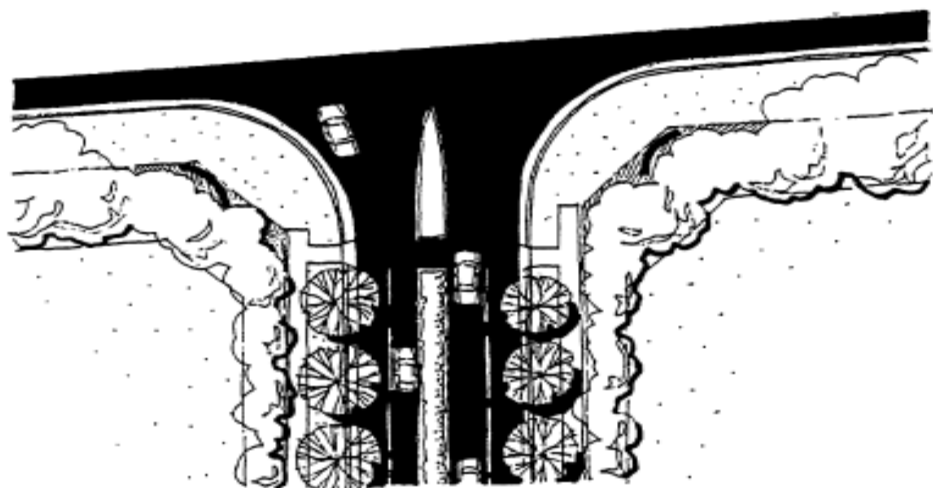
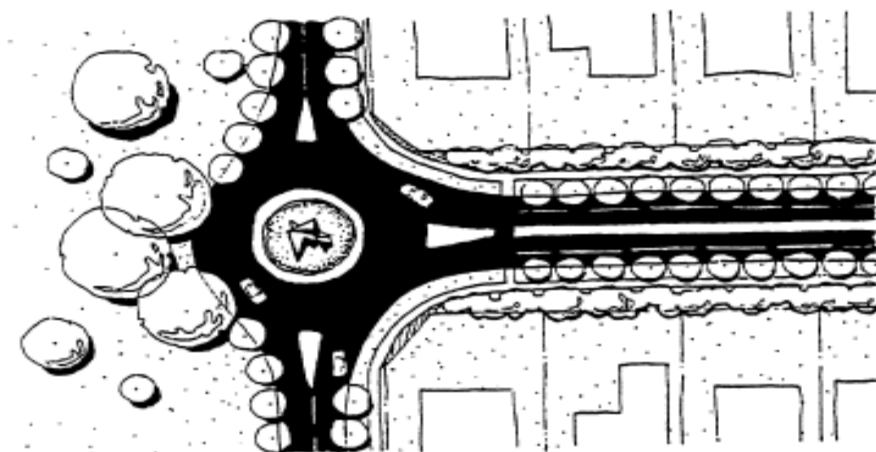


Figure 6 Trunk Collector Streets



Typical plan of intersection at Trunk Collector Street
and Arterial Road



Typical plan of intersection at Trunk Collector Street
and Collector Street

Figure 7 Trunk Collector Street and Collector Street

Collector Streets

Objectives

- a) To provide the principal streets within residential areas, which collect and distribute traffic and provide for a bus route.
- b) To provide an attractive streetscape.
- c) To be visually prominent.
- d) To maintain residential amenity and safety.

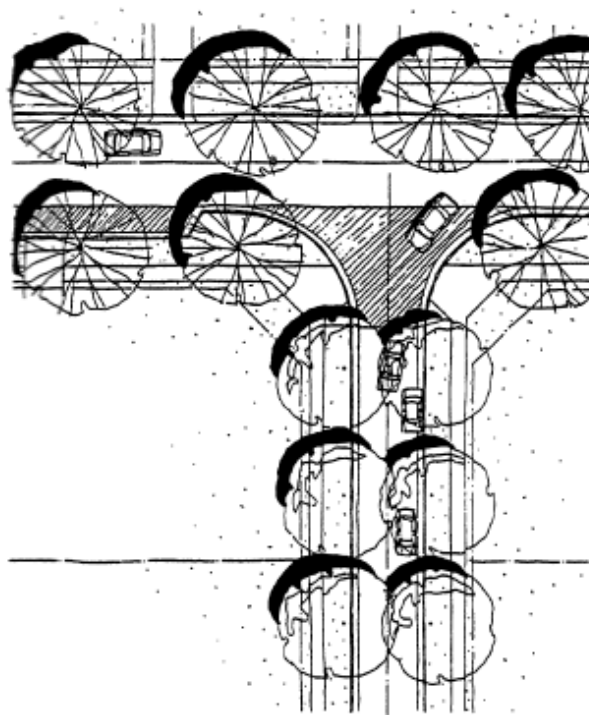


Figure 8 Collector Streets

Controls

1. All applications to subdivide and/or develop land shall be consistent with the street network shown on the maps, which show:-
 - location and width of collector streets;
 - variation in alignment of travelling lanes and car parking bays;
 - roundabouts; and
 - landscaped speed control devices.
2. Collector streets shall be constructed and landscaped in accordance with details as given in drawings A6, A7, A9-A12 in Appendix 1, which incorporates the following features:-
 - a 7.5m wide travelling carriageway;
 - distinctive pavement treatment at the entrance to all streets which intersect with collector streets;
 - a landscaped speed control device at each transition point between;
 - car parking bay location;
 - a tree island at approximately every 50m along the car parking bay; and
 - a distinctive pavement treatment for car parking bays.

Please note: Variations to the collector street network (other than minor variations to the actual location of a collector street), are unlikely to be supported.



Typical plan of intersection at
Collector Street
and Access Street

Figure 9 Intersection of Access and Collector Streets

Access Streets and Access Places

Objectives

- a) To create a low vehicle speed environment using the physical characteristics and geometry of the street layout and construction.
- b) To provide a carriageway width and variation in alignment to help produce a low speed environment.
- c) To provide innovative, cost effective designs in accordance with the spirit of the Model Code, except as amended by this Part.

For more information, refer to the Model Code. Some of the main points to be noted for these streets include:

Access Streets

- vehicle speeds are to be controlled by street length, speed control devices at intervals of 100m and / or alignment;
- speeds are to less than 30km/h for streets carrying less than 1000 vehicles per day (100 dwellings), with a carriageway width of 6.5m; and
- speeds are to less than 40km/h for streets carrying less than 2000 vehicles per day (200 dwellings), with a travelling carriageway width of 6.5 to 7.5m.

Access Places

- vehicle speeds are to controlled by street length and / or alignment;
- if they are a cul-de-sac they serve less than 30 dwellings;
- generally a uniform 6.5m width carriageway is preferred.

This is a variation of the Model Code proposed very narrow meandering carriageway with indented car parking and landscaping.

Controls

All applications to subdivide and / or develop land shall be consistent with the street network shown on the maps.

On some existing large allotments not all streets are shown. Where an application is submitted for part of the land, it will be necessary to submit an overall plan showing how the application relates to the rest of the land and the adjacent properties.

1. Speed control devices shall be constructed at intervals of generally 100m, subject to final lot layouts.
2. Access Streets shall be constructed and landscaped in accordance with the details given in drawings A6 and A8 in Appendix 1.
3. Pedestrian access between Kydra Close and Quamma Close, Prestons is to be maintained.

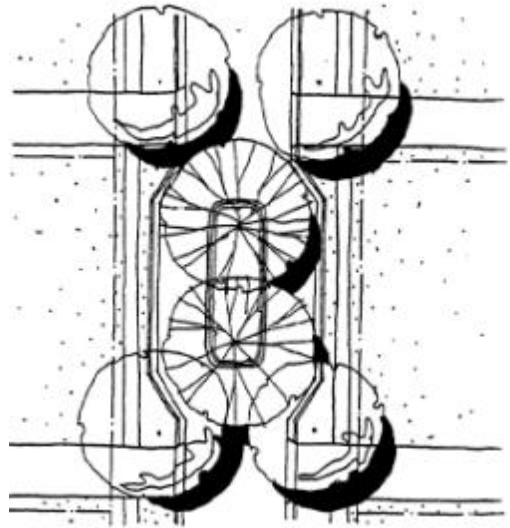


Figure 10 Traffic Calming Measures

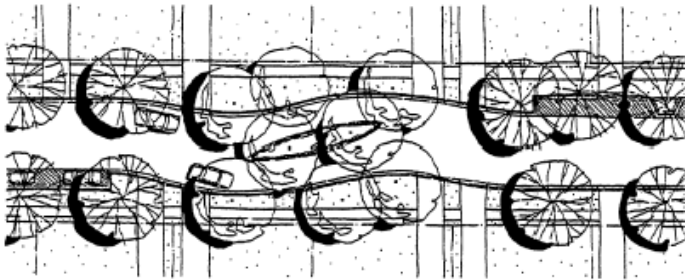


Figure 11 Example of Traffic Calming Device

Variation to Street Layout

Objective

To provide a degree of flexibility in the location of streets.

Council may consider applications, which do not conform to the street layout on the maps without the need to exhibit an amendment to the DCP, depending on the scale of the change.

The general location and layout of collector and trunk collector streets is fixed. The location and layout of the other streets (called access streets and access places) is more flexible. (See Appendix 2, which outlines how the overall street layout was determined).

Controls

1. Applications, which do not conform, to the street layout on the map shall provide justification for the variation. Refer to submission requirements in Part 1 for details.
2. Although traffic volumes on local streets may not be large, the impact of directing additional traffic onto a street designed as an access place may have a detrimental affect on pavement, traffic and residential amenity.
3. Applications, which vary the location and layout of, access streets or access places or vary the location of a collector street or trunk collector street to a minor extent, can be determined by Council without the need to exhibit an amendment the DCP.
4. Applications, which involve more major changes to the street layout, would require amendment to the DCP prior to Council determining the application. This will include exhibition of the changes to the DCP.

Subdivisions Adjoining Open Space

Objectives

- a) To maximise public exposure to public open space.
- b) To improve security and care of public open space.

Controls

1. Where land adjoins open space it shall be developed in one of the following ways:
 - Hatchet shaped allotments or multiple dwelling developments, which is oriented to the open space.
 - A street between the open space and the dwellings.
 - Cul-de-sacs, which are connected to open space.

Development, which is not oriented toward the open space, is unlikely to be permitted. Refer to Appendix 2 for details on how open space shall be developed.

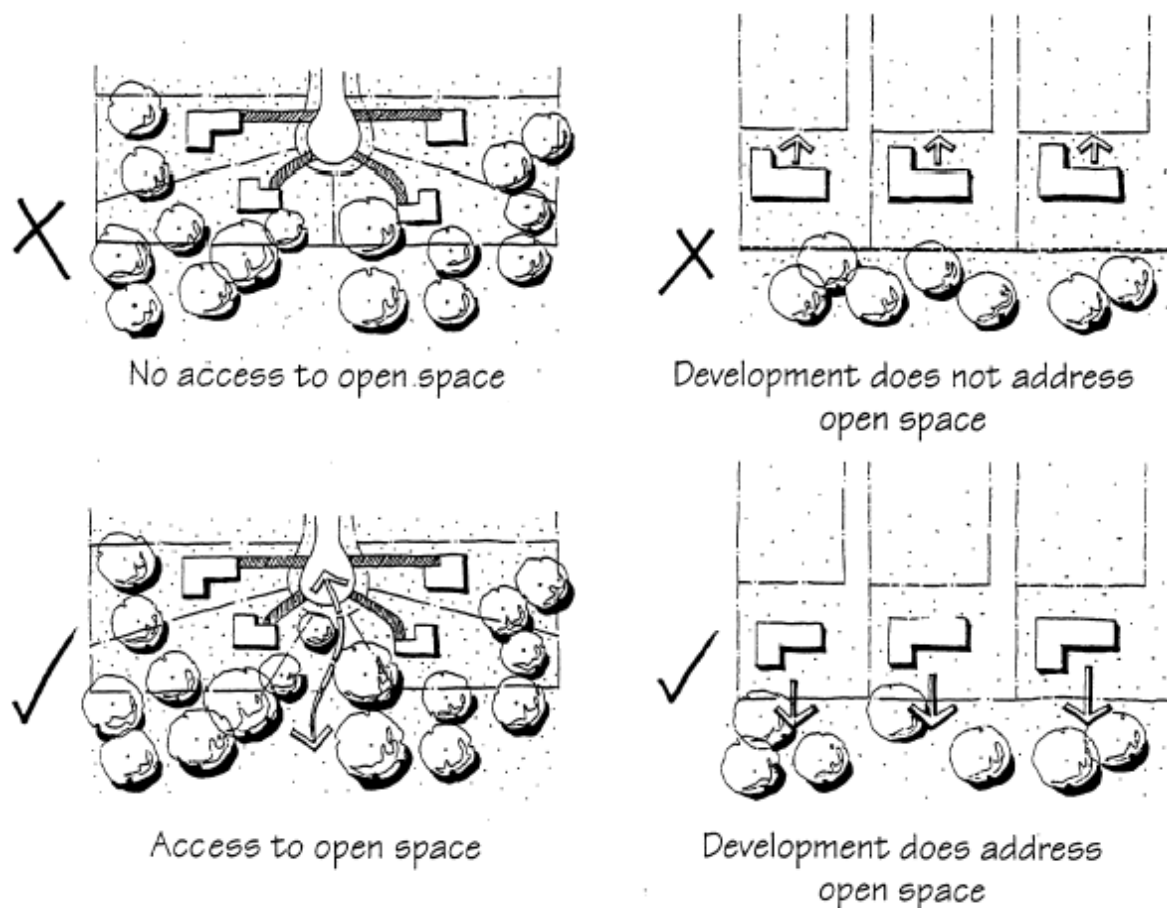


Figure 12 Appropriate subdivision patterns

Bikeways

Objective

To provide for the needs of cyclists within the release area.

It is proposed to have a network of bikeways throughout the release areas.

Controls

All applications to subdivide and / or develop land shall be consistent with the bikeway network shown on the maps. Where these are shown on proposed streets, they shall be constructed as an off-road shared pedestrian - bikeway on the side of the street shown.

1. Shared pedestrian - bikeways shall be constructed a minimum of 0.5m from the kerb and shall have a minimum width of 2.5m. Refer to Appendix 2 for details.
2. Where it is proposed to embellish land which is to be dedicated as public open space in conjunction with a proposed development, this shall take into account any proposed bikeways on the open space. Refer to Appendix 2 for details. A landscape plan shall be submitted in conjunction with the engineering plans.

2.2 Open Space

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To provide links between major open space, community and retail facilities.
- c) To preserve native bushland.

Controls

1. The provision of open space shall be consistent with the maps, which show:
 - size and location of major open space areas for active recreation and the retention of native bushland;
 - location of open space along the creek systems;
 - notional location of neighbourhood open space.
2. Where it is proposed to embellish land, which is to be, dedicated as public open space in conjunction with a proposed development, this shall be carried out in accordance with details in Appendix 2. A landscape plan shall be submitted with the engineering plans.

2.3 Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted for each allotment created.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 12 for details.

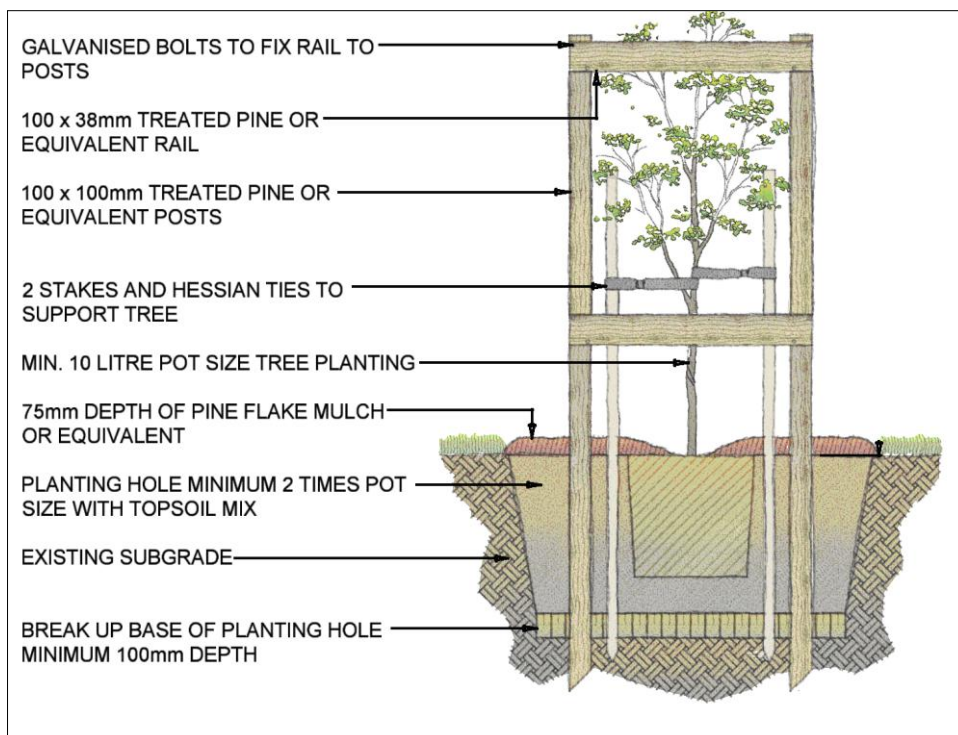


Figure 13 Tree Guard and Planting Details

3. Sites

3.1 Horningsea Park Heritage Area

Objectives

- a) To ensure that new development in the vicinity of the Horningsea Park House site is undertaken in a manner sympathetic to, and does not detract from, the heritage significance of the Homestead and its curtilage.
- b) To establish a minimum curtilage for the house, which protects its cultural significance.
- c) To retain the cultural significance and character of the existing driveway, which connects the house with Camden valley Way.
- d) To retain the visual axis to the house from Camden Valley Way.
- e) To ensure the long-term conservation and use of the historic house.
- f) To ensure the long-term conservation of the total cultural resource of the property.
- g) To maximise the extent of open space around the main house, thereby retaining its semi rural setting.
- h) To retain the visual prominence and identity of the large historic house in the locality.
- i) To reduce the overall visual impact of the housing near the historic property.

The Horningsea Park property is subject to a permanent Conservation Order, issued under the NSW Heritage Act. As such the Heritage Council must give its approval prior to any consent being issued by Council. It is also included in the Register of the National Estate and has been classified by the National Trust of Australia (NSW).

Controls

Development in the vicinity of the Horningsea Park House shall be carried out in accordance with the following requirements.

Minimum Curtilage

- 1. The minimum curtilage for the historic house shall be as shown on the map. There shall be no development within this curtilage that is unrelated to the conservation and use of the house.
- 2. The existing, white painted fence shall be retained for the length of existing driveway that is retained.
- 3. The open grassed nature of the inner curtilage, with limited numbers of exotic and indigenous trees, shall be retained. The existing trees shall generally be retained, subject to a horticulturalist's report. If existing trees need to be removed because of their age or condition, they shall be replaced with specimens, which match the existing species.
- 4. Any new residential roads shall generally be located along the outer alignment of the landscaped margins. New housing shall then be located with frontage to such roads, facing into the landscaped open space. No new residential properties shall have their rear boundaries facing the landscaped margins.

Driveway

1. The semi rural nature of the driveway, with its gravel surface shall be retained to the greatest extent possible.
2. The visibility of the house from the main road shall be retained.
3. Any acoustic barriers constructed along the main road frontage, on either side of the identified curtilage, shall not be carried across the frontage of the curtilage. If required, they should be turned to follow the outer edges of the curtilage margins.

Homestead

1. The historic house shall be retained and conserved in accordance with contemporary heritage practice and with the requirements of the Heritage Council of NSW.
2. Any additions or new outbuildings associated with either the existing or new uses shall be designed in ways, which respect the historic significance of the place.
3. Alternative uses for the house shall not detract from the heritage significance of the place. Any proposed change of use of the main Horningsea Park House or alterations or additions to the house or new outbuildings within the curtilage shall be accompanied by a Conservation Plan prepared in accordance with The Burra Charter and Guidelines, issued by Australia ICOMOS. In addition, the Conservation Plan shall address the following issues:
 - The impact of any such change of use on the existing internal spatial organisation of the house.
 - The impact of any such change of use on the external form, mass and traditional architectural character of the main house.
 - The impact of any proposed new buildings or other structures on the traditional architectural character of the main house, in particular the dominance of its form and identity in the landscape.
 - The impact of any proposed site works, roadways, parking areas, signage and landscaping on the traditional architectural character of the main house and its setting, in particular the visual dominance of its form and identity in the landscape.

Site Elements

1. Sites of potential archaeological value, associated with former outbuildings, should be identified and investigated by documentary means. An Excavation Permit shall be applied for under the Heritage Act, if any disturbance is planned in their vicinity.
2. The alignment of existing or traditional fences, paths and gardens should be maintained and utilised as a basis for any replanting or reconstruction of the landscaping around the house.
3. The large exotic trees, in particular the Bunya Pines, Moreton Bay Figs and Peppercorn trees, shall be retained and conserved, subject to their age and health. Any new planting of this nature shall be limited in extent and should aim to achieve a long-term continuity of the existing landscape, not to supplement it.

Visual Prominence of the House

1. The maximum ridge height of any buildings to be erected on land between the existing Horningsea Park House and Cabramatta Creek or on the northern side of the curtilage is to be limited to RL 54 AHD, thus preserving the dominance of Horningsea Park House. Buildings shall also have a maximum ridge height of: 6m where the building is on land between RL 46 and RL 54 AHD and 8m where the building is on land below RL 46 AHD.
2. New housing within the above area shall be generally be designed with maximum roof pitches of 30 degrees, with roof materials of dark colours. Colour selections for brickwork and external wall cladding for any individual house or other building shall be from a limited colour range.
3. Future school buildings shall be located as far to the northwest and west of the proposed school site as possible. School buildings shall be generally of single storey design to minimise penetration into the visual catchment of the house.
4. Any new development on the existing golf course to the north of the Horningsea Park property shall be screened by a landscaped buffer zone of a minimum of 25m width from any road along the northern boundary of the property. There shall be no new buildings on land above RL 46 AHD in this vicinity.
5. New landscaping in the areas which surround the historic property, particularly in open spaces, school grounds and road reservations shall be selected from suitable or remnant native species in the locality and where possible should include *Eucalyptus moluccana* and *Eucalyptus tereticornis*.
6. Landscaping along the boundary of the curtilage shall be carried out in accordance with the Horningsea Park Revised Conservation Strategy approved by the Heritage Council on 6th July 1995.
7. The density of new trees in the school property and adjoining open space shall take account of the need to retain views from new public roads towards the historic house.

3.2 Carnes Hill Centre

Objectives

- a) To identify land required for commercial and retail purposes to serve Carnes Hill and the Stage 2 Release Area generally.
- b) To provide an attractive, accessible central focus for retail, commercial, recreation, community facilities and public transport in the Hoxton Park Stage 2 Release Area.

Controls

The shopping centre shall be designed to achieve the following:

1. Compatibility with adjoining residential area.
2. Capability to permit individual shops to trade out of normal business hours.
3. Car parking area and surrounds being landscaped to Council's satisfaction.
4. Design and location of loading area to minimise adverse impact on amenity of the adjoining residential area.
5. Convenient access from the adjacent bus routes.

6. The principles of the location and layout of this centre are as follows:
- It is adjacent to sub-arterial roads but does not disrupt traffic movement by having direct frontage to these roads.
 - There is controlled access from the sub-arterial roads and collector streets to the centre.
 - It is accessible to likely bus routes.
 - It is adjacent to district sporting facilities and bikeways.
 - It incorporates district community facilities.
 - It incorporates a town square.
 - It provides for a shopping complex in various configurations.
 - It provides for retail uses, which rely on passing traffic without disrupting traffic on sub-arterial roads.
 - It provides a main street for the centre.
 - It provides a convenient location for a bus stop.

Pad Sites - Carnes Hill District Centre

PAD sites in general refer to commercial/retail sites located adjacent to Classified and sub-arterial roads or at gateway locations.

Controls

1. A minimum 2m wide landscape strip is required along the PAD site frontages to enhance streetscape. Further landscaping is required to screen building bulk and loading docks, and to soften expanses of hard paved areas as appropriate.
2. The building character, scale and bulk of PAD site developments are to reflect human scale by:
 - In the case of flat roofs, variations are required in parapet walls to provide relief in the massing of elevations. Articulation can be achieved by the incorporation of detail including stepping, landscaping, and increased fenestration.
 - Protruding elements such as porches, verandahs or canopy type structures shall be used to reinforce entry to the buildings.
 - For PAD sites adjacent to pedestrian and bikeway links the site's design shall address that link.
3. Signage for PAD site developments is to be part of an overall concept that provides for consistency.
4. A pole or pylon sign not exceeding 5m in height from the ground level is permitted at the rate of not more than one sign per PAD site. The sign is not to exceed 5sqm in area. The sign is to be located within an area of 5m (frontage dimension) by 3m (depth dimension) on either side of the ingress/egress points, subject to compliance with site distance requirements.
5. Signs are not permitted at locations where they are hazardous to traffic.

6. Roof signs or fins above the roofline are prohibited.
7. Signage is not to extend laterally beyond or vertically above the top of the wall to which it is attached and is not to cover any windows or architectural features.

Land on the southern side of Main Street and south of the Marketplace

1. Development of these sites should address the street with shop fronts directly to the public streets.
2. Car parking shall be provided at the side of the building, the rear or underneath the building.
3. Development should be generally in accordance with Part 6 of the DCP.

3.3 Bushland Preservation

Objectives

- a) To protect and manage natural assets in association with the development of land.
- b) To conserve the natural heritage of bushland in the Liverpool LGA.
- c) To maintain and improve the amenity and scenic qualities of land within the Liverpool LGA.
- d) To maintain and enhance the biodiversity and natural ecology of land within the Liverpool LGA.

Controls

1. Land shown on the map as Bushland Preservation has been identified as Endangered Ecological Communities, listed under the *Threatened Species Conservation Act (1995)*. The land shown, as Bushland Preservation shall not be cleared or disturbed for any purpose and shall be retained as bushland.
2. Development applications for land parcels, which include land shown on the map as Bushland Preservation shall be accompanied by a Plan of Management showing how the bushland shall be properly managed to maintain the bushland once residential subdivision takes place adjoining the land. Development in the vicinity of the bushland will need to comply with "*Planning for Bushfire Protection*" published by the *NSW Rural Fire Service*.
3. The *Department of Environment and Climate Change* has determined that Council may assume concurrence for those developments carried out in accordance with this Development Control Plan, provided that the following conditions are met:
 - The land identified in the DCP as reserves is transferred to Council ownership and managed as community land, designated as bushland, under the *Local Government Act 1993*.
 - A management plan is prepared and implemented for the land.
5. Accordingly development, which proposes to dedicate the land shown on the map as Bushland Preservation free of charge to Council will not be required to be referred to the *Department of Environment and Climate Change* under the *Threatened Species and Conservation Act (1995)*.
6. Those developments, which include the land shown as Bushland Preservation and are not in accordance with these conditions, and which will have a significant effect on threatened species or ecological communities, will require the preparation of an SIS and the concurrence of the Director-General of the *Department of Environment and Climate Change*.

4. Controls for Residential Development for the areas as shown in Figure 14.

4.1 Land to which this chapter applies

This chapter applies to the land as shown in Figure 14.

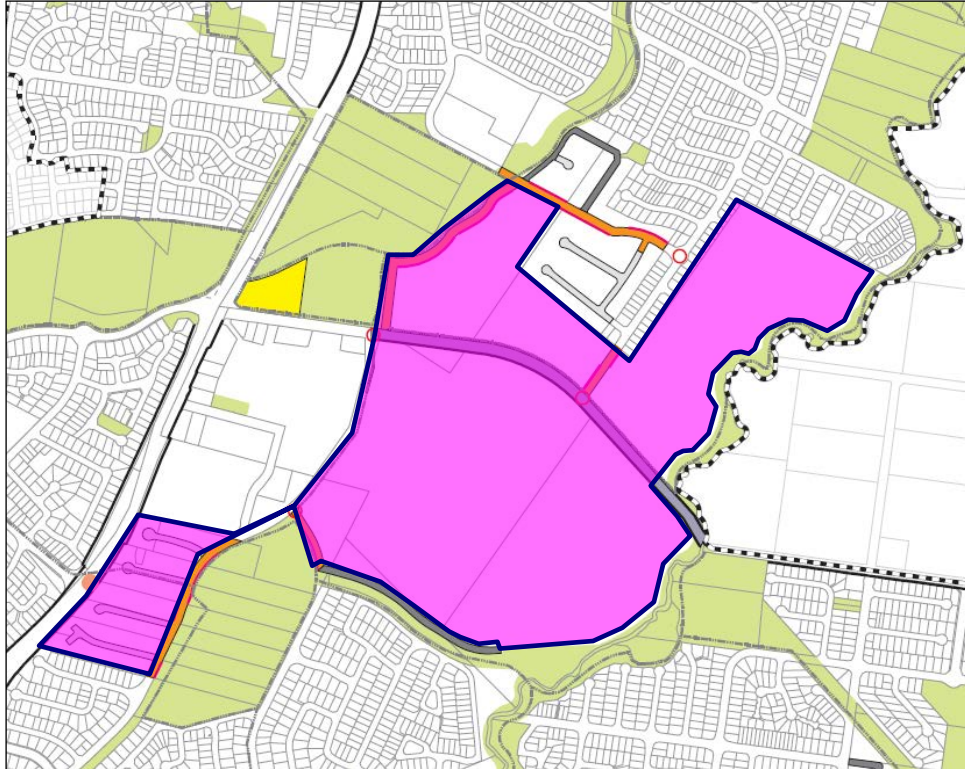


Figure 14 Land to which Chapter 4 applies

4.2 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and / or solar access (See Figure 14).
2. There must be a direct link from at least one living area to the principal private open space.
3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the private open space of neighbouring properties.
4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to

incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

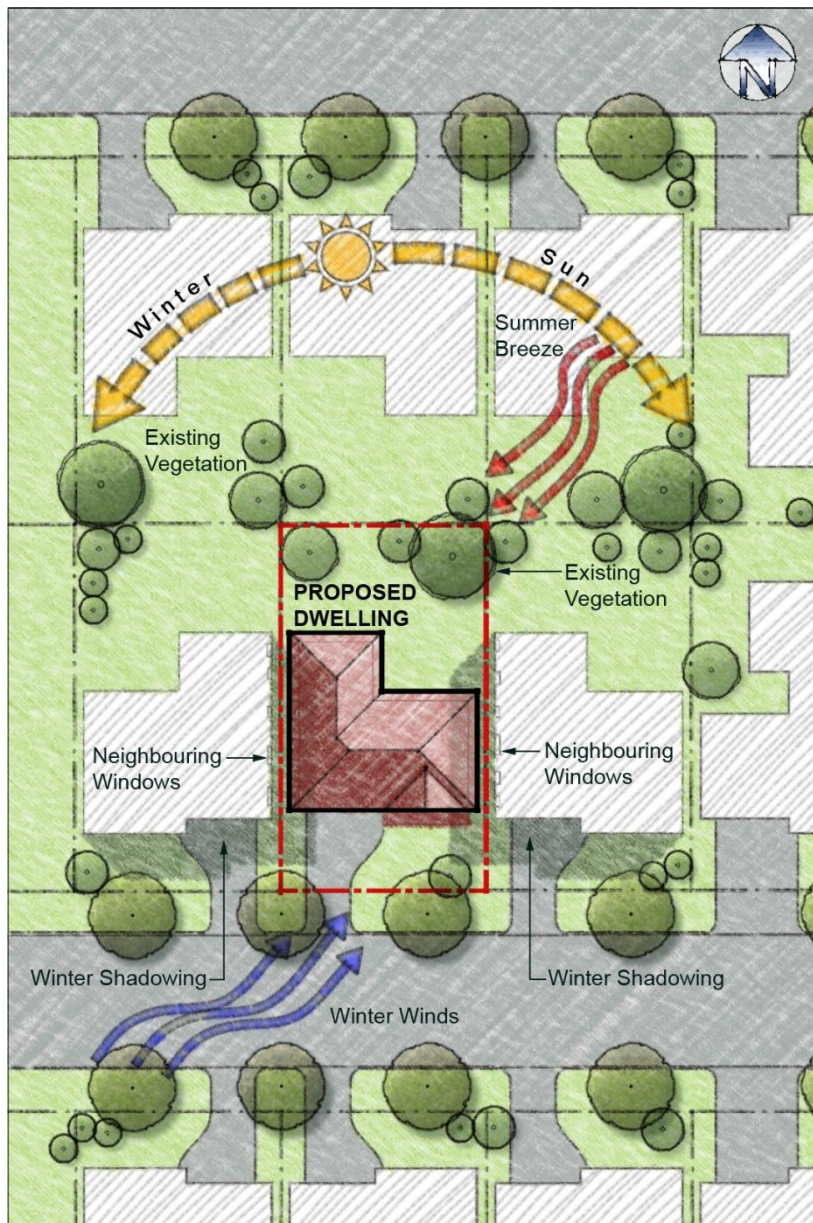


Figure 15 Example of a site analysis plan

4.3 Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access;
- b) To set dwellings back from each other to provide visual and acoustic privacy;
- c) To create a streetscape that provides a desirable and safe environment;
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality;
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.
- f) To discourage vehicular parking across street verges and footpaths

Controls

Front and Secondary Setbacks

1. Dwelling houses, semi detached dwellings, attached dwellings and Multi Dwelling Housing shall be setback in accordance with Table 1.

Table 1 Front and Secondary Setbacks

Height	Front Setback	Secondary Setback	Secondary Setback
		Lots under 450m ²	Lots 450m ² and over
Ground floor	4.5m	2.0m*	2.5m
First floor	4.5m	2.0m*	2.5m

* The dwelling setback may be reduced to 1m for a maximum length of 4m.

2. For dwellings fronting RE1 Public Recreation, the front setback may be reduced to 3m. A front verandah, porch or patio may be built to within 1.8m of the front boundary. The garage setback is to be maintained at a minimum of 5.5m.
3. Verandahs, balconies, eaves and other sun control devices may only encroach on the minimum front and secondary setback by up to 1m.
4. On the secondary setback encroachments must not be constructed within 1m from the property boundary.
5. The secondary setback is the longest length boundary.
6. Garages must be set back a minimum of 1m behind the main face of the dwelling. (The main face is the first wall of a habitable room)
7. Garages that address the secondary frontage must be setback 1m or 5.5m and greater. Garages are not permitted to be setback between 1 – 5.5m
8. Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wrap around verandah, bay window, corner entry or roof feature.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table2.

Table2 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9 m	4.0 m
Second storey component of dwelling houses	1.2 m	7.0 m
Living room doors (including family rooms and rumpus rooms)	4.0 m	4.0 m

Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

Zero lot lines

1. Walls are generally to be 180mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the adjacent side wall boundary.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 900mm shall be provided on the adjoining boundary. Refer to figure 15.

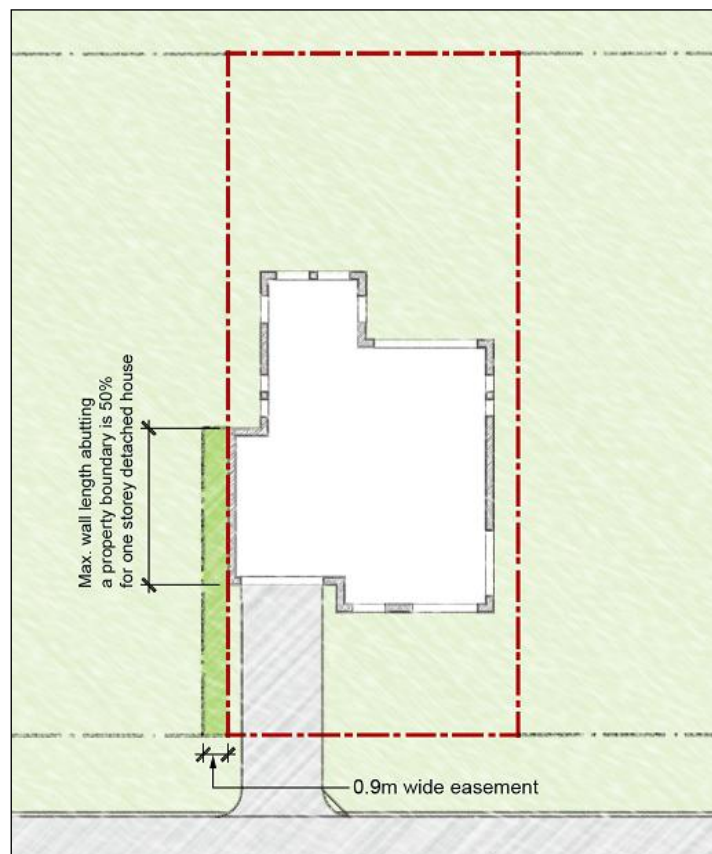


Figure 16 Zero Lot Lines

4.4 Landscaped Area and Private Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.
- f) Note: All proposed developments require a landscape plan prepared by a suitably qualified person to be submitted with the development application.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum unincumbered area of 4 x 6m shall be provided in rear setback to accommodate deep rooted trees.
3. A minimum of 50% of the front setback area shall be Landscaped Area.
4. A minimum unincumbered area of 3 x 3m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum of 50sqm of Private Open Space.
2. Areas less than 2.5m in width does not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the Principal Private Open Space of 25sqm, which is directly accessible from the main living area and has a minimum dimension of 4m.

6. The Principal Private Open Space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Open Space has a predominately northern aspect Clause 6 (above) does not apply.

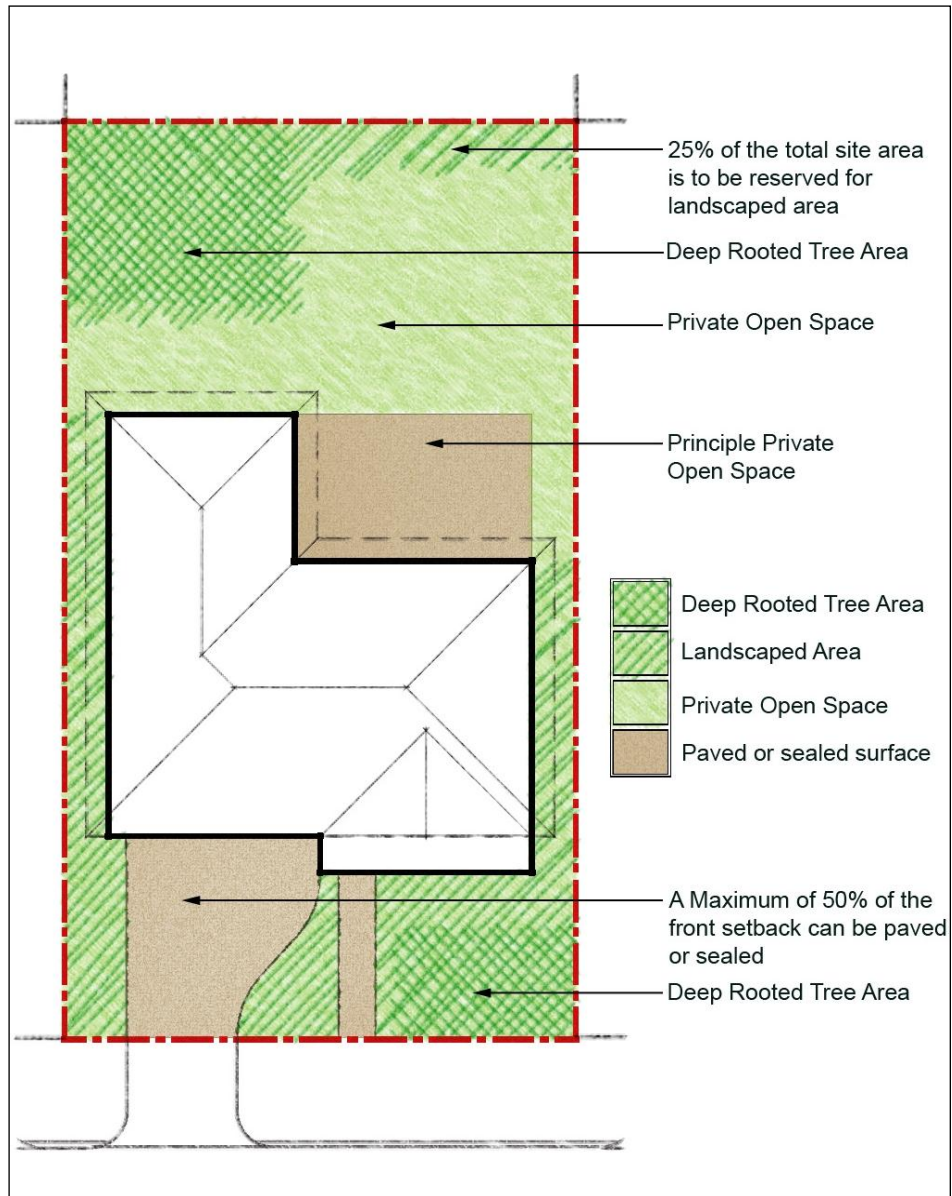


Figure 17 An example of Landscaped Area and Private Open Space

4.5 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

- 1. The maximum cut on a site must not exceed 600mm.
- 2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
- 3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint. Refer to Figure 24.
- 4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.
- 5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

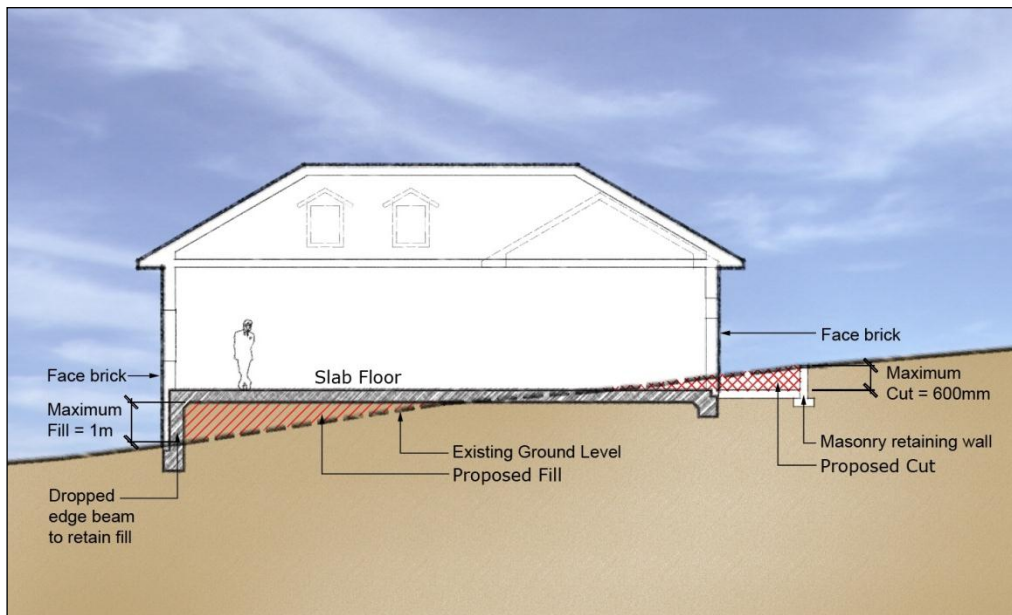


Figure 18 Cut and Fill requirements

Building Envelopes

Background

The orientation and site cover of a building has significant implications for residential amenity. Building envelopes determine the orientation and footprint of a dwelling, as well as the total volume of the dwelling.

Objectives

- To facilitate the efficient use of the site area.
- To maximise private amenity within the building.
- To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.
- To provide an acceptable scale of development.

Controls

- The building footprint for single detached dwellings is not to occupy more than 55% of the site and the total impervious area is not to exceed 75% of the total site area. A minimum of 25% of the site area must be pervious surfaces.
- The building footprint for denser development (i.e. attached/zero lot housing, terrace, townhouse or villa development) is not to occupy more than 60% of the site and the total impervious area is not to exceed 75% of the total site area. A minimum of 25% of the total site area must be pervious surfaces.

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

1. All dwelling houses are to be orientated to the street (See Figure 18).
2. The front pedestrian entrance must be visible from the street.
3. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
5. Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

Two storey dwellings

1. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 18).
2. The maximum total length of the side walls of the first floor component of a dwelling shall be a maximum of 30m as measured from any point within 3m of that side wall (for example 12m + 18m = 30m) (See Figure 19).



Figure 19 Example of Building Appearance (Indicative Only – Not to Scale)

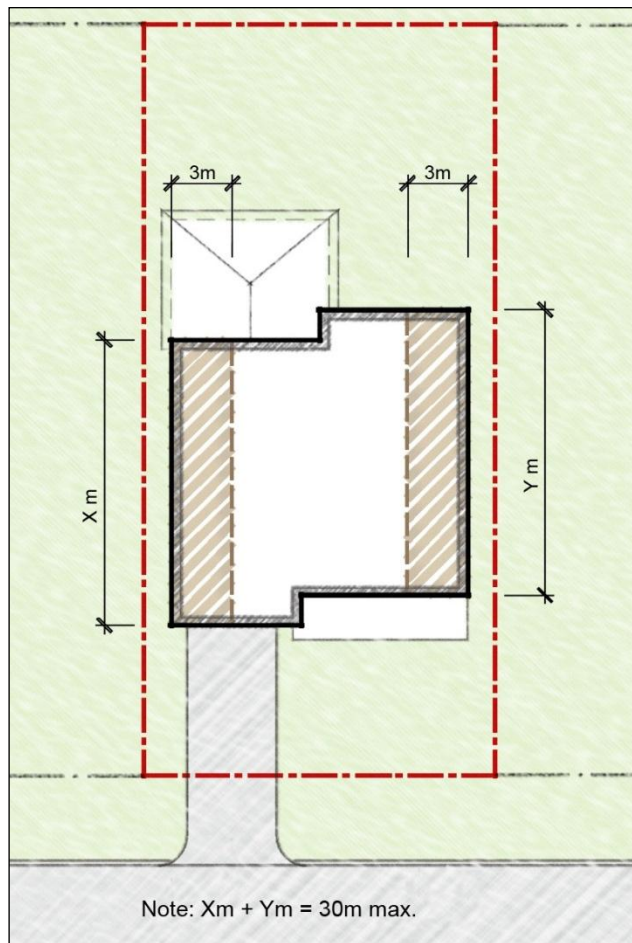


Figure 20 Maximum total first floor wall length of a two storey dwelling

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports may be built in front of the garage *only if* the carport is:
 - No larger than 5.5 x 6m.
 - Built of a similar colour and materials of the house.
 - Setback 2m from the front property boundary.
 - Compatible with the local streetscape.
6. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- 1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
- 2. Living rooms should take advantage of northern aspects.
- 3. Access to private open space must be from at least one living room.
- 4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
- 5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
- 6. Each dwelling must provide a minimum storage area of 8m³.
- 7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
- 8. Dwelling entries must be oriented to the street.

4.6 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
- 2. Trees planted on the northern side of private open space and habitable rooms are to be deciduous.

3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided.
4. Any tree with a mature height over 8 m should be planted a minimum distance of 3 m from the building or utility services.
5. A landscape plan must be lodged with all Das, and is to provide the following details
 - The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - The location of any trees on adjoining properties that is likely to be damaged as a result of excavations or other site works.
 - The position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

3. The maximum height of a front fence is 1.2m.
4. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
5. The front fence must be 30% transparent. (See Figure 20)
6. Front fences shall be constructed in masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.

Secondary Frontage

7. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (see Figure 20).
8. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure 20). The secondary setback is the longest length boundary.
9. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

10. The maximum height of side boundary fencing within the setback to the street is 1.2m.
11. Internal boundary fences shall be lapped and capped timber or metal sheeting.

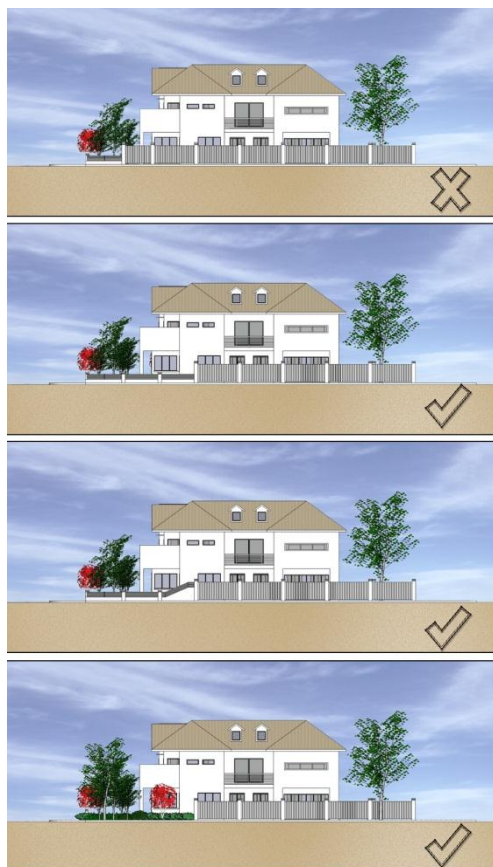


Figure 21 Fence treatments on secondary frontage

4.7 Car Parking and Access

Objectives

- To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- To minimise the need for on-street car parking from new dwellings.

Controls

- Two car parking spaces shall be provided for each dwelling.
- At least one car parking space must be provided behind the front setback.
- A car parking space is to have a minimum dimension of 2.5 x 5.5m.
- A single garage is to be a minimum of 3m wide internally and unobstructed.
- All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

4.8 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

- Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- One living room, rumpus room or the like.
- 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 21).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5 m, except where they face a street or public open space (See Figure 21).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

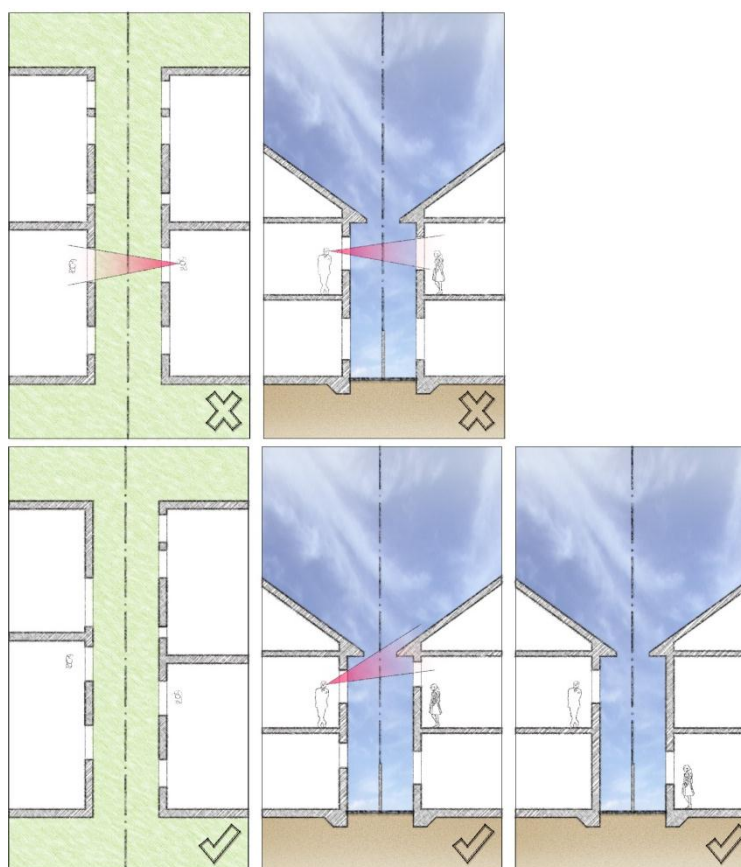


Figure 22 Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof covering and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Department of Environment and Climate Change criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

4.9 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75 mm in height, reflective and in contrast to the backing material.

Frontage works and damage to Council infrastructure

4. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
5. Council must be notified of any works that may threaten Council assets. Council will assess any applications for works involving Council infrastructure.
6. Where there are no existing street trees in front of the site it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage.

4.10 Secondary dwellings (Granny Flats)

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A Secondary dwelling can be a maximum of one storey high, unless the granny flat is above the garage facing a rear laneway, where the granny flat must be one storey high above the garage.
2. A Secondary dwelling should be attached to the main dwelling, as provided by Part 2 of the DCP. However, Council may consider applications for detached granny flats on a merit base.
3. A Secondary dwelling should compliment the main dwelling design by using the same style of construction and a similar colour.

Note: Secondary dwellings are included in the overall floor space ratio of a property, and only one Secondary dwelling is permitted per lot.

Appendix 1 Street & Landscape Design

The following information assists developers in the detailed design layout of streets and adjacent landscaping. The guidelines are seen as the minimum acceptable standard. Developers may wish to exceed these standards to may wish to provide an alternative, subject to approval from Council.

The landscaping proposed reflects a road hierarchy. The Classified roads provide a native bushland appearance. The sub-arterial roads and trunk collector streets provide an “avenue” appearance consisting of street trees, and feature landscaped strips alongside the street.

It is advisable to consult Integral Energy regarding clearances to any existing or proposed electricity power lines.

Landscape Specifications

Sub arterial roads, trunk collector streets & access streets

- Where there are existing weed infestations in the landscape zone, spray weeds with a glyphosphate based herbicide (such as Roundup), in accordance with manufacturers specifications. Sprayed areas are to remain undisturbed for a period of two (2) weeks during the summer and four (4) weeks during winter.
- Remove large stones, building debris, rubbish or any material that may restrict the growth of plants.
- Apply gypsum at a rate of 300 kg/ha and cultivate it into the surface to a depth of 150mm.
- Place and consolidate a layer of clean imported topsoil to create a profile, as shown on the subsequent pages.
- Where applicable, install CCA treated timber edging to locations as shown on
- The subsequent pages.
- Plant trees and shrubs in all landscape zones in accordance with planting recommendations. Refer to the following section on Planting in mulched landscape areas and medians, and Street Tree Planting.
- Apply a continuous 75mm layer of organic mulch to the whole garden bed area.
- Provide continuous maintenance to all landscape zones for a period to 12 months to ensure plant establishment. Refer to section on Maintenance.

Planting

Planting in mulched landscaped areas & medians:

- Trees and shrubs are to be planted in a random fashion at a density of approximately:
- 1 tree for every 10sqm of landscaped zone minimum pot size 35L.
- 1 tree at every 8m interval within the median, (One species only with a minimum pot size 35L).
- 1 shrub for every 1sqm of landscaped zone with a minimum pot size of 150mm.
- 2 groundcovers for every 1sqm of median landscape.

Species List, for landscaped areas (excluding median)

Plant Name quantities be planted	% of total quantities to be planted	Plant Name	% of total to
Trees		Shrubs	
Eucalyptus tereticornis 10%	15%	Acacia decurrens	
Eucalyptus moluccana	20%	Acacia falcata	10%
Eucalyptus crebra	20%	Acacia parramattensis	5%
Eucalyptus maculata	30%	Melaleuca armillaris	10%
Angophora floribunda	5%	Melaleuca hypericifolia	5%
Casuarina glauca 10%	10%	Melaleuca linariifolia	
	5%	Pultenaea villosa	
		Banksia spinulosa	5%
		Lomandra longifolia	5%
		Leptospermum juniperinum	10%
		Hakea sericea	10%
	5%	Kunzea ambigua	
		Kunzea baxteri	5%
		Indigophera australis	5%

Street Tree Planting

Provide street tree planting to locations and sizes as detailed below:-

- 100 litre trees at 10m intervals along both sides of Sub-Arterial Roads and Trunk Collector Streets.
- Trees are to be planted 600mm back from the kerb line.

Maintenance

Maintenance of mulched landscaped areas shall include the following activities:

- Topping of the mulch to maintain a continuous 75mm layer.
- Maintaining soil moisture levels during dry periods.
- Weeding and treating pest and disease infestations with the appropriate horticultural methods.
- Replacement of any container grown plants, which are dead or dying.

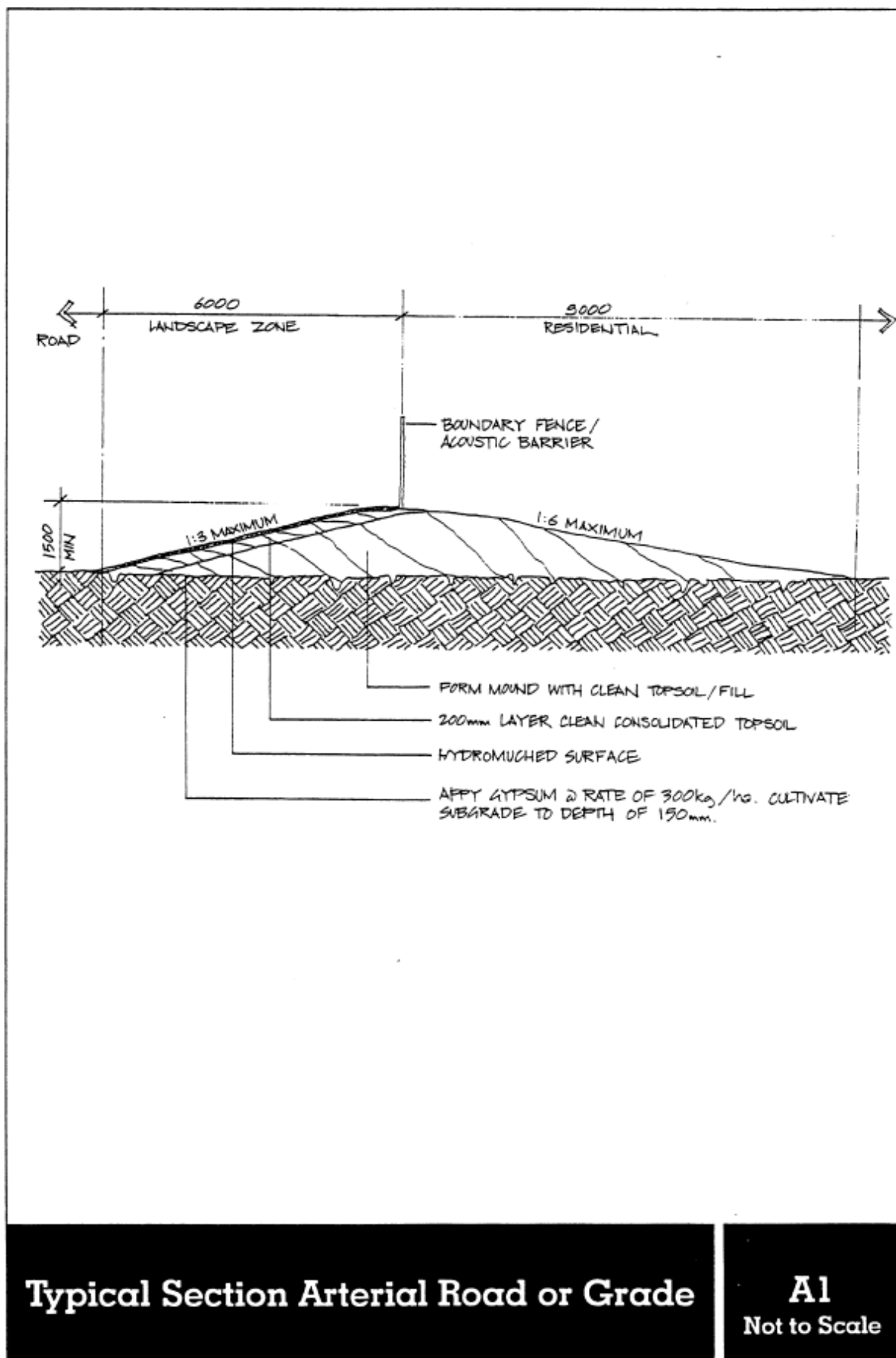
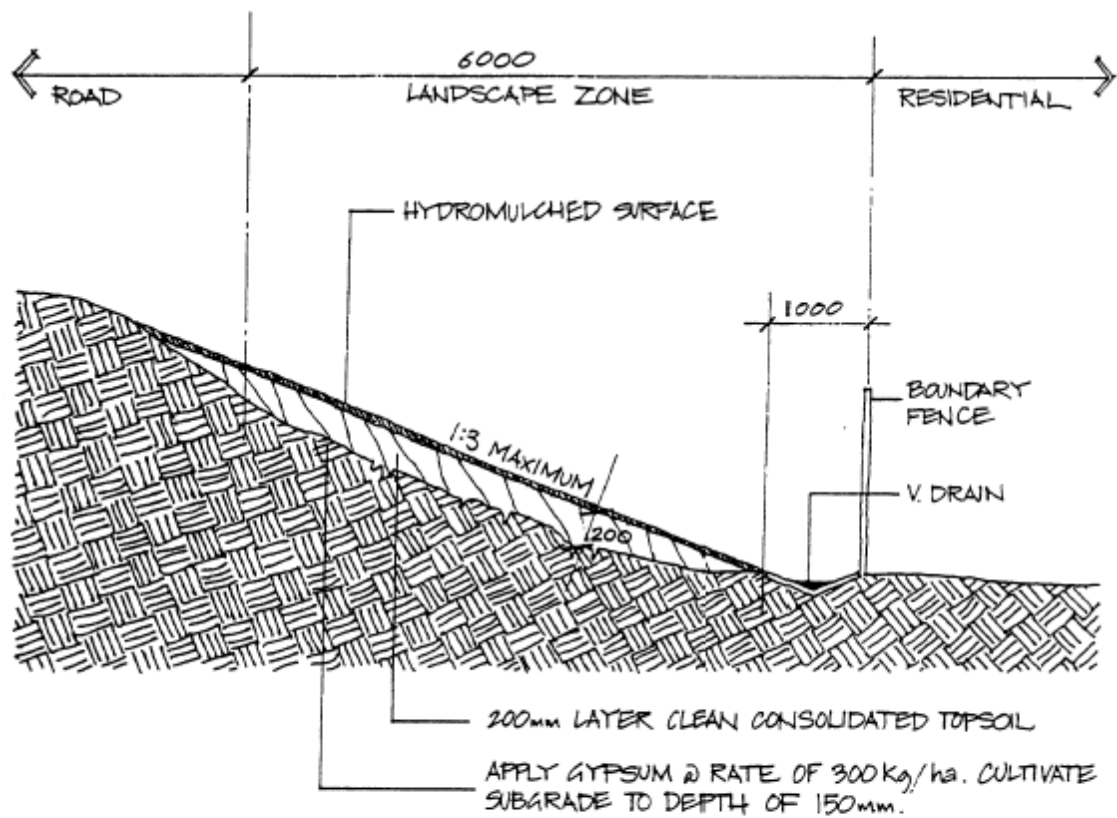


Figure 22 Typical Classified Road Grade



Typical Section Elevated Arterial Road

A2
Not to Scale

Figure 23 Elevated Classified roads

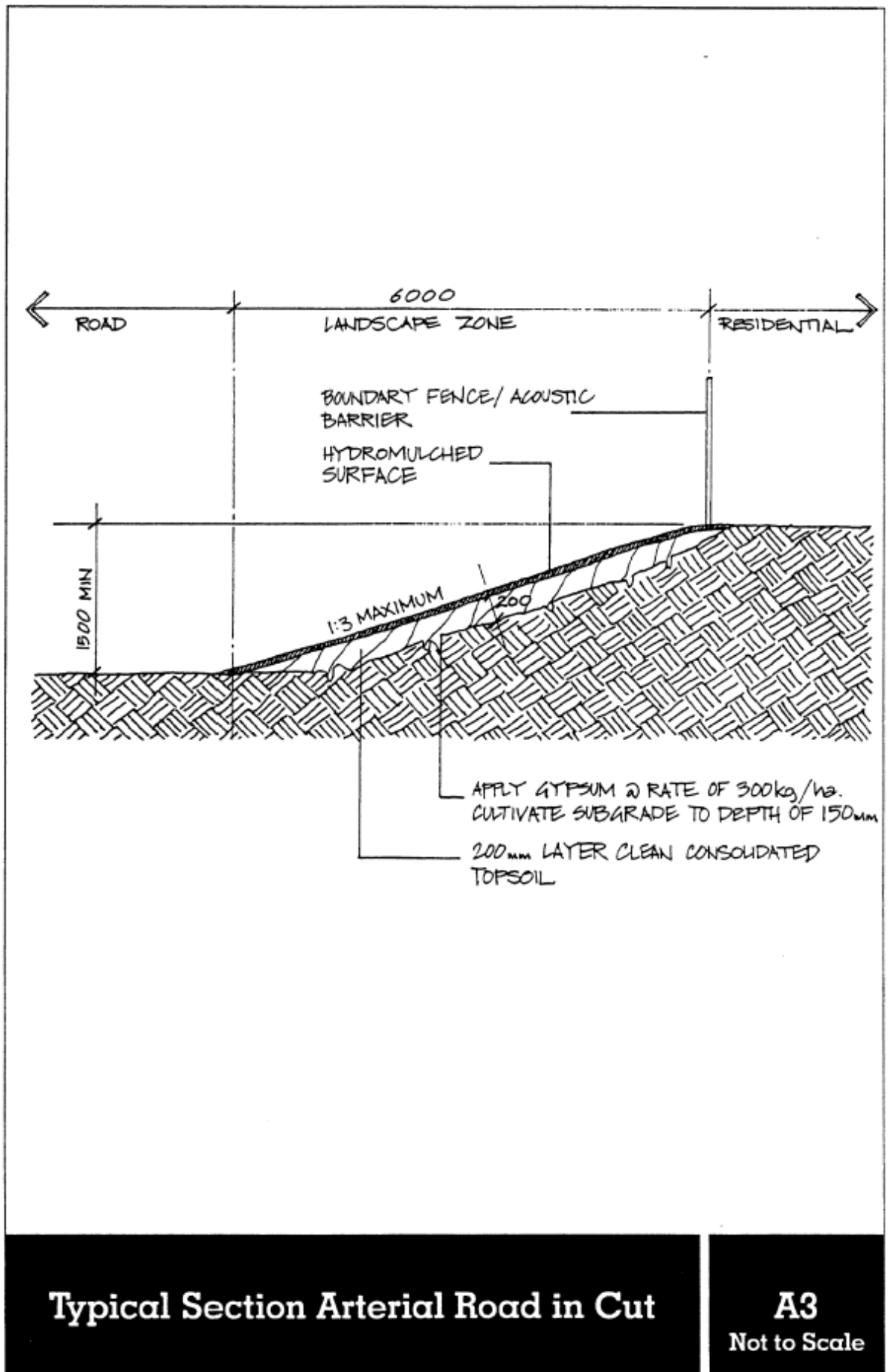


Figure 24 Classified roads in cutting

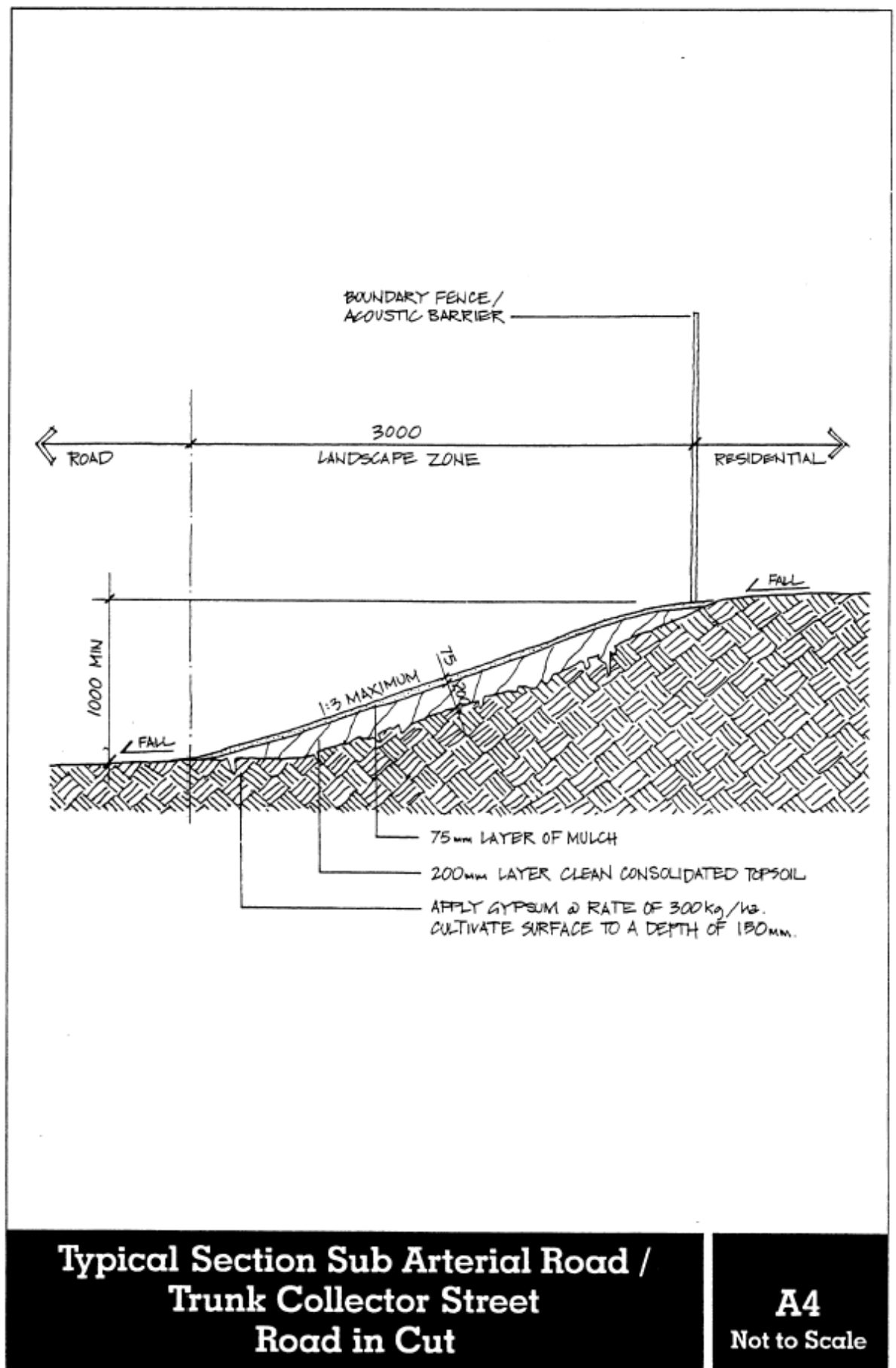
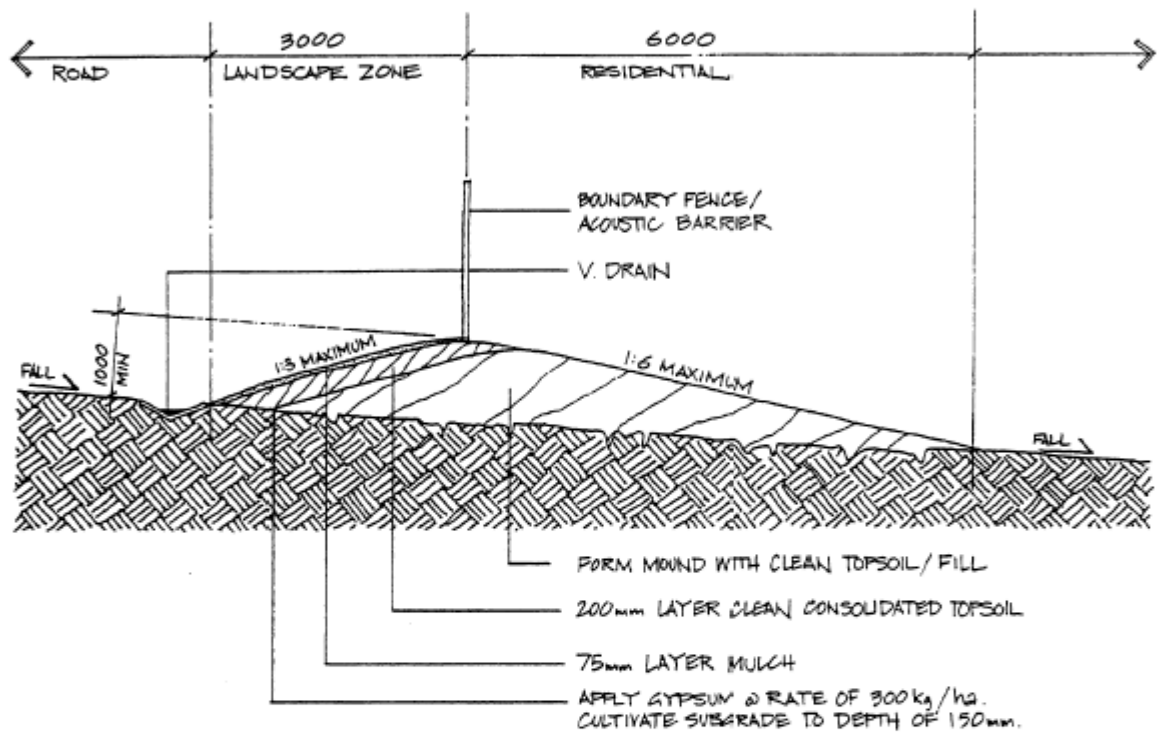


Figure 25 Trunk Collector Street in Cutting



Typical Section Sub Arterial Road / Trunk Collector Street Drainage Falls Away Grade

A5
Not to Scale

Figure 26 Drainage of road

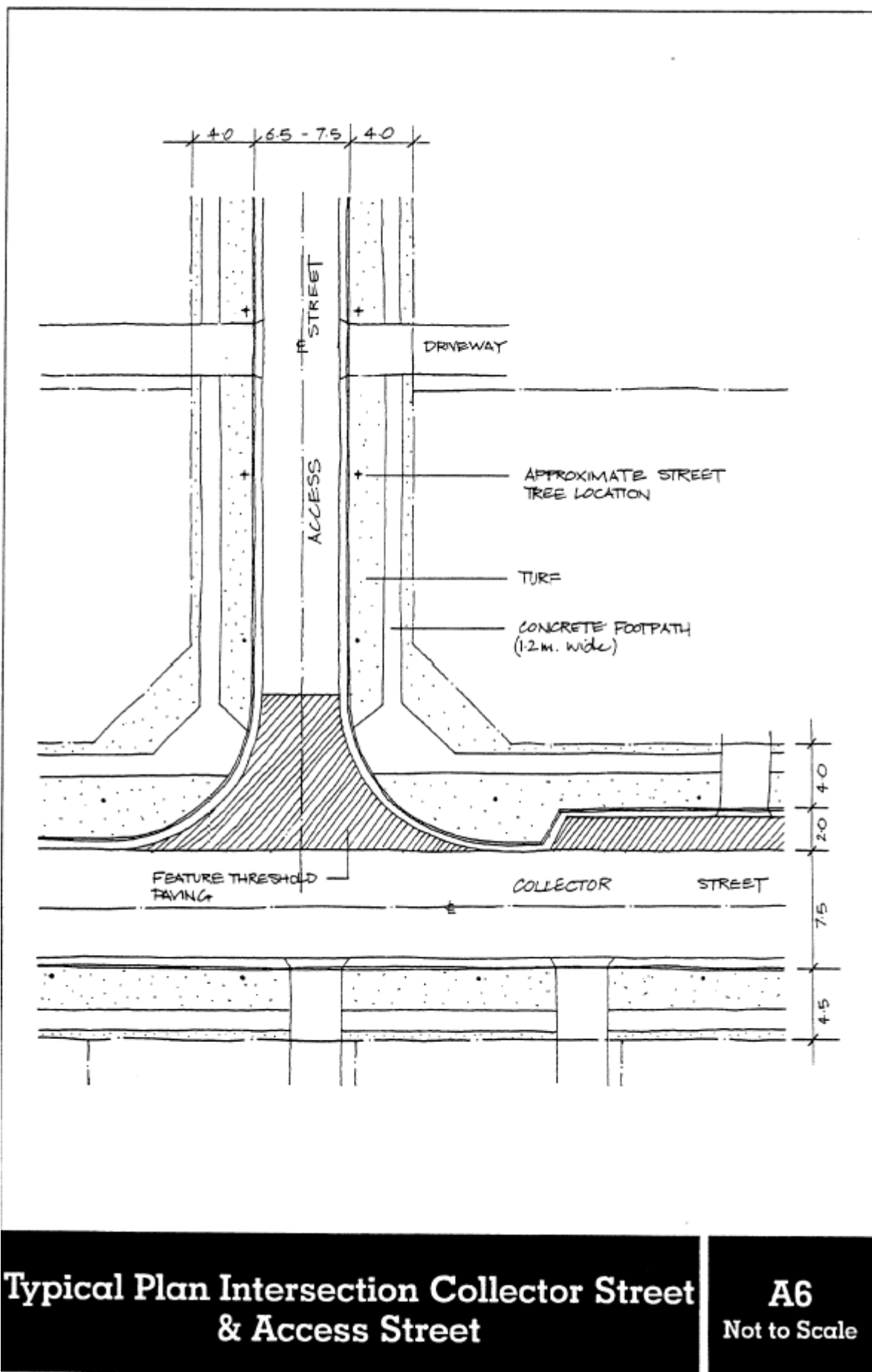


Figure 27 Intersections

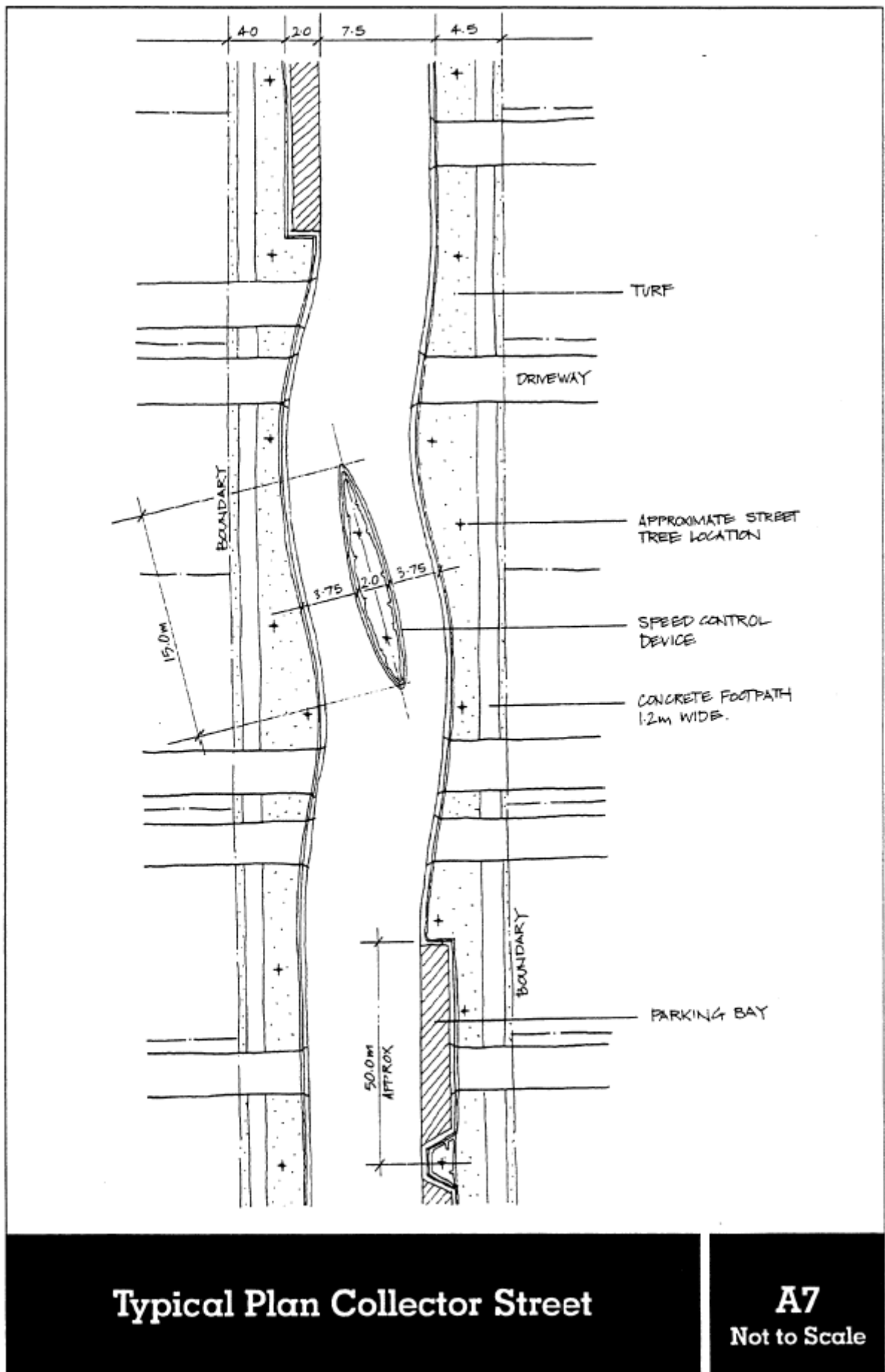
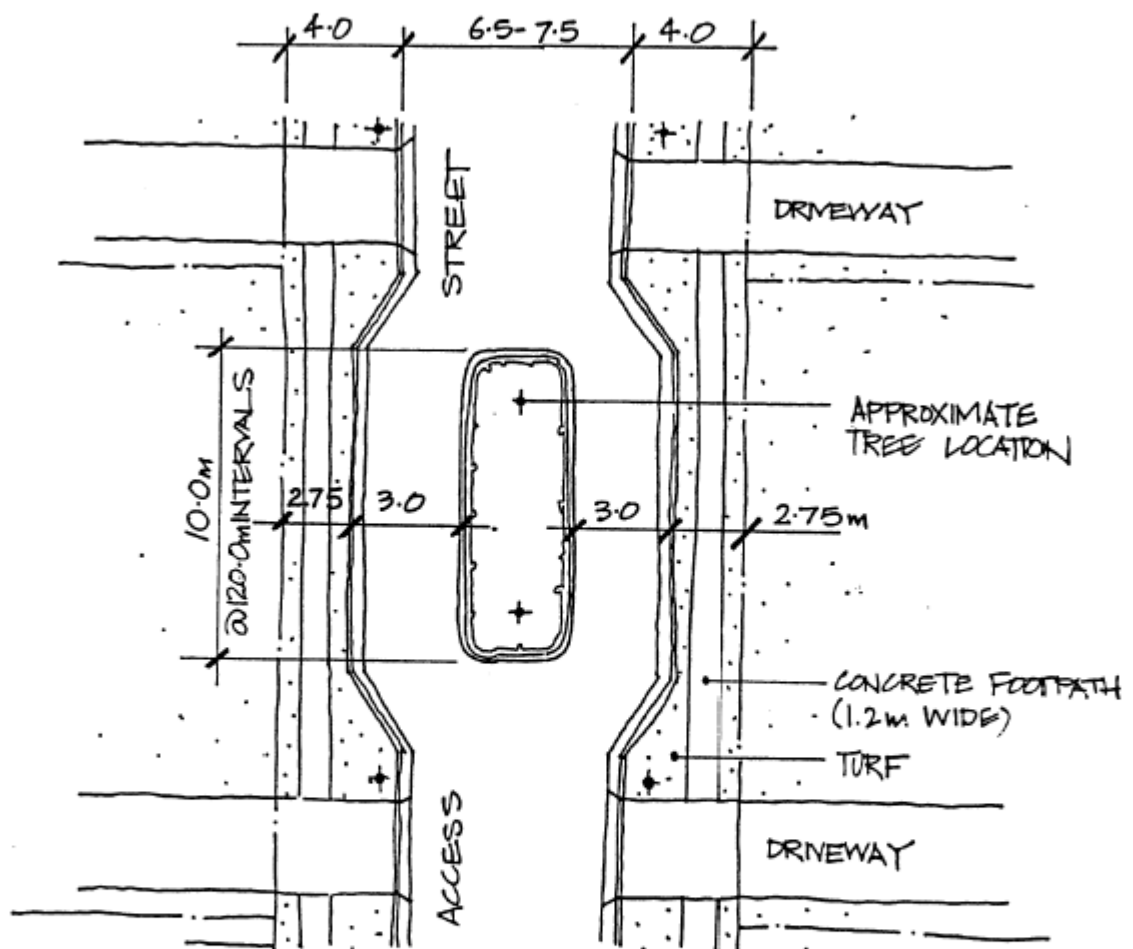


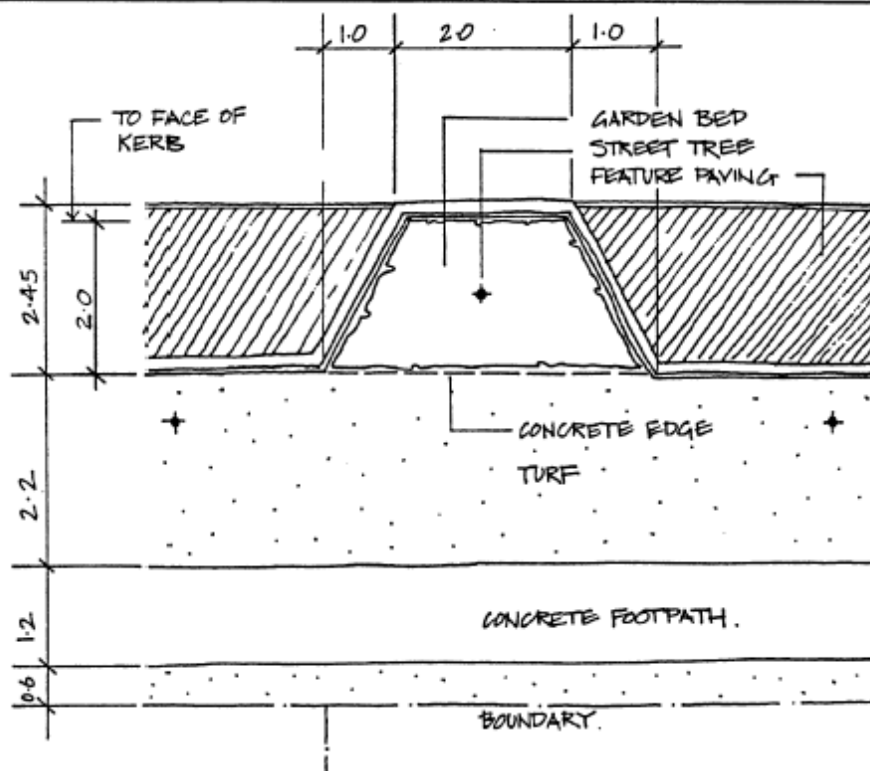
Figure 28 Typical collector streets



**Typical Plan Access Street
Landscaped Speed Control Device**

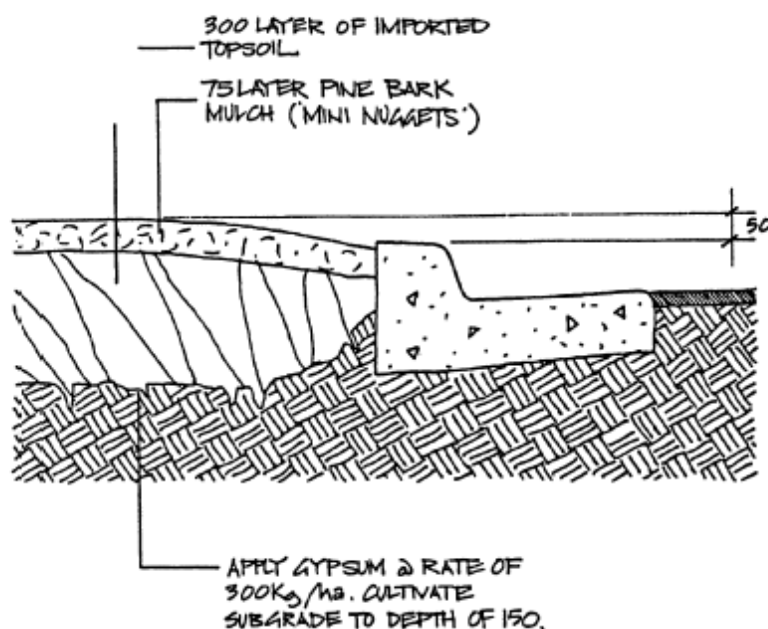
A8
Not to Scale

Figure 29 Landscape speed control device



**Detailed Plan Tree Island
on Collector Street**

A9
Not to Scale



Detailed Section of Tree Island

A10
Not to Scale

Figure 30 Tree Islands in roads

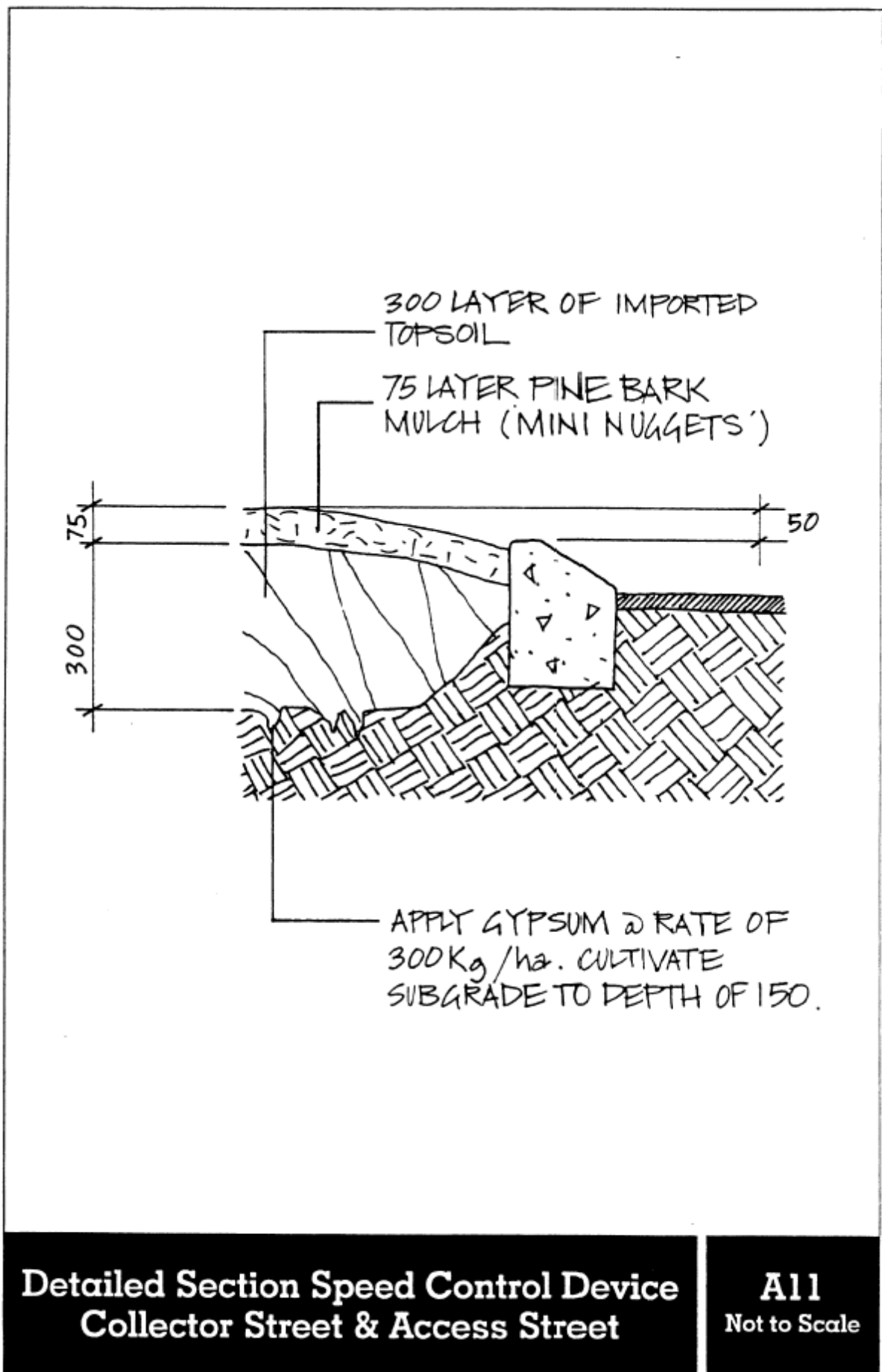


Figure 31 Speed control device

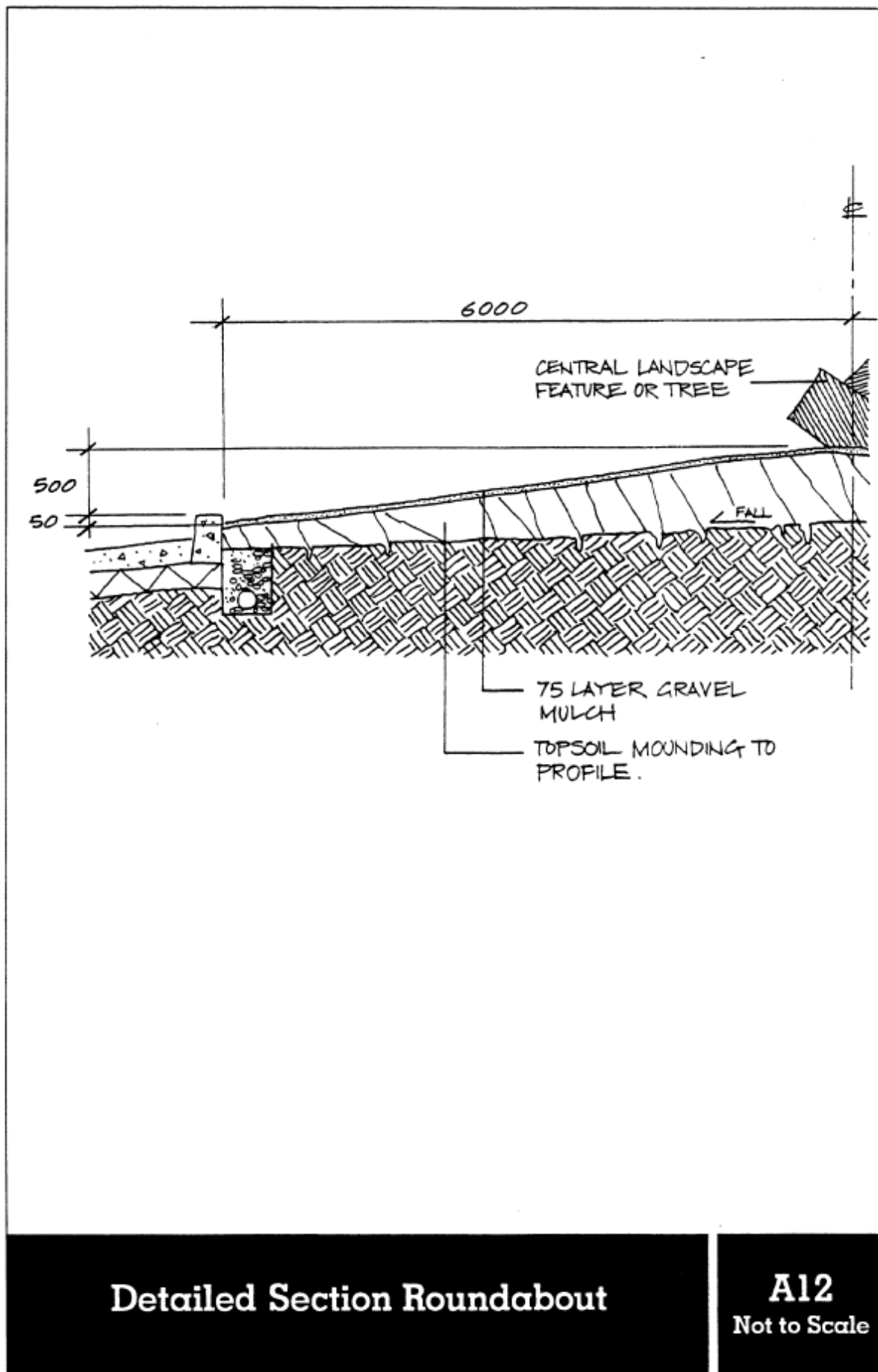


Figure 32 Roundabout

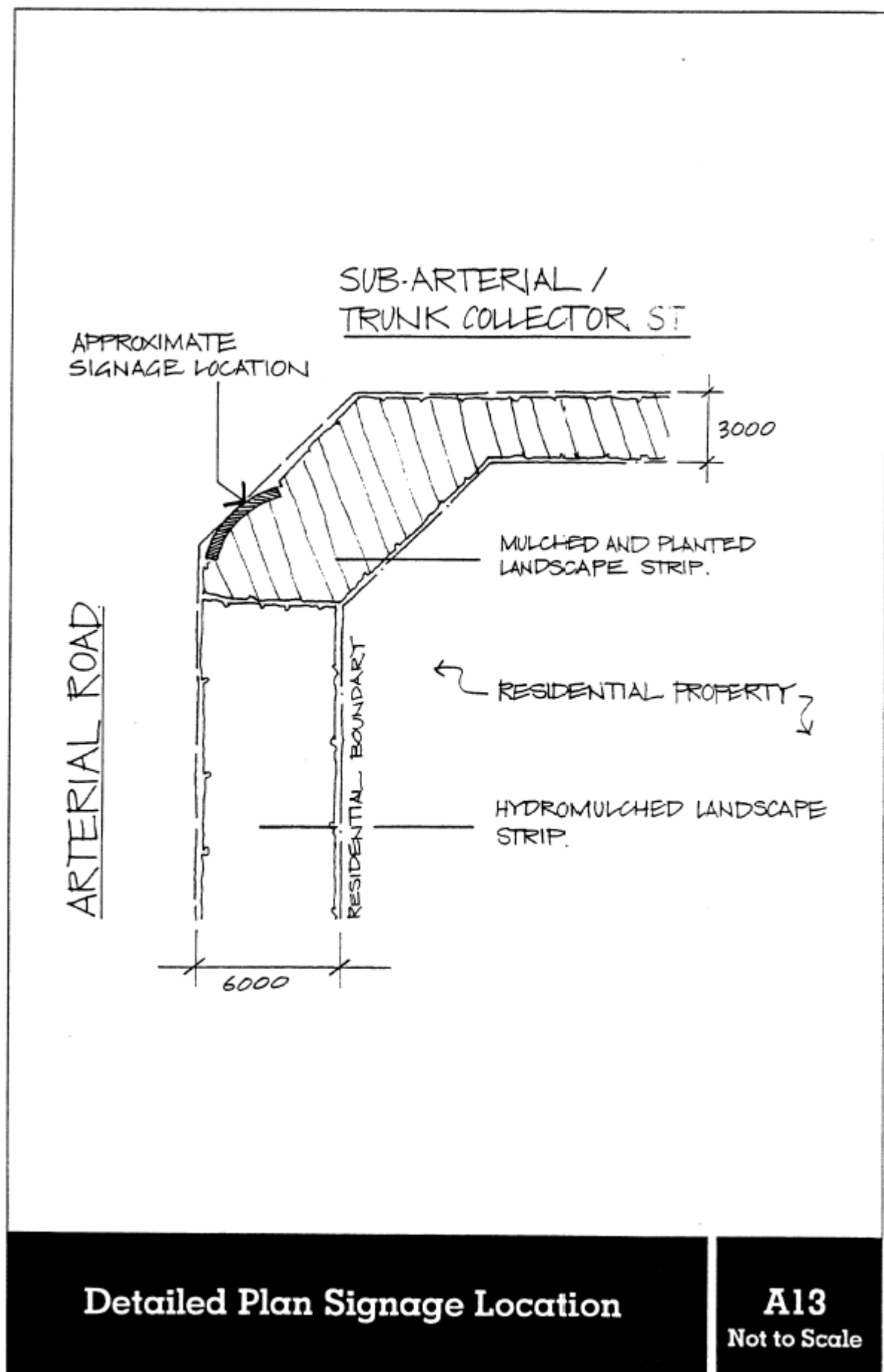


Figure 33 Signage

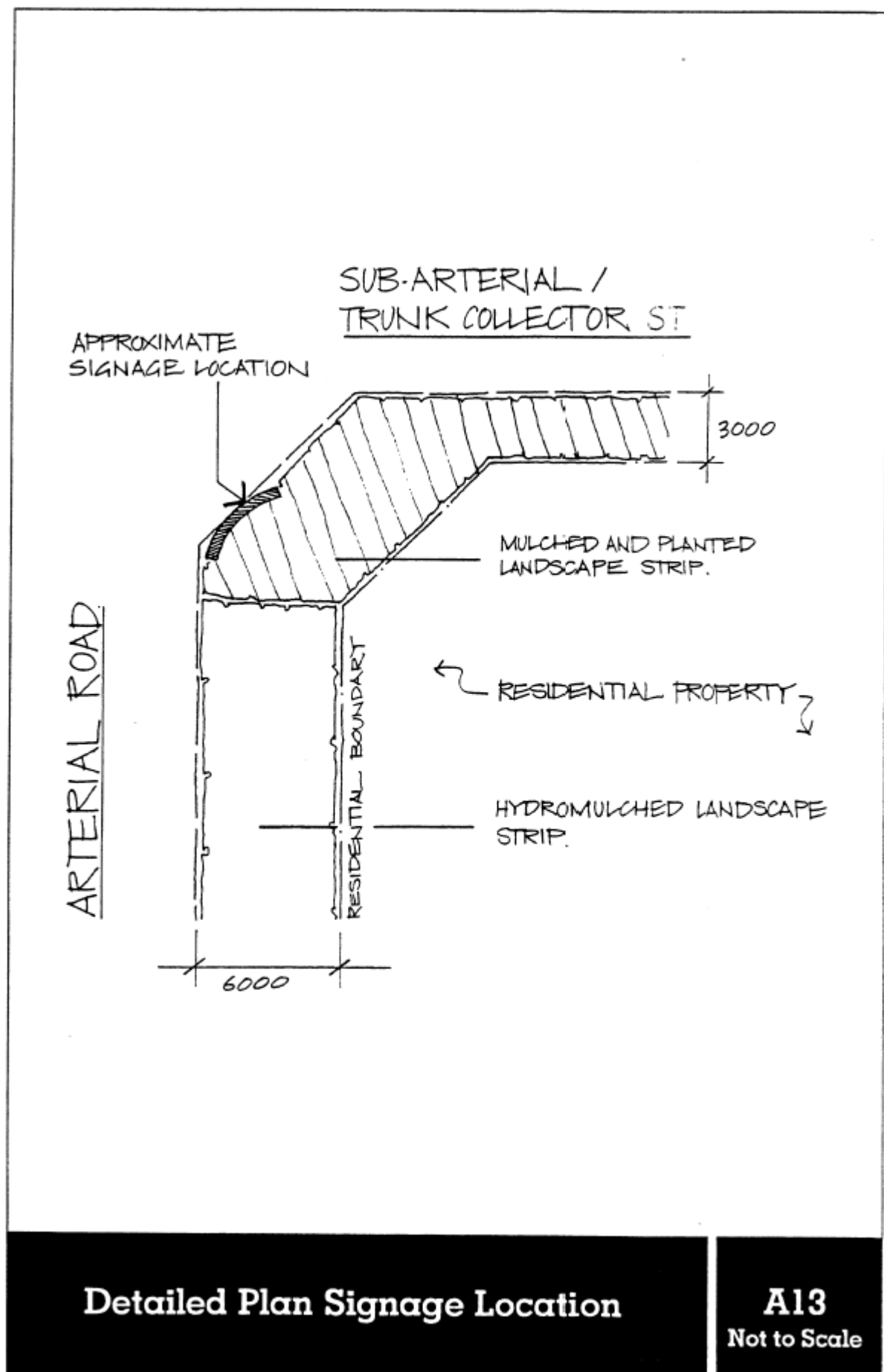
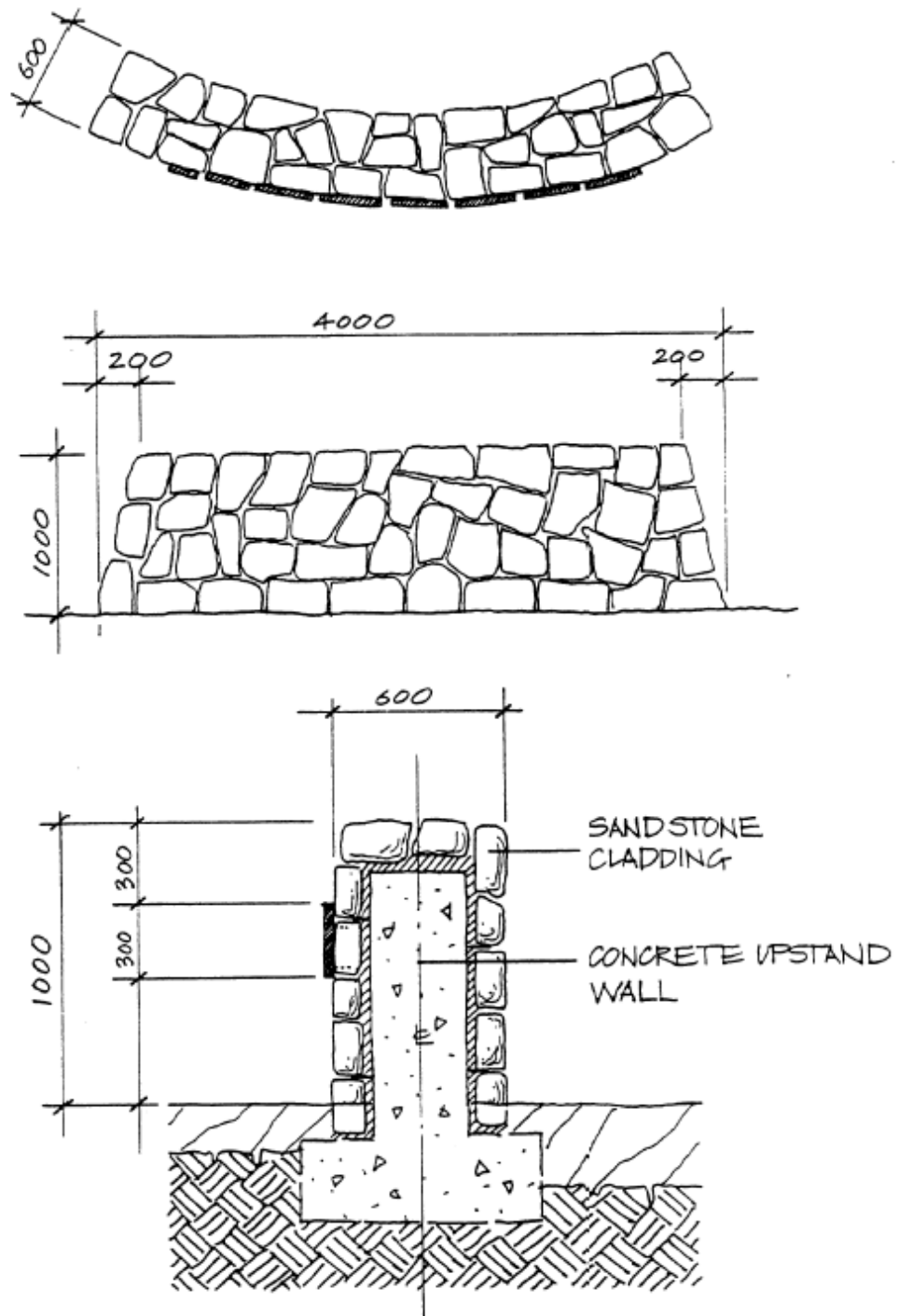


Figure 34 Signage



Signage Details

A14
Not to Scale

Figure 35 Signage

Appendix 2 Drainage and Open Space Landscape Design

The following assists developers in the detailed design and layout of drainage and open space. The guidelines are seen as the minimum acceptable standard. Developers may wish to exceed these standards or may wish to provide an alternative subject to approval from Council.

Applicants must seek advice from Council prior to the lodgement of any landscape plans (Landscape Plans are to be lodged in conjunction with the engineering plans). Applicants are also advised to consider following relevant design parameters prior to the preparation of any landscape plans:

Pedestrian and Bicycle Paths

Shared pedestrian and bicycle paths within open space areas must be designed in accordance with the guidelines as outlined in the document prepared by Austroads - Guide to Traffic Engineering Practice,

Underground Service Easements

Tree planting directly over underground service easements may cause future maintenance problems. Trees must not be planted closer than 3m to any underground easement.

Grasses Areas

Layout

Narrow strips of grassed areas are difficult to maintain and should be avoided where possible. Grassed areas should not be narrower than 3m. Areas less than 3m should be constructed as mulched garden beds planted with shrubs or groundcovers.

Gradients

Grassed embankments must not be steeper than 1:6.

All grassed areas are to finish level with adjoining surfaces. All grassed areas are to be detailed in the following way:

- Turf from recognised turf grower.
- 100 layer clean free draining topsoil.
- 100 depth cultivated sub grade.

Edging

To prevent the encroachment of grassed areas into garden beds, all grassed areas are to be edges with a suitable material.

Mounding

Grassed mounds must not be steeper than 1:6.

Planter beds

Gradients

Planter bed areas must not be steeper than 1:4.

Construction

All garden bed areas are to be detailed in the following way:

- 75mm layer mulch.

- 300mm layer, clean free draining topsoil mix.
- Gypsum at a rate of 300 grams/m² to sub grade and cultivate to a depth of 150mm.

Tree and Shrub Planting

General

Trees and shrubs should generally be planted in mulched garden bed areas and in sufficient densities to achieve a full coverage of the bed within two years of planting. Specimen trees planted in lawn areas are to be mulched around their bases to a depth of 75mm and appropriately protected from maintenance vehicles with the installation of a robust tree guard.

Selection

Tree and shrub selection should ensure the following:

- Suitability to the local environmental conditions.
- Low maintenance requirements.
- Drought resistance.
- Screen undesirable views i.e. rear fences.
- Provide seasonal interest.
- Maintain solar access to adjoining properties.
- Linear Open Space Corridors (along Creeks).
- Tree and shrub selection to be predominantly indigenous to the local area.
- Transmission Easements (including transmission lines in road reserves):
- Tree and shrub planting within transmission easements must be carried out in accordance with the guidelines set out by the appropriate/relevant electricity transmission authority, (either Integral Energy or Trans Grid).

Drainage corridors

- Tree planting within drainage corridors must not reduce the capacity of the drainage system.
- Minor Drainage links between streets.
- Tree planting within minor drainage links between streets is to be assessed on its merits.

Facilities/Furniture/Lighting

Applicants are advised to discuss the provision of public facilities, furniture and lighting with Council's Parks and Recreation assessment officers prior to the preparation of any landscape plans.

Maintenance

Applicants are required to provide a minimum of 12 months maintenance upon satisfactory completion of the landscape works. Maintenance will include all works necessary to promote the establishment of the plant material and grassed surface. This includes watering, weeding, mowing, treating pests and diseases and the replacement of any failed, stolen plants.



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Liverpool Development Control Plan 2008

Part 2.3

Subdivision of land and Residential development in Georges Fair Moorebank

3 September 2014

Part 2.3 must be read in conjunction with Part 1

Refer to Part 3.8 for non residential development in residential zones

Liverpool Development Control Plan 2008

Part 2.3 Georges Fair Moorebank

Table of Contents

1. Preliminary	4
2. Controls for Public Domain	7
2.1 Street Network	7
2.2 Pedestrian and Cyclist Networks	11
2.3 Streetscape and Street Trees	12
2.4 Open Space	13
2.5 Water Cycle Management	15
3. Controls for the Private Domain	16
3.1 Subdivision, Frontage and Allotment Size	16
3.2 Site Planning	19
3.3 Setbacks	21
3.4 Landscaped Area and Private Open Space	23
3.5 Cut and Fill, Building Design, Streetscape and Layout	25
3.6 Landscaping and Fencing	30
3.7 Car Parking and Access	33
3.8 Amenity and Environmental Impact	36
3.9 Site Services	38
3.10 Secondary dwellings (Granny Flats)	39

Table of Figures

Figure 1 Land to which this Part applies	4
Figure 2 Preferred key street network for the site	8
Figure 3 Preferred Street Sections	9
Figure 4 Potential Bus Routes	10
Figure 5 Location of potential walking and cycle ways	12
Figure 6 Tree Guard and Planting Details	13
Figure 7 Indicative locations of local open space areas	15
Figure 8 Highest density generally located in accessible places with highest amenity	17
Figure 9 Lot Orientation	17
Figure 10 Interface Areas	18
Figure 11 Private open space considerations on an east-west lot	18
Figure 12 Site Analysis	20
Figure 13 An example of zero lot line with Maintenance Easement	23
Figure 14 Landscaped Area	25
Figure 15 Cut and Fill requirements for a dwelling	26
Figure 16 View Sharing	27
Figure 17 Example of Building Appearance	30
Figure 18 Fence types	32
Figure 19 Examples of Internal Driveways	34
Figure 20 Private Driveway Options	35
Figure 21 Privacy and Amenity	37

List of Tables

Table 1 Front and Secondary Setback	21
Table 2 Side and Rear Setbacks	22

1. Preliminary

Applies to

1. Part 2.3 applies to the land, shown in Figure 1.
2. Part 1 also applies to the land shown in Figure 1.
3. Part 3.8 also applies for non residential development on the land.
4. Parts 3.1 – 3.7 do not apply to the land.

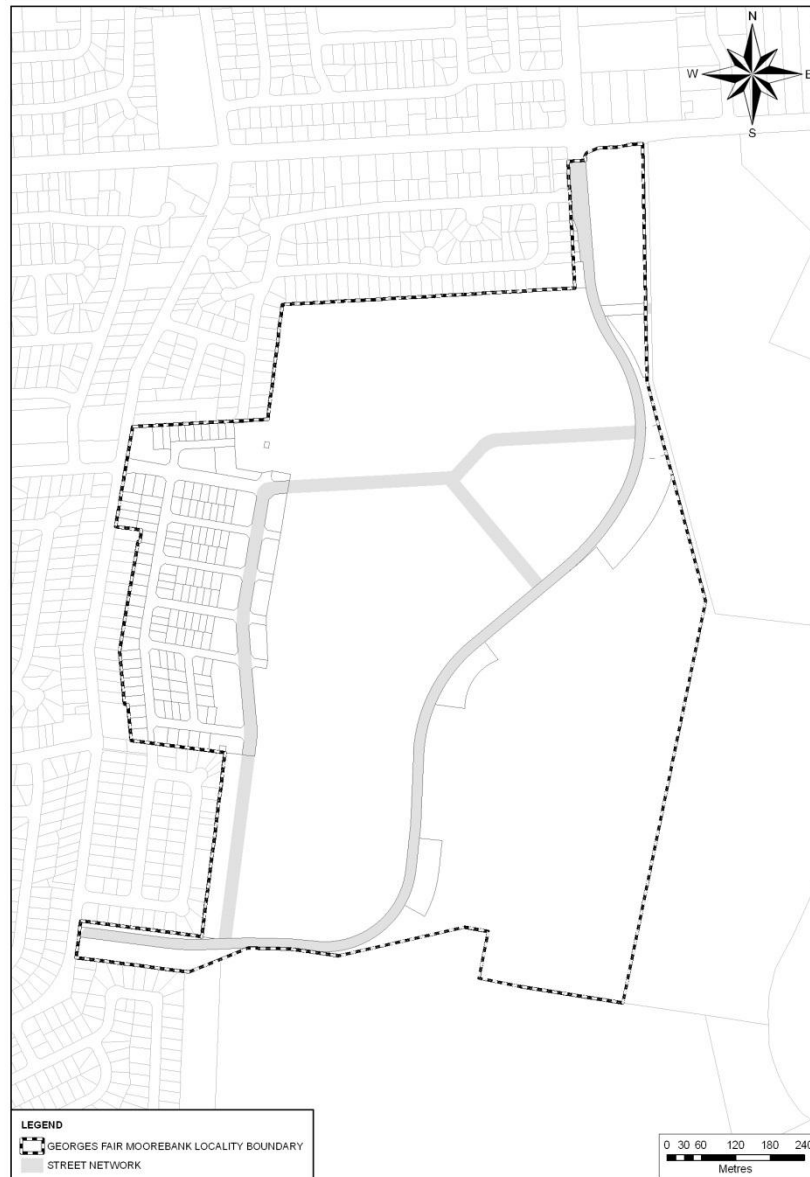


Figure 1 Land to which this Part applies

Background

The Georges Fair Moorebank Land was rezoned under Liverpool LEP 1997 Amendment No. 75 on 9 July 2004. The area was originally subject to Liverpool DCP No. 50, which came into force on 22 September 2003. There is still area that is not yet developed and is accordingly incorporated into this DCP.

A Site Structure Plan has been prepared as a conceptual guide to future development of the site (see Figure 2). It illustrates the areas to be developed for housing, potential location and function of streets, and local and district open space areas.

It has been determined having regard for the land form, environmental conditions of the site, surrounding local street network, and the relationship with adjoining residential areas.

The site is subject to a Developer Deed for the provision of the infrastructure at particular thresholds in the development process. Development shall be carried out in accordance with the Developer Deed.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.
- b) Guaranteeing a movement system that relates accessibility demand to location of development type.
- c) Ensuring that servicing is able to be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and give priority to pedestrians and children.
- e) Guaranteeing adequate accessibility for emergency vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising the existing street layout.
- g) Providing safe access during flooding events.

Social Benefits

To establish affordable and accessible facilities and resources that allow people to maintain wellbeing, live and recreate by ensuring that development creates a 'people place' by giving priority to people and human relationships through housing mix and safety.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage management that, contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water and air pollution management and water quality.
- e) Maintaining and enhancing the quality of the natural environment.

- f) Connecting and enhancing vegetation corridors and providing links between the Georges River and Holsworthy.
- g) Promoting the development of place and a quality built environment with people and human relationships as a central consideration.

Economic Benefits

- a) To ensure appropriate accessibility to employment.
- b) To ensuring infrastructure is sufficient to meet current and predicted need.

2. Controls for Public Domain

2.1 Street Network

Background

The Georges Fair Moorebank area is to be an accessible place linked to its surroundings with streets, pedestrian and cyclist pathways and public transport. Good transport linkages contribute to a connected, vibrant and mobile community where all are able to safely and conveniently access services and facilities, and where dependence on private vehicles is minimised.

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To form a system of permeable, compact and walkable neighbourhoods within a highly connected area.
- f) To provide safe, legible and efficient access based on the street network and augmented by connections through public open space.
- g) To link the site with its surroundings by connecting to external road networks, pedestrian and cycle paths, public transport routes and public open space networks.
- h) To create a new link road to provide alternative route for through traffic between Nuwarra Road and Newbridge Road.
- i) To increase the environmental sustainability of development by:
 - Reducing local vehicle trips, travel distances and speeds.
 - Maximising public transport effectiveness,.
 - Encouraging walking and cycling.
 - Enabling the operation of viable bus routes.
- j) To guarantee adequate accessibility for emergency vehicles.
- k) To ensure appropriate accessibility to employment.
- l) To ensure servicing is able to be carried out appropriately.

Controls

- 1. The street network is to retain a predominantly grid-like form, facilitating walking and cycling and enabling direct local vehicle trips within the neighbourhood.
- 2. The street network is to embody the principles illustrated in the key street structure shown at Figure 2.
- 3. All streets are to be legibly signposted with street names and property numbers.
- 4. Street layouts at key locations are to be designed to ensure pedestrian safety.
- 5. Provide a new link road between Nuwarra and Newbridge Roads within a 30m wide road reserve from the north for the first 220m narrowing to 18m, designed in consultation with RTA and Council.

6. The link road shall be provided in accordance with the Developer Deed.
7. 3.5 m landscape strip (including footpath) located on east side of the new link road with up to 6m landscape strip on the western side adjacent to existing dwellings near Newbridge Road.
8. All streets are to be designed and constructed having regard to the cross-sections illustrated at Figure 3.
9. All intersections are to be designed generally in accordance with the RTA Austroads Road Design Guide.

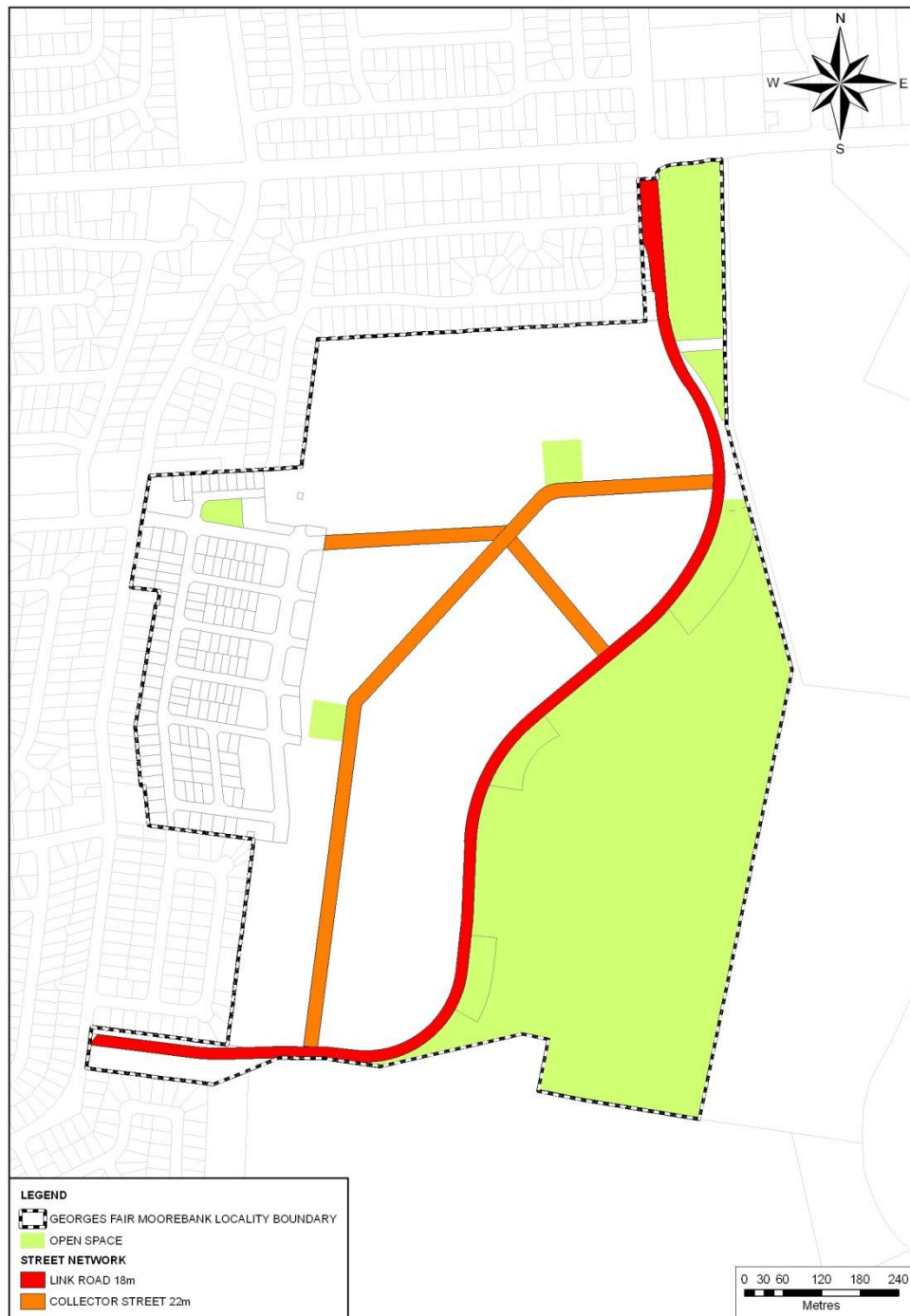


Figure 2 Preferred key street network for the site

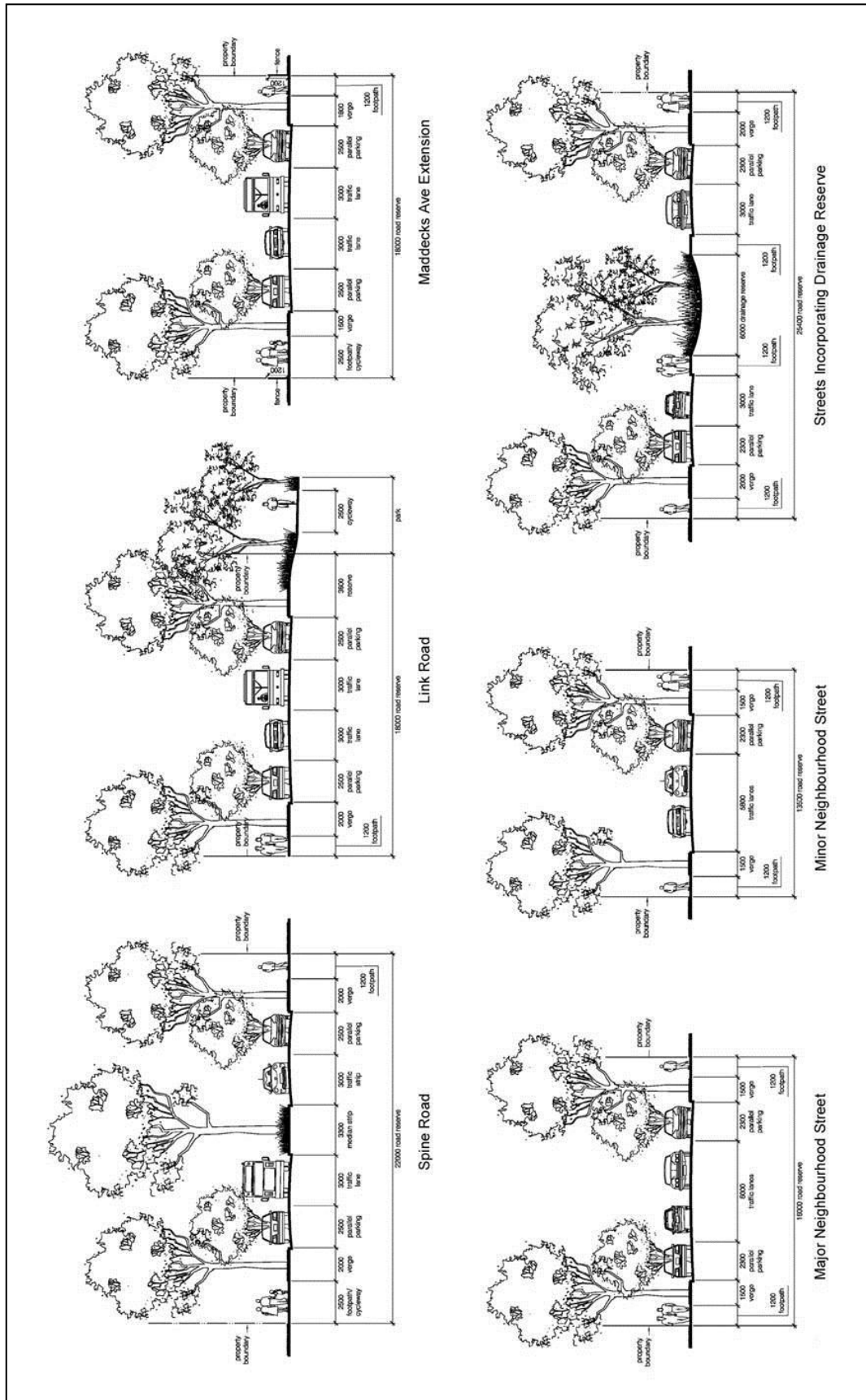


Figure 3 Preferred Street Sections

Public Transport

Placing bus stops at points of higher density and potential community uses will encourage people to use the system.

Objectives

- a) To facilitate usage of public transport.
- b) To provide bus routes and stops along collector streets.
- c) To locate higher density development close to public transport.

Controls

1. Bus stops are to be located on key streets, and the main pedestrian routes. Figure 4 illustrates potential locations for bus stops.
2. Bus stops are to provide shelter and seating for passengers, and all are to display a bus timetable. Shelters are to be in accordance with the Council's usual style of bus shelter and are to be designed in accordance with AS 1428:1 - 4.
3. The design of signage for bus stops is to be consistent throughout the site.
4. Barrier kerb shall be installed for the entire length of bus zones and for 10m on the approach of the bus stop.

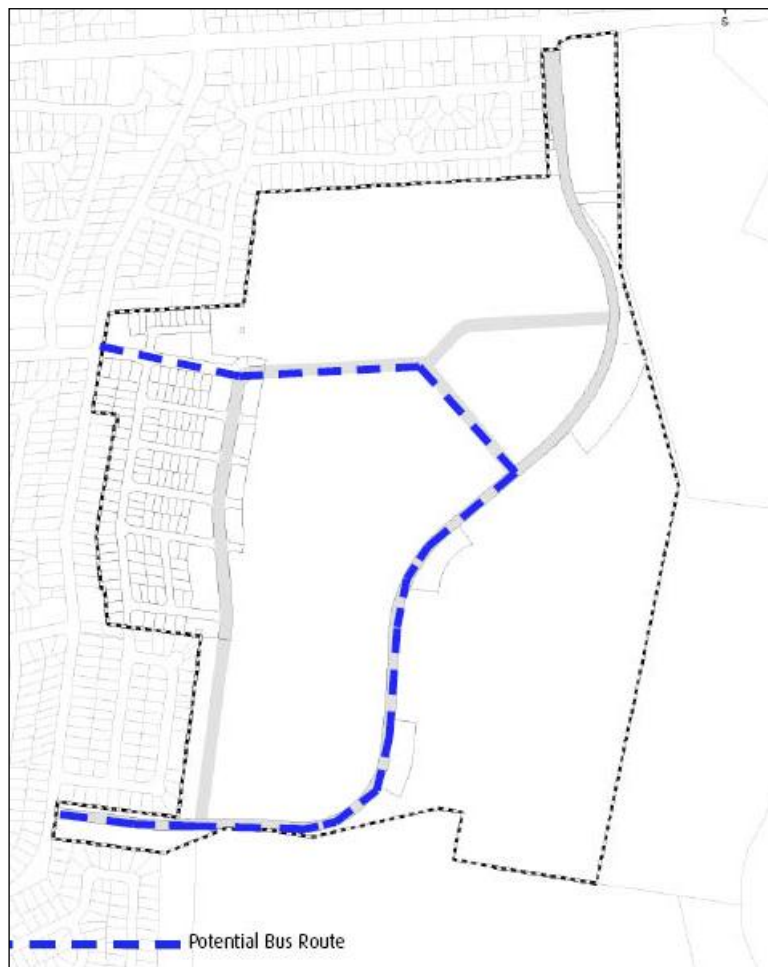


Figure 4 Potential Bus Routes

2.2 Pedestrian and Cyclist Networks

Background

Pedestrian and cycle facilities in public spaces are to be safe, clearly defined, functional and accessible to all. They should provide linkages to social and cultural activities and educational facilities, and should be characterised by excellence of design appropriate to the area.

Vehicle crossings over footpaths need to be managed and minimised to ensure that they do not detract from the quality of the public domain, disrupt pedestrian or cycle movement, or threaten user safety.

Objectives

- a) To encourage walking and cycling as opposed to the use of private vehicles for local trips.
- b) To provide a permeable and interconnected network of streets and pathways that gives safe, convenient and legible access both within and beyond the site.
- c) To minimise and prevent, where possible, vehicular crossings over a pedestrian or cyclist pathway.

Controls

1. Vehicle access to developments is to be designed and located to minimise conflicts with pedestrians and cyclists on footpaths, particularly along high volume pedestrian streets.
2. Wherever practicable, vehicle access to developments is to be a single crossing, perpendicular to the kerb alignment.
3. Where practical, pedestrian and cycle paths in open space areas should be located close to streets on the edge of open spaces to take advantage of street lighting and allow casual surveillance by residents and drivers. Where this is not practical, paths should be well-lit and visible from the road.
4. Pedestrian and cycle paths are to link the key facilities within and outside the area, such as the open space network.
5. Shared pedestrian/cycle links, cycle ways, public roads and lanes are to be clearly and frequently signposted to indicate their shared status.
6. Designated cycle lanes on streets are to be clearly indicated by line-markings on the road surface and/or by signs beside the road.
7. Pedestrian routes and cycle paths are to be designed and located having regard to the principles illustrated in Figure 5.
8. Shared pedestrian and cycle paths are to be a minimum 2.5m wide.
9. Designated pedestrian-only paths are to be a minimum of 1.5m wide and provided to both sides of each street / road.
10. Pedestrian and cycle facilities in public spaces are to be safe, well lit, clearly defined, functional and accessible to all.
11. Pedestrian and cycle 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 AS 1428:1 - 4.

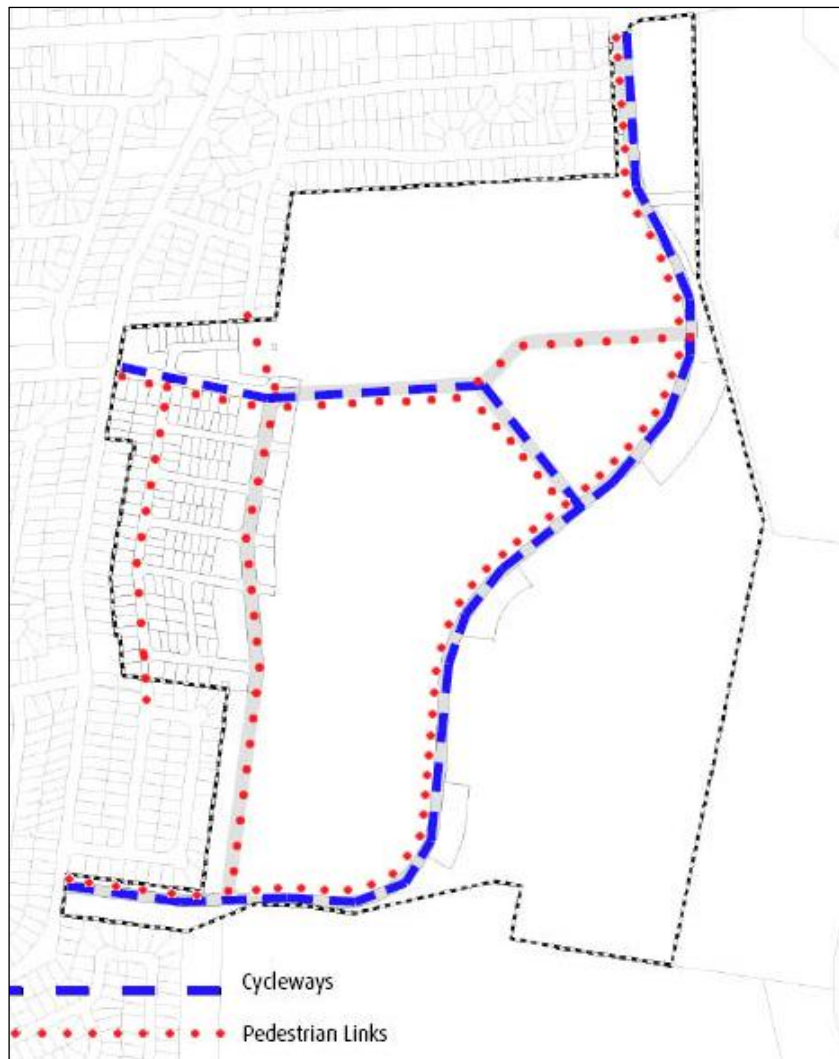


Figure 5 Location of potential walking and cycle ways

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.

2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One tree is to be provided for every dwelling facade. These are to reach at least 4 m at mature height.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 6 for details.
5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.

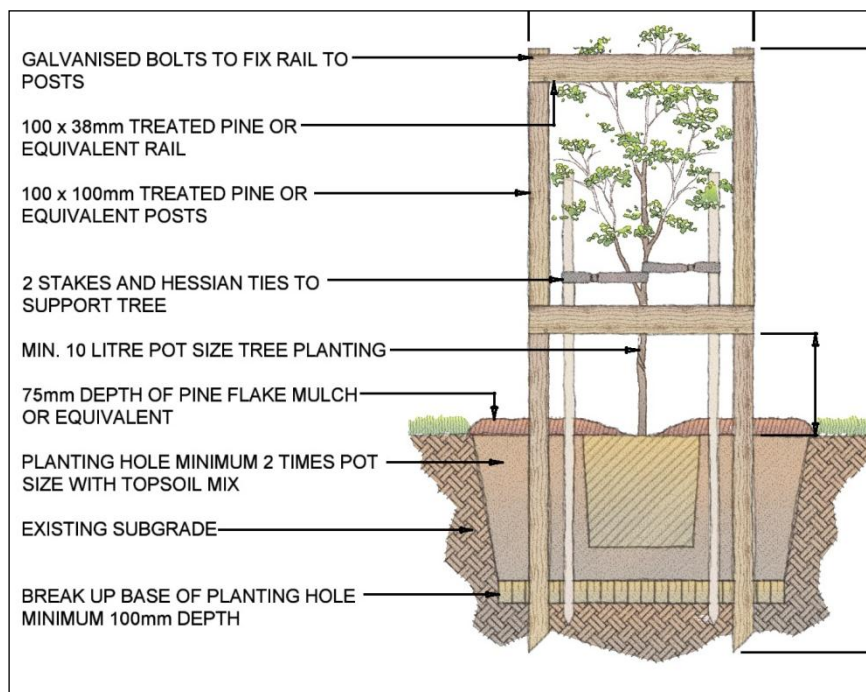


Figure 6 Tree Guard and Planting Details

2.4 Open Space

Background

Public spaces can be designed to promote vibrant social interaction, civic pride and a sense of public ownership and belonging. Landscaped areas and open space within the public domain play a major role in setting the character of the locality. These areas should make the neighbourhood pleasant and welcoming and be convenient to the needs of the community, especially in higher density areas.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development.

- c) To provide links between the open space areas and community and retail facilities.
- d) To create a variety of public spaces which fulfil functional requirements as well as create attractive and memorable places.
- e) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development; integrate landscaping with water cycle management across the development area.

Controls

- 1. The locality is to provide a variety of parks with a distinct landscape character. Subdivision of land shall provide open space as shown in Figure 7.
- 2. The provision of Open Space is to be in accordance with the Developer Deed.
- 3. Neighbourhood and playground parks are to create a precinct focus.
- 4. Public open spaces are to be designed and landscaped so as to minimise the need for maintenance. This is to be achieved through the use of appropriate native species (refer to Appendix 2 in Part 1). The Landscape Plan submitted with the DA must demonstrate how the proposed landscaping will minimise maintenance.
- 5. Public open space should be bounded by public streets with buildings oriented towards the open space.
- 6. Significant existing trees, tree stands and vegetation are to be retained, relocated or replaced by the same species.
- 7. Pedestrian and cycle paths must be provided as part of parks and recreation areas.
- 8. Street name and information signs are to be designed to reinforce the distinct identity of the locality and to facilitate accessibility and mobility.
- 9. The design of fences must be consistent throughout the public domain, parks and open space.
- 10. A Landscape Plan must be lodged with all DAs.

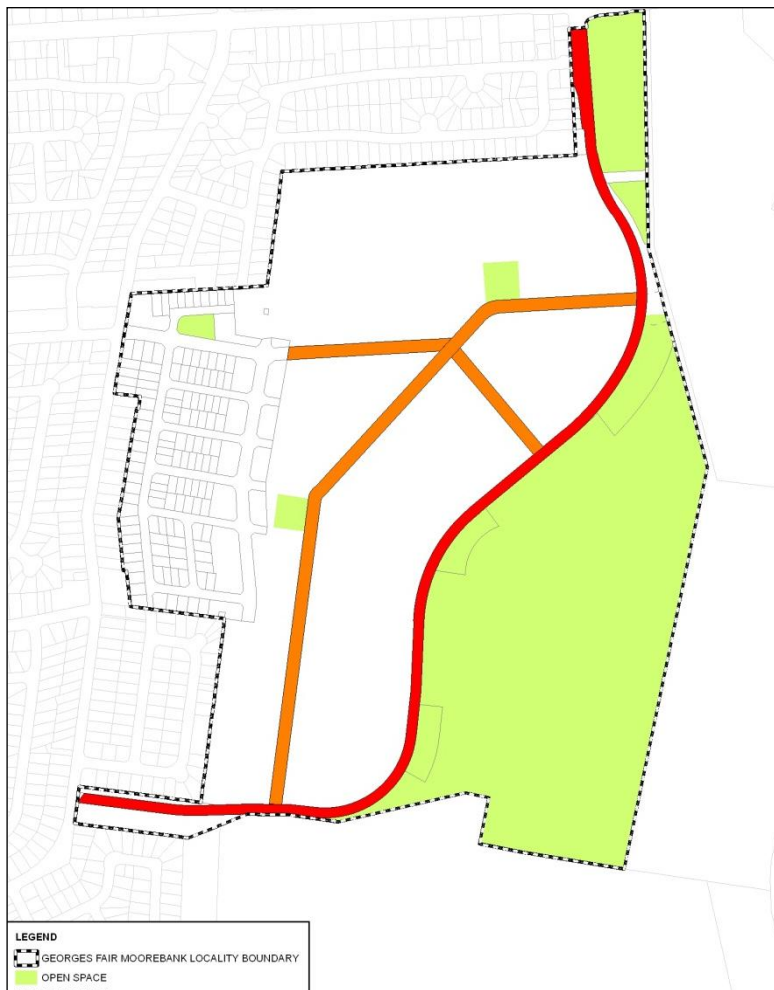


Figure 7 Indicative locations of local open space areas

2.5 Water Cycle Management

Objectives

- a) To integrate water management measures with innovative urban design.
- b) To ensure that there are no adverse impact on existing flood regimes in the surrounding areas, as a result of the proposed development.

Controls

1. Consider the use of bio-retention swales in road verges and maximise runoff flow onto grassed areas where feasible.
2. Use gross pollutant traps and water quality control ponds to remove suspended sediment, nutrients and bacteria. The gross pollutant traps and water quality control ponds are to be located in the areas zoned R3 - Medium Density Residential or before discharging into land zoned E3 - Environmental Management.
3. Where feasible, divert excess run-off from southern section of the Georges Fair Moorebank Land to New Brighton Golf Course for irrigation, subject to the agreement of the Golf Club.
4. The provision of Drainage works shall be provided in accordance with the Developer Deed.

3. Controls for the Private Domain

3.1 Subdivision, Frontage and Allotment Size

Background

The main objective is to provide choice through a mix of housing types and high quality open space. Opportunities for higher density are provided in places of greatest amenity.

The orientation of lots should be designed to maximise solar access to reduce household energy consumption and to make best use of the land available.

Objectives

- a) To provide a range and mix of lot sizes to suit a variety of dwellings types distributed throughout the area.
- b) To locate higher density in places of greatest amenity, such as near parks, other open spaces and along transport nodes.
- c) To ensure that the density of development and siting of dwellings maintain a high standard of privacy.
- d) To ensure lots are oriented to optimise solar access to facilitate micro-climate management, including the application of energy conservation principles.
- e) To ensure all dwellings address the street.
- f) To ensure that lot size and dimensions take into consideration the physical characteristics of the land, in a way which promotes retention of existing vegetation and reduces the incidence of damaging earthworks and retaining wall construction.
- g) To ensure passive surveillance of public space through the effective and functional layout designs of new developments.
- h) To ensure that the dwelling siting minimises impacts on views from adjacent existing residential development.

Controls

- 1. Subdivision, lot sizes and orientation are to address the principles in Figures 8 and 9.
- 2. Lot sizes and dimensions are to take into account the slope of the land to minimise earthworks/retaining wall construction and the retention of existing trees.
- 3. Minimum allotment width is 8 m.
- 4. Any application for subdivision creating allotments of 10m width must be accompanied by an application for a dwelling house on each of those allotments.
- 5. On east-west lots, houses and private open space are to be sited generally in accordance with Figure 11.

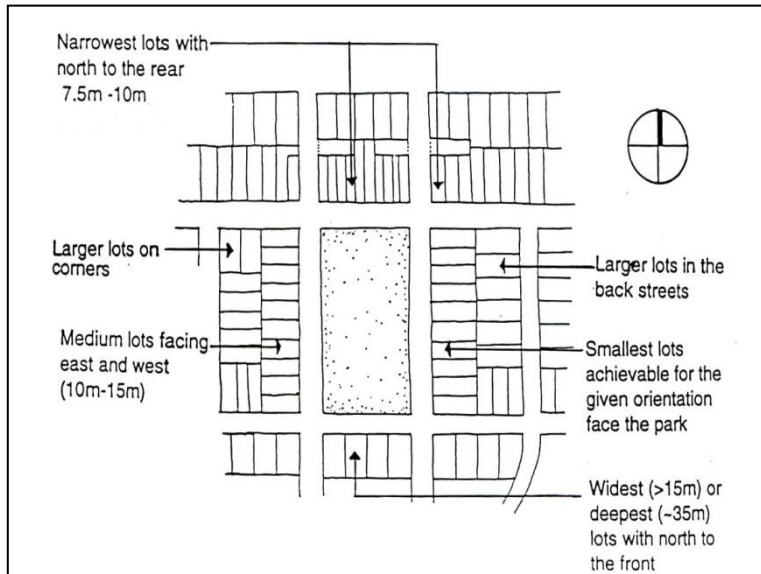


Figure 8 Highest density generally located in accessible places with highest amenity

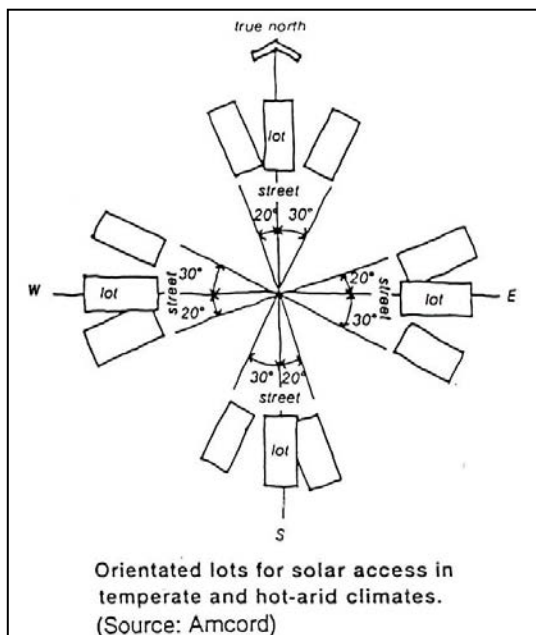


Figure 9 Lot Orientation

Interface areas

1. Only detached dwelling houses are permitted in the interface areas.
2. No new dwelling should fully obstruct views from living areas of existing neighbouring dwellings (see Figure 10).
3. Refer to Liverpool LEP 2008 for the minimum allotment size in the interface area.



Figure 10 Interface Areas

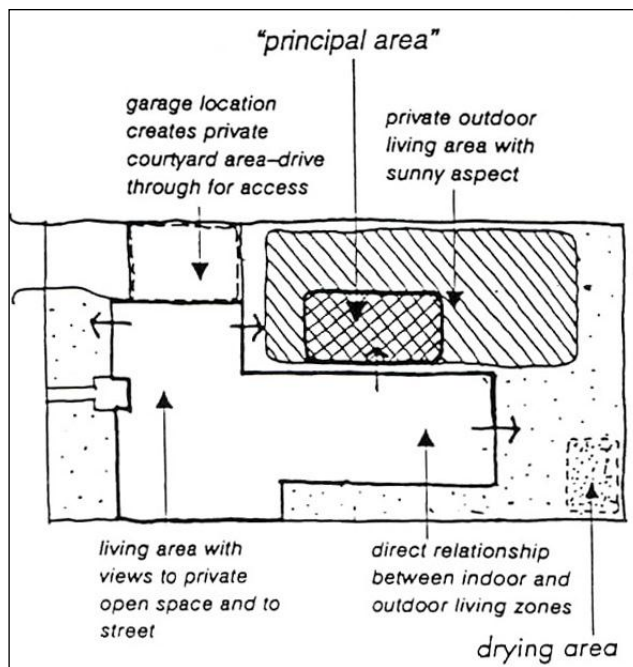


Figure 11 Private open space considerations on an east-west lot

3.2 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

- 1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 12).
- 2. There must be a direct link from at least one living area to the principal private open space.
- 3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
- 4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

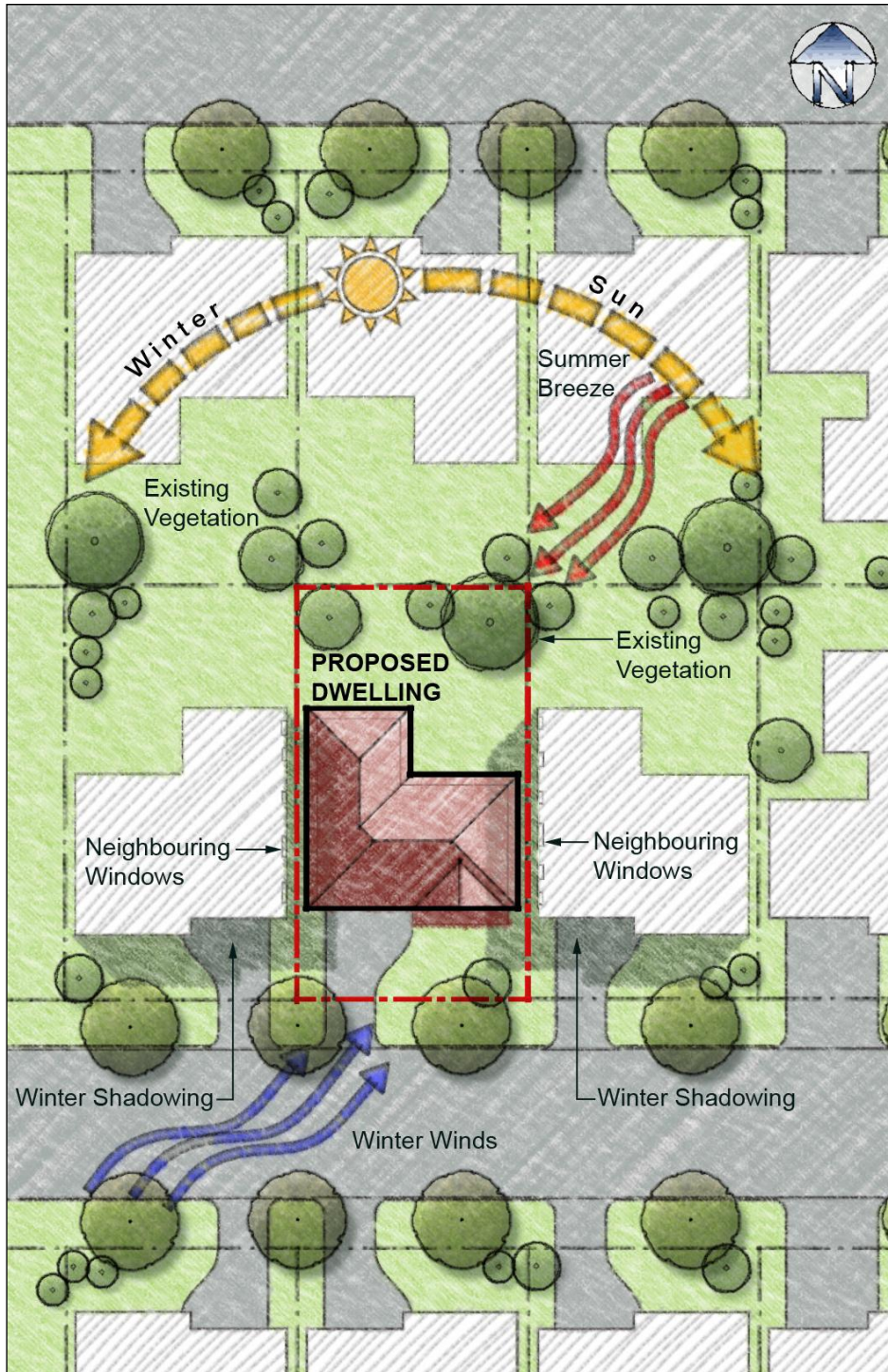


Figure 12 Site Analysis

3.3 Setbacks

Front and Secondary Setbacks

Objectives

- a) To ensure appropriate front setbacks.
- b) To contribute to the creation of attractive and memorable streetscapes that has a consistent character.
- c) To reduce the potential visual effects of garages on dwelling facades and streetscapes.
- d) To provide adequate space for landscaping or open space.

Controls

1. Dwelling houses shall be setback in accordance with Table 1.

Table 1 Front and Secondary Setback

Height	Front Setback	Secondary Setback
Ground floor	4.0 m	2.5 m
First floor	4.0 m	2.5 m

2. Garages must be set back a minimum of 1 m behind the main face of the dwelling. (The main face is the first wall of a habitable room)
3. A front verandah, porch, patio, pergola or similar can be built to within 2.5 m of the front boundary.
4. Street setback for all garages is a minimum of 5.5 m.
5. Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wraparound verandah, bay window, corner entry or roof feature. A minimum setback of 1 m is required for the splay corner.

Side and Rear Setbacks

Objectives

- a) To maximise private amenity within the building.
- b) To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- c) To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.

Controls

Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9 m	5.0 m
Second storey component of dwelling houses	1.2 m	5.0 m
Side walls containing windows to habitable rooms	1.2 m	N/A
Dwellings in interface area (shown on Figure 10)	As above	10.0 m

Notes: Elements such as fascias, gutters, downpipes, eaves (up to 450mm wide), chimneys, flues and pipes may encroach into the side setback.

Council may consider a variation (outside of the interface areas only) if justification can be provided for a better design outcome for the proposed dwelling and neighbouring dwellings.

- Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.
- A patio / outdoor eating area may extend into the rear setback provided a minimum setback of 1m to the rear and side boundary are maintained; and
 - The patio area may have a maximum area of 20sqm.
 - The patio area cannot have solid or masonry walls.

Zero lot lines

1. Walls are generally to be 180mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the adjacent side wall boundary.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 900mm shall be provided on the adjoining boundary. Refer to Figure 13.

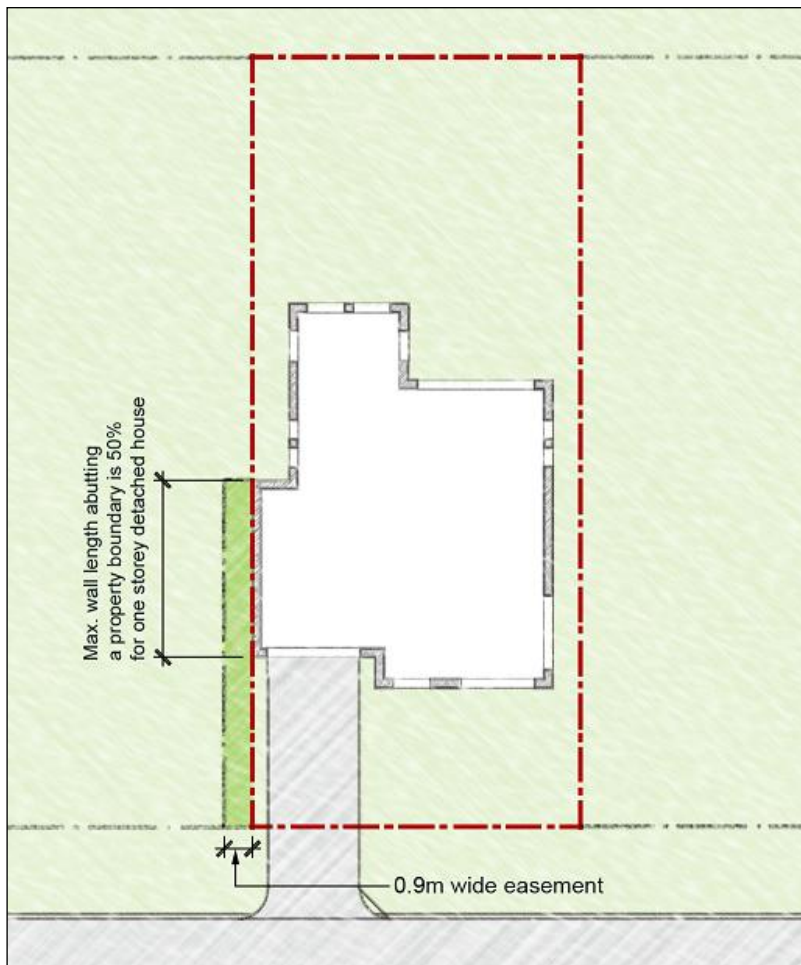


Figure 13 An example of zero lot line with Maintenance Easement

3.4 Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- To provide an area to allow vegetation to mature.
- To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- To reduce the amount of impervious areas.
- To enhance the existing streetscape and soften the visual appearance of the dwelling.
- To maximise the amount of landscaped area within the front setback of the dwelling.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum of 50% of the front setback area shall be Landscaped Area.
3. A minimum unincumbered area of 3 x 3m shall be provided in the front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum of 50sqm of Private Open Space.
2. Areas less than 2.5m in width does not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the principal private open space of 25sqm, which is directly accessible from the main living area and has a minimum dimension of 4m.
6. The Principal Private Open Space must receive a minimumk of 3 hours of sunlight between to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Private Open has a predominately northen aspect Clause 6 (above) does not apply.

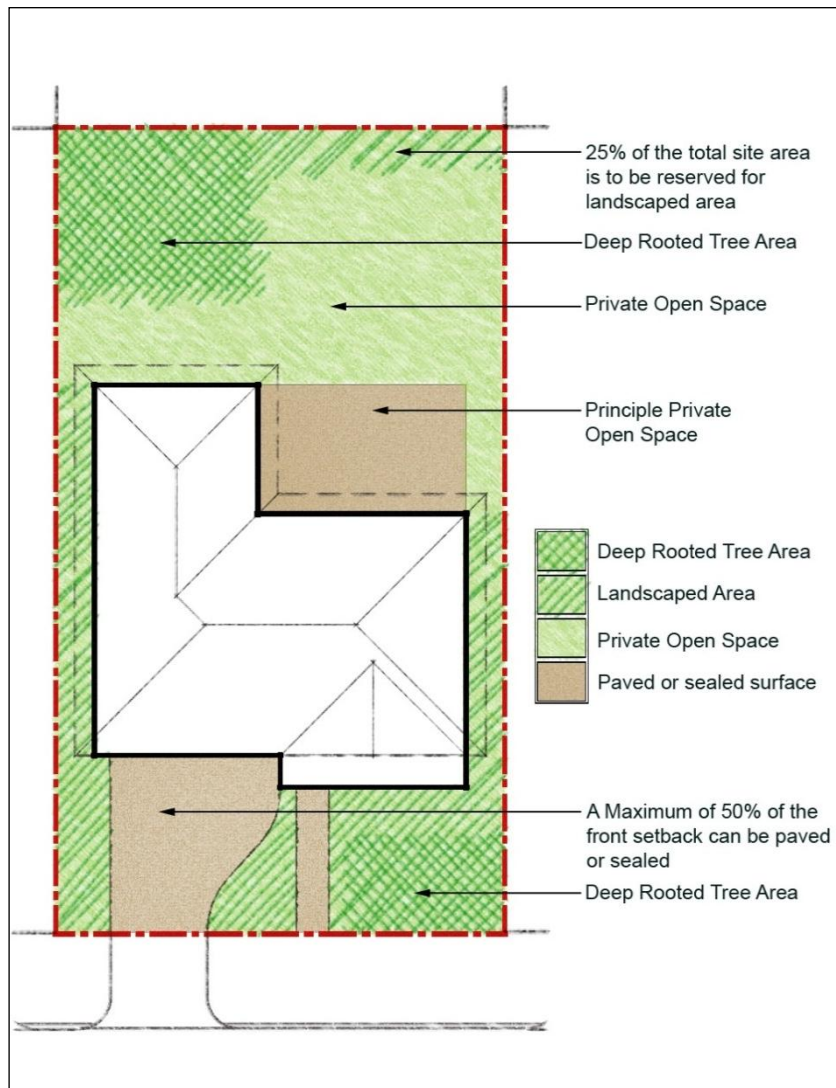


Figure 14 Landscaped Area

3.5 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- To reduce the incidence of change in natural ground levels.
- To encourage the architectural designs of dwellings which suit the contours of the land.
- To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600 mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1 m. All fill must be contained within the dwelling footprint. Refer to Figure 15.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5 m intervals) of the subject site and all adjoining sites.
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

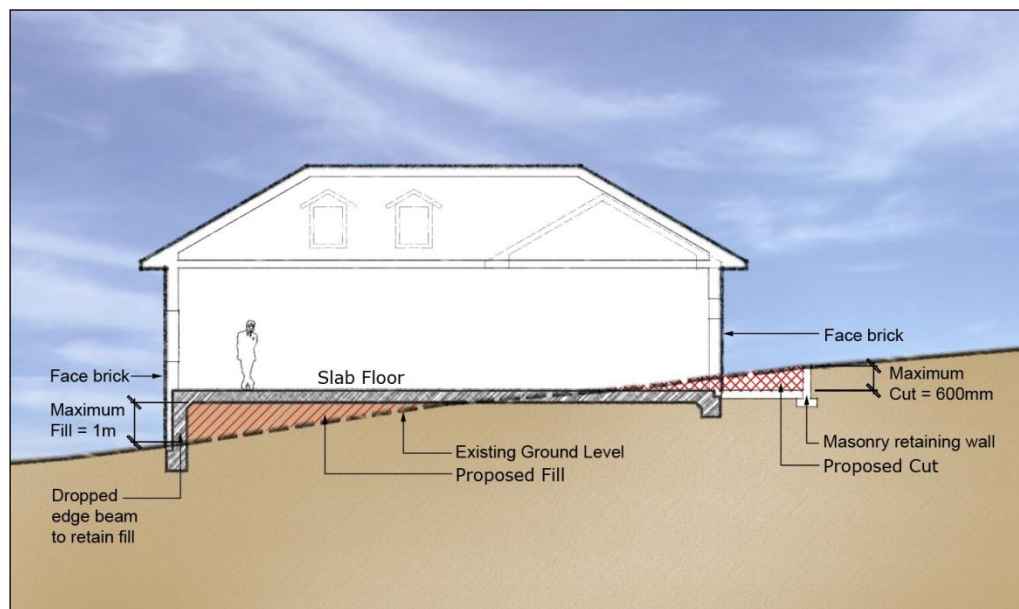


Figure 15 Cut and Fill requirements for a dwelling

Interface areas

Background

The areas identified in Figure 11 are interface areas. These areas are particularly sensitive due to their relationship to existing dwellings on the perimeter of the site and local topography.

Objectives

To provide housing types that relate to existing housing.

Controls

1. Only dwelling houses are permitted in the interface areas.
2. No new dwelling should fully obstruct views from living areas of existing neighbouring dwellings (see Figure 16).

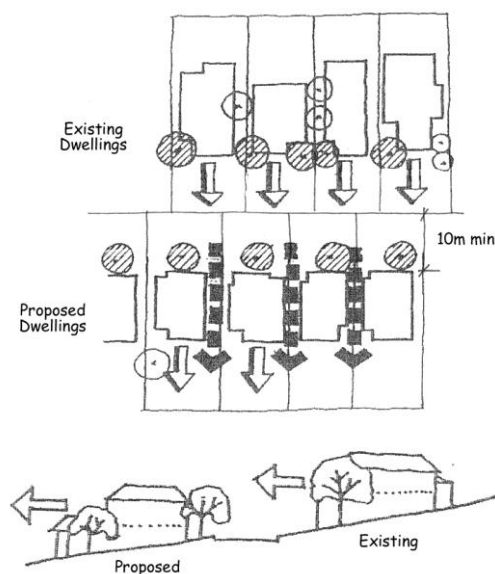


Figure 16 View Sharing

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) The building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages in two storey dwellings.

Controls

Dwellings

1. All dwellings are to be orientated to the street (See Figure 17).
2. The front pedestrian entrance must be visible from the street.
3. The front Building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
4. For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.
5. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
6. Dwellings that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

Two storey dwellings

7. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 17).

Garages and Carports

8. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
9. Garages and carports must be designed to be the minor element of the façade.
10. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
11. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
12. Carports may be built in front of the garage only if the carport is:
 - No larger than 5.5 x 6m.
 - Built of a similar colour and materials of the house.
 - Setback 2m from the front property boundary.
 - Compatible with the local streetscape.
13. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.



Figure 17 Example of Building Appearance (Indicative Only – Not to Scale)

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- d) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- e) That each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- 1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
- 2. Living rooms should take advantage of northern aspects.
- 3. Access to private open space must be from at least one living room.
- 4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
- 5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
- 6. Each dwelling must provide a minimum storage area of 8m³.
- 7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
- 8. The main living area must receive at least 3 hours of sunlight between 9.00am and 5.00pm on 21 June.

3.6 Landscaping and Fencing

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
- 2. Trees planted on the northern side of private open space and habitable rooms are to be deciduous.

3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided.
4. Any tree with a mature height over 8 m should be planted a minimum distance of 3 m from the building or utility services.
5. A landscape plan must be lodged with all Development Applications, and is to provide the following details:
 - The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - The location of any trees on adjoining properties that are likely to be damaged as a result of excavations of other site works.
 - The position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
3. The front fence must be 30% transparent. (see Figure 18)
4. Front fences shall be constructed in masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.
5. The maximum height of the front fence is 1.2 m.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8 m in height, and constructed of masonry, timber and/or landscaped (see Figure 18).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2 m is required for the first 9 m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8 m (see Figure 18). The secondary setback is the longest length boundary.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2 m.
2. Boundary fences shall be lapped and capped timber or metal sheeting.



Figure 18 Fence types

3.7 Car Parking and Access

Car Parking

Background

The provision of on-site parking is required for all residential allotments. On-site parking is to be provided in a way that does not compromise the appearance of dwellings from the street.

Objectives

- a) To provide sufficient and convenient parking for residents and visitors.
- b) To ensure that parked vehicles do not create traffic or pedestrian hazards, and do not degrade landscaped areas such as grass verges.
- c) To reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.

Controls

- 1. Two car parking spaces shall be provided for each dwelling.
- 2. At least one car parking space must be provided behind the front setback.
- 3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
- 4. A single garage is to be a minimum of 3 m wide internally and unobstructed.
- 5. All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

Internal Driveways

Background

Where private driveways are used they are designed to minimise their impact on the streetscape and on the environment.

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To create a pleasant, low maintenance place.
- c) To ensure clearly defined public and private spaces, such that driveways are for the sole use of residents.
- d) To ensure casual surveillance of private driveways from dwellings and from the street
- e) To minimise conflict between pedestrians and vehicles at the junction of driveways and footpaths.

Controls

- 1. The driveway crossing the verge between the property boundary and the kerb is to have a maximum width of 5.5m.
- 2. Driveways are to have soft landscaped areas on either side, suitable for infiltration.
- 3. Private driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
- 4. Private driveways are to be constructed as one of three general types, depending on block geometry and garages to be accessed. (See Figure 19).

5. Higher density development fronting to collector streets is to have rear access through laneways, car courts and the like. Developers are to identify opportunities for rear lanes parallel to collector streets.
6. Corner lots on collector streets are to have access from the street perpendicular to the collector street.
7. At the street entry, the driveway is to be landscaped to have low visual impact and be clearly distinguishable as private access only.
8. Landscaping at driveways should not block lines of sight for pedestrians, cyclists and vehicles.

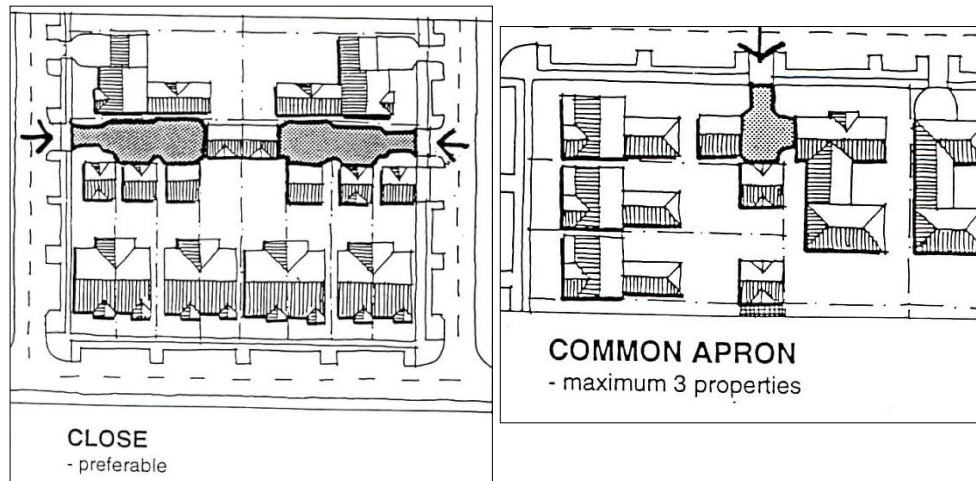


Figure 19 Examples of Internal Driveways

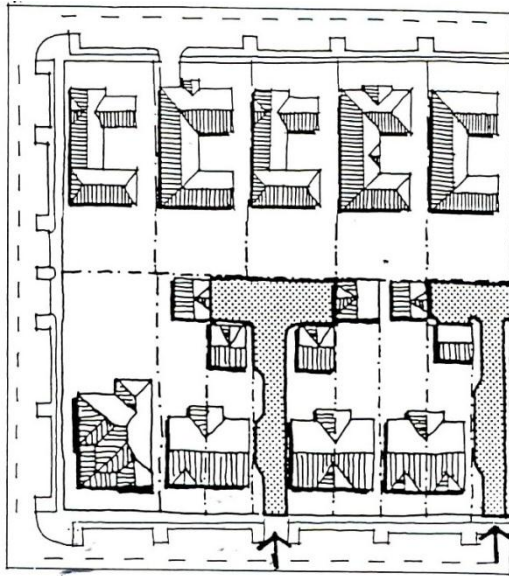
Private Driveways

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To clearly define public and private spaces, such that driveways are for the sole use of residents.

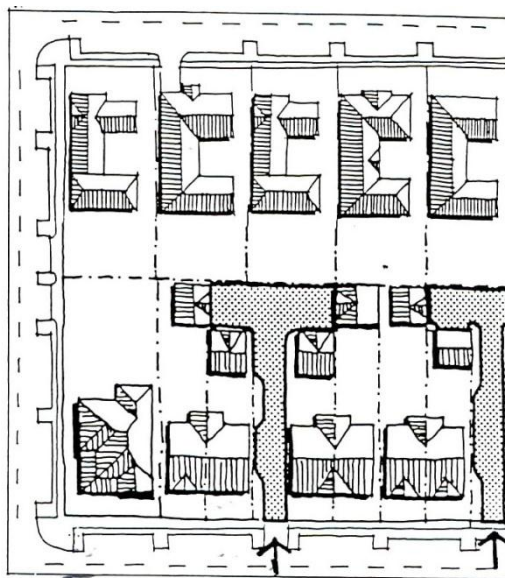
Controls

1. Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
2. Private driveways shall be constructed as one of three general types, depending on block geometry and garages to be accessed, as in Figure 20.
3. Higher density development fronting to collector streets shall have rear access through laneways, car courts and the like.
4. Development on corner lots on collector streets shall have access from the street perpendicular to the collector street.



2 T-SHAPED

- driveway should be from the frontage road of the narrow lot dwellings
- use where block geometry or available road frontage precludes 'close'



2 T-SHAPED

- driveway should be from the frontage road of the narrow lot dwellings
- use where block geometry or available road frontage precludes 'close'

TYPE 2 – T-SHAPED

- Driveway should be from frontage road of the narrow lot dwellings
- Use where block geometry or available road frontage precludes "close".

Figure 20 Private Driveway Options

3.8 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:
 - One living room, rumpus room or the like.
 - 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1 m from any habitable room windows in an adjoining dwelling (See Figure 21).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (See Figure 21).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of onsite and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

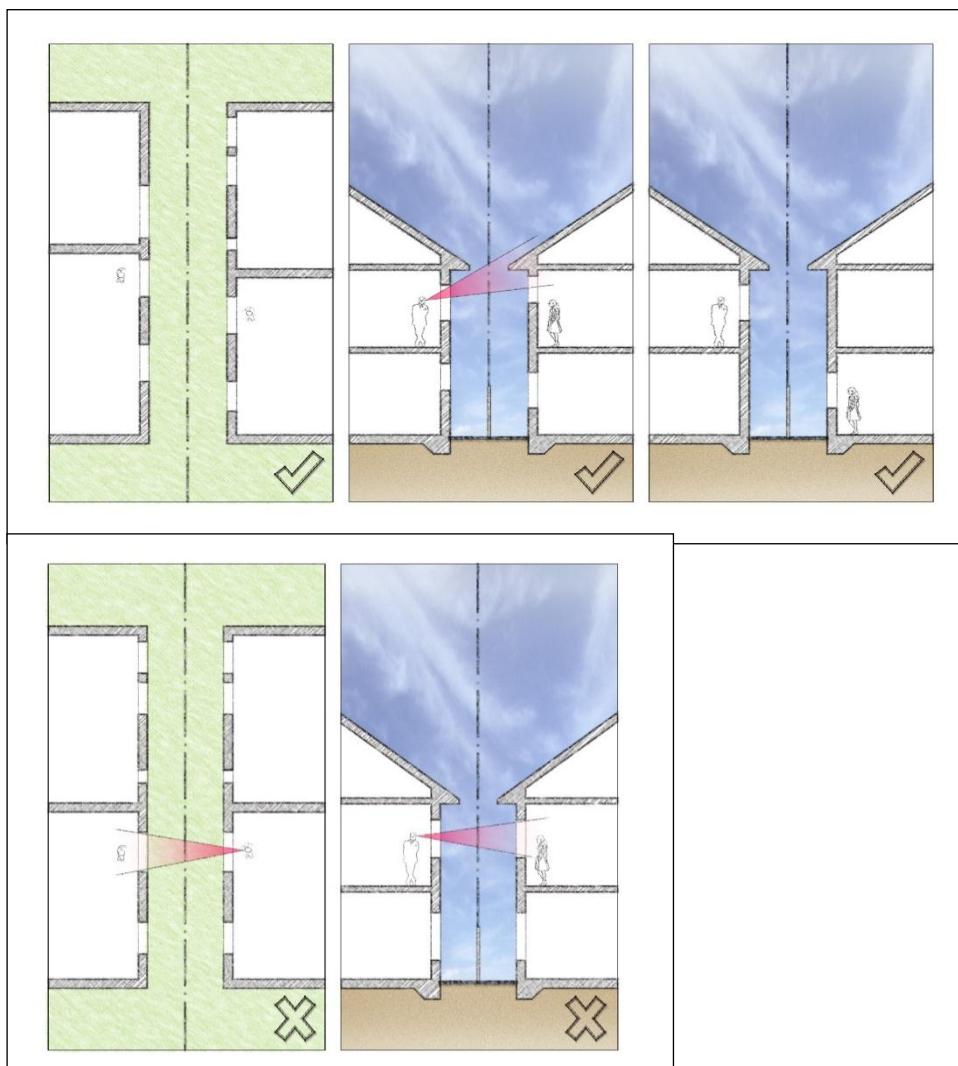


Figure 21 Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with *Part F5* of the *Building Code of Australia*.
4. The proposed buildings must comply with the *Environment Protection Authority* criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

3.9 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development involving residential flat buildings or shop top housing. These shall be located adjacent to the driveway entrance to the site or at the rear if a rear lane is provided.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1 m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
 - Details of the design of waste disposal facilities are shown in Part 1.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage

3.10 Secondary dwellings (Granny Flats)

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A Secondary dwelling can be a maximum of one storey high, unless the granny flat is above the garage facing a rear laneway, where the granny flat must be one storey high above the garage.
2. A Secondary dwelling should be attached to the main dwelling. However, Council may consider applications for detached granny flats on a merit base.
3. A Secondary dwelling should compliment the main dwelling design by using the same style of construction and a similar colour.

Note: Secondary dwelling will be included in the overall floor space ratio of a property, and only one Secondary dwelling is permitted per lot.



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Liverpool Development Control Plan 2008

Part 2.4

Development in
Moorebank Defence Lands

19 February 2014

Part 2.4 must be read in conjunction with Part 1

Liverpool Development Control Plan 2008

Part 2.4 Moorebank Defence Lands

Table of Contents

1. Preliminary	4
2. Controls for Public Domain	7
2.1 Street Network	7
3. Controls for Private Domain.....	8
3.1 Subdivision, Frontage and Allotment Size.....	8
3.2 Site Planning, Building Form, Style and Streetscape.....	8
3.3 Setbacks	10
3.4 Landscaped Area.....	10
3.5 Building Design, Streetscape and Layout.....	11
3.6 Car Parking and Access	14
3.7 Landscaping and Fencing.....	14
3.8 Amenity and Environmental Impact.....	22
3.9 Site Services	23
4. Sites	24

Table of Figures

Figure 1 Land to which this Plan applies	6
Figure 2 Building Form	12
Figure 3 Building Form	13
Figure 4 Landscaping	17
Figure 5 Lighting Treatments.....	18
Figure 6 Signage Treatment	21

List of Tables

Table 1	10
Table 2	11

1. Preliminary

Applies to

1. This section applies to land identified on Figure 1. The land is known as the Yulong, Amiens and DNSDC Defence sites located at Moorebank Avenue, Moorebank.
2. Part 1 also applies.
3. Part 7 does not apply except for non industrial development.

Background

Since the 1990s Liverpool City Council has identified the need for additional employment land within Liverpool LGA to satisfy the increasing demand for business enterprise, to provide jobs for the local workforce, and to provide for a higher order of jobs in high technology industries to match the increasing skill base of the local community.

The Defence land at Moorebank was seen as a suitable area for business enterprise, being located on the M5 Motorway and close to the M7 and in close proximity to the Liverpool CBD.

The DNSDC site lies to the south of Yulong, on the eastern side of Moorebank Avenue. This Part aims to co-ordinate the approach to urban design for these sites.

The area was originally subject to Liverpool DCP No 49, which came into force on 6 June 2003. There is still area that is not yet developed and is accordingly incorporated into this DCP.

The vision for the area includes the following:

- To provide for industrial and business development which contributes to the economic, employment and social growth of the Liverpool Local Government Area, which complements the employment role of Liverpool City Centre, and which due to its nature is not considered suitable for the Liverpool City Centre.
- To provide for the special requirements of industry and business, particularly in the areas of advanced technology and communications, and to cater for the varying needs of employment activities.
- To encourage the development of an industrial and business employment area in a location highly accessible to employees.
- To maximise the opportunities for increased use of public transport, bicycles, and walking and reduced use of private cars.
- To make special provisions for industries using and developing advanced technology products and processes.
- To provide facilities for business and industry by allowing a range of ancillary activities which serve the daily needs of the local workforce.
- To discourage industrial development, which is likely to detract from the amenity of the area by reason of its appearance, noise, emissions and the like.
- To prohibit hazardous and offensive industries and industries where substantial measures are necessary to mitigate the risks or impacts of environmental damage.
- To make adequate provision for infrastructure and facilities to service the development of the area.
- To provide for the use and development of the area in an orderly, efficient and economic manner.
- To promote a high standard of urban design, and

- To provide for ecologically sustainable development outcomes and promote the conservation of Liverpool's unique natural assets.

Planning and Design Principles for Amiens, Yulong & the DNSDC sites

The following principles establish the planning and design framework for the objectives, performance criteria and development controls contained in this DCP and are to be used in the assessment of all development applications or proposed developments.

Urban form and design

The principal objective is to ensure an attractive and high standard of buildings and associated public domain with high visibility from the M5 Motorway. Building design should reflect the high-tech nature proposed for the precinct.

Land use and activities

The aim is to locate the high intensity components of business activities at the frontage to Moorebank Avenue and Anzac Road, with the less intensive components located to the rear of the frontage activities.

Transport

The development of the area, which is likely to occur over a 30 year period or longer, will bring with it major transport improvements in both public and private transport. Moorebank Avenue is proposed to be the future "spine" road for the area.

As the first components of the area, this DCP for the Amiens, Yulong and DNSDC sites seeks to encourage a pattern of development intensity that will support public transport and other travel modes such as cycling and walking through the broader area.

Amenity

The sites covered by this DCP have a variety of natural characteristics, which should be retained and enhanced where possible for the amenity of employees and visitors.

Sustainability

The siting and nature of development should reflect the principles of Ecologically Sustainable Development and seek to conserve and enhance the valuable natural assets of the area.

Objectives

- a) To protect and enhance the environmental integrity of the area.
- b) To ensure a high standard of building design, signage and landscaping, creating an appropriate image promoting the area and the subject sites which form the gateway to the area.
- c) To provide quality landscaped areas in public spaces.
- d) To ensure that development of land is coordinated appropriately.



Figure 1 Land to which this Plan applies

2. Controls for Public Domain

2.1 Street Network

Objectives

- a) To provide an attractive residential street environment
- b) To ensure that entry roads and internal access arrangements are suitable for the anticipated nature and volume of traffic.
- c) To provide for the safe and efficient circulation of traffic
- d) To provide for the safe and efficient movement of pedestrians.
- e) To provide for efficient movement of local bus services.

Controls

The entry roads to both sites should include the following as a minimum:

1. 10m carriageway with parking on one side only and two lanes.
2. Pedestrian footpaths with a minimum width of 2.5m should be provided on both sides of the road, providing clearly visible connections to the front entry of each building.

3. Controls for Private Domain

3.1 Subdivision, Frontage and Allotment Size

Objectives

- a) To accommodate the needs of industry and employment while ensuring that all allotments are of sufficient size to function efficiently.
- b) To ensure the provision of sufficient space for parking, loading and unloading of vehicles, management of stormwater runoff, and landscape.
- c) To ensure that subdivision of key gateway sites should be large enough to allow scope for innovative site planning and suitable building outcomes. Perimeter frontage sites should comprise larger allotments while internal lot sizes can be smaller.
- d) To enhance the quality of the streetscape in industrial areas.
- e) To conserve the sites' natural and cultural heritage assets.

Controls

- 1. The minimum area of a lot for development of an industrial use is 2,000sqm.
- 2. The minimum frontage of a lot for development of an industrial use along Moorebank Avenue is 65m.
- 3. The minimum frontage of any lot for development of an industrial use (other than those located on Moorebank Avenue) is 30m.
- 4. Development shall conform to Council's adopted industrial subdivision design principles.

3.2 Site Planning, Building Form, Style and Streetscape

Design quality of buildings

Objectives

- a) To encourage a high standard of architectural design for all buildings.
- b) To ensure that buildings visible from the M5 and along the frontage of Moorebank Avenue in particular are of the highest design quality.
- c) To encourage the development of buildings with facades which are designed with a balance of horizontal and vertical elements.
- d) To ensure that the location and design of buildings, car parks and pedestrian areas are designed to promote safe pedestrian access and encourage the use of public transport.
- e) To ensure energy efficiency is a key consideration in building design.

Controls

To avoid monotonous images to these key frontages, facades should seek to achieve the following:

1. A balance between solid and void.
2. Deep modelling to throw shadows.
3. Expression of structure.
4. Articulation with elements such as sunscreens and awnings.
5. Large areas of blank walls are not acceptable to the key frontages.
6. Roof Form: Many buildings will be viewed from a high level from the Moorebank Avenue overbridge. It is important therefore that the "roofscape" be carefully considered and treated as the 'fifth façade'.
7. Any vents or plant rooms shall be designed as an integral design element of the roof and the building as a whole.
8. Colour and materials should provide a continuity of buildings along the frontages.
9. A combination of masonry, steel frames, steel sheeting and glass is considered appropriate.
10. Exposed steel frames should be painted white, a device that would help to unify a diverse collection of buildings.

Design for safety and security (Streetscape)

Objectives

- a) To ensure that personal safety of employees and visitors is an integral part of site planning.
- b) To ensure that clear sight lines and well-lit access routes are provided throughout any development.
- c) To ensure all pedestrian entries and connections to car parks are well lit and visible to enhance the safety and security of employees and visitors.
- d) To ensure that passive surveillance is maximised.
- e) To ensure development creates an active and safe street front.
- f) To ensure development encourages people to use and interact in streets, parks and other public places without fear or risk.

Controls

1. Surveillance should be maximised by orienting buildings towards street frontages.
2. Building frontages and entries should be clearly visible from the street.
3. The entrances of buildings should be easily identified through: signage, lighting, and entrapment spots avoided.

3.3 Setbacks

Street Setback

Objectives

- a) To ensure the conservation of natural assets.
- b) To ensure that building siting creates of a distinctive streetscape character according to the level of roads in the road hierarchy.
- c) To provide an adequate distance between buildings and street alignment for landscaping.
- d) To provide adequate sight distance for safe traffic movement.
- e) To mitigate the potential visual impact of industrial buildings on any adjoining residential areas.
- f) To ensure energy efficient placement of buildings.

Controls

1. Buildings shall be setback in accordance with Table 1.

Table 1

Location		Setback
Moorebank Avenue		18m
Adjoining areas	residential	18m
Anzac Road		15m
South Western Freeway		7.5m
Other Roads		7.5m

2. Buildings should address at least 65% of the street frontage.
3. Side and rear setbacks shall comply with the requirements of the Building Code of Australia, subject to the minimum requirement for Landscaping, Access & Parking referred to in this DCP.

3.4 Landscaped Area

Boundary landscaping

Objectives

- a) To establish a landscaped boundary to the precinct.
- b) To reduce the visual impact of buildings and hard stand areas by landscape treatment.
- c) To mitigate the visual impact of development on any adjacent residential, or other sensitive land use through the use of landscape buffers.
- d) To maximise the retention of indigenous vegetation.

Controls

1. Existing indigenous trees within any building setback should be retained where possible, as an integral component of the site's landscaping, to protect local flora habitats.
2. Landscape widths to be provided on rear and side boundaries should relate to the adjacent land use.

3. Where buildings are set back from side or rear boundaries, they shall be setback in accordance with Table 2.

Table 2

Location	Width
Industrial/ Industrial interface	2.5m
Industrial/ Residential interface	5.0m
Industrial/ Open Space (water areas) interface	5.0m
Industrial/ Related uses (commercial and retail) interface	3.5m

Frontages

Objectives

- To establish a distinctive streetscape character for all streets through landscaping of individual sites and adjoining street frontages.
- To provide landscape frontages to all sites in order to create a landscape character.

Controls

- Landscape frontages should be a minimum depth as indicated below:
 - Moorebank Avenue 18 m
 - Local Road Frontages 7.5 m
- Offset or staggered fencing along the front boundary should be considered to enable fences to be screened and reduce potential visual impact.

3.5 Building Design, Streetscape and Layout

Building form

Objectives

- To allow for buildings for employment and industrial purposes which are suitable for their intended use.
- To promote a high standard of urban design.
- To encourage higher buildings fronting key roads, including Moorebank Avenue and Anzac Road.
- To ensure that the buildings make a positive visual contribution to the streetscape.
- To encourage buildings which incorporate vertical elements to achieve good visual exposure.
- To enable buildings which incorporate interesting and well-designed vertical elements including lift towers, structures to contain signage, roof forms, and integrated vents and plant rooms as part of the structure.
- To ensure compatibility with any adjoining residential areas.

Controls

The form of buildings shall be in accordance with Figures 2 & 3.

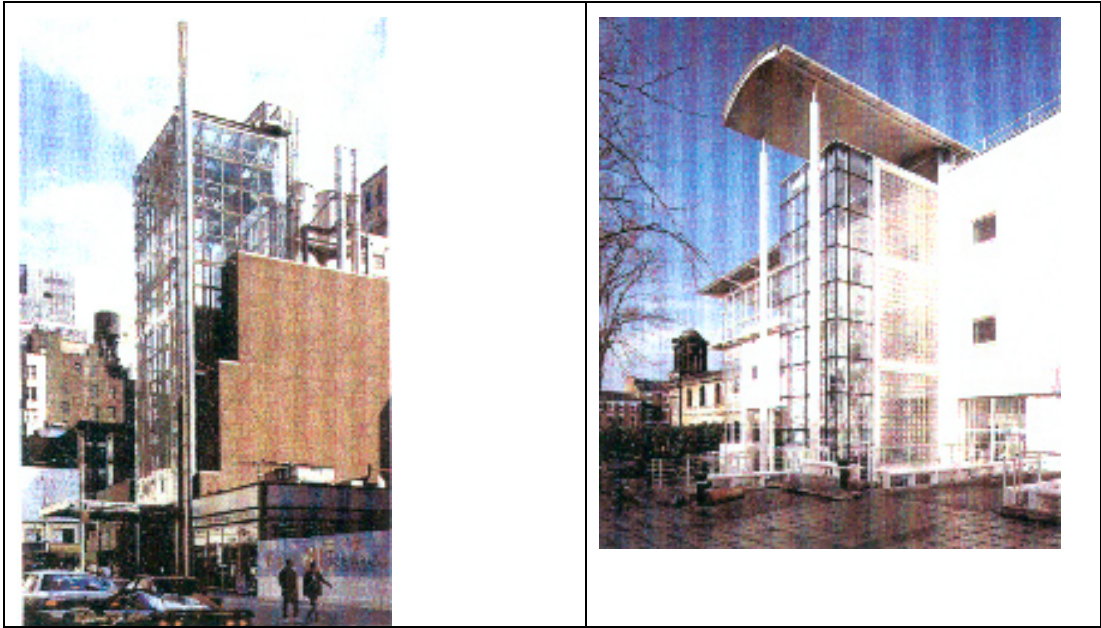


Figure 2 Building Form






	
<p>Structure should be expressed where appropriate through devices such as external frames.</p>	<p>Building forms should include articulation and variation to reduce perceived bulk</p>
	
<p>A balance of solid and void should be used to give depth and perspective.</p>	<p>Structures can provide a vertical element to buildings.</p>
	
<p>Vents and plant rooms should be an integral component of the building.</p>	
<p>The form of buildings should express modern industrial character and quality of design and materials</p>	<p>The proximity of the Amiens, Yulong & DNSDC sites enables high levels of exposure of new buildings to the M5, is emphasising the need for high quality design.</p>

Figure 3 Building Form

3.6 Car Parking and Access

Objectives

- a) To ensure adequate provision is made for safe pedestrian and cyclist access, and access for the disabled.
- b) To ensure that vehicular movements and parking requirements generated by industrial development are compatible with the amenity and safety of the street system and any adjoining residential areas.
- c) To ensure that surface car parking does not detract from the visual amenity of the street or public domain.
- d) To ensure that all vehicles used by employees and visitors to the development can be accommodated on-site.
- e) To ensure that adequate bicycle facilities are provided.
- f) To ensure pedestrian movements generated by industrial development are compatible with the amenity and safety of the streets.

Controls

- 1. Car parking at grade or below buildings should not dominate any site. Where car parking occurs in the open and on-grade it should incorporate a 2.5m wide landscape bay for tree planting, with a minimum of 6 - 8 cars in a row to reduce the visual impact of parked cars.
- 2. Pedestrian and cyclist access to the site should connect with surrounding land uses and, in particular, open space.
- 3. The side of buildings fronting the M5 and Moorebank Avenue shall not be used for freight loading and unloading, servicing, truck storage or car parking. These activities should be confined to the rear of buildings within the site itself.
- 4. No pedestrian access is to be provided along the M5 frontage.
- 5. Pedestrian access should be provided along the Moorebank Avenue frontage.
- 6. Bicycle facilities are to be provided in accordance with Austroads – Part 14 Bicycles.

3.7 Landscaping and Fencing

Objectives

- a) To ensure retention and enhancement of existing valuable natural features is encouraged for the provision of natural habitat and amenity.
- b) To ensure areas can be landscaped as on-site open space for use by staff and visitors (e.g. the pond on the Amiens site, and tree stands on the Yulong and DNSDC sites).
- c) To ensure landscape treatment utilises these assets and provide interpretive signage as well as seating.
- d) To ensure that other landscape development aims to complement the high standard of architecture and urban design sought for the AREA and the subject gateway sites.
- e) To rehabilitate existing natural vegetation areas and manage the conservation and enhancement of natural processes.

Entries

Objectives

- a) To establish a distinctive entry each development site, to create a sense of arrival and entry.
- b) To ensure entries from Moorebank Avenue should incorporate high quality landscape to set the “image” and character of the area as whole.
- c) To ensure that consideration is given to the use of water features, signage and sculptures as means to enhance entry treatments.

Controls

- 1. Semi-mature signature trees and shrub planting should reinforce site entries.
- 2. Trees should be used to create a sense of arrival.

Planting

Objectives

- a) To provide planting which adequately screens car park areas, storage areas and non-compatible land uses.
- b) To provide planting which facilitates a habitat for native fauna.
- c) To provide planting consistent with the climate and soils of the site.
- d) To maximise winter sun, summer shade and wind protection to the office and recreation areas of the sites.
- e) To provide outdoor amenity areas for use by employees.
- f) To use landscaping to reduce the potential visual impact of development.
- g) To encourage landscaping which enhances the amenity of the precinct.
- h) To protect significant vegetation.

Controls

- 1. All landscape plans are to be prepared by a qualified Landscape Architect or suitably qualified person.
- 2. All landscaped areas must incorporate shade planting.
- 3. Landscaped areas are to be physically separated from vehicular movements by kerbs or barriers (wheel stops).
- 4. Strips of grass less than 1m wide and irregular shaded areas of grass are not suitable. These areas should be incorporated into garden beds.
- 5. Landscaped areas are to have an automatic irrigation system.

Landscape materials

Materials to be used in the landscape should belong to a consistent theme and family of elements.

Paving

Paving should reflect the function of the area and help to define pedestrian and vehicular movement. Vehicular pavement should be consistent, with parking areas identified by paving and landscape treatment. For example parking areas could allow for infiltration of more site runoff by providing Eco pavers and/or interlocking pavers.

Entries should include more detailed unit paving. A palette of colours and paving types should be developed to enable selection from a consistent range of paving.

Paving selection should consider:

1. Cost effectiveness
2. Safety, slip/skid resistance
3. Maintenance requirements and longevity
4. Visual impact and design

Site Furniture

All furniture, including seating, bollards, litterbins, bicycle racks and car park kerbing and guttering should all be selected as a consistent theme for the Amiens, Yulong & DNSDC sites. This will ensure a cohesive landscape.

Planting and Plant Species

Planting species should be consistent with the landscape themes referred to above. Refer to Part 1 for preferred plant species. The selection of plants should be consistent with the woodland community present on the site.






	
Well-designed landscape providing a high quality entry statement	Example of feature lake providing a parklike setting
	
Example of threshold paving to identify entries	Access road incorporates tree planting, lighting and feature native grass understorey
	
Example of a detailed entry treatment	

Figure 4 Landscaping

Lighting

Objectives

- a) To promote the lighting of buildings and signage as a major design element;
- b) To promote energy efficiency in the design of buildings;
- c) To provide illumination to pedestrian ways and car parks which promote safety and security.

Controls

- 1. All night time illumination of building facades and corporate signs to provide greater exposure to the site's front.
- 2. Natural lighting is to be incorporated into building design to minimise energy use.
- 3. Glazing shall not exceed reflectivity of 20%.
- 4. Lighting should be serviced by underground cabling.
- 5. Vehicular, pedestrian and cycle routes throughout the precinct should be well-lit.
- 6. Illumination at entries and within car parking areas shall be sufficient to ensure a safe and well-lit environment.
- 7. All pedestrian areas at entries and connections to car parks are to be well lit to enhance safety and security of employees and visitors.


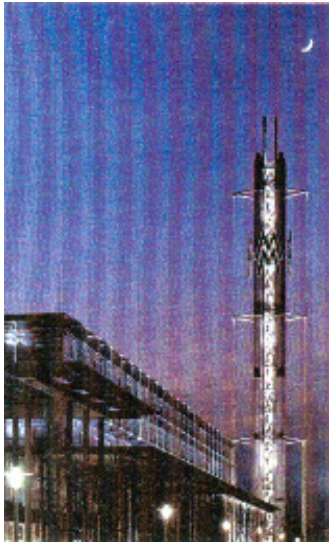

	
<p>An example of how well-lit interiors as viewed from the M5 and Moorebank Avenue can enhance the character of the AREA</p>	
	
<p>Lighting of vertical elements will enhance the visual appearance and exposure of buildings</p>	<p>The night-time image of buildings on these gateway sites will be an important consideration</p>

Figure 5 Lighting Treatments

Signage

Objectives

- a) To ensure that signage is carefully designed and used as a positive design element.
- b) To permit the display of information concerning the identification of premises, and the name of the occupier and activity conducted on the land or in the building.
- c) To ensure a coordinated approach to advertising where there is multiple occupancy of site.
- d) To enhance the architectural and landscape presentation of industry so that advertising signs appear proportional to the scale of the building or space within which they are located.
- e) To minimise the negative visual impact of cluttered and untidy advertising signs, in particular at gateway sites and entry points to industrial precincts, so as to promote the townscape qualities of Liverpool.
- f) To ensure that signs do not dominate the landscape or built form.

Controls

1. Corporate names and logos should be integrated as part of the overall design of buildings.
2. Signs should not be located in positions where they may be hazardous to traffic.
3. Direction signs such as those at entrances to sites and buildings should conform to an overall theme for the sites. All signage will be submitted to Council for review to ensure consistency and unity of design. DA plans should show the location and detail of all signage.
4. The number and content of signs is to be minimised to prevent visual clutter.
5. Where a building has a setback from a public road, a sign is permitted within that setback, but no closer to the road than half the setback distance.
6. Low level signage incorporated into the architecture and landscaping of the site is preferred.
7. Where there are multiple-occupancy buildings, an index panel or directory board should be located at the entrance, indicating the name of the building and the occupants.
8. Signs shall be of uniform shape, size and general presentation and similarly located on each unit.
9. No more than one sign is permitted for each unit or occupancy.
10. Roof signs are not permitted.
11. All signage is subject to Council approval, and will be assessed having regard to the following:
 - conformity with the desired future character of the area;
 - whether it complements the dominant character of the area and its landscape;
 - whether it complements the character of a building, site or area, e.g. a historic building, public garden, view of urban landscapes;
 - the number of existing signs;
 - potential effect on traffic and/or pedestrian safety;
 - whether it complements any established theme or pattern of signage;
 - whether it refers to an approved or lawful use of the site or building;
12. The following design factors will also be taken into account:

- number of existing signs on the building (and adjacent buildings)
- placement and visibility
- dimensions (height, width and depth)
- scale (dimensional or proportional relationship to spaces, other physical urban elements including buildings, trees, other signs or people)
- Shape
- Materials, construction details and means of attachment
- Colour
- Purpose of the sign (identification, directional or general advertising)
- Reflectivity
- Means of illumination
- Movement
- Provision of services
- Durability and maintenance implications





	
<p>Corporate signs integrated with building</p>	<p>Lighting and signage will be important in establishing the corporate image of the AREA</p>
	
<p>Well-designed corporate identification signage can enhance the appearance of buildings without detracting from the visual environment</p>	<p>Well-designed and integrated signage can complement architectural style and promote quality building design</p>

Figure 6 Signage Treatment

3.8 Amenity and Environmental Impact

Energy efficiency

Objectives

- a) To encourage built form, landscape and site planning which embodies energy efficiency and ecological sustainability principles.
- b) To ensure development demonstrates appropriate use of energy efficient materials in construction wherever possible.
- c) To ensure development demonstrates appropriate solar access, natural ventilation and use of landscape elements for micro-climate control.
- d) To ensure development demonstrates appropriate application of energy minimisation in industrial processes.
- e) To ensure appropriate application of Water Sensitive Urban Design principles.

Controls

1. All development applications for a specific use of industrial premises are to include a statement of industrial processes and an energy management plan. This shall demonstrate recommended energy saving measures for all industrial processes and energy conservation measures recommended to be incorporated into the building design.
2. Buildings shall be sited to maximise solar access in the winter months and minimise windows facing east and west, or provide adequate screening in summer to keep out low angle sun in the mornings and afternoons.
3. Control solar access to thermal mass by:
 - Overhangs.
 - Shading/screens (some adjustable).
 - Insulation to lightweight structures in eastern/western walls and roof.
 - Use of cross ventilation through the installation of elevated, louvered windows.
 - Use of energy efficient equipment and systems.
 - Incorporating thermal mass by using concrete floors.
4. Incorporate water efficient design principles. Rainwater should be collected and stored within existing water bodies or on-site detention basins for re-use as on-site irrigation:
 - Use porous paving materials to minimise runoff.
 - Collect stormwater in the existing water body on the Amiens site.
 - Polish water from on-site runoff by directing runoff into on-site dry creek gravel beds with macrophyte plants.
 - Use drainage swales adjacent to entry roads instead of kerbs to slow down stormwater runoff and increase on-site infiltration.
 - Consider and design in response to salinity hazard investigations.

Vegetation Conservation

Objectives

- a) To ensure the retention of native vegetation to maintain and improve the ecological sustainability of local habitats.
- b) To provide adequate corridors between adjoining biological areas and ecological communities.
- c) To provide adequate buffers between development and natural waterways.

Controls

1. All significant existing trees or bushland shall be retained or replaced by advanced specimens of the same species.
2. Significant trees and vegetation identified as having habitat value shall not be relocated or removed.

3.9 Site Services

Background

There is a range of services that may need to be provided either on site or within the adjacent road reserve. Owners are required to provide some services and maintain some of the services on the site. Owners must also ensure that services provided on the site are protected from any potential damage.

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for individual premises on site.
2. Letterboxes shall be located at front of site and easily accessible from the street.

Waste management

Owners are to provide their own waste management services. These facilities will vary depending on the needs of the site. Any waste management equipment must not be visible from the street. Waste bins must be provided in a designated area that is easily and safely accessible for workers.

Footpaths

Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.

Frontage works and damage to Council infrastructure

Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

4. Sites

Kitchener House

1. The Yulong site contains a registered heritage item known as Kitchener House, comprising a heritage building, entry gates, and line of historic trees and a garden.
2. Kitchener House and an appropriate curtilage shall be maintained, to retain the memory of previous urban environments; expose previous layers of urban fabric; and enhance the sense of place. A subdivision lot has been created to contain this heritage item and its curtilage.
3. A conservation management plan has also been prepared for its on-going use and management.
4. An appropriate new use should be found for Kitchener House, which requires the least amount of structural alteration to the interior or exterior, in accordance with the objectives of the conservation management plan.
5. To retain an appropriate visual setting, new development should not intrude within its curtilage and should be screened by planting.
6. The scale and character of new development along Moorebank Avenue shall respect that of Kitchener House, and appropriate screening is to be introduced, where necessary.



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Liverpool Development Control Plan 2008

Part 2.5

**Land Subdivision and Development in
Middleton Grange**

3 September 2014

Part 2.5 must be read in conjunction with Part 1

Refer to Part 3.8 for Non Residential Development in Residential Zones

Liverpool Development Control Plan 2008

Part 2.5 Middleton Grange

Table of Contents

1. Preliminary	5
2. Controls for Public Domain	8
2.1 Street Network	8
2.2 Pedestrian and Cyclist Paths	13
2.3 Streetscape and Street Trees	15
2.4 Open Space.....	17
2.5 Stormwater Management.....	18
3. Controls for the Private Domain.....	29
3.1 Subdivision, Frontage and Lot Size.....	29
3.2 Site Planning	32
3.3 Setbacks.....	33
3.4 Dwelling Density	35
3.5 Landscaped Area and Private Open Space	38
3.6 Cut and Fill, Building Design, Streetscape and Layout.....	41
3.7 Landscaping and Fencing.....	46
3.8 Car Parking and Access	48
3.9 Amenity and Environmental Impact.....	50
3.10 Site Services.....	52
4. Neighbourhood Centre	53
4.1 Subdivision, Frontage and Allotment Size.....	54
4.2 Site Planning	54
4.3 Landscaped Areas and Pedestrian Areas	55
4.4 Building Form, Streetscape and Layout	55
4.5 Landscaping and Fencing.....	58
4.6 Car Parking and Access	58
4.7 Amenity and Environmental Impact.....	59
4.8 Site Services.....	59
4.9 Shop Top Housing	60
4.10 Restaurants/Outdoor Cafes	71

Table of Figures

Figure 1 Land to which this Part applies	5
Figure 2 Street Design and treatment.....	9
Figure 3 Street Sections	10
Figure 4 Street Sections	11
Figure 5 Bus Routes and Bus Stops.....	12
Figure 6 Cycle Paths	14
Figure 7 Street Trees	16
Figure 8 Tree Protection.....	17
Figure 9 Creek Zone Management.....	22
Figure 10 Type A Channel.....	23
Figure 11 Type B Channel.....	24
Figure 12 Type C Channel	24
Figure 13 Type D Channel	25
Figure 14 Type E Channel.....	25
Figure 15 Crossing Types	26
Figure 16 Creek Corridor.....	27
Figure 17 Channel Locations.....	28
Figure 18 Lot Orientation.....	29
Figure 19 Lot Orientation.....	31
Figure 20 Private Open Space Considerations on an East-West Lot.....	31
Figure 21 Example of a site analysis plan	33
Figure 22 Zero Lot Lines	35
Figure 23 An example of Landscaped Area and Private Open Space	40
Figure 24 An example of Landscaping for Multi Dwelling House	40
Figure 25 Cut and Fill requirements	43
Figure 26 Example of Building Appearance.....	44
Figure 27 Maximum total first floor wall length of a two storey dwelling	45
Figure 28 Fence treatments on secondary frontage	48
Figure 29 Private Driveways.....	48
Figure 30 Privacy and Amenity.....	51

List of Tables

Table 1 Minimum Creek Zone Treatments / Widths	23
Table 2 Front and Secondary Setbacks	34
Table 3 Side and Rear Setbacks	34
Table 4 Permitted Building Types	366
Table 5 Private Open Space.....	368

1. Preliminary

Applies to

1. Part 2.5 applies to the land, shown in Figure 1.
2. Part 1 also applies to the land shown in Figure 1.
3. Part 3.7 applies to the building of Residential Flat Buildings on land shown in Figure 1.
4. Part 3.8 also applies for non residential development on the land.
5. Parts 3.1 – 3.6 do not apply to the land.

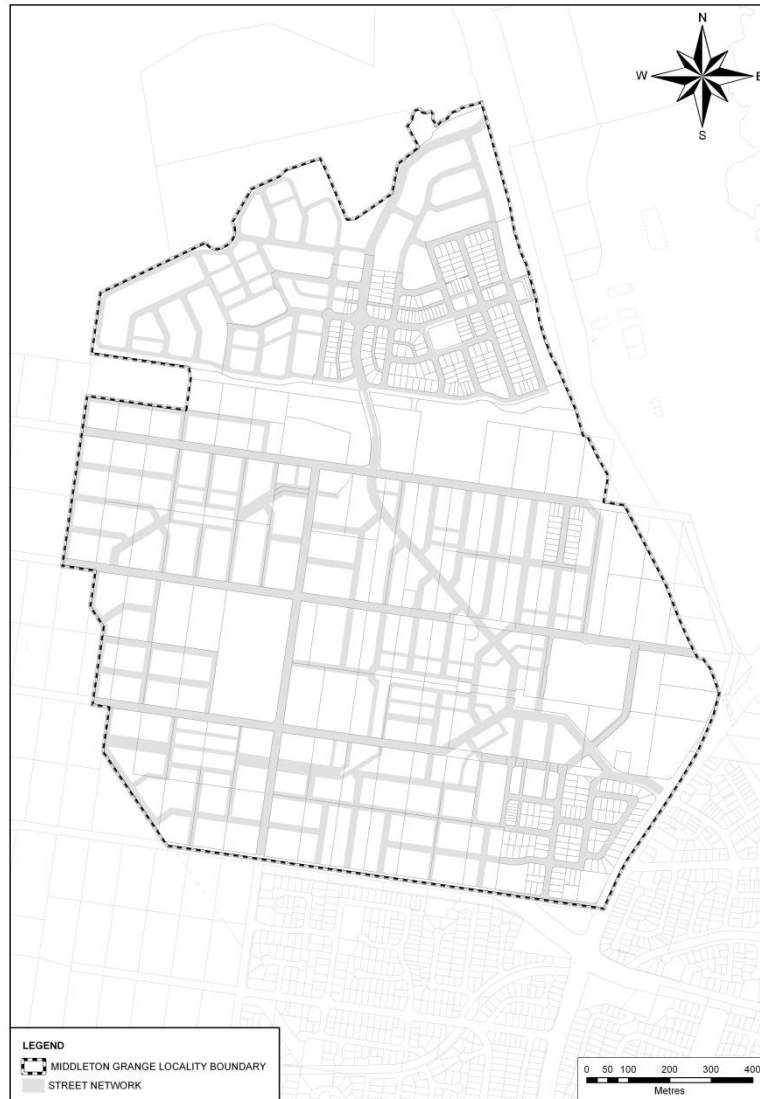


Figure 1 Land to which this Part applies

Background

The suburb of Middleton Grange was rezoned on 18 June 2004. The area was originally subject to Liverpool DCP No. 48, which came into force on 26 June 2002.

Planning Principles

Middleton Grange will evolve as a place that optimises the public transport network and facilitates access between home and work, a place that is safe and attractive and is characterised by quality urban design and architecture.

Development will be environmentally sustainable – cycling and walking will be attractive alternatives to the private car, the neighbourhood will be highly accessible and the physical features of the area will be retained and enhanced. A distinctive feature of Middleton Grange will be its connections and proximity to the Western Sydney Regional Parklands and the incorporation and regeneration of a significant swathe of Cumberland Plain Woodland into the urban fabric providing a continuous biodiversity link.

Places will be distinctive and memorable with higher density living located around areas of highest amenity. The community will be served by local community facilities, parks and sports fields, as well as the convenience of local shops.

This Part supports this by articulating the following principles:

1. Encourage community and stakeholder collaboration in development decisions.
2. Take advantage of compact building design that is also sensitive to the environment.
3. Ensure that land use is appropriate and that any development uses the development site to its best advantage.
4. Relate the density of development to access to transport and services.
5. Create a range of housing opportunities and choices.
6. Create workable neighbourhoods – ensure a civic focus.
7. Foster distinctive, vibrant communities with a strong sense of place.
8. Preserve and enhance open space, natural features and critical environmental areas.
9. Strengthen existing communities – consider employment options and issues such as safety and recreational facilities for the wider community.
10. Provide a variety of transportation choices – accessibility is the key.
11. Make development decisions predictable, fair and cost-effective.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.
- b) Guaranteeing a movement system that relates accessibility demand to location of development type.
- c) Ensuring that servicing is able to be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and give priority to pedestrians and children.
- e) Guaranteeing adequate accessibility for emergency vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising the existing street layout.

Social Benefits

To establish affordable and accessible facilities and resources that allow people to maintain wellbeing, live and recreate by:

- a) Making appropriate provision for social and community needs.

- b) Providing for a full range of housing types, form and tenure.
- c) Establishing a hierarchy of recreation facilities and parks/reserves.
- d) Ensuring that development creates a „people place“ by giving priority to people and human relationships through housing mix and safety.
- e) Accommodating life-long educational and learning needs.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage and floodplain management that, contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water and air pollution management and water quality.
- e) Maintaining and enhancing the quality of the natural environment.
- f) Connecting and enhancing vegetation corridors and providing links between the Western Sydney regional parkland and the Hinchinbrook Creek Corridor.
- g) Promoting the conservation of flora and fauna, including the retention of Cumberland Plain Woodland.
- h) Promoting the development of place and a quality built environment with people and human relationships as a central consideration.

Economic Benefits

To establish economic capital that is accessible and meets the needs of the community by:

- a) Ensuring appropriate accessibility to employment.
- b) Ensuring the area's needs is identified in a local context through provision of local facilities and services.
- c) Ensuring infrastructure is sufficient to meet current and predicted need.
- d) Providing appropriate locations for local institutions.

2. Controls for Public Domain

2.1 Street Network

Street Network

Background

Middleton Grange shall be an accessible place linked to its surroundings with streets, pedestrian and cyclist pathways and public transport. Good transport linkages contribute to a connected, vibrant and mobile community, where all are able to safely and conveniently access services and facilities, and where dependence on private vehicles is minimised.

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To provide a focal point for public transport activity through the neighbourhood centre.
- f) To reduce local vehicle trips, and travel distances.
- g) To guarantee adequate accessibility for emergency vehicles.

Controls

- 1. The subdivision of land, design and layout of streets shall be in accordance with Figures 2 – 3
- 2. All streets shall be designed and constructed in accordance with Figures 2, 3 and 4.
- 3. All intersections shall be designed in accordance with the RTA Austroads Road Design Guide and the specifications set out in the Transport and Traffic Assessment (see *Background Reports to the Master Plan*).
- 4. No vehicular access to properties directly from Cowpasture Road and Fifteenth Ave will be permitted. Access shall be via a service street or local street.
- 5. Barrier Kerb shall be used adjacent to parks, schools, Collector Streets and Neighbourhood Centre Streets. Roll kerb shall be used on all other streets.
- 6. Barrier kerb shall be installed for the entire length of bus zones and for 10m on the approach of the bus stop.
- 7. Tree planting can be located either within the carriageway or road verge.
- 8. Laneways are to be accessed by two streets at either end. Cul-de-sacs or „dead ends“ are not permitted.
- 9. Laneways are not to incorporate acute angle bends into the design.

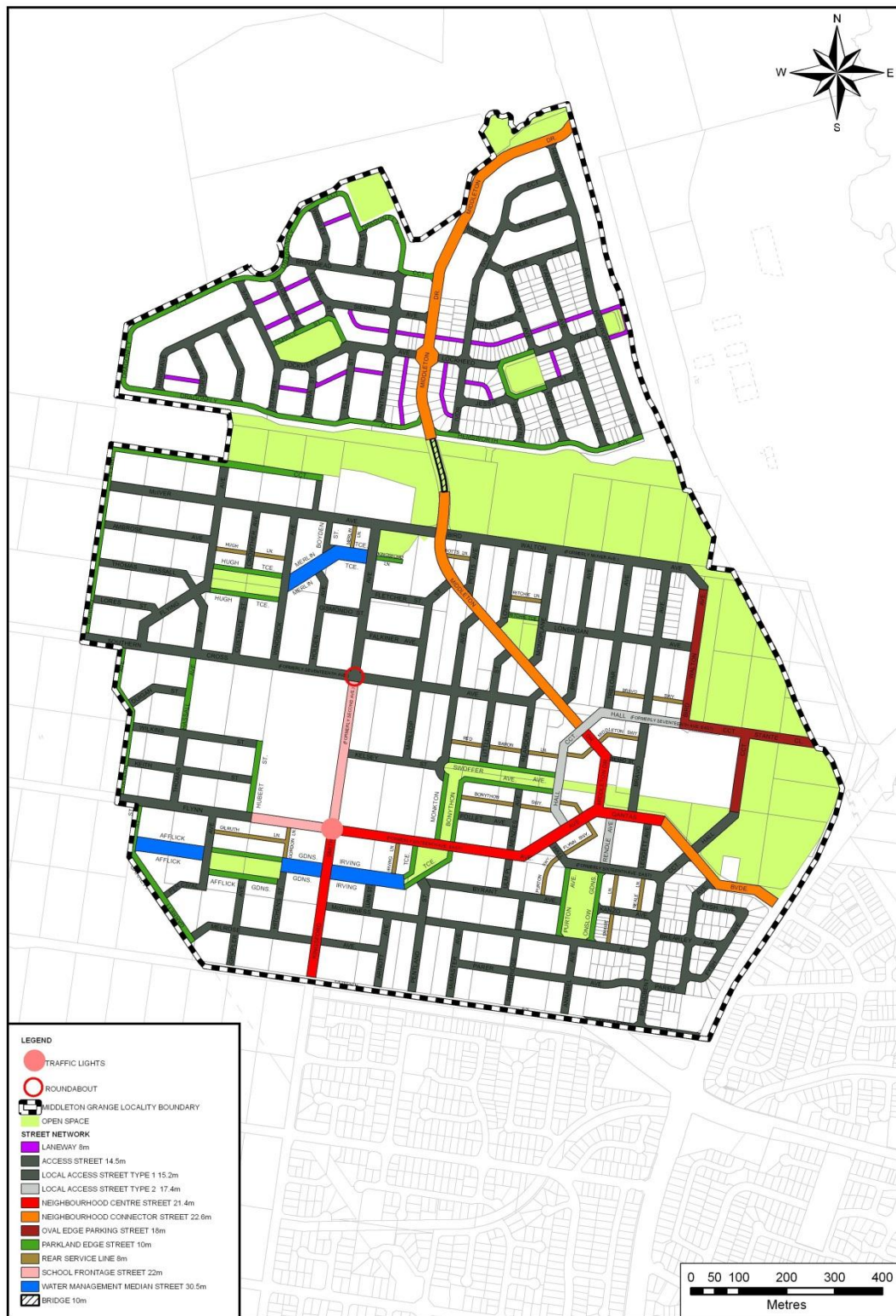


Figure 2 Street Design and treatment

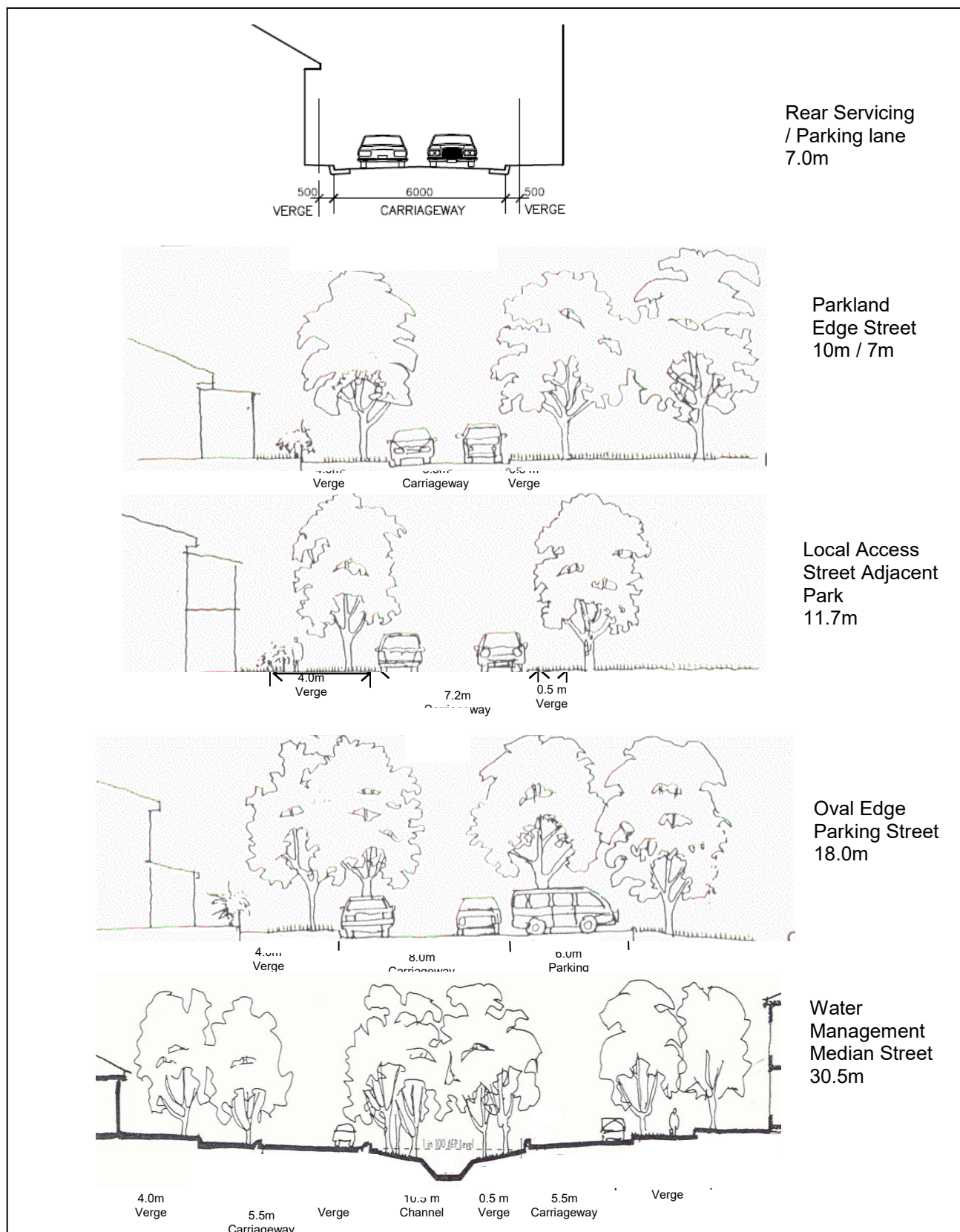


Figure 3 Street Sections

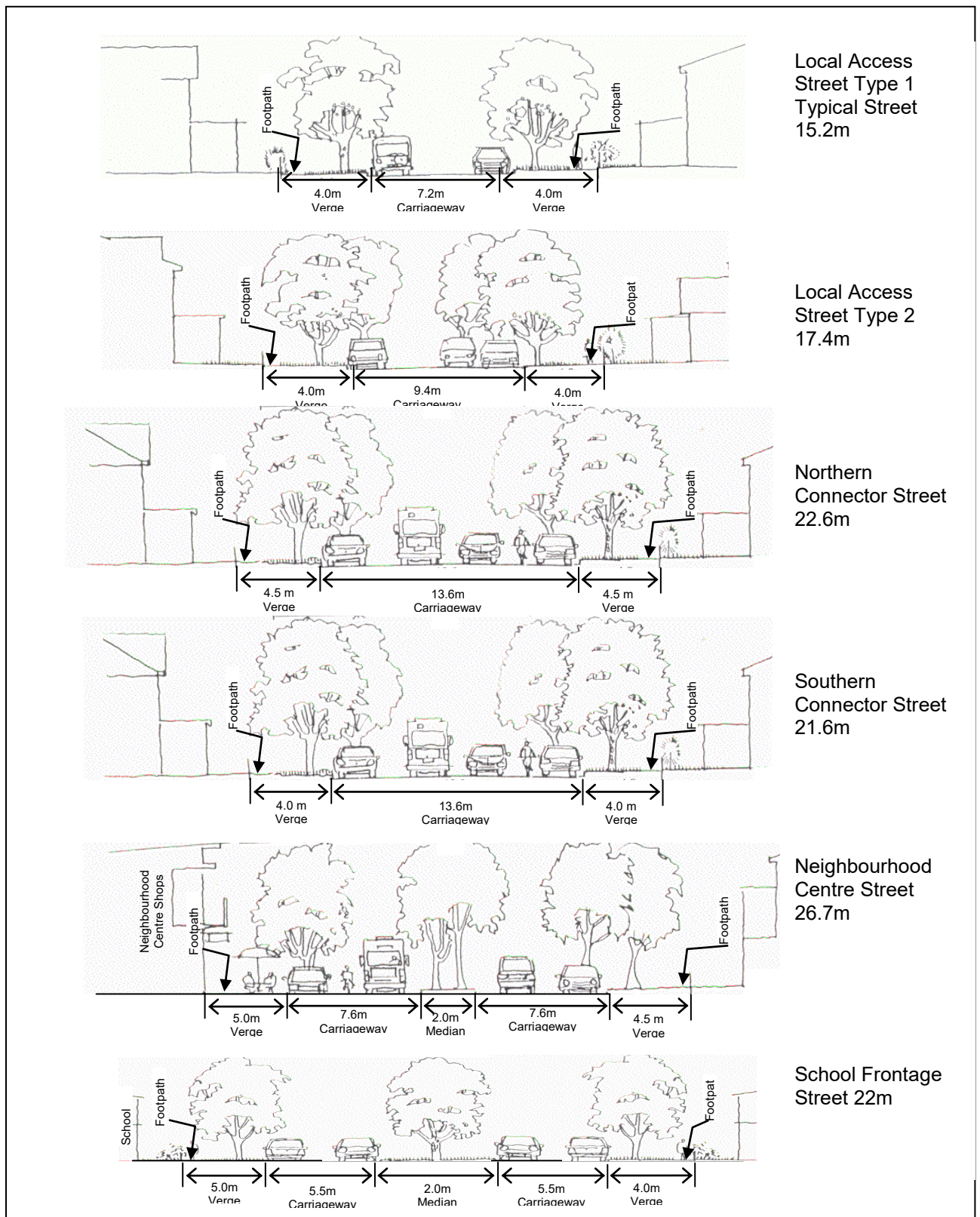


Figure 4 Street Sections

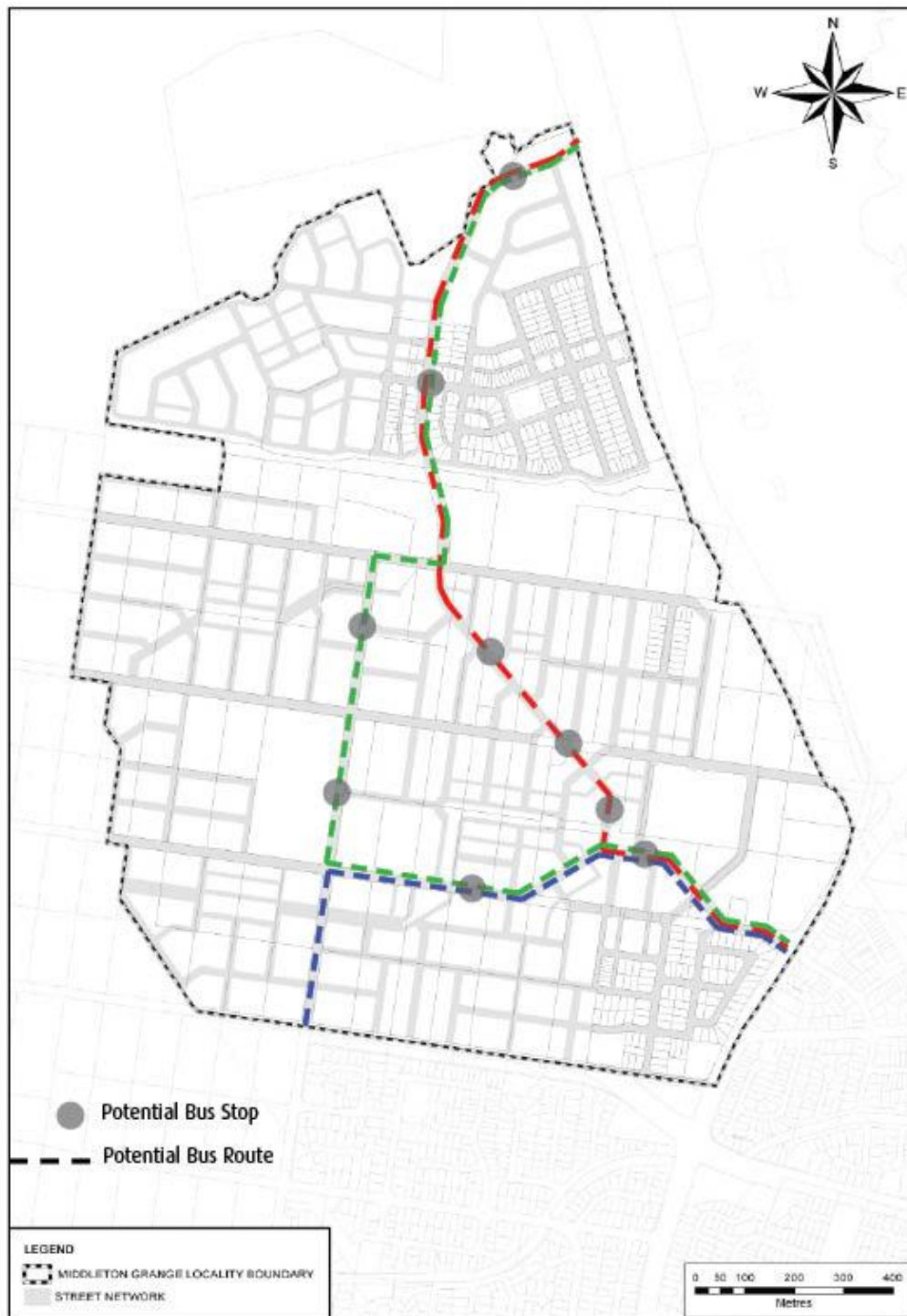


Figure 5 Bus Routes and Bus Stops

2.2 Pedestrian and Cyclist Paths

Background

Pedestrian and cycle facilities in public spaces provide linkages to social and cultural activities and educational facilities, and should be characterised by excellence of design appropriate to the area.

Objectives

- a) To encourage walking and cycling for local trips.
- b) To provide a permeable and interconnected network of streets and pathways that gives safe, convenient and legible access to areas of attraction both within and beyond the suburb.

Controls

- 1. Pedestrian and cycle paths shall be provided in conjunction with the subdivision of land, creation of streets and development of open space in accordance with Figure 6.
- 2. Shared pedestrian/cycle links, cycle ways, public streets and lanes shall be clearly and frequently signposted to indicate their shared status.
- 3. Designated cycle lanes on streets shall be clearly indicated by line-markings on the road surface and/or by signs beside the road.
- 4. Shared pedestrian and cycle paths shall be a minimum 2.5m wide.
- 5. Pedestrian footpaths along school frontages shall be a minimum of 2.5m wide.
- 6. Pedestrian footpaths through the neighbourhood centre shall be full verge width and paved with a Council approved paver.
- 7. Designated pedestrian-only paths shall be a minimum of 1.5m wide and located in accordance with Figures 3 - 4.

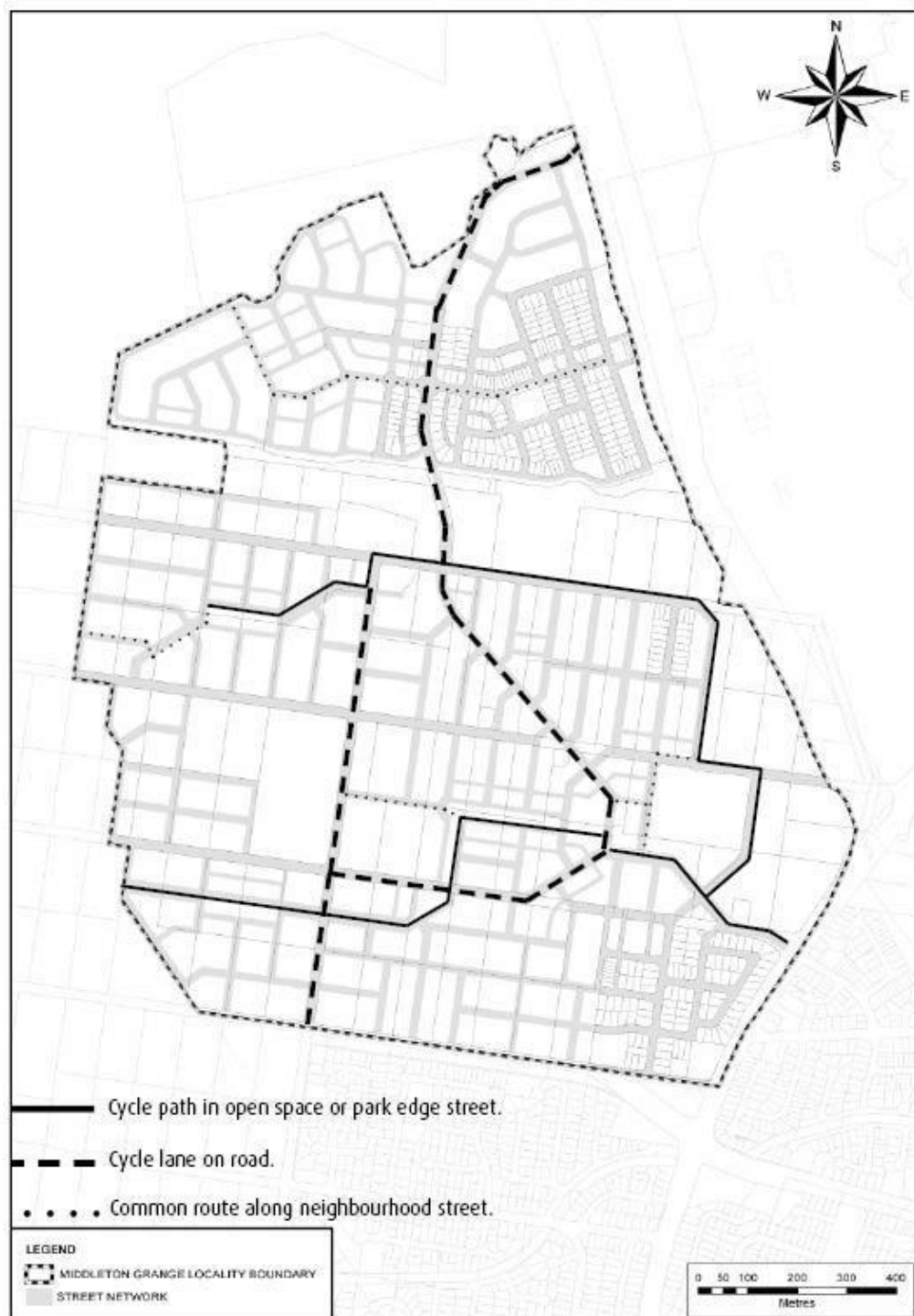


Figure 6 Cycle Paths

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
2. Street furniture is to be located so as not to impede mobility, generally in accordance with *AS 1428:1 - 4*.
3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted for each allotment created.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 8 for details.
5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.
6. The trees planted along the main access avenue are to be; *Lophostemon confertus* or an equivalent tree.
7. Where appropriate, incorporate interpretative streetscape elements reflecting the former land use history on the site having regard to the Heritage Interpretation Plan and Strategy Report.
8. A minimum of one street tree shall be provided per lot frontage. Street trees along side property boundaries shall be provided at the minimum rate of 1 tree per 10m of street frontage.

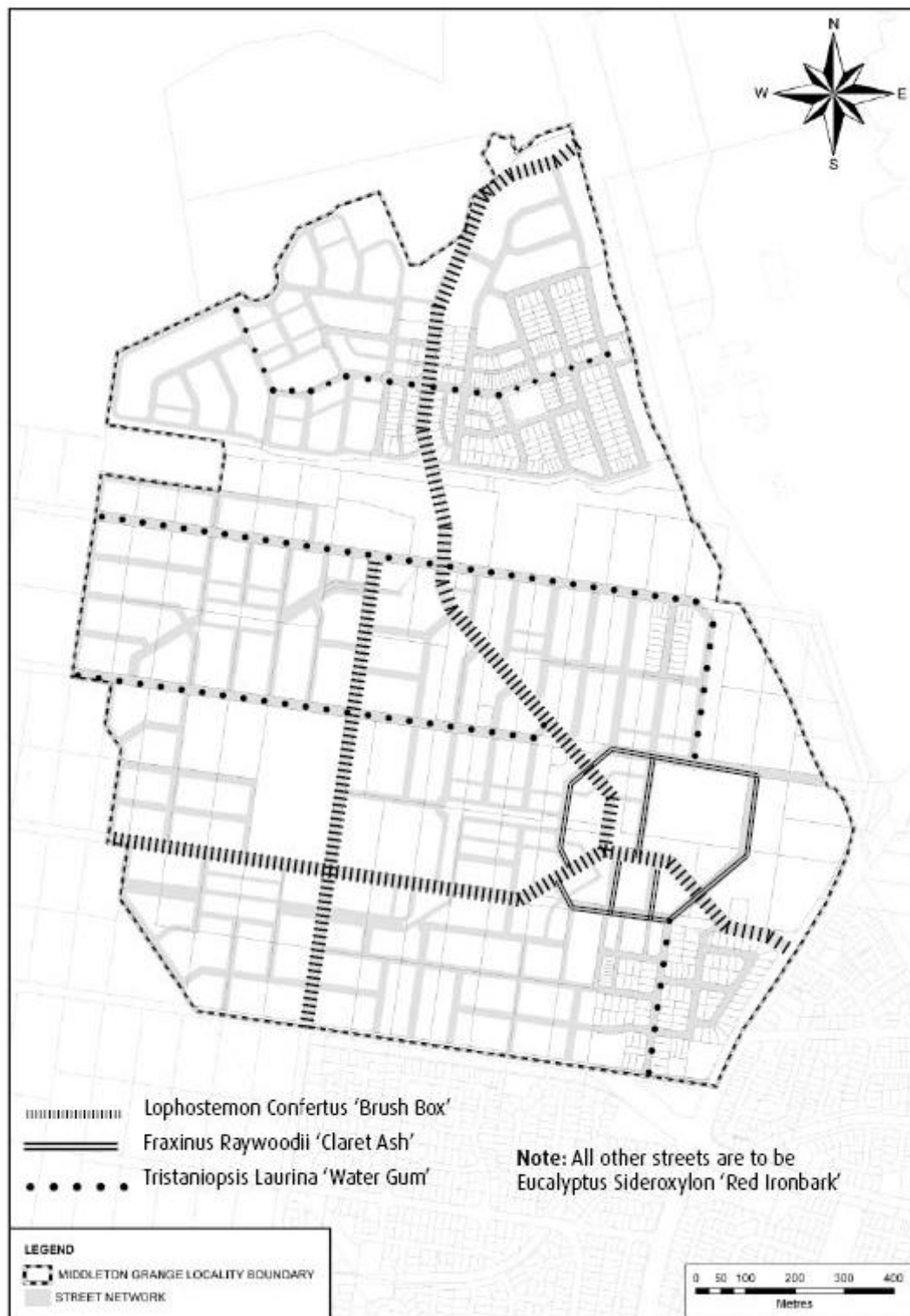


Figure 7 Street Trees

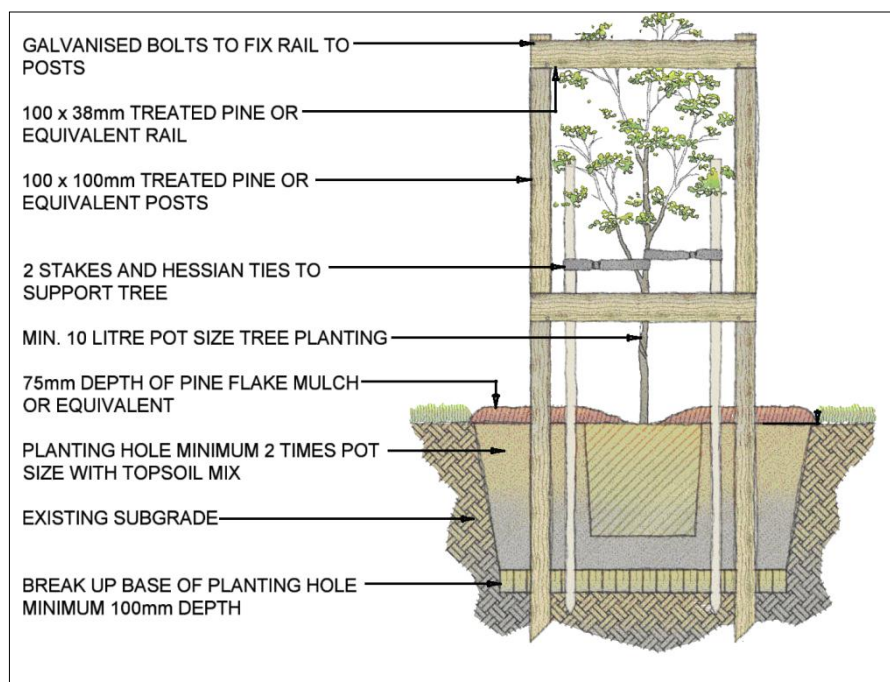


Figure 8 Tree Protection

2.4 Open Space

Background

Public spaces can be designed to promote vibrant social interaction, civic pride and a sense of public ownership and belonging. Landscaped areas and open space within the public domain play a major role in setting the character of the locality. These areas should make the neighbourhood pleasant and welcoming and be convenient to the needs of the community, especially in higher density areas.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development.
- a) To provide links between the open space areas and community and retail facilities
- b) To create a variety of linked public spaces that fulfils functional requirements as well as creates attractive and memorable places.
- c) To encourage the use of native species of flora and low maintenance landscaping.

Controls

- 1. Public open spaces shall be designed and landscaped so as to minimise the need for maintenance. This shall be achieved through the use of appropriate native species. Where public open space is to be provided in conjunction with development a Landscape Plan shall be submitted with the application showing how the proposed landscaping will minimise maintenance.
- 2. Existing trees, tree stands and vegetation shall be retained where possible.
- 3. Pedestrian and cycle paths must be provided as part of open space areas, shown in Figure 6.

2.5 Stormwater Management

Water Management

Background

Nowadays water cycle management is seen holistically rather than just the conveyance of stormwater. This includes provision of drainage in natural or recreated watercourses. In order to assist applicants to achieve the design objectives, reference shall be made to the relevant extract from „*Water Cycle Management Facilities, Northern, Central and Southern Creeks Engineering Design Plans and Design Report by J Wyndham Prince Pty Ltd, December 2005*’ prepared on behalf of Council.

Objectives

- a) To encourage a holistic approach to water cycle management, implementing total catchment management principles.
- b) To integrate water management measures with innovative urban design.
- c) To minimise the impact of urbanisation on stormwater quality within the catchment so that stream flows mimic natural pre-development flows by encouraging salinity management principles and water sensitive urban design practices.
- d) To ensure that there are no adverse impact on existing flood regimes in the surrounding areas, as a result of the proposed development.
- e) To minimise the stormwater run-off through the provision of pervious areas and vegetation, and manage the impacts of salinity through the use of salt tolerant species.
- f) To minimise any risk to human life and damage to vehicles as a result of the inundation of basement car parking, other car parking or driveway areas.

Controls

1. Where any construction within the floodplain, adjacent to a watercourse, drainage depression or an enclosed drainage system is proposed, the DA shall be accompanied by a full hydrologic and hydraulic assessment to allow a determination of the risk and impact by, and on, the development proposal by flooding. The assessment shall include:
 - Analysis of the impact of the development on flood storage capacity, flood conveyance, flood levels, and flow velocities.
 - Identification of the flood risk to both people and property as a result of the development.
 - External and internal catchment hydrology for rainfall events up to the probable maximum flood (PMF), including the 1% Annual Exceedence Probability (AEP) design storm.
 - Predicted extents of flood inundation.
 - Depths and velocities of predicted flood flows to allow effective hazard categorisation.
2. The development shall have no adverse impact on the existing flood regime in the surrounding areas and shall demonstrate the operation of any proposed flood mitigation measures.

3. The trunk drainage system shall be designed to convey the 1 in 100 AEP flood event, with a freeboard of 300 mm. Streets adjacent to trunk drains shall be designed to carry flows in excess of the drainage system. The crown of the road shall be at least 300mm above the 1 in 100 AEP flood level. Buildings adjacent to these streets shall have habitable floor levels 300 mm above the crown of the road.
4. In the neighbourhood centre, residential and mixed use developments shall be at least two storeys with the lowest habitable floor level at least 600mm above the crown of the road. Alternatively, the building shall be above undercroft parking or garages with rear lane or car court access.
5. Where drainage depressions pass through a property, adequate provisions must be made for the passage of stormwater runoff with adequate freeboard to building floor levels.
6. In the case of development that increases floorspace it may be necessary to enhance the site's existing drainage provision. This could result in the need to locate drainage services across Council-owned land. In this event it may be necessary to obtain Council approval. Such action needs to be identified and addressed at the DA stage.
7. In the event of Council being requested to approve the location of a piece of infrastructure on its land, it will require:
 - Documentation that such an activity will not prejudice the use of the land for the purpose for which it exists.
 - The possible preparation or amendment to the Plan of Management for the land, and if this action is necessary a fee may be required.
8. Basement car parking must be protected from inundation by floods equal to or greater than the 1% AEP flood + 0.1m.
9. Basement car parking and other car parking areas that are at a level below the 5% AEP flood level or more than 0.8m below the 1% AEP flood level, shall have appropriate warning systems and signs to assist in safe evacuation.
10. All exits from the car parking shall be located such that pedestrians evacuating any location during any flood do not have to travel through deeper water to reach a place of refuge above the PMF.

Creek Zone Management

Background

The existing water courses provide an opportunity the provision of environmentally sustainable vegetated creek corridors.

Where a proposed creek line is located on part of the development site, bulk earthworks are to be carried out to create a channel for the creek as per the *„Water Cycle Management Facilities, Northern, Central and Southern Creeks Engineering Design Plans and Design Report by J Wyndham Prince Pty Ltd, December 2005“*. Works are to include temporary stabilisation of all associated disturbed areas of the creek.

Council is to be responsible for the final construction of the channel and permanent landscaping in accordance with the endorsed *„Landscape Works Design & Management, Knox Partners & Australian Wetlands as amended*.

Objectives

- a) To maximise opportunities for stream/creek restoration and enhancement that mimics natural stream processes.
- b) To conserve, protect and enhance creek corridors and biological connectivity through the provision of continuous vegetated creek protection zones along either side of the creeks.
- c) To link the creek corridors to other remnant areas of vegetation at the Middleton Grange site by providing supplementary plantings.

Controls

1. Applications to Council must include the following detail:
 - Plans showing in detail the existing creek channels, vegetation (including remnant native vegetation) and geomorphic features.
 - Detailed plans of any channel modification and stabilisation works.
 - A longitudinal stream survey section (if stream works are proposed) of the existing and proposed creek channel bed in sufficient detail to identify changes in bed level and hydraulic features (i.e. pools and riffles).
 - Details on the staging and sequencing of any works within the creek zone.
 - Recommendations on how to address the modified drainage system and reaches.
 - A vegetation management plan shall be in accordance with the endorsed „Landscape Works Design & Management, Knox Partners & Australian Wetlands’.
2. Creek lines and creek buffer zones shall be provided in accordance with Figures 9-15, Table 1 and the *Water Cycle Management Facilities, Northern, Central and Southern Creeks Engineering Design Plans and Design Report* by J Wyndham Prince Pty Ltd, December 2005.
3. Where subdivision works are to occur prior to the completion of all downstream drainage works, on site facilities may need to be provided in order to limit drainage volume and velocity to that experienced prior to development.
4. Where streets are proposed to cross the creek alignment the structures must be provided as specified in Figure 15. These crossings must be designed to facilitate the movement of aquatic and terrestrial species, and shall incorporate features that allow for light and rainfall penetration beneath the structure sufficient to allow vegetation growth.
5. Weir structures will not be permitted on any creeks.
6. Creek Corridors shall be protected by the provision of vegetated creek corridors (measured from the top of bank) as shown in the plans and cross sections for channel types A, B, C, D and E (see figures 10-15) and as per *Water Cycle Management Facilities, Northern, Central and Southern Creeks Engineering Design Plans and Design Report* by J Wyndham Prince Pty Ltd, December 2005.
7. All remnant vegetation along the creeks should be protected and enhanced.
8. Any bank stabilisation measures shall use soft engineering techniques that promote an ethos of sustainability and naturalness.
9. Appropriate bushfire buffer zones shall be located within the defined limits of the development site and not be located in the creek corridor.

10. Any assessment of flood impacts and flood modelling must take into account the establishment of a fully structured vegetated creek corridor along the creeks. The Manning's "n" roughness coefficients shall be such that they represent a diverse and fully structured creek corridor (trees, shrubs and groundcover) for discharge determinations.
11. Any hydraulic assessment should consider not only the initial vegetation density but also the final growth, with due allowance for debris build up before and during flooding.

Removal of Water Storage Facilities

Background

A number of water storage facilities (dams) have been identified throughout the Middleton Grange area. The environmental impact of decommissioning these facilities will be minimised through soil and water testing and appropriate disposal techniques.

Objectives

- a) To ensure that dams are removed in a manner that is controlled and prevents damage to the natural environment.
- b) To ensure that contamination is considered and all legal requirements are met.
- c) To ensure that salinity issues are considered prior to the removal of dams.

Controls

1. For sites with existing water storage facilities (dams) the DA must include a dam removal plan which addresses each of the following controls to Council's satisfaction and must also include details of:
 - A water quality and soil test which details any contaminants in both the water and soil at the base of the dam (all testing shall be undertaken by a qualified consultant and NATA accredited laboratory).
 - A salinity hazard test undertaken in accordance with the Department of Water and Energy draft risk map and salinity site assessment guidelines.
2. Sites identified as contaminated must follow the *Department of Environment and Climate Change* contaminated water or soil removal guidelines in the National Environment Protection (Assessment of Site Contamination) Measure 1999. Contaminated water should be disposed of at a liquid waste facility.
3. Sites identified as of Salinity Code of Practice management framework.
4. Water identified as not contaminated must be offered to water users in the area for reuse. Should there be no possible reuse option for the water; a controlled release into the creek may be possible.
5. Any controlled release of water into the receiving waters (creek) must ensure against any erosion impact.
6. Any dam decommission must be undertaken in accordance with the *Department of Environment and Climate Change* and the *Department of Water and Energy* guidelines. *Department of Water and Energy* requires that the receiving waters (creek) be tested to ensure that the dam water will have no adverse impact on the ecology of the creek. It is recommended that any water release is undertaken during high flow events as creek water quality is reduced at this time.

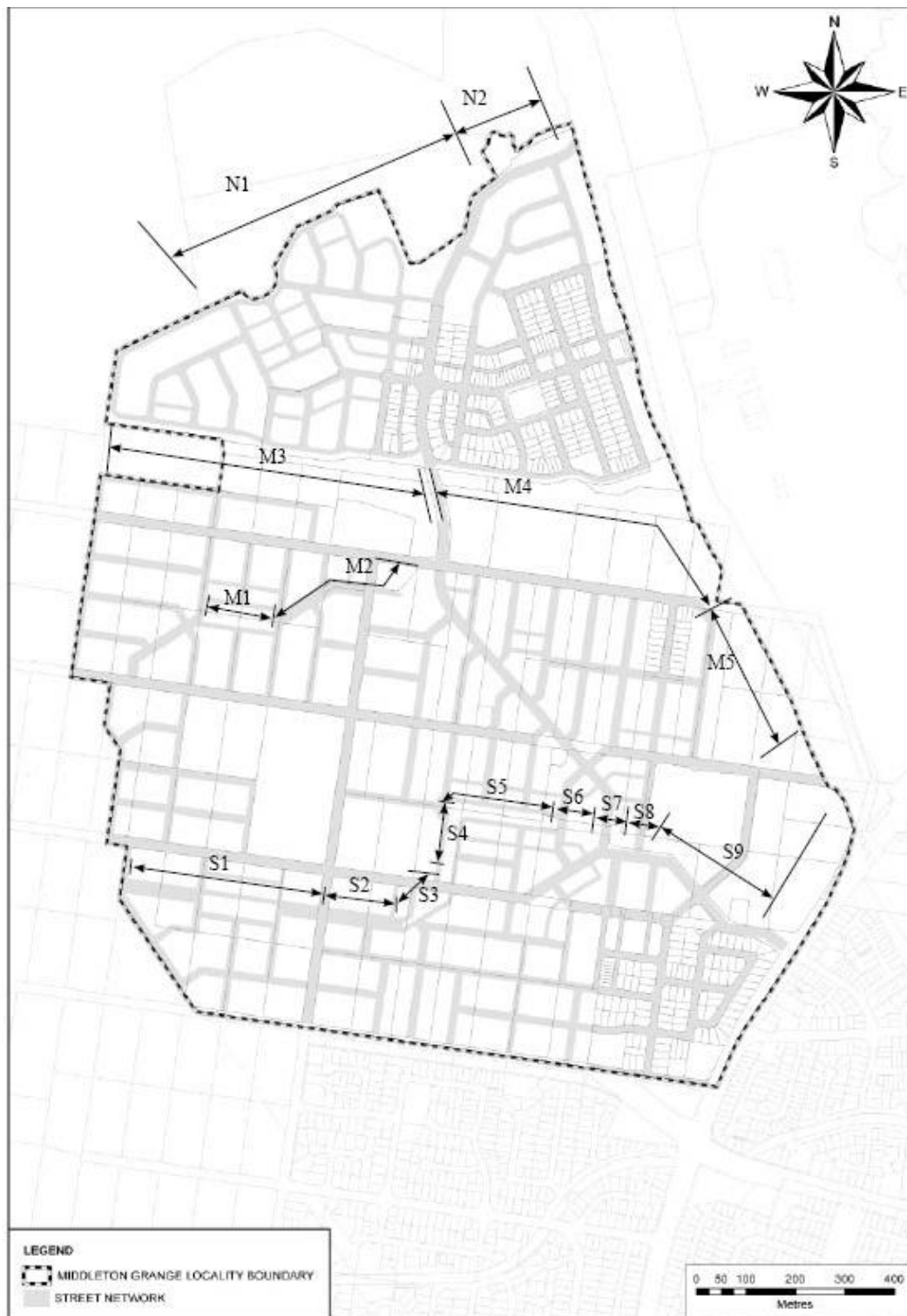


Figure 9 Creek Zone Management

Table 1 Minimum Creek Zone Treatments / Widths

	Stretch	Channel Type	Central Creek (m)	Drainage Reserve Width (m)	Total Reserve Width (m)
Southern Creek	S1	A	3.5	10.5	10.5
	S2	A	3.5	10.5	10.5
	S3	B	5.0	16.7	53.0
	S4	B	5.0	21.2	22.6
	S5	B	5.0	23.6	25.0
	S6	B	5.0	24.2	25.0
	S7	C	3.5	14.0	18.0
	S8	B	6.0	25.4	46.0
	S9	B	6.0	26.6	35.0
Middle Creek	M1	A	3.5	10.5	40.0
	M2	A	3.5	10.5	10.5
	M3	D	3.0	13.8	90.0
	M4	E	Existing	Existing	170.0
	M5	B	7.0	24.7	188.0
Northern Creek	N1	E	Existing	Existing	Various
	N2	B	Existing	Existing	Various

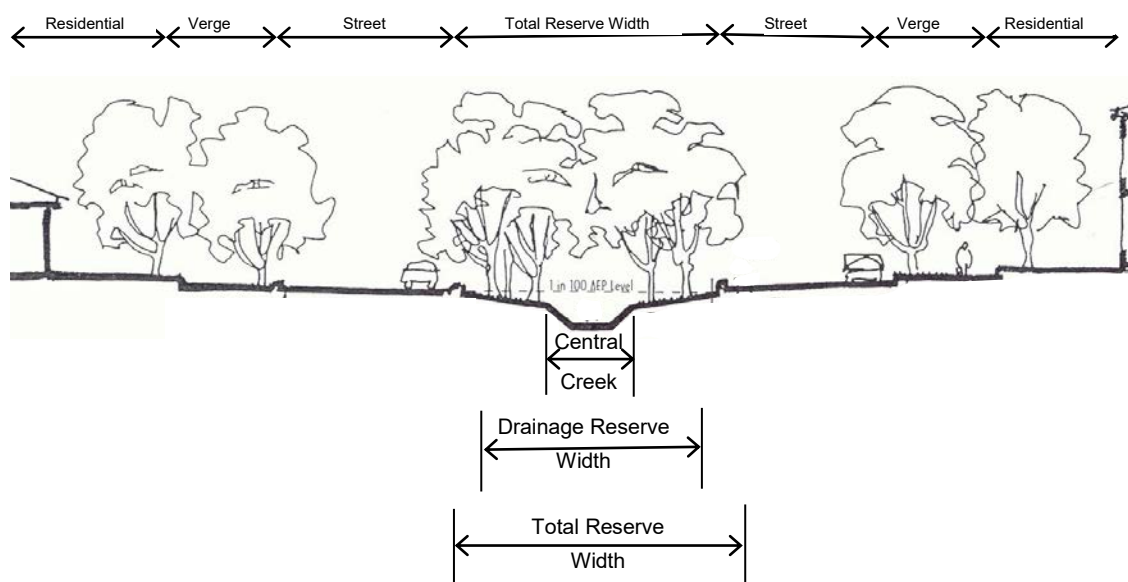


Figure 10 Type A Channel

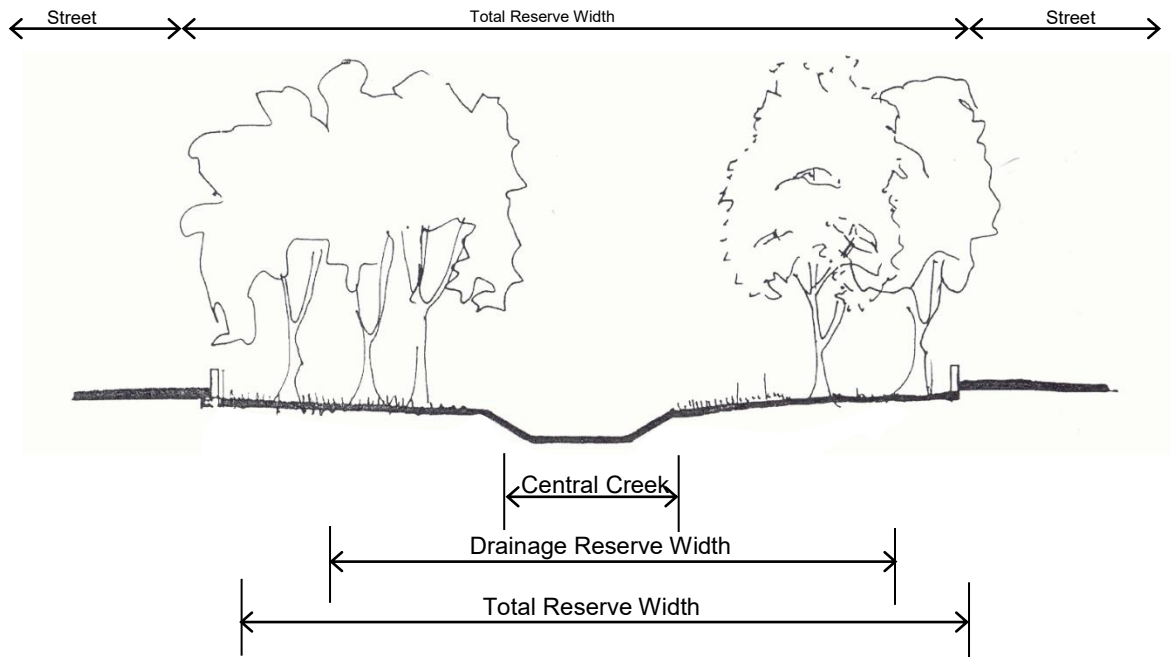


Figure 11 Type B Channel

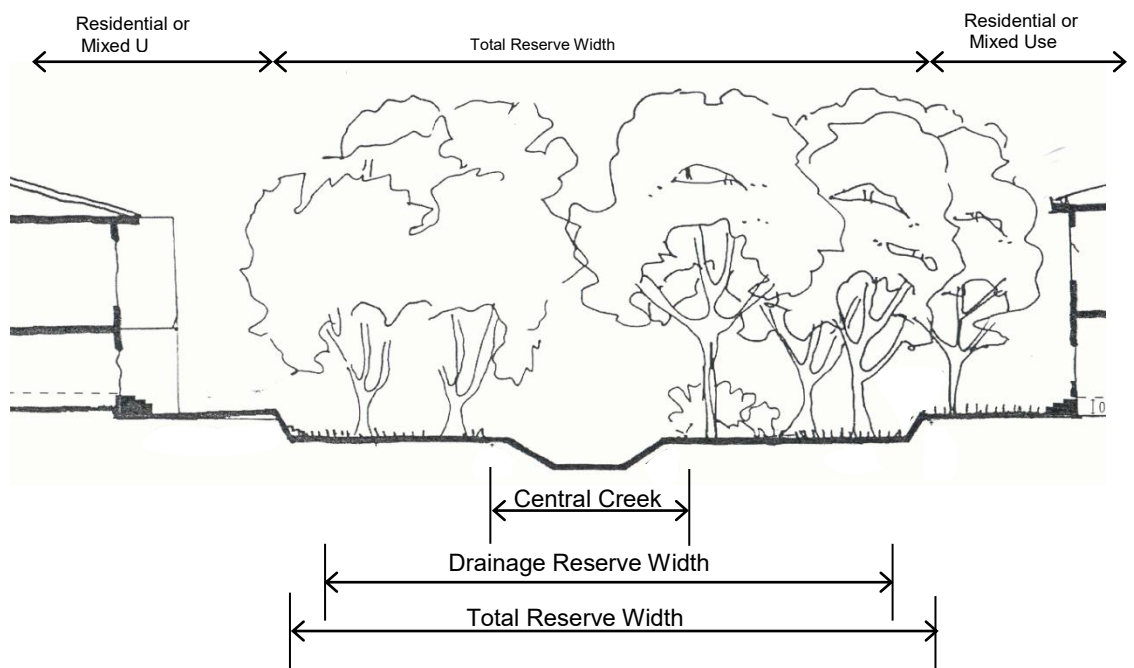


Figure 12 Type C

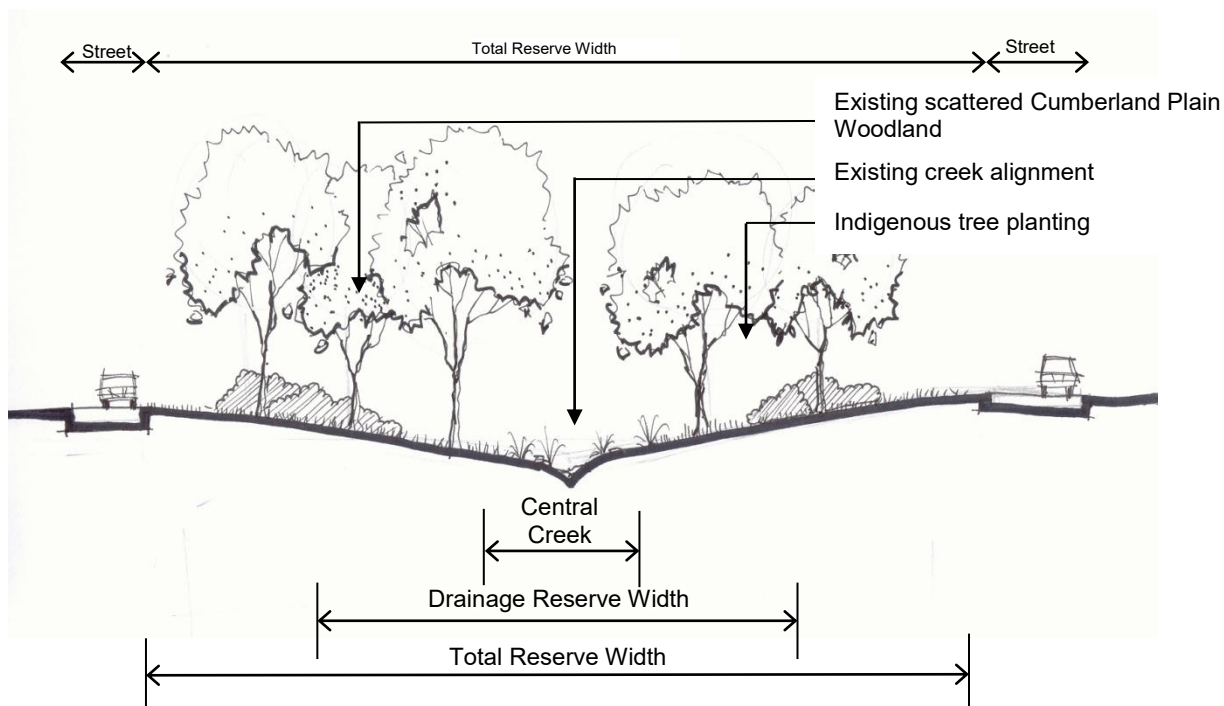


Figure 13 Type D Channel

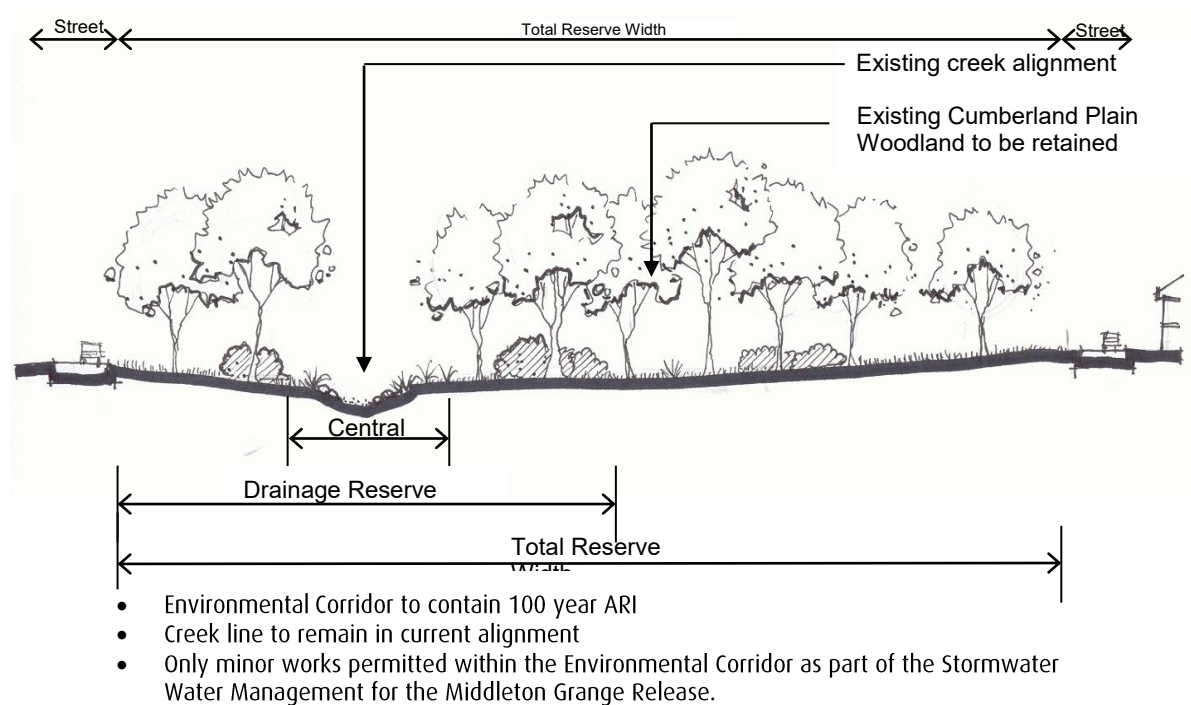


Figure 14 Type E Channel

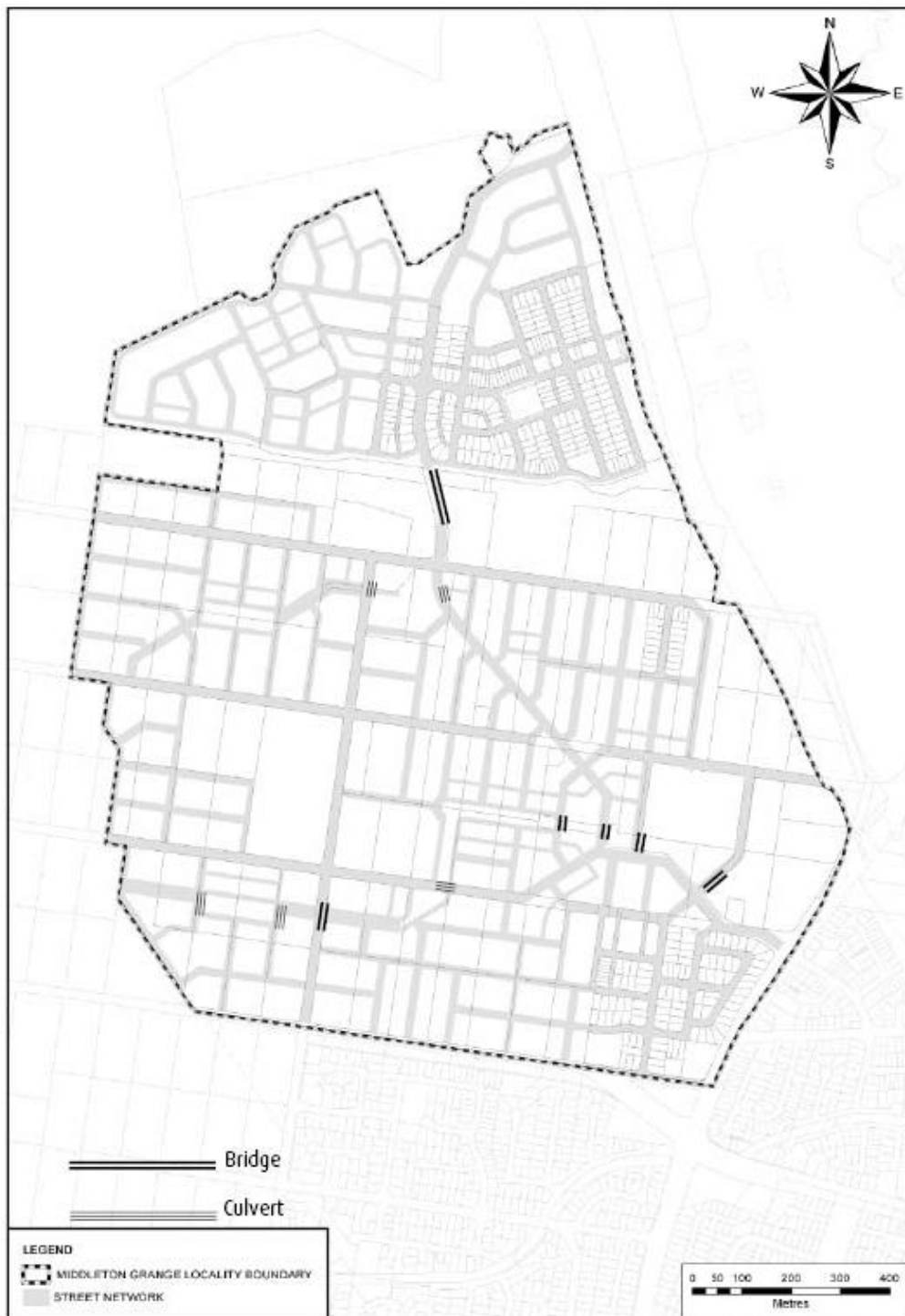


Figure 15 Crossing Types

Illustrates the required bridging structure type for each creek crossing.

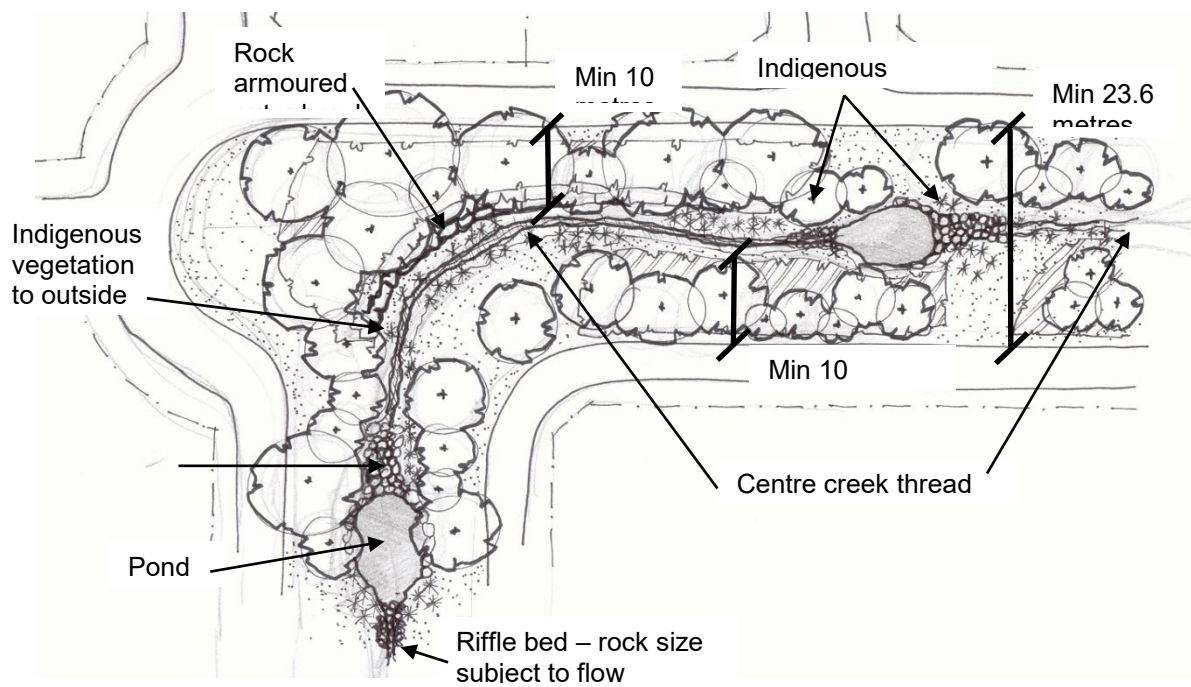


Figure 16 Creek Corridor

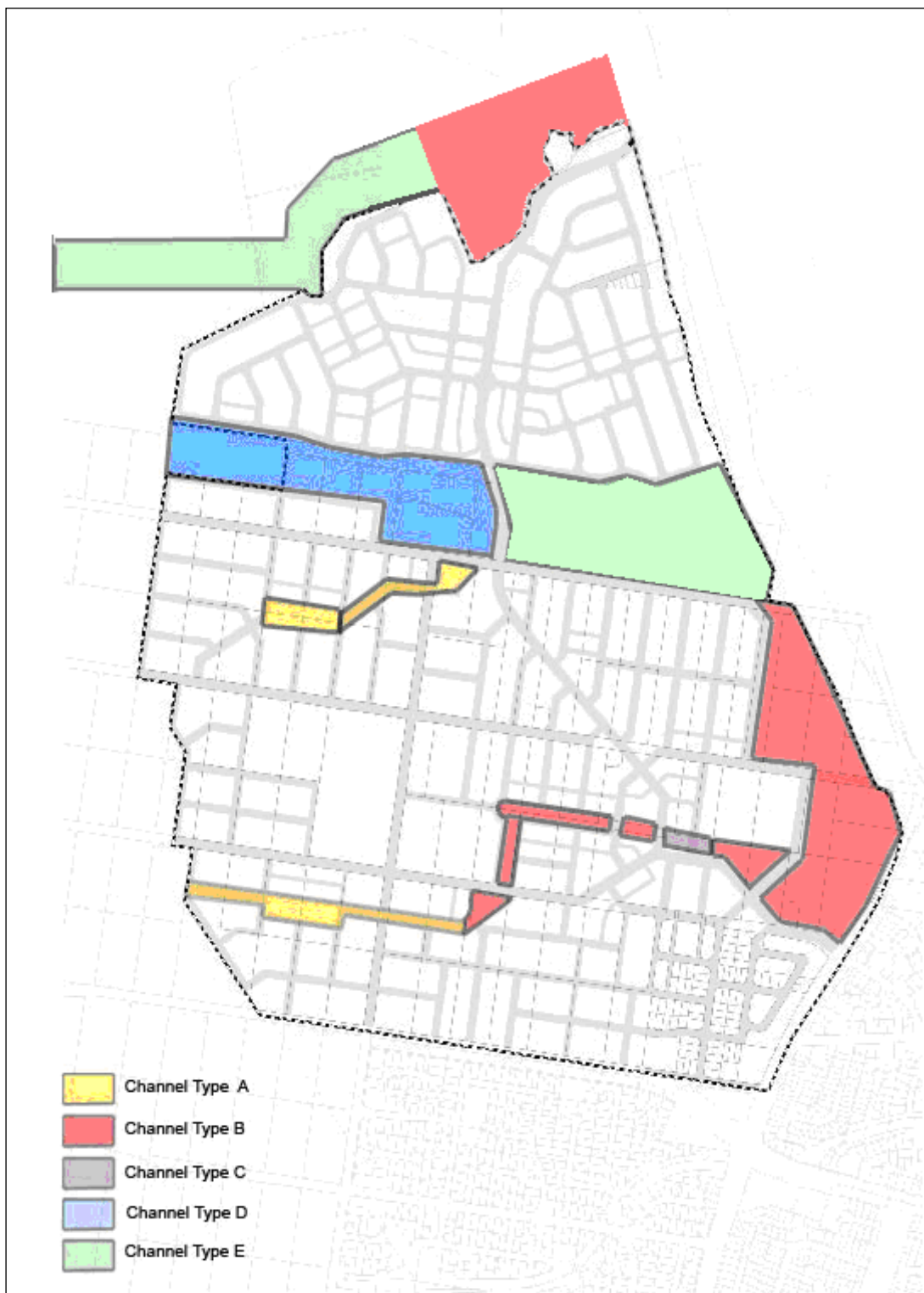


Figure 17 Channel Locations

3. Controls for the Private Domain

3.1 Frontage and Lot Size

Background

The *Liverpool LEP 2008* Density map establishes the primary control over density for the Middleton Grange site. The aim is to provide the opportunity for areas of greater density to occur in areas of higher amenity across the site. Highest amenity means proximity to the neighbourhood centre, public transport stops, open space and environmental land.

The main objective shall provide choice through a mix of housing types and high quality open space. Opportunities for higher density are provided in places of greatest amenity.

The orientation of lots should be designed to maximise solar access to reduce household energy consumption and to make best use of the land available.

Objectives

- a) To provide a range and mix of lot sizes to suit a variety of dwellings types distributed throughout the area.
- b) To locate higher density development in places of greatest amenity, such as near parks and other open spaces, the neighbourhood centre and along transport nodes.
- c) To ensure lots are oriented to optimise solar access to facilitate micro-climate management, including the application of energy conservation principles.
- d) To ensure all dwellings address the street and overlook open space where possible.
- e) To ensure that lot size and dimensions take into consideration the physical characteristics of the land, in a way which promotes retention of existing vegetation and reduces the incidence of damaging earthworks and retaining wall construction.
- f) To ensure passive surveillance of public space through the effective and functional layout designs of new developments.

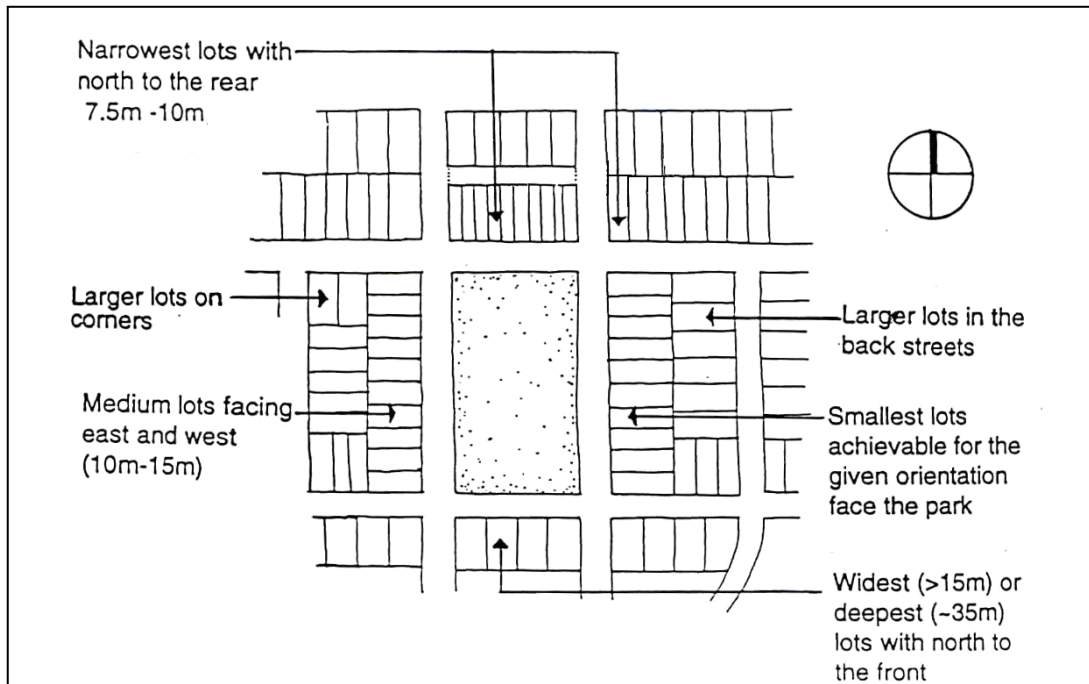


Figure 18 Lot Orientation

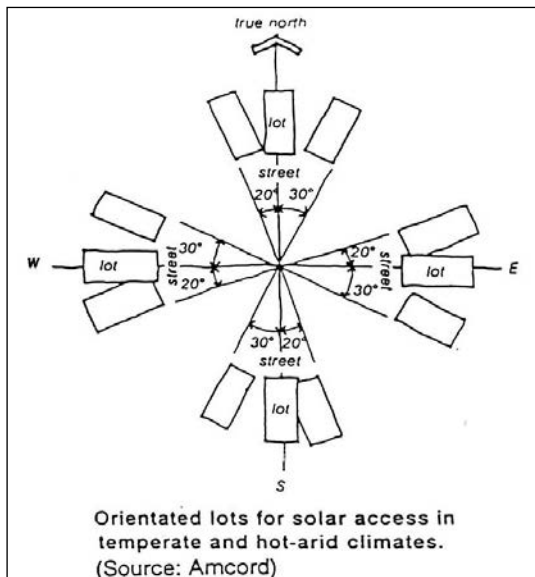


Figure 19 Lot Orientation

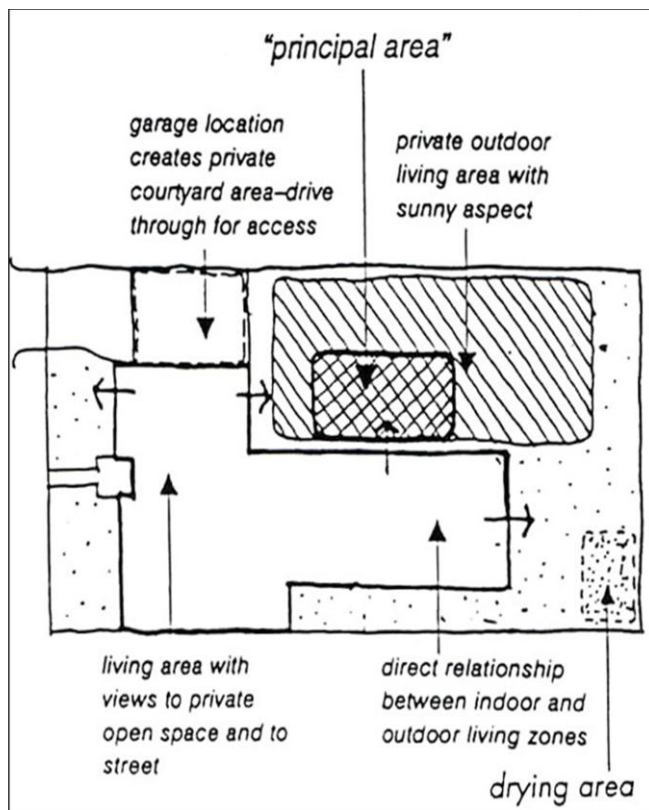


Figure 20 Private Open Space Considerations on an East-West Lot

Controls

1. Subdivision and lot sizes orientation shall comply with Figures 18 19, & 20.
2. The majority of lots shall be approximately 30m deep.
3. Lot sizes and dimensions shall take into account the slope of the land to minimise cut and fill and the retention of existing trees.
4. Lots less than 300sqm must be designed as part of an integrated dwelling / lot development.
5. Any proposal that creates a residual lot must demonstrate that the required density can be achieved across the residual lot.

Minimum lot size for Multi dwelling housing

6. The minimum lot size for multi dwelling housing is 1,000m².

3.2 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 21).
2. There must be a direct link from at least one living area to the principal private open space.
3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

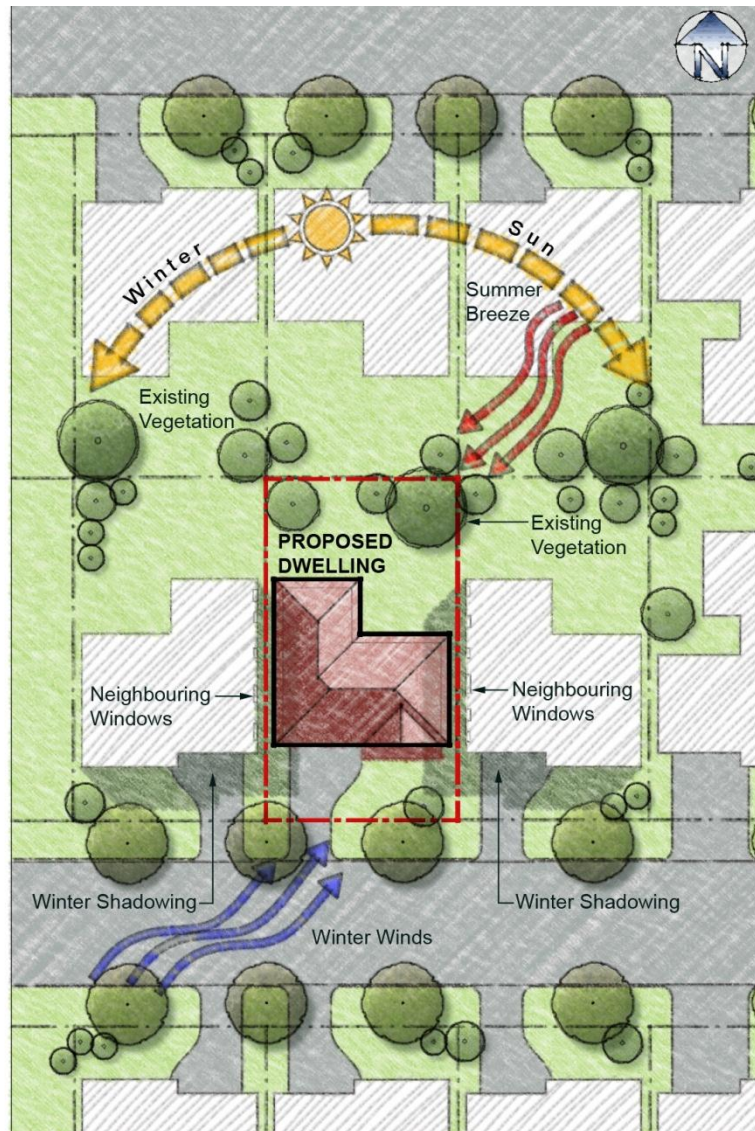


Figure 21 Example of a site analysis plan

3.3 Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access;
- b) To set dwellings back from each other to provide visual and acoustic privacy;
- c) To create a streetscape that provides a desirable and safe environment;
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality;
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.
- f) To discourage vehicular parking across street verges and footpaths

Controls

Front and Secondary Setbacks

1. Dwelling houses, semi detached dwellings, attached dwellings and Multi Dwelling Housing shall be setback in accordance with Table 2.

Table 2 Front and Secondary Setbacks

Height	Front Setback	Secondary Setback	Secondary Setback
		Lots under 450m ²	Lots 450m ² and over
Ground floor	4.5m	2.0m*	2.5m
First floor	4.5m	2.0m*	2.5m

* The dwelling setback may be reduced to 1m for a maximum length of 4m.

- For dwellings fronting RE1 Public Recreation or a Connector Street, the front setback may be reduced to 3m (see Figure 2 Street Design and treatment). A front verandah, porch or patio may be built to within 1.8m of the front boundary. The garage setback is to be maintained at a minimum of 5.5m.
- For all other lots, verandahs, balconies, eaves and other sun control devices may be built to within 2m for the front boundary.
- On the secondary setback encroachments must not be constructed within 1m from the property boundary.
- Garages must be set back a minimum of 1m behind the main face of the dwelling. (The main face is the first wall of a habitable room)
- The secondary setback is the longest length boundary.
- Garages that address the secondary frontage must be setback 1m or 5.5m and greater. Garages are not permitted to be setback between 1 – 5.5m.
- Garages that address a laneway must be setback no greater than 1m depending on site services such as sewer, light posts etc.
- Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wrap around verandah, bay window, corner entry or roof feature.

Side and Rear Setbacks

- Buildings shall be setback from the side and rear boundaries in accordance with Table 3.

Table 3 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9 m	4.0 m
Second storey component of dwelling houses	1.2 m	7.0 m
Living room doors (including family rooms and rumpus rooms)	4.0 m	4.0 m
First floor with windows to habitable rooms and neighbouring private open space	4.0m	7.0m

Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

Zero lot lines

- Walls are generally to be 180mm clear of the side boundary to allow for gutter and eaves overhang.
- The length of a zero lot line wall is limited to 50% of the adjacent side wall boundary.
- No windows are permitted in a zero lot line wall.

4. A maintenance easement of at least 900mm shall be provided on the adjoining boundary. Refer to figure 22.

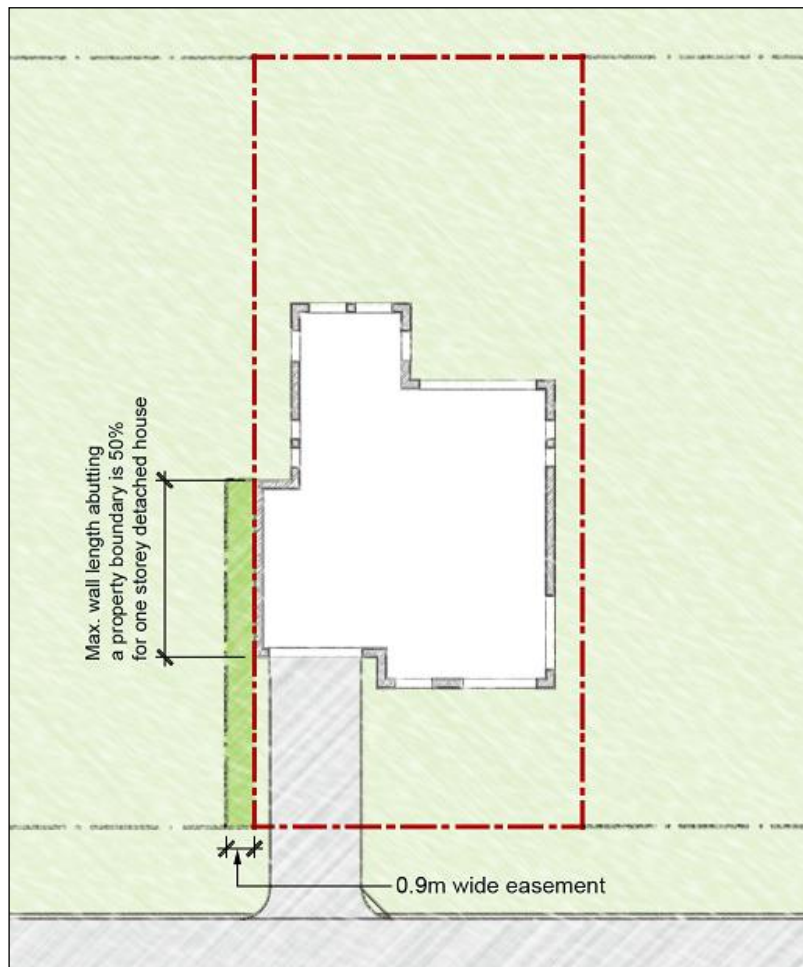


Figure 22 Zero Lot Lines

3.4 Dwelling Typology

Objectives

- a) To provide for certainty as to the location of dwelling types.
- b) To provide for the orderly development of Middleton Grange
- c) To provide for areas of higher density near areas of high amenity such as parks and creeks.
- d) To provide for areas of higher density near services, Public Transport services and the Town Centre.

Controls

1. In order to establish dwelling density and certain character through built form, Table 4 identifies building types for each dwelling density category.

Table 4 Permitted Building Types

Dw/ha	Building Types
30 dw/ha	<p>Attached, Semi-detached Dwellings</p> <p>Shop Top Housing (Only in the B2 zone, or as part of a neighbourhood shop)</p> <p>Small lot housing</p> <p>Studios</p> <p>Multi Dwelling Housing (Terraces, Townhouses or Villas)</p>
23 dw/ha	<p>Attached, Semi-detached Dwellings</p> <p>Detached dwelling</p> <p>Small lot housing</p> <p>Studios</p> <p>Multi Dwelling Housing (Terraces, Townhouses or Villas)</p>
15 dw/ha	<p>Attached, Semi-detached Dwellings</p> <p>Detached dwellings</p> <p>Small lot housing</p> <p>Studios</p> <p>Multi Dwelling Housing (Terraces, Townhouses or Villas)</p>

Shop-top Housing

Around the neighbourhood centre there are opportunities for residential apartments or shop-top housing above retail, commercial or home office/home business. Building forms should contain sufficient flexibility for later change of use as the area matures. Buildings shall be broken into modules of around 6m in order to create a vertical rhythm of facades, to avoid long unbroken frontages to developments.

Multi Dwelling Housing

Opportunities are provided for row housing in small groups, duplexes, triplexes or Terraces. They are located in areas of higher amenity and may contain home businesses. These need rear lanes for parking and servicing.

Small lot Dwellings

These locations provide the opportunity for small lot housing forms generally with north facing (good solar access) rear yards and with rear lane car access or single stacked parking down the side. These can be free standing but will often have a zero lot line on one boundary.

Dwelling house

These locations are suitable for free standing traditional one and two storey houses often in prime or feature locations (corner site, wider streets). The larger lots provide the opportunity for large traditional family homes.

Secondary dwellings (Studios)

Objectives

- To provide an alternate form of housing in master planned neighbourhoods that include community facilities.
- To provide for a variety of housing types to cater for varied socio-demographic households.
- To provide for passive surveillance to laneways and private accessways.

Controls

Type 1 Studio

Type 1 Studios are a room or rooms constructed above a detached garage associated with the main dwelling on the lot. The studio is primarily designed to be used by the occupants of the main dwelling. The studio shall comply with the following:

1. The studio shall be located on corner blocks or addressing secondary streets and on laneway entries and bends to improve surveillance.
2. Located on lots with a minimum size of 300sqm.
3. Must be detached from other studios.
4. Maximum gross floor area: 45sqm.
5. No additional car parking space is required.
6. The studio shall be located above the garage, carport or like structure for the principal dwelling on the land.
7. There may be no subdivision of the studio from the principal dwelling on the land.
8. Windows are not permitted on elevations which directly face the adjoining lots private open space.
9. Garages with studios above are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
10. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
11. Studios shall not reduce the minimum required amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.

Type 2 Studio –

Type 2 Studios are a room or rooms constructed above a detached garage that is intended to be separately strata titled to allow for independent living from the principal dwelling on the lot. The studio shall comply with the following:

1. The studio shall be located on corner blocks with laneway vehicle access.
2. Located on lots with a minimum size of 350sqm.
3. Maximum gross floor area: 75sqm.
4. Studio to be located above the garage, carport or like structure for the principal dwelling on the land and are to be detached from other studios.
5. One additional dedicated on-site car parking space is required to be associated with the Type 2 studio.
6. Car parking space is not to be located in front building setback of the principal dwelling.
7. Car parking space is not to be in a stacked configuration.
8. The studio must include provision of a balcony accessed directly off living space having minimum size of 6sqm, plus a minimum 10sqm ground level service yard with space for clothes drying facilities. The balcony shall not protrude over any property boundary.
9. Type 2 studios may be strata subdivided from the principal dwelling, or dwellings on the land.
10. Garages with studios are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.

11. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
12. Pedestrian access to studios is to be from the street frontage and not the laneway.
13. Provision for separate services and an on-site garbage storage area e.g. separate letter box.
14. Studios shall not reduce the minimum amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.
15. Windows are not permitted on elevations which directly face the adjoining lots private open space. Windows may be permitted on the elevation facing the principal dwelling on the lot where they have a minimum sill height of 1.7m.
16. Screened access ways (e.g. staircases) for studios to prevent viewing into adjoining private open space areas.

3.5 Landscaped Area and Private Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.
- f) Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum unincumbered area of 4 x 6m shall be provided in rear setback to accommodate deep rooted trees.
3. A minimum of 50% of the front setback area shall be Landscaped Area.
4. A minimum unincumbered area of 3 x 3m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum of 50sqm of Private Open Space.
2. Areas less than 2.5m in width does not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the Principal Private Open Space of 25sqm, which is directly accessible from the main living area and has a minimum dimension of 4m.
6. The Principal Private Open Space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Open Space has a predominately northern aspect Clause 6 (above) does not apply.

Multi Dwelling Housing

8. Each dwelling shall provide a minimum private open space area, which is not covered by a roof in accordance with Table 5.

Table 5 Private Open Space

Dwelling Size	Private Open Space
Small <65m ²	30m ²
Medium 65 – 100m ²	40m ²
Large > 100m ²	50m ²

9. Areas less than 1.5 m in width does not qualify as Private Open Space for the purpose of the above table.
10. Private Open Space must be directly accessible from the main living area.
11. A minimum of 50% of the Private Open Space must receive 3 hours of sunlight between 9:00am and 5:00pm on 21 June.

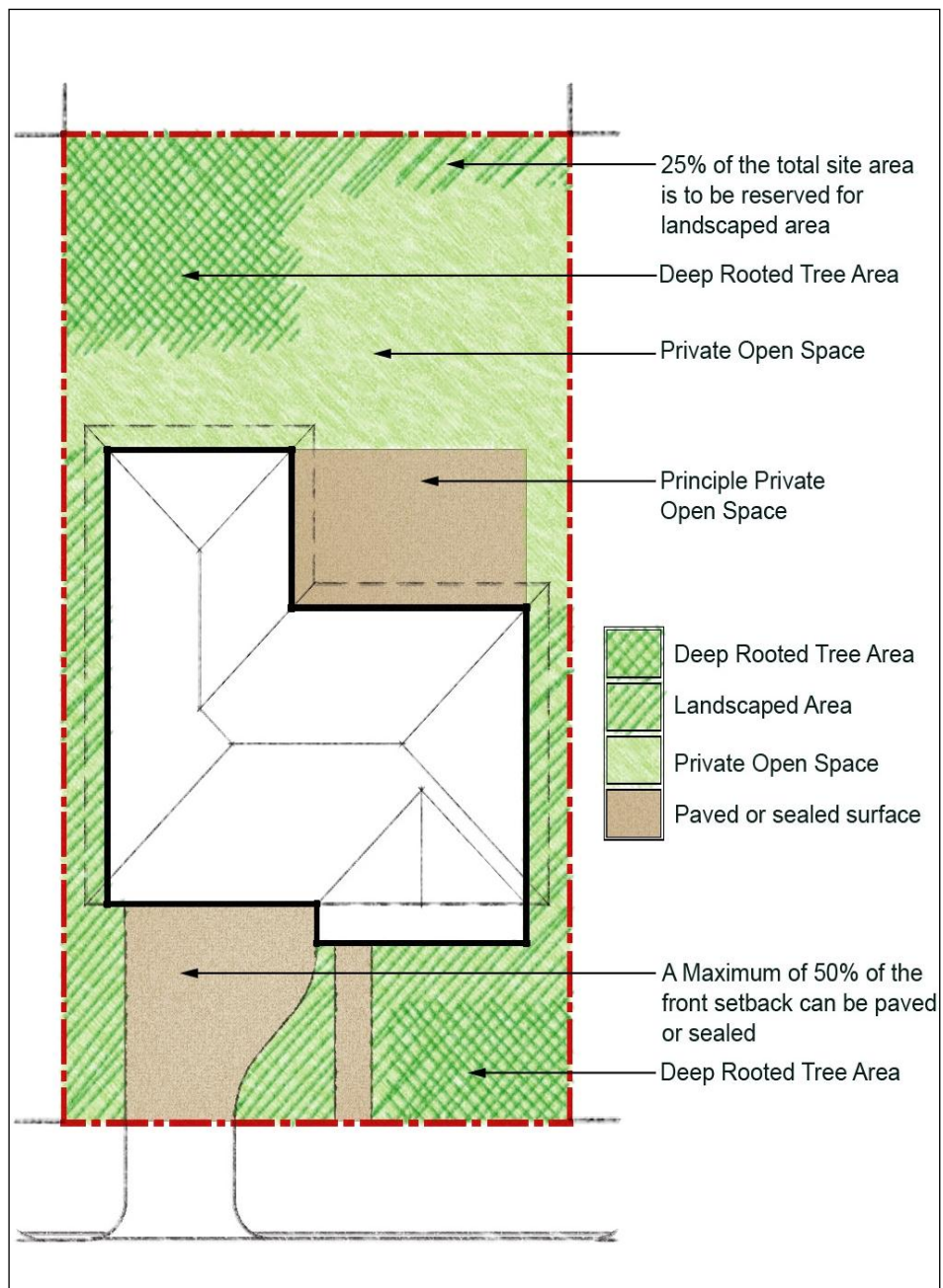


Figure 23 An example of Landscaped Area and Private Open Space

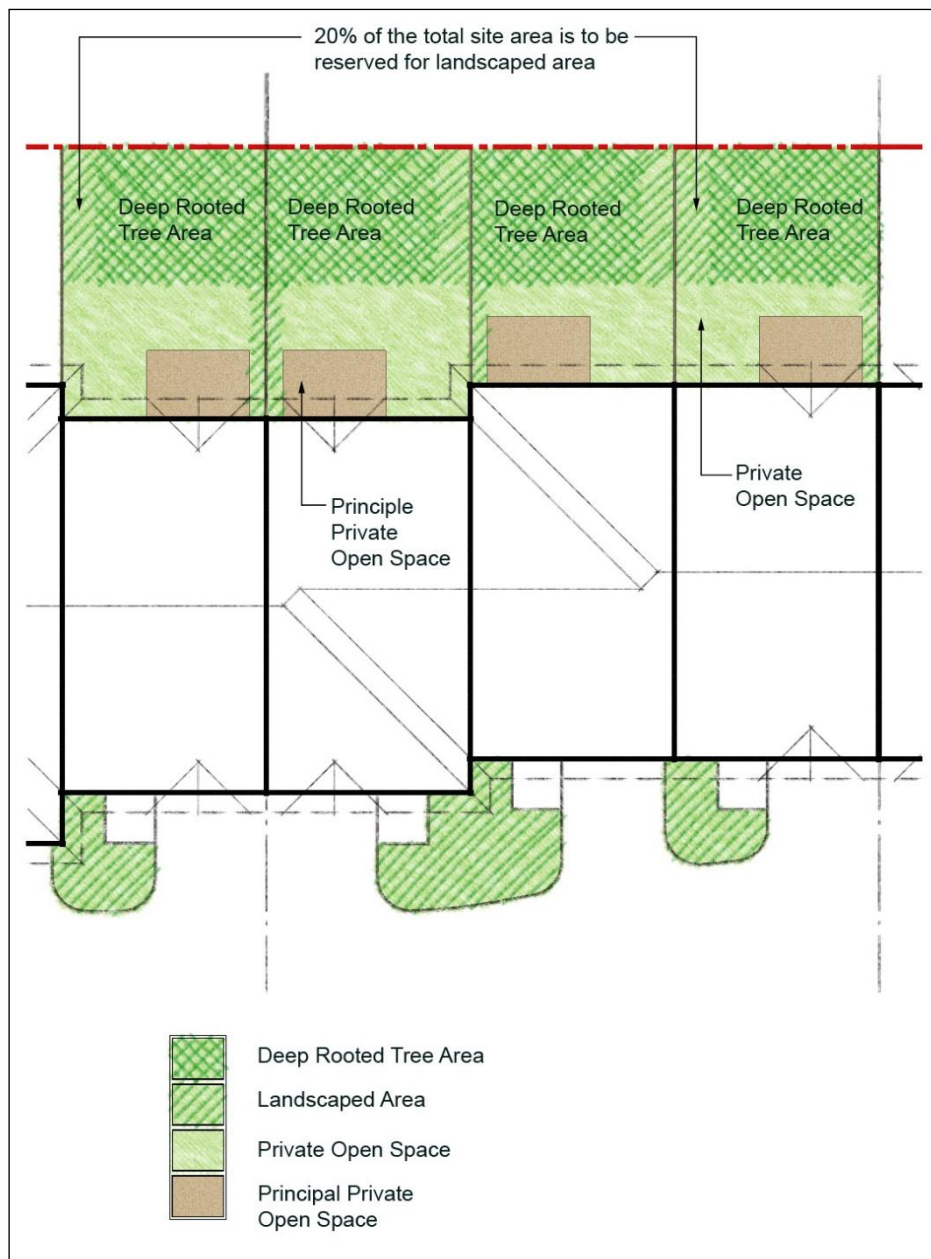


Figure 24 An example of Landscaping for Multi Dwelling Housing

3.6 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

- 1. The maximum cut on a site must not exceed 600mm.
- 2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
- 3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint. Refer to Figure 25.
- 4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

- 5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

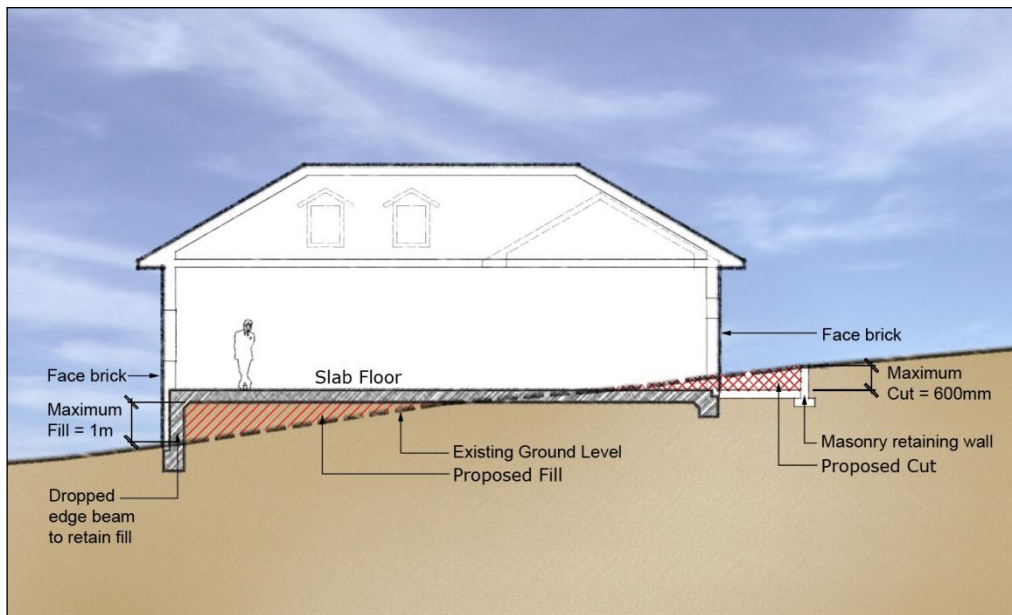


Figure 25 Cut and Fill requirements

Building Envelopes

Background

The orientation and site cover of a building has significant implications for residential amenity. Building envelopes determine the orientation and footprint of a dwelling, as well as the total volume of the dwelling.

Objectives

- To facilitate the efficient use of the site area.
- To maximise private amenity within the building.
- To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.
- To provide an acceptable scale of development.

Controls

- The building footprint for single detached dwellings is not to occupy more than 55% of the site and the total impervious area is not to exceed 75% of the total site area. A minimum of 25% of the site area must be pervious surfaces.
- The building footprint for denser development (i.e. attached/zero lot housing, terrace, townhouse or villa development) is not to occupy more than 60% of the site and the total impervious area is not to exceed 75% of the total site area. A minimum of 25% of the total site area must be pervious surfaces.

Building Design and Appearance

Objectives

- To encourage designs that will enhance the character of the neighbourhood.
- To promote variation of building facade and design.
- To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- To ensure buildings address all street frontages.

- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

- 1. All dwelling houses are to be orientated to the street (See Figure 26).
- 2. The front pedestrian entrance must be visible from the street.
- 3. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
- 4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
- 5. Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

Two storey dwellings

- 1. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 26).
- 2. The maximum total length of the side walls of the first floor component of a dwelling shall be a maximum of 30m as measured from any point within 3m of that side wall (for example 12m + 18m = 30m) (See Figure 27).



Figure 26 Example of Building Appearance (**Indicative Only – Not to Scale**)

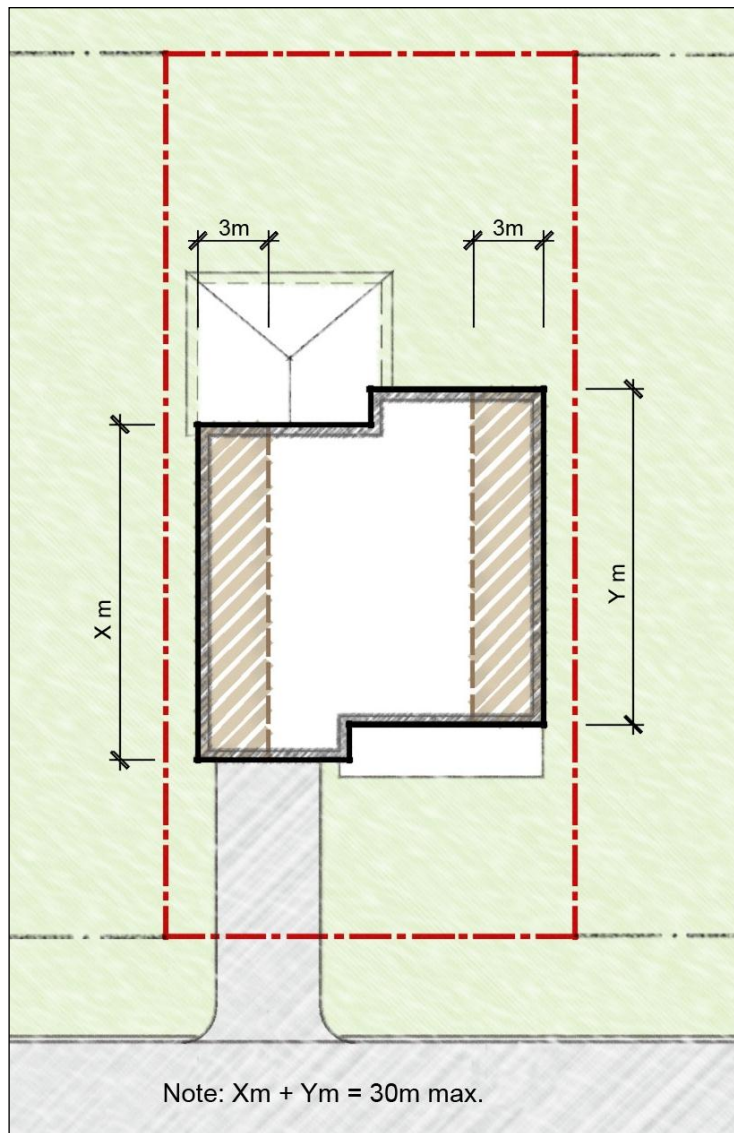


Figure 27 Maximum total first floor wall length of a two storey dwelling

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports may be built in front of the garage *only if* the carport is:
 - No larger than 5.5 x 6m.
 - Built of a similar colour and materials of the house.
 - Setback 2m from the front property boundary.
 - Compatible with the local streetscape.

6. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
8. Dwelling entries must be oriented to the street.

3.7 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
2. Trees planted on the northern side of private open space and habitable rooms are to be deciduous.
3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided.
4. Any tree with a mature height over 8 m should be planted a minimum distance of 3 m from the building or utility services.
5. A landscape plan must be lodged with all Das, and is to provide the following details
 - The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - The location of any trees on adjoining properties that is likely to be damaged as a result of excavations of other site works.
 - The position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

Fencing

Objectives

- b) To provide a clear transition between public and private areas.
- c) To provide a visual element within the streetscape.
- d) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
3. The front fence must be 30% transparent.
4. Front fences shall be constructed in masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (see Figure 28).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure 28). The secondary setback is the longest length boundary.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.
2. Internal boundary fences shall be lapped and capped timber or metal sheeting.

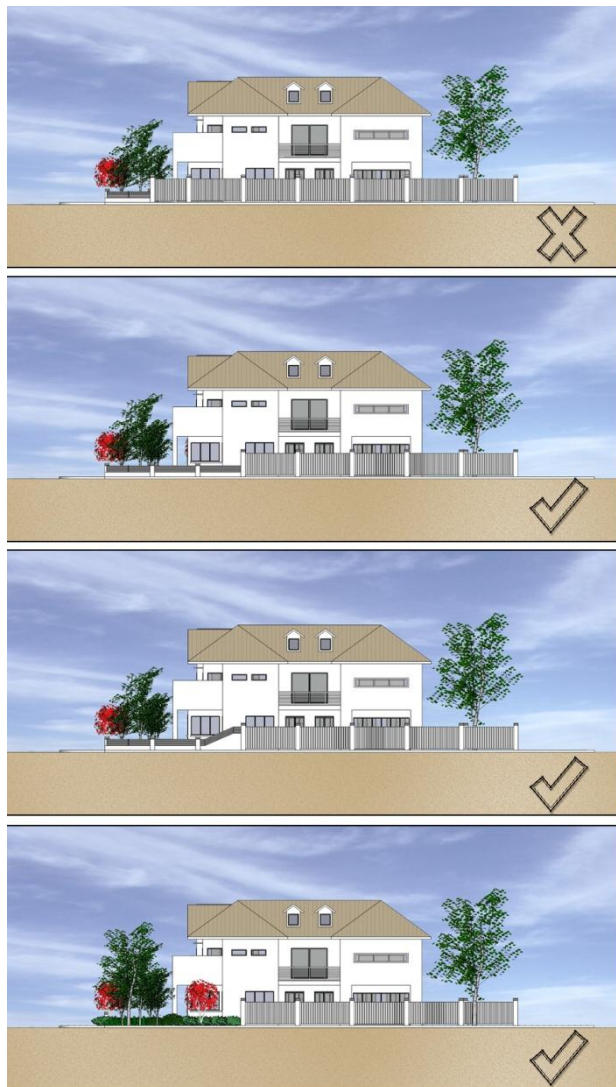


Figure 28 Fence treatments on secondary frontage

3.8 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on-street car parking from new dwellings.

Controls

1. Two car parking spaces shall be provided for each dwelling.
2. At least one car parking space must be provided behind the front setback.
3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
4. A single garage is to be a minimum of 3m wide internally and unobstructed.

5. All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

Private Driveways

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To clearly define public and private spaces, such that driveways are for the sole use of residents.

Controls

1. Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
2. Private driveways shall be constructed as one of three general types, depending on block geometry and garages to be accessed, as in Figure 29.
3. Higher density development fronting to collector streets shall have rear access through laneways, car courts and the like.
4. Development on corner lots on collector streets shall have access from the street perpendicular to the collector street.

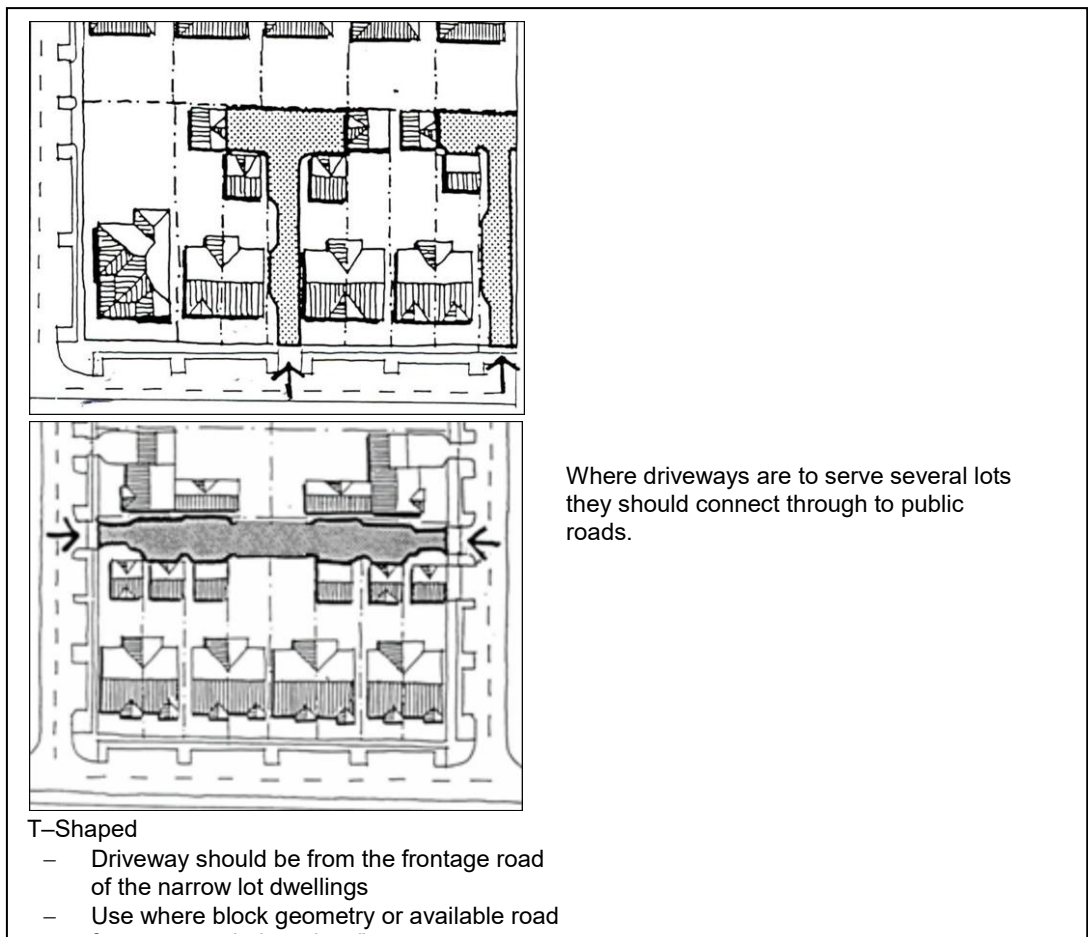


Figure 29 Private Driveways

3.9 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:
 - One living room, rumpus room or the like.
 - 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 30).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5 m, except where they face a street or public open space (See Figure 30).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

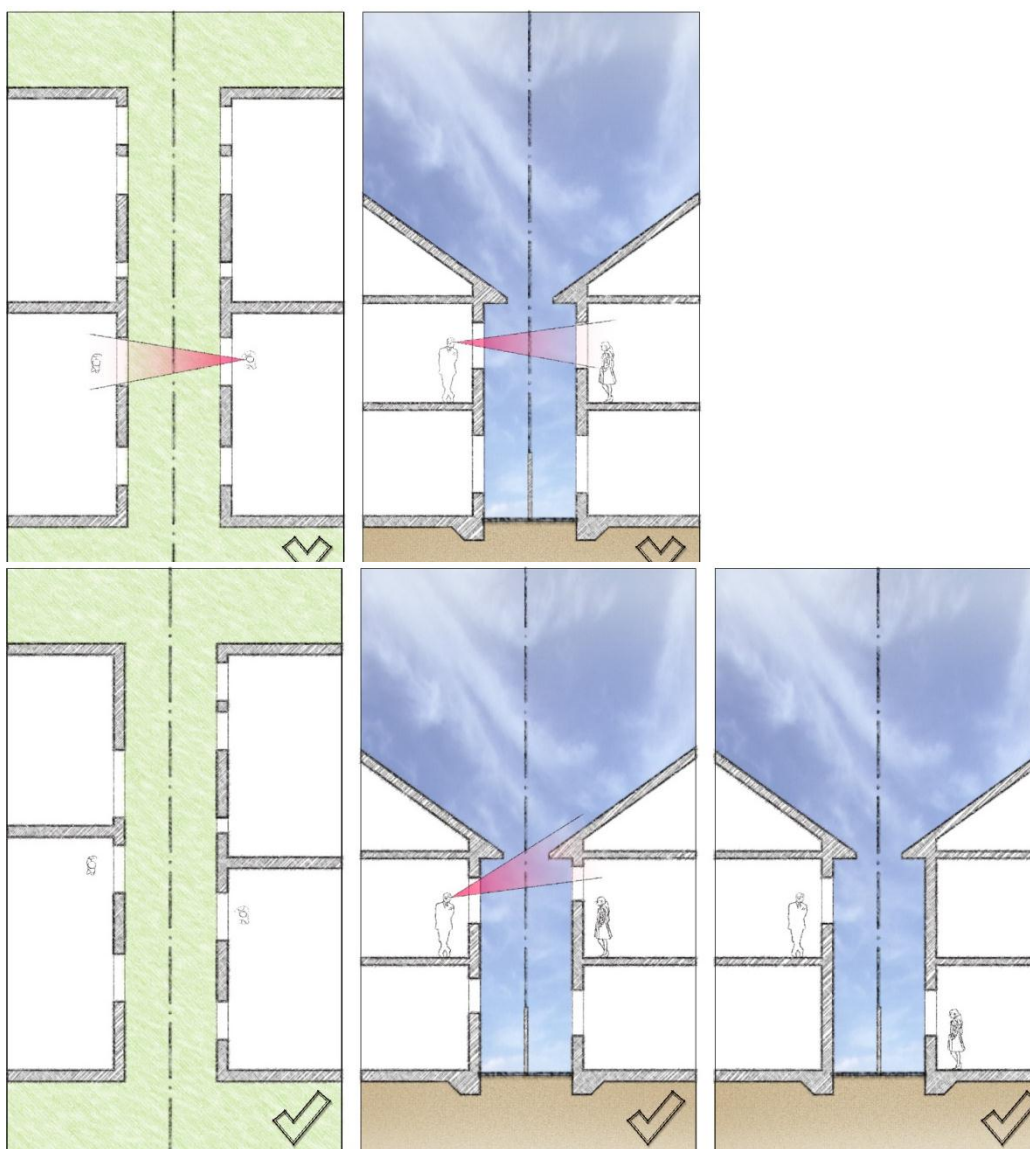


Figure 30 Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.

3. Where party walls are provided they must be carried to the underside of the roof covering and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Department of Environment and Climate Change criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

3.10 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75 mm in height, reflective and in contrast to the backing material.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council will assess any applications for works involving Council infrastructure.
3. Where there are no existing street trees in front of the site it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider.

4. Neighbourhood Centre

Background

The creation of a vibrant neighbourhood centre is essential for the sustainability of the community. The neighbourhood centre shall be a key social focal point and public transport node within the locality. It serves local retail demand without detracting from large nearby centres. The neighbourhood centre is intended to serve predominantly convenience needs of the Middleton Grange residents, as such the main retail centre is to be located to ensure ease of access for residents making their home bound journey. The neighbourhood centre incorporates other community facilities such as a primary school, community centre and family and children centre.

The incorporation of residential uses in conjunction with commercial/retail developments is desirable.

Objectives

- a) To create a lively focal point for the community, which is economically and socially viable.
- b) To encourage a mix of uses – residential, retail, commercial and community.
- c) To encourage architectural features that creates a distinctive identity and sense of place for the locality.
- d) To create an area that by its scale, street relationship, built form, detailed design and materials, contrasts with the surrounding residential area to create an urban focus.
- e) To encourage upper floor uses in the form of commercial offices, suites and shop-top apartments.
- f) To ensure a uniform approach to signage and street furniture throughout the neighbourhood centre.
- g) To encourage the development of active street frontages to provide a pedestrian friendly environment.

Controls

- 1. The open space parcel and adjoining community centre is to serve as the focal point of the town centre. Development proposals have to demonstrate the impact of associated pedestrian movements in relation to the open space and have architectural treatments which compliment and frame the open space area.
- 2. Retail premises shall not be located above the ground floor.
- 3. Council may request a retail demand analysis for development proposals that include retail floor space which is to respond to Council's Retail Hierarchy Study and considers the impacts on other retail developments in the region.
- 4. Council may request a detailed market analysis (Prepared by a suitably qualified Economic Consultant) for development proposals that include commercial and/or business floor space. A maximum floor area that may be used for business premises within the Middleton Grange neighbourhood centre is established by the *Liverpool LEP 2008* (Clause 7.29).

4.1 Subdivision, Frontage and Allotment Size

Background

Development in the local centre zone may also incorporate shop top housing. To achieve shop top housing, the site will need to meet the minimum requirements for dwelling size, provide an attractive façade to public spaces and achieve functional layouts. The site will also need to be sufficient size to provide an adequate internal layout and private open space for the dwellings.

Objectives

- a) To ensure that land in the local centre can accommodate shop top housing including the car parking and loading provisions.
- b) To ensure that there is sufficient frontage and area for any dwellings in conjunction with the business use.

Controls

Sites must have a minimum street frontage of 20 m.

4.2 Site Planning

Objectives

- a) To ensure that the development is compatible with amenity to nearby residential areas and open space.
- b) To ensure that the development is compatible with the adjoining business development.
- c) To ensure that the development reflects the character of the locality and environment.
- d) To ensure that the development contributes to the public domain and attractiveness of the centre for its users;

Controls

The siting of buildings and the development should:

- 1. Provide safe pedestrian, cycle and vehicle access to and from the public street.
- 2. Be compatible with nearby residential development in terms of appearance, overshadowing, privacy, views, setbacks and height.
- 3. Address the street and consider its presentation to the public domain.
- 4. Consider the impact on existing and potential pedestrian links.
- 5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Refer to Water Cycle Management in Part 1.

4.3 Landscaped Areas and Pedestrian Areas

Background

Active street and building frontages provide safety and security to a street or shopping centre by enabling casual surveillance. Having access from the street or public areas to as many uses as possible provides active and lively streets and public areas.

Pedestrian areas within Local Centres can provide an attractive meeting place for residents and shoppers. It also has the potential to generate additional business for retailers by providing areas for outdoor eating, and a place for local community group promotions.

Objectives

- a) To ensure active street frontages on public streets.
- b) To encourage provision of attractive pedestrian areas.
- c) To encourage linkages between centres and any adjacent public areas such as open space.

Controls

- 1. Pedestrian areas should minimise any changes in levels and allow wheelchair access to the shops from the car parking area and public footpaths.
- 2. Pedestrian areas should be separate from loading areas.
- 3. Sufficient area shall be provided to permit landscaping and tree planting within pedestrian areas and car parking areas.
- 4. Outdoor Eating Areas may be permitted in public footpath areas. Refer to section 4.10 (Outdoor Eating Areas).
- 5. Development shall maintain the open space parcel as the focal part of the local centre by encouraging pedestrian movement through open space.

4.4 Building Form, Streetscape and Layout

Objectives

- a) To ensure the height and scale of a development complements neighbouring development, and/or the desired character of a small scale business centre.
- b) To provide adequate amenity to the occupants and residents of a development in terms of solar access, visual and acoustic privacy, and natural ventilation.
- c) To ensure a development does not detrimentally affect the amenity of nearby residential development.
- d) To ensure a development is integrated with the public domain and contribute to an active pedestrian-orientated environment.
- e) To maximise natural surveillance so that people feel safe at all times.
- f) To ensure pedestrian entrances and exits are clearly visible from the street.
- g) To promote high quality architectural design.
- h) To ensure corner sites are developed as visually significant elements in order to promote a strong and legible character.
- i) To ensure weather protection to pedestrians.
- j) To ensure roof forms contribute to the proposed character of the centre and residential areas.

Controls

Building Form

1. Articulate building walls addressing the street to add visual interest.
2. Development adjoining open space shall address the open space and avoid blank walls.
3. All buildings to be designed and built to have upper floors. Buildings shall be a minimum of two storeys in height.
4. Floor to ceiling heights of the ground floor shall be a minimum of 3.5m to allow for adaptive re-use.

Building Materials

1. Highly reflective finishes are not permitted above the ground floor.
2. Colour & materials of the buildings shall be consistent with the existing adjoining development.

Entrances

1. Orientate entrances to buildings towards the public street and provide clear lines of sight between entrances, foyers and the street.
2. The common lobby to a home unit development should face the street.
3. Where the ground floor of a business development, mixed-use development, and shop-top housing faces the street, the ground floor must incorporate shopfront style windows with clear glazing so that pedestrians can see into the premises and vice versa.
4. Buildings shall have separate entrances for business and residential development.

Street Frontage

1. Buildings shall be modulated to create a vertical rhythm to the street facade. Modules of around six metres are expected which allow for typical construction techniques. No long, unbroken facades will be permitted.
2. All developments must address the street and provide a quality street frontage. Retail and commercial developments must have active street frontages and entries fronting the street
3. Ground floor uses are to be at the same general level as the footpath and be accessible directly from the street.
4. Provide predominately glazed shop fronts to all ground floor retail areas.
5. Developments on corner sites shall address the corner and the secondary street frontage.
6. Avoid blank or solid walls and the use of dark or obscured glass on street frontages.
7. Roller shutters that obscure windows are not permitted.
8. Provide opportunities for table seating along shop frontages.
9. Any Automatic Teller Machine (ATM) must be located at a highly visible location at street level, and must be well lit at night and incorporate mirrors or reflective materials so that users can observe people behind them.
10. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Awnings

1. Provide continuous street frontage awnings to all new developments.
2. Wrap awnings around corners on street corner buildings.
3. Awnings must be complementary to each other.
4. Canvas blinds along the street edge are permitted.
5. Awnings must take into consideration the growth of street trees, lighting and other street furniture.

Roof Forms

1. Minimise the bulk and mass of roofs and the potential for overshadowing from roofs.
2. Provide eaves with a minimum length of 400mm in dwellings with pitched roofs.
3. Where flat roofs are proposed, lift overruns and rooftop plant and machinery are to be obscured from view by parapets or designed to be incorporated within rooftop activities/features.
4. Incorporate lift overruns and service plant etc into the design of the roof.
5. Wherever possible provide landscaped and shaded areas on roofs to serve as communal private open space for residents of the building.

Material and Finishes

1. Avoid expanses of any single material.
2. Utilise high quality and durable materials and finishes, such as face brick with / without coloured render; and plain glass windows.
3. Avoid large wall tiles, rough textured render, polished metal and curtain walls or reflective glass.

Dwellings above shops

1. Dwellings and balconies in upper storeys shall address the street, rear laneway and any adjacent open space.
2. Access to dwellings above shops must be from the front street.
3. Dwellings above shops should be designed to facilitate flow through ventilation.
4. Entrances shall be designed to accommodate movement of furniture.

Adjoining Residential Areas

1. Development should minimise impact of the privacy of adjoining and nearby dwellings.
2. Development should be compatible with any adjoining and nearby dwellings.

Car parking structures

1. Where car parking structures is provided above or below ground level its design shall be integrated into the design of the building.
2. Natural ventilation shall be provided to basement where possible using ventilation grills and structures.

4.5 Landscaping and Fencing

Objectives

- a) To ensure appropriate landscaping in commercial centres; and
- b) To ensure the protection of existing trees on neighbouring residential zoned land.
- c) To ensure the visual impact of development is minimised and integrated into the streetscape.
- d) To improve the amenity of the local commercial centre.

Controls

- 1. Where trees are planted around high use facilities such as car park areas, children's play areas and walkways, they should have clean trunks to a height of 1.8m.
- 2. Landscaping on any podium level or planter box shall be appropriately designed and irrigated.
- 3. Where landscaping is to be provided a detailed landscape plan shall accompany a development application. A suitably qualified Landscape architect must prepare all Landscape Plans submitted with the development application. Refer to Part 1 for requirements for Detailed Landscape Plans.
- 4. Landscaped areas within Neighbourhood Centres shall generally involve the provision of trees and shrubs in mulched garden beds around car parking areas and where pedestrian areas are provided. In particular the landscaping shall involve the following:
 - Mulched garden beds shall incorporate ground covers that will cover the ground area.
 - Large shrubs shall be used as screen planting where there is a need to screen certain areas such as outside storage.
 - Shrubs shall only be planted in mulched garden beds.

4.6 Car Parking and Access

Objectives

- a) To ensure the provision of appropriate off-street parking for business areas.
- b) To ensure car parking and loading facilities are in the most appropriate location given the urban design needs for the centre.
- c) To ensure that car parking areas that are attractive and don't dominate the streetscape.
- d) To locate loading in appropriate locations.

Controls

- 1. Car parking and loading areas shall be located off rear laneways where there is a rear laneway.
- 2. The design and layout of servicing areas shall incorporate the potential for nearby pedestrian movement.

4.7 Amenity and Environmental Impact

Objectives

- a) To provide adequate amenity to the occupants of buildings and to neighbouring residential development in terms of solar access, and visual and acoustic privacy.
- b) To ensure buildings and businesses provide safe and easy access for people.
- c) To provide useable private open space for dwellings.

Controls

Privacy

Development shall be designed to minimise overlooking of adjoining and nearby residential development.

Lighting

External lighting to a development must give consideration to the impact of glare on the amenity of adjoining and nearby residents.

Safety

1. Where the hours of operation are after sunset, the car parking areas and any other public areas shall be provided with lighting to provide a safe environment for users of the premises after hours.
2. A Noise Impact Assessment Statement prepared by a qualified Acoustics Engineer may be required to be submitted with the application depending on the scale and location of the proposed use to show that the use can operate satisfactorily in the business area.

4.8 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes and House Numbering

1. A common letterbox structure must be located close to the main pedestrian entrance of a building.
2. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder, new or enlarged access driveway or is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

Waste management

1. Development involving dwellings shall provide at least two waste storage areas to separately cater for the dwellings and non-residential uses on an allotment.
2. A development must provide a waste storage area inside every food premises, and inside any shop that is capable of accommodating a food premises.
3. A development must locate a waste storage area inside the building, or adjacent to a lane where it is convenient and safe for residents, tenants, and waste collection trucks to access the waste storage area and the location and floor level are to the satisfaction of Council.
4. Waste disposal facilities shall be provided for development involving residential flat buildings or shop top housing. These shall be located adjacent to the driveway entrance to the site or at the rear if a rear lane is provided.
5. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
 - Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

4.9 Shop Top Housing

Background

The planning of the Middleton Grange Release Area envisaged that there would be a residential component within the neighbourhood centre.

Building Design

Objectives

- a) To ensure an adequate amenity for residential development within the neighbourhood centre.
- b) To provide housing diversity
- c) Provide smaller dwelling types in convenient locations close to transport, goods and services and usable open space areas.

Controls

All residential and mixed use developments shall be at least two storeys with the lowest habitable floor level at least 500 mm above the crown of the road.

Building Appearance and Streetscape

Objectives

- a) To ensure an attractive streetscape, which is consistent with the environment of a centre.
- b) To promote high architectural quality in shop top housing.

- c) To ensure that new developments have facades which define and enhance the public domain and desired street character.
- d) To ensure that building elements are integrated into the overall building form and facade design.

Controls

1. Shop top housing shall comply with *State Environmental Planning Policy No 65 – Design Quality of Shop top housing*, and should consider the Residential Flat Design Code.
2. Building facades shall be articulated and roof form is to be varied to provide visual variety.
3. The pedestrian entrance to shop top housing shall be from the primary street frontage of the development. Entrances from laneways are not acceptable.
4. Driveway walls adjacent to the entrance of a basement car park are to be treated so that their appearance is consistent with the basement or podium walls.
5. A master antenna shall be provided for any development of more than three dwellings and be located so that it is not visible from the street or any public open space.
6. Consider the relationship between the whole building form and the facade and / or building elements. The number and distribution of elements across a façade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns.
7. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. This may include but are not limited to:
 - Defining a base, middle and top related to the overall proportion of the building.
 - Expressing key datum lines in the context using cornices, a change in materials or building set back.
 - Expressing the internal layout of the building, for example, vertical bays or its structure, such as party wall-divisions.
 - Expressing the variation in floor-to-floor height, particularly at the lower levels.
 - Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.
 - Selecting balcony types which respond to the street context, building orientation and residential amenity.
 - Cantilevered, partially recessed, wholly recessed, or Juliet balconies will all create different facade profiles.
 - Detailing balustrades to reflect the type and location of the balcony and its relationship to the façade detail and materials.
8. Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation.
9. Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height.
10. Co-ordinate and integrate building services, such as drainage pipes, with overall facade and balcony design.

11. Co-ordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design.

Roof Design

Objectives

- a) To provide quality roof designs, which contribute to the overall design and performance of shop top housing.
- b) To integrate the design of the roof into the overall facade, building composition and desired contextual response.
- c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
 - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.
 - Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
 - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
 - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.
4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
5. Where habitable space is provided within the roof optimise residential amenity in the form of attics or penthouse dwellings.

Building Entry

Objectives

- a) To create entrances which provide a desirable residential identity for the development.
- b) To orient the visitor.
- c) To contribute positively to the streetscape and building facade design.

Controls

1. Provide as direct a physical and visual connection as possible between the street and the entry.
2. Achieve clear lines of transition between the public street, the shared private, circulation spaces and the dwelling unit.
3. Ensure equal access for all.
4. Provide safe and secure access by:
 - Avoiding ambiguous and publicly accessible small spaces in entry areas.
 - Providing a clear line of sight between one circulation space and the next.

- Providing sheltered well-lit and highly visible spaces to enter the building, meet and collect mail.
5. Generally provide separate entries from the street for:
 - Pedestrians and cars.
 - Different uses, for example, for residential and commercial users in a mixed-use development.
 6. Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces.

Balconies

Objective

- a) To ensure that balconies contribute positively to the façade of a building.
- b) To ensure balconies are functional and responsive to the environment thereby promoting the enjoyment of outdoor living for dwelling residents.
- c) To ensure that balconies are integrated into the overall architectural form and detail of shop top housing.
- d) To contribute to the safety and liveliness of the street by allowing for casual overlooking and address.

Controls

1. A minimum of 10sqm of open space in the form of a balcony shall be provided for each dwelling.
2. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
3. Balustrades on balconies at lower levels shall be of solid construction.
4. Balconies may project up to 1m from the façade of a building.
5. Balustrades must be compatible with the façade of the building.
6. Balconies should where possible should be located above ground level to maximise privacy for occupants, particularly from the street.
7. Balconies should be located on the street frontage and boundaries with views.
8. Primary balconies should be:
 - Located adjacent to the main living areas, such as living room, dining room or kitchen to extend the dwelling living space.
 - Sufficiently large and well proportioned to be functional and promote indoor/outdoor living. A dining table and two chairs (smaller apartment) and four chairs (larger apartment) should fit on the majority of balconies in any development.
9. Consider secondary balconies, including Juliet balconies or operable walls with balustrades, for additional amenity and choice in larger dwellings, adjacent to bedrooms or for clothes drying, site balconies off laundries or bathrooms.
10. Design and detail balconies in response to the local climate and context thereby increasing the usefulness of balconies. This may be achieved by:
 - Locating balconies facing predominantly north, east or west to provide solar access.
 - Calculating the depth of balconies to allow sunlight access to the dwelling below.
 - Utilising sunscreens, pergolas, shutters and operable walls to control sunlight and wind.

11. Provide primary balconies for all dwellings with a minimum depth of 2m.
12. Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Design considerations may include:
 - Detailing balustrades using a proportion of solid to transparent materials to address sight lines from the street, public domain or adjacent development. Full glass balustrades do not provide privacy for the balcony or the dwelling's interior, especially at night.
 - Detailing balustrades and providing screening from the public, for example, for a person seated looking at a view, clothes drying areas, bicycle storage or air conditioning units.
13. Operable screens increase the usefulness of balconies by providing weather protection, daylight control and privacy screening.

Sunlight Access

Objectives

- a) To ensure that daylight access is provided to all habitable rooms.
- b) To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours.
- c) To provide residents with the ability to adjust the quantity of daylight to suit their needs.

Controls

1. Plan the site so that new shop top housing is oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
3. Ensure daylight access to habitable rooms and private open space, particularly in winter use skylights, clerestory windows and fanlights to supplement daylight access.
4. Promote two-storey and mezzanine, ground floor dwellings or locations where daylight is limited to facilitate daylight access to living rooms and private open spaces.
5. Ensure single aspect, single-storey dwellings have a northerly or easterly aspect - locate living areas to the north and service areas to the south and west of the development.
6. Avoid south facing dwellings.
7. Design for shading and glare control, particularly in summer:
 - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
 - Optimising the number of north-facing living spaces.
 - Providing external horizontal shading to north-facing windows.
 - Providing vertical shading to east or west windows.
8. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
9. On west facing windows, vertical louvre panels or sliding screens protect from glare and low afternoon sun.

10. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
 - Using high performance glass but minimising external glare off windows.
 - Avoid reflective films.
 - Use a glass reflectance below 20%.
 - Consider reduced tint glass.
 - Limit the use of lightwells as a source of daylight by prohibiting their use as the primary source of daylight in habitable rooms. Where they are used:
 - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6m.
 - Conceal building services and provide appropriate detail and materials to visible walls.
 - Ensure light wells are fully open to the sky.
 - A combination of louvres provides shading for different times of the day.

Internal design

Objective

To ensure that the internal design of buildings provide a pleasant environment for the occupants and residents of adjoining properties.

Controls

1. All staircases should be internal.
2. Minimise the length of common walls between dwellings.
3. Basement car parking shall be located beneath the building footprint.
4. Where possible natural ventilation shall be provided to basement car parking.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings.
6. Minimise the location of noise sensitive rooms such as bedrooms adjoining noisier rooms such as bathrooms or kitchens or common corridors and stairwells.
7. Where common walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia*.
8. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Security

Objectives

- a) To ensure that buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure that entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.
- c) To ensure buildings are safe and secure for residents and visitors.
- d) To contribute to the safety of the public domain.

Controls

1. Entrances to buildings should be orientated towards the front of the site and facing the street.
2. The main entrance to dwellings or other premises should not be from rear lanes and should be designed with clear directions and signage.
3. Blank walls addressing the street frontage and other public places should be avoided.
4. Minimise the number of entry points to buildings.
5. Reinforce the development boundary to strengthen the distinction between public and private space by:
 - Employing a level change at the site and/or building threshold (subject to accessibility requirements).
 - Signage.
 - Entry awnings.
 - Fences, walls and gates.
 - Change of material in paving between the street and the development.
6. Optimise the visibility, functionality and safety of building entrances by:
 - Orienting entrances towards the public street.
 - Providing clear lines of sight between entrances, foyers and the street.
 - Providing direct entry to ground level dwellings from the street rather than through a common foyer.
 - Direct and well-lit access between car parks and dwellings, between car parks and lift lobbies and to all unit entrances.
7. Improve the opportunities for casual surveillance by:
 - Orienting living areas with views over public or communal open spaces, where possible.
 - Using bay windows and balconies, which protrude beyond the main facade and enable a wider angle of vision to the street.
 - Using corner windows, which provide oblique views of the street.
 - Providing casual views of common internal areas, such as lobbies and foyers, hallways, recreation areas and car parks.
8. Minimise opportunities for concealment by:
 - Avoiding blind or dark alcoves near lifts and stairwells, at the entrance and within indoor car parks, along corridors and walkways.
 - Providing well-lit routes throughout the development.
 - Providing appropriate levels of illumination for all common areas.
9. Control access to the development by:
 - Making dwellings inaccessible from the balconies, roofs and windows of neighbouring buildings.
 - Separating the residential component of a development's car parking from any other building use.
 - Providing direct access from car parks to dwelling lobbies for residents.

Natural Ventilation

Objectives

- a) To ensure that dwellings are designed to provide all habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants.
- b) To provide natural ventilation in non-habitable rooms, where possible.
- c) To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Controls

1. Utilise the building layout and section to increase the potential for natural ventilation. Design solutions may include:
 - Facilitating cross ventilation by designing narrow building depths and providing dual aspect dwellings, for example, cross through dwellings and corner dwellings.
 - Facilitating convective currents by designing units, which draw cool air in at lower levels and allow warm air to escape at higher levels, for example, maisonette dwellings and two-storey dwellings.
2. Select doors and windows (that open) to maximise natural ventilation opportunities established by the dwelling layout.
3. Provide appropriate building depths to support cross ventilation.
4. Avoid single-aspect dwellings with a southerly aspect.
5. Design the internal dwelling layout to promote natural ventilation by:
 - Minimising interruptions in air flow through a dwelling.
 - Grouping rooms with similar usage together.

Storage Areas

Objective

To provide for the need of residents to be able to store personal items adjacent to the car parking area.

Controls

1. A secure storage space is to be provided for each dwelling with a minimum volume 8m³ (minimum dimension 1sqm). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

Planting on Structures

Objectives

- a) To contribute to the quality and amenity of communal open space on podiums and internal courtyards.
- b) To encourage the establishment and healthy growth of trees in urban areas.

Controls

1. Design for optimum conditions for plant growth by:
 - Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established.
 - Providing appropriate soil conditions, irrigation methods and drainage
 - Ensure planter proportions accommodate the largest volume of soil possible. Minimum soil depths will vary depending on the size of the plant. However, soil depths greater than 1.5m are unlikely to have any benefits for tree growth.
 - Providing square or rectangular planting areas rather than long narrow linear areas.
2. The following are recommended as minimum standards for a range of plant sizes:
 - Large trees such as figs (canopy diameter of up to 16m at maturity)
 - Minimum soil volume 150m³.
 - Minimum soil depth 1.3m.
 - Minimum soil area of 10 x 10m or equivalent.
 - Medium trees (8m canopy diameter at maturity).
 - Minimum soil volume 35m³.
 - Minimum soil depth 1m.
 - Approximate soil area of 6 x 6m or equivalent.
 - Small trees (4m canopy diameter at maturity).
 - Minimum soil volume 9m³.
 - Minimum soil depth 0.8m.
 - Approximate soil area of 3.5 x 3.5m or equivalent.
 - Shrubs: Minimum soil depths 500 – 600mm.
 - Ground cover: Minimum soil depths 300 – 450mm.
 - Turf: Minimum soil depths 100 – 300mm.
 - Any subsurface drainage requirements are in addition to the minimum soil depths quoted above.

Car Parking

Objectives

- a) To provide convenient, accessible and safe on site car parking for residents and visitors.
- b) To minimise driveway crossings to maximise on street parking and landscaped nature strips.
- c) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.
- d) To integrate the location and design of car parking with the design of the site and the building.

Controls

1. Visitor car parking shall be clearly identified and may not be stacked car parking.
2. Pedestrian access ways and driveways shall be separated.

3. Driveways shall be designed to accommodate removalist vehicles.
4. Give preference to underground parking, whenever possible by:
 - Facilitating natural ventilation to basement and sub-basement car parking areas, where possible.
 - Integrating ventilation grills or screening devices of car park openings into the facade design and landscape design.
 - Providing safe and secure access for building users, including direct access to residential dwellings, where possible.
5. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and street amenity by:
 - Avoiding exposed parking on the street frontage.
 - Hiding car parking behind the building facade. Where wall openings (windows, fenestrations) occur, ensure they are integrated into the overall facade scale, proportions and detail.

Pedestrian Access

Objectives

- a) To promote shop top housing which is well connected to the street and contributes to the accessibility of the public domain.
- b) To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their dwelling and use communal areas via minimum grade ramps, paths, access ways or lifts.

Controls

1. Optimise accessibility to the development through site planning.
2. Provide high quality accessible routes to public and semi-public areas of the building and the site, including major entries, lobbies, communal open space, site facilities, parking areas, public streets and internal roads.

Privacy

Objectives

- a) To locate and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.
- b) To avoid any external impacts of a development, such as overlooking of adjoining sites.
- c) To provide reasonable levels of visual privacy externally and internally, during the day and at night.
- d) To maximise outlook and views from principal rooms and private open space.

Controls

1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
2. Windows to habitable rooms should be located so they do not overlook such windows in other dwellings within the development or areas of private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
4. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings by:
 - Balconies to screen other balconies and any ground level private open space.

- Separating communal open space, common areas and access routes through the development from the windows of rooms, particularly habitable rooms.
 - Changing the level between ground floor dwellings with their associated private open space, and the public domain or communal open space.
5. Use detailed site and building design elements to increase privacy without compromising access to light and air by:
- Offsetting windows of dwellings in new development and adjacent development windows.
 - Recessed balconies and/or vertical fins between adjacent balconies.
 - Solid or semi-solid balustrades to balconies - louvres or screen panels to windows and/or balconies.
 - Fencing.
 - Vegetation as a screen between spaces.
 - Incorporating planter boxes into walls or balustrades to increase the visual separation between areas.
 - Utilising pergolas or shading devices to limit overlooking of lower dwellings or private open space.

Acoustic Impact

Objective

To ensure a high level of amenity by protecting the privacy of residents within shop top housing.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. The proposed buildings must comply with the Department of Environment and Climate Change criteria and the current relevant Australian Standards for noise and vibration and quality assurance.
3. Arrange dwellings within a development to minimise noise transition between dwellings by:
 - Locating busy, noisy areas next to each other and quieter areas next to other quiet areas, for example, living rooms with living rooms, bedrooms with bedrooms.
 - Using storage or circulation zones within a dwelling to buffer noise from adjacent dwellings, mechanical services or corridors and lobby areas.
 - Minimising the amount of common walls with other dwellings.
 - Design the internal dwelling layout to separate noisier spaces from quieter spaces by grouping uses within a dwelling - bedrooms with bedrooms and service areas like kitchen, bathroom, and laundry together.

4.10 Restaurants/Outdoor Cafes

Background

There is an increasing trend to have outdoor eating in conjunction with restaurants and cafes. This contributes to the activity in business areas. There is however a potential conflict between the users of outdoor eating areas and users of the footpath areas.

Objectives

- a) To ensure that outdoor cafes enhance the economic viability for centres.
- b) To ensure that outdoor cafes enhance the streetscape to create attractive and vibrant surroundings.
- c) To preserve or enhance public amenity, safety and access.

Controls

These controls apply to outdoor eating areas on public footpaths. Other than hours of operation, these controls do not apply to outdoor eating areas located on privately owned land.

Building Form, Streetscape and Layout

1. Locate outdoor cafe seating a minimum of 1m from the kerb and to maintain at least 1.5m between seating and the building frontage for pedestrian passage.
2. There shall be no increase in the number of chairs and tables at each individual cafe site to that approval without further approval from Council.
3. Outdoor cafe furniture shall remain at least 3m away from any change in direction of kerb and gutter, as occurs at street corners and from any bus stop or taxi stand.
4. Outdoor cafe furniture shall remain at an appropriate distance from any pedestrian crossing, disabled parking spaces, post box, public telephone, street sign, street tree or other street structure.
5. Outdoor cafe sites shall allow appropriate public access across the footpath between kerb and property boundary. This control does not apply within purpose built Council designed „al fresco“ dining areas.
6. The siting of outdoor cafe areas shall allow for pedestrian road crossing areas.

Written Consent

Written consent from neighbouring tenants to establish outdoor cafe seating in front of other premises must be provided to council before such seating is permitted.

Car Parking and Access

1. No additional car parking is required for any outdoor eating area.
2. Bollards may be needed to be provided to protect the seating area from errant vehicles.

Amenity and Environmental Impact

The hours of operation shall be restricted to between 7:00 am to 9:00 pm, unless otherwise varied by Council.

Landscaping

Planter boxes should be provided to enclose eating areas.

Site Services

1. If any of Council's street furniture or other items such as garbage bins, seats and planter boxes has to be removed for the installation of outdoor cafe seating, then that removal and any subsequent re-erection in the vicinity shall be at the permit holder's expense and shall be completed to Council's satisfaction.
2. Any additional lighting to normal street lighting shall be provided at the applicant's expense and shall be completed to the satisfaction of Council.
3. Any illuminations shall be appropriately managed during operations of the premises.

Permit

Applicants need to provide public liability insurance for outdoor café areas and sign a permit agreement with Council.



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Liverpool Development Control Plan 2008

Part 2.6

Development in the Holsworthy Station Area

19 February 2014

Part 2.6 must be read in conjunction with Part 1

Refer to Part 3.2 – 3.7 for residential development in residential zones

Refer to Part 3.8 for non residential development in residential zones

Liverpool Development Control Plan 2008

Part 2.6 Holsworthy Station Area

Table of Contents

1. Preliminary	4
2. Controls for Public Domain	5
2.1 Streets and Pathways	5
3. Controls for Private Domain.....	7
3.1 Holsworthy Local Centre.....	7
Appendix 1 – Street Layout.....	9
Appendix 2 - Holsworthy Building Typology.....	10
Appendix 3 - Holsworthy Local Centre Principles.....	11

1. Preliminary

Applies to

1. This Part applies to land identified on Appendix 1.
2. Part 1 also applies.
3. Controls on Non Residential Development in Residential Zones in this locality are in Part 3.8.
4. Controls on Non Business Development within Business Zones in this locality are in Part 6.

Background

The Holsworthy Station Area was rezoned under Liverpool LEP 1997 Amendment No 45. The area was originally subject to Liverpool DCP No. 43, which came into force on 27th February 2002. A portion of the site was developed between 2002 and 2008. The remaining area that is not yet fully developed and is accordingly incorporated into this DCP.

Objectives

To ensure that:

- a) A high quality standard of development is carried out.
- b) The development of land parcels is co-ordinated.
- c) A framework for a high quality amenity and character for the new neighbourhood is set.
- d) The environmental integrity of the area is protected.
- e) High quality landscaped areas are provided in public spaces.

2. Controls for Public Domain

2.1 Streets and Pathways

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To provide connectivity in the street layout.
- f) To provide for adequate drainage paths.
- g) To provide for the safe and efficient movement of cyclists.

Controls

Subdivision

- 1. All applications to subdivide and/or develop land shall be generally in accordance with the street layout shown in Appendix 1.
- 2. Streets other than those shown in Appendix 1 shall be located and designed to the satisfaction of Council.

Variations to street layout

- 1. To approve a development application which proposes to change the location of the streets shown in Appendix 1 or locate streets that are not shown in Appendix 1, Council must be satisfied that:
 - The streets provide for a safe movement system.
 - Intersections are “safety-designed”.
 - Other property owners are not unduly disadvantaged by the change.
 - Street location does not close off options for future development of adjoining land.
 - Drainage paths are adequately maintained.
 - The requirements of servicing authorities are met.
- 2. For changes or additions to the proposed road system, which Council considers minor, Council will consult with affected property owners prior to determining the application.

2.2 Open Space & Environment Protection

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents
- b) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development
- c) To provide links between the open space areas and community and retail facilities.

- d) To ensure adequate provision for native riparian vegetation to maintain and improve the ecological sustainability of Harris Creek.
- e) To provide a link for other biological areas and communities.
- f) To preserve, enhance and protect native bushland.

Controls

- 1. Where the removal of remnant vegetation on land zoned RE1 – Public Recreation or E2 Environment Protection is proposed this may invoke the provisions of *State Environmental Planning Policy No 19 Bushland in Urban Areas*. It is advisable to consult Council in this regard.
- 2. Open space areas are to be generally provided as shown on *Liverpool LEP 2008* Map.
- 3. The open space zone adjacent to Harris Creek shall be dedicated in full to Council within six (6) months of the issue of the subdivision certificate for the creation of the open space. The open space shall be embellished to Council's satisfaction prior to such dedication.
- 4. The environmental protection zone adjacent to Harris Creek shall be dedicated in full to Council within six (6) months, after a Management Plan has been approved by the *Department of Natural Resources* (DNR) and implemented by the applicant. This plan will include the measures to fund, restore, enhance and improve, and the maintenance of the riparian vegetation, upon completion of any flood mitigation works, agreed upon by Council and DNR.

3. Controls for Private Domain

3.1 Holsworthy Local Centre

Objective

To provide an attractive, accessible mixed-use centre providing for retail, commercial, residential, recreation, community facilities and public transport adjacent to Macarthur Drive, Holsworthy.

Controls

1. The location of the centre shall be as shown in Appendix 2.
2. The maximum gross leasable retail floor area within the centre shall not exceed 7,250sqm. The maximum gross leasable floor area for commercial use shall not exceed 1,200sqm.
3. The design of the centre shall comply with the urban design guidelines as depicted in the Holsworthy Local Centre Principles Plan (refer to Appendix 3) and, in doing so, recognise and provide for the following:
 - The centre shall be compatible with the adjoining residential area.
 - The centre shall be capable of permitting individual shops to trade outside normal business hours.
 - The centre's car parking area and its surrounds are landscaped to Council's satisfaction.
 - The design and location of the centre's loading area minimises any adverse impacts on the amenity of the adjoining residential area.
 - Convenient and inclusive access is provided between the retail centre and points of access to public transport.
 - All areas of the centre are to be safe and secure.
 - The design of the centre's Macarthur Drive precinct addresses that street in such a manner as to create a distinct "main street" identity.
 - Inclusive pedestrian access is provided to the centre by way of Macarthur Drive.
 - Principles of Crime Prevention Through Environmental Design (CPTED) are to be incorporated into the design of the centre.
4. A minimum 2 m wide landscape strip is required along the site frontages to enhance the streetscape as shown in Appendix 3. The design of the centre and architectural elements will minimise the impact of building bulk, loading docks and hard paved areas. Landscaping is required to soften the visual impact of the centre, as appropriate.
5. The character of the buildings, and the scale and bulk of the overall site's development shall be made to relate to a human scale of proportion by observance of the following requirements:
 - Any parapet walls provide visual relief by the incorporation of variations to height and mass in elevation.
 - Concepts of articulation are observed in the form of detail work stepping, and increased facade articulation.

- Entry points to the centre are visually obvious and inviting, with features such as protruding porches, verandahs or canopy-form structures assisting this purpose.
- 6. Residential development is encouraged in conjunction with the retail and commercial development. In this regard, Council may consider a variation of the building height limit (refer to Appendix 3).
- 7. Signage for the site development is to be an integral part of the overall concept that provides for consistency.
- 8. One pole or pylon sign not exceeding 5m in height from the ground level is permitted. The sign is not to exceed 5sqm in area. The sign is to be located within an area of 5m, (frontage dimension) by 3m (depth dimension) on either side of the ingress / egress points, subject to compliance with site distance requirements.
- 9. Signs are not permitted at locations where they are hazardous to traffic.
- 10. Roof signs or fins above the roofline are prohibited.
- 11. Signage is not to extend laterally beyond or vertically above the top of the wall to which it is attached and is not to cover any windows or architectural features.
- 12. Appropriate directional signage will be provided in the vicinity of the interchange, walking paths, the Local Centre, and adjoining residential areas.

ENVIRONMENTAL PLANNING & ASSESSMENT ACT, 979

CITY OF LIVERPOOL

FT LIVERPOOL DEVELOPMENT CONTROL PLAN NO.43

LOCALITY: HOLSWORTHY

DRAWN BY: S BAILEY

PLANNING OFFICER: P JEMISON

DATE: 17/03/01

FILE NO. J08/00

COUNCIL RESOLUTION: EFFECTIVE:

LEGEND

A ACCESS PL 12.5m
3.5% R.C. 3.5m
B ACCESS ST 10m
3.5% R.C. 3.5m
C COLLECTOR 10m
3.5% R.C. 3.5m
V = Verge c = Carriageway

ROUNDABOUT

VEHICLE ACCESS WILL BE DENIED

BUS ONLY CROSSING

ENTRANCE SIGNAGE

PEDESTRIAN WALKWAY

BUS ROUTE

ACCESS WILL BE DENIED ACROSS THESE BOUNDARIES

PROVISION OF NOISE ATTENUATION SOUND WALLS AND LANDSCAPING BY DEVELOPER

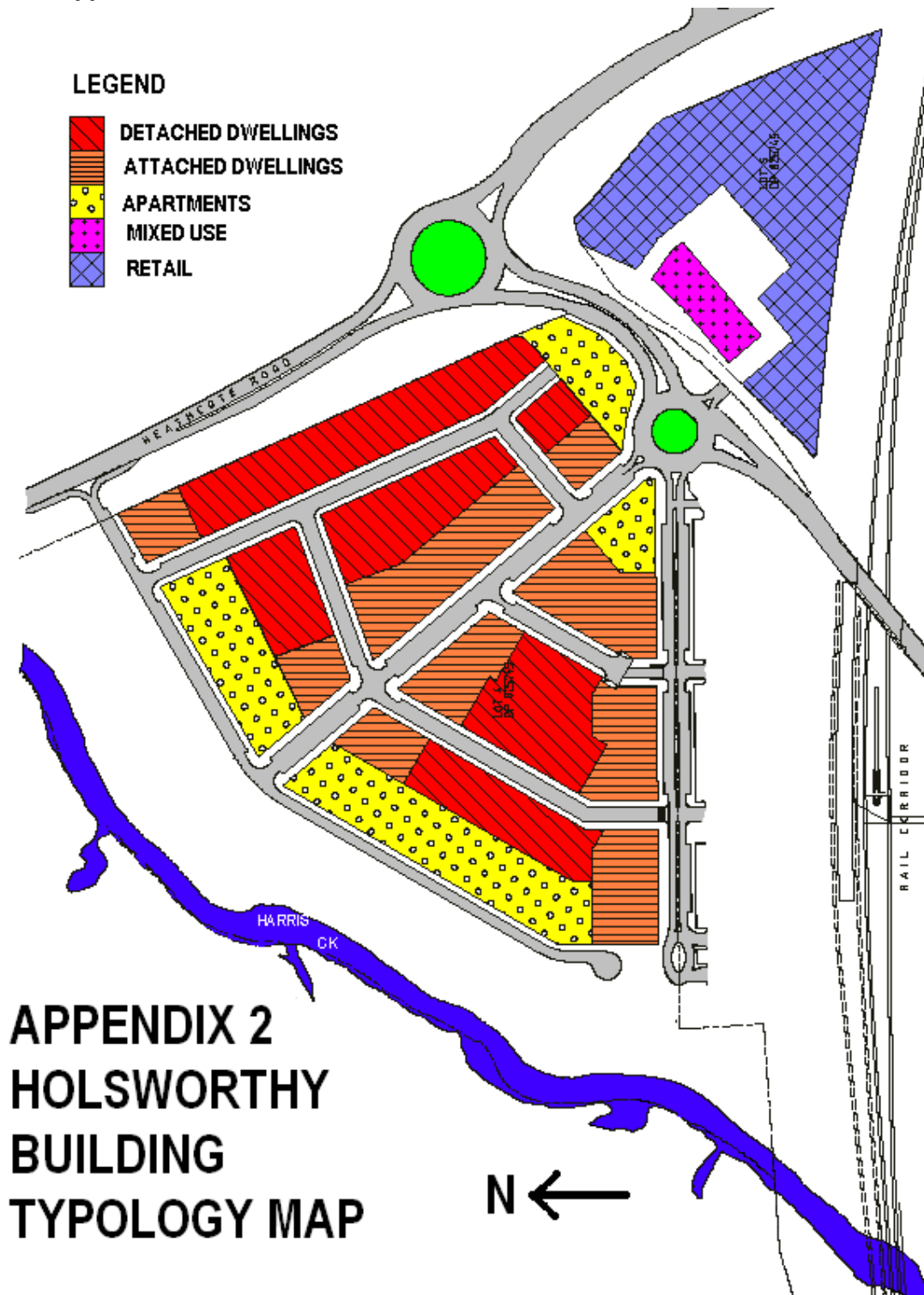
ENVIRONMENTAL PROTECTION

OPEN SPACE

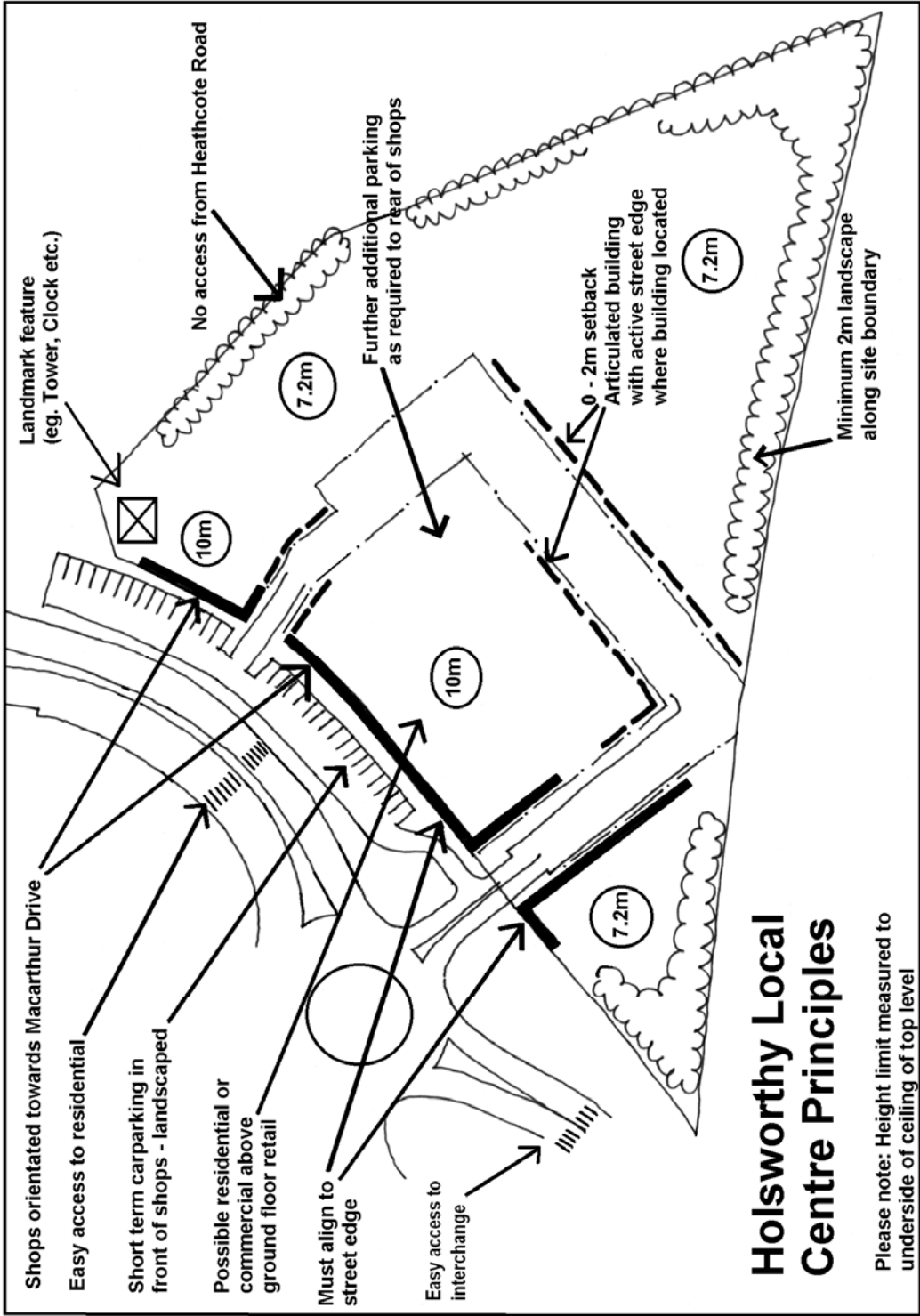
NOTE:
1. WHERE A STREET ADJOINS OPEN SPACE THE WIDTH OF THE VERGE ADJACENT TO THAT OPEN SPACE MAY BE REDUCED.
2. REFER TO THE WRITTEN STATEMENT FOR DETAILS REGARDING LOT 3 DP825745.

Appendix 2 - Holsworthy Building Typology

Approximate Scale 1:3300



Appendix 3 - Holsworthy Local Centre Principles





Council Administration Centre Level 2, 33 Moore Street, Liverpool NSW 2170

Postal Address Locked Bag 7064, Liverpool BC NSW 1871

Customer Contact Centre 1300 36 2170

Fax 02 9821 9333

NRS (National Relay Service) 133 677

Email lcc@liverpool.nsw.gov.au

Website www.liverpool.nsw.gov.au

Liverpool Development Control Plan 2008

Part 2.7

Development in the Greenway Views Estate

19 February 2014

Part 2.7 must be read in conjunction with Part 1

Refer to Part 3.8 for Non Residential Development in Residential Zones

Liverpool Development Control Plan 2008

Part 2.7 Greenway Views Estate

Table of Contents

1. Preliminary	4
2. Subdivision within Greenway Views.....	5
3. Site Planning	6
4. Setbacks	7
5. Landscaped Area and Private Open Space	11
6. Cut and Fill, Building Design, Streetscape and Fencing	14
7. Landscaping	25
8. Car Parking and Access.....	27
9. Amenity and Environmental Impact.....	29
10. Site Services	31
11. Granny Flats.....	32
12. Additional Information	33
12.1 Greenway Views Design Review Panel.....	33
Appendix 1	33

Table of Figures

Figure 1 Land capable of further subdivision	5
Figure 2 Front Setbacks	7
Figure 3 Zero Lot Lines Permissible	8
Figure 4 An example of a maintenance easement.....	9
Figure 5 Envelope Articulation	10
Figure 6 An example of Landscaped Area and Private Open Space	12
Figure 7 Building Cut and Fill.....	15
Figure 8 Detached Dwelling streetscape principles	15
Figure 9 Suggested roof overhang.....	16
Figure 10 Building design	17
Figure 11 lightweight cladding options	19
Figure 12 Private driveway controls	22
Figure 13 Fence Type and Location	22
Figure 14 Fence principles in elevation.....	23
Figure 15 Fence options	23
Figure 16 Fence Principles in plan.....	24
Figure 17 Sun shading principles	30

1. Preliminary

Applies to

1. Part 2.7 applies to the land, shown in Figure 1.
2. Part 1 applies to the land shown in Figure 1.
3. Part 3.8 also applies for non residential development on the land.
4. Parts 3.1 – 3.7 do not apply to the land.

Background

Greenway Views offers a wide variety of lot sizes and configurations to promote diversity of housing. The majority of lots are in the order of 480sqm with 15m frontages or 360 - 400sqm with generally 12 – 15m frontages.

The lots all have potential for innovative design solutions. Building to one of the boundaries offers opportunity to maximise usable outdoor space. Some lots have generous landscape edges and others focus living areas on courtyard spaces for equally relaxed settings and minimum maintenance.

Where lots face important entry streets or open space a greater level of design consistency is required to create the desired integrated streetscape. Greenway Views aims to create a residential lifestyle unprecedented for its anticipated market.

Eastern Precinct

Detached dwellings and larger lots have been located along the steeper portions of the site which relate to similar proportioned dwellings and lots in Pine Ridge to the east.

Western Precinct

A predominance of multiple dwellings and housing in the form of attached dwellings has been located on the shallower gradient of the site. Smaller lots are easily sited in this area. To the south of the precinct, the topography is steeper. This is reflected in the detached lots in this area, allowing for a direct relationship with the adjacent low density housing.

2. Subdivision, Frontage and Lot Size

The below table shows the land that is capable of further subdivisions.

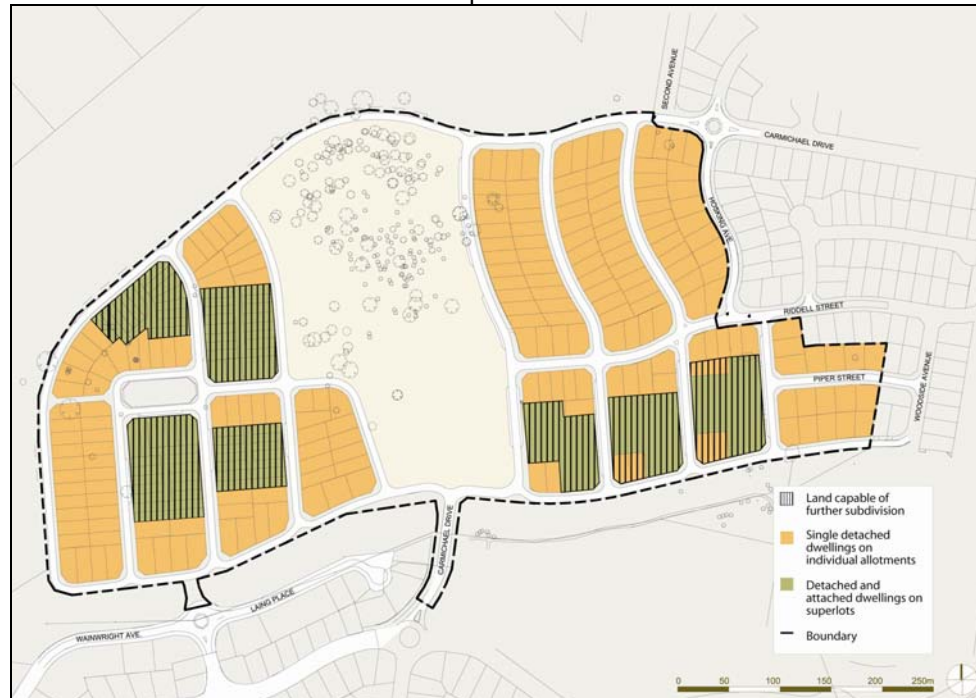


Figure 1 Land capable of further subdivision

3. Site Planning

Objectives

- a) To achieve a site layout that provides a pleasant, attractive and energy efficient living environment.
- b) To assist in microclimate management such as solar access and shade.
- c) To ensure privacy for residents and neighbours.
- d) To address the anticipated lifestyle needs of the likely future residents.

Controls

- 1. A Site Analysis must accompany each application. A checklist is attached as Appendix 1.

4. Setbacks

Objectives

- a) To setback dwellings from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To setback dwellings from one another to provide visual and acoustic privacy.
- c) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- d) To provide convenient and unobtrusive vehicle access and parking without the use of long driveways.

Controls

General

1. Front Setbacks are to accord with Figure 2 – Front Setbacks.



Figure 2 Front Setbacks

2. Side Setbacks are generally 900mm, except in the case of boundaries within or adjacent to super lots, or in the case of zero lot development.
3. Zero lot lines:
 - Refer to Figure 3 - Zero Lot Lines Permissible.
 - Walls are generally to be 180mm clear of the side boundary to allow for gutter and eaves overhang.
 - The length of the zero lot line wall is limited to 50% of the adjacent side wall boundary.
 - No windows are permitted in the zero lot line wall.
 - A maintenance easement of at least 900mm has been identified for zero lot line allotments as part of the Torrens title allotment. Should an allotment not be identified as having an easement, then a 900mm easement is required to be provided on the adjoining property boundary. Refer to Figure 4.

- Zero lot line construction is permissible only on one side boundary of the allotment. A minimum setback of 1.2m shall be observed on the opposite side boundary.

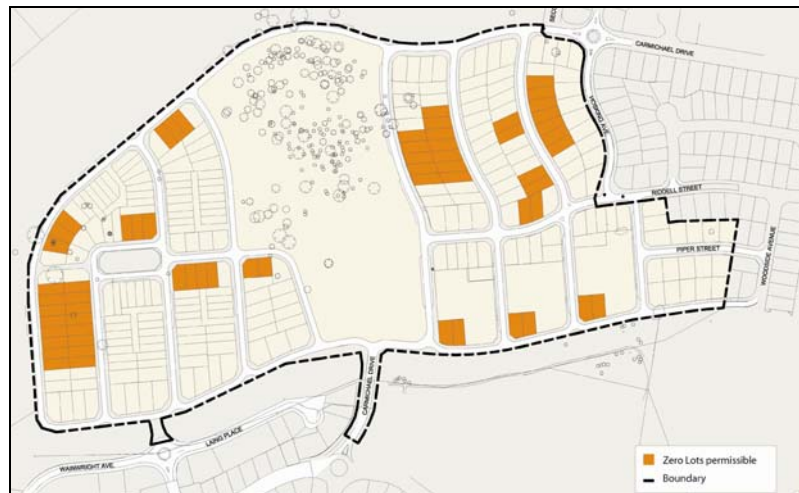


Figure 3 Zero Lot Lines Permissible

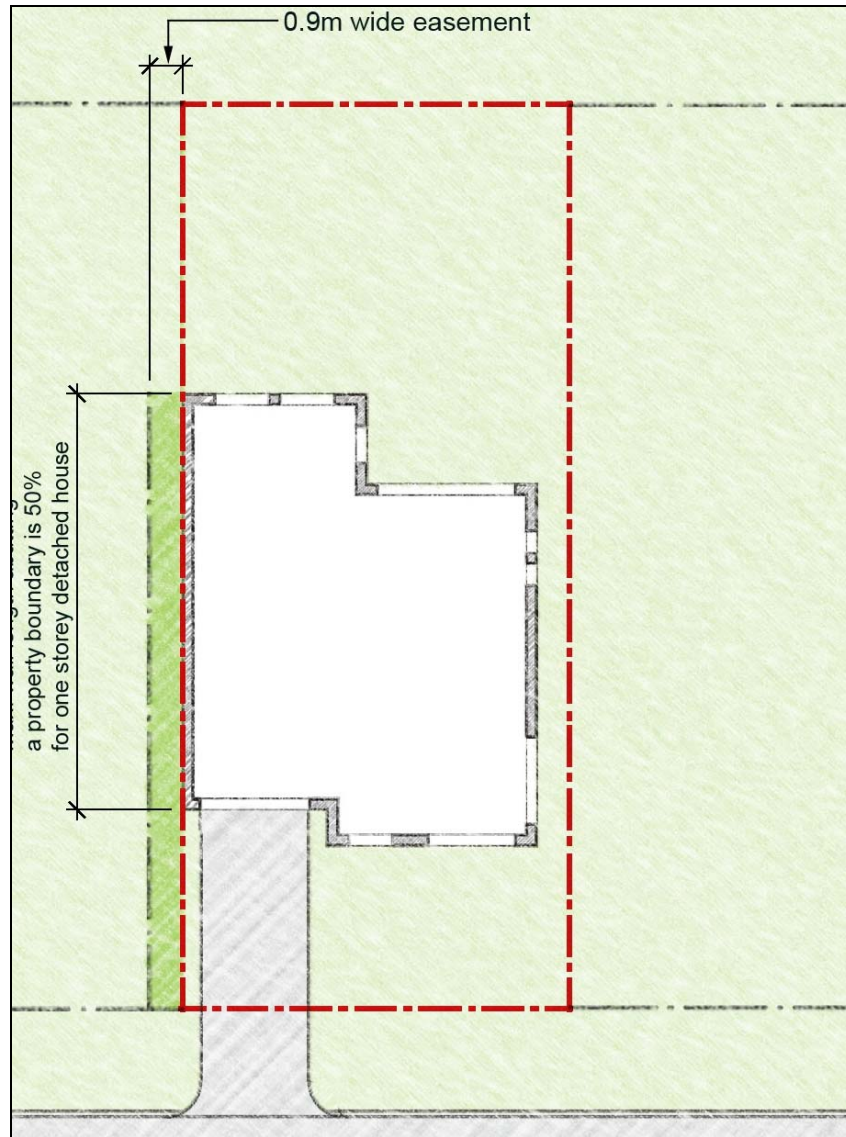


Figure 4 An example of a maintenance easement

4. Rear setbacks:

- Dwellings are to have a minimum rear setback of 5m. This does not apply to garages/loft structures off a private driveway.
- Council may consider a variation if justification can be provided for a better design outcome for the proposed dwelling and neighbouring dwellings. Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

5. Corner sites:

- Corner sites are to provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wrap around verandah, bay window, corner entry or roof feature.
- A setback of 3m for a maximum length of 9m is permitted on both street frontages except where greater setbacks are required for Bushfire Asset Protection Zones. The setback distance measured from the splay corner is to be a minimum of 1m.

- The setback for garages with access off the secondary frontage shall either be:
 - Between 0.5 and 1m from the boundary if that garage is detached, no higher than 3m and the lot shares a common rear boundary; or
 - 5.5m from the secondary frontage otherwise.

6. Envelope articulation:

- Envelope articulation to the first and second levels are to be flush or offset by equal to, or greater than, 1.5 m. Refer to Figure 5 – Envelope Articulation.

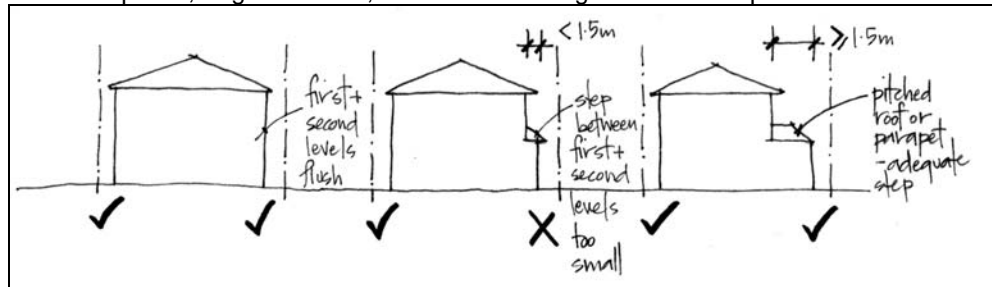


Figure 5 Envelope Articulation

Single Dwellings

1. A minimum setback of 900mm is required on the single dwelling allotment where it adjoins a super lot. At the edges of a single dwelling allotment and a super lot, a minimum setback of 900mm is required, excluding garages.

Super Lots

1. Within super lots there must be a minimum 2.4m gap between a group of attached dwellings and a detached dwelling, that is, 2 storeys in height. This excludes garages.
2. Within super lots there must be a minimum 2.4m gap between groups of attached dwellings that are 2 storeys in height.
3. A minimum setback of 1.5m is required on the super lot where it adjoins a single dwelling allotment.

5. Landscaped Area and Private Open Space

Landscape area is defined in *Liverpool LEP 2008*

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide private open space to relate to living spaces, windows, access and egress points and the functions of the dwelling.
- b) To maximise pervious landscaped areas with planting beds, ground covers, shrubs, trees, turf and other permeable materials such as mulch, ground pebbles, stepping stones and mounding/earth banks or terraces.

Controls

Single Dwellings

- 1. A minimum of 25% of the site must consist of landscaped area at ground level. Refer to Figure 6.
- 2. A maximum of 50% of the front setback can be paved or sealed.

Super Lots

- 3. A minimum of 20% of the site must consist of landscaped area at ground level.

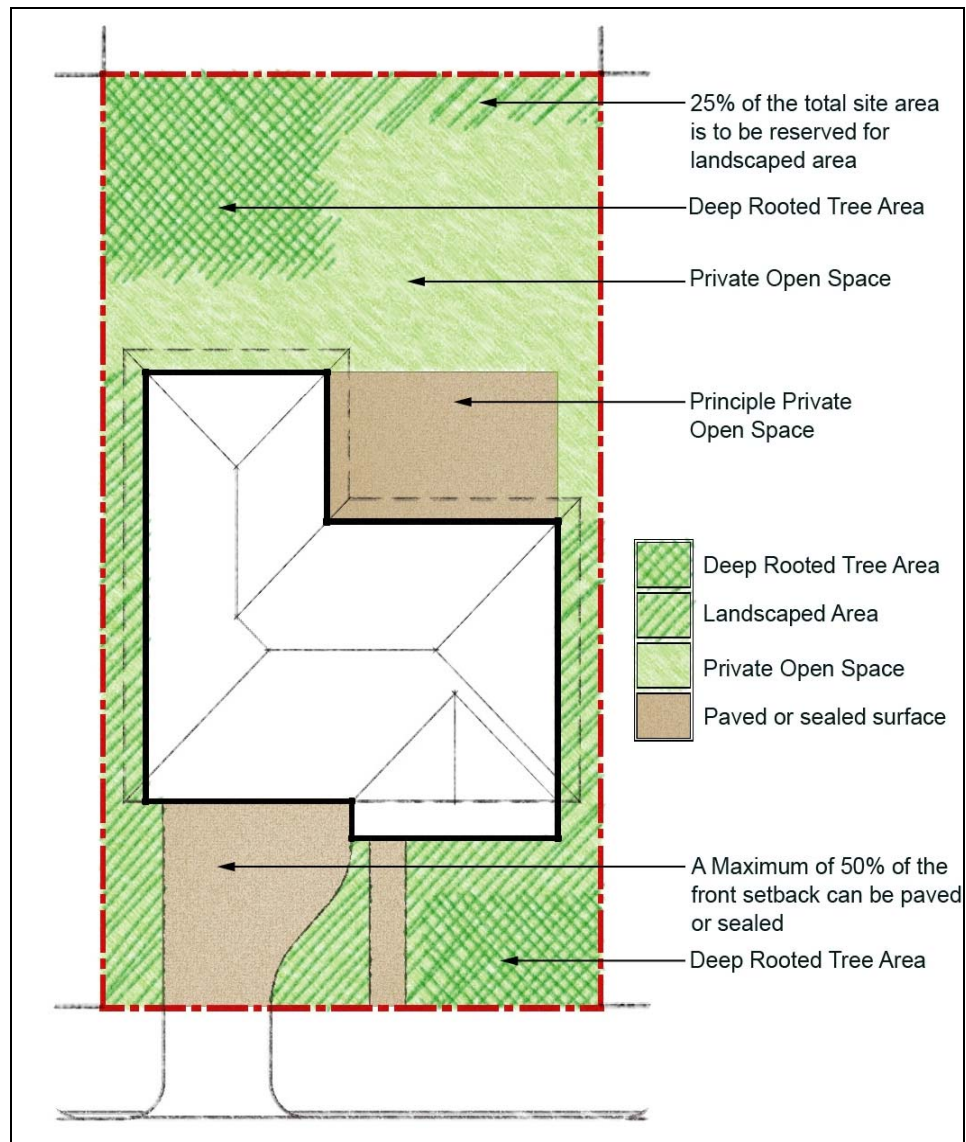


Figure 6 An example of Landscaped Area and Private Open Space

Private Open Space

Objective

To ensure that private open space meets residents' needs for outdoor activities, privacy, outlook and landscaping.

Controls

General

1. The primary internal living space and external living areas shall be linked to maximise an outdoor lifestyle.
2. Trees in private gardens to be an appropriate mature scale, not greater than 18m high at maturity.

3. It is recommended that lawn areas be established on the northern side of buildings. Planting against fences and walls, pergolas and other structures should aim to screen and soften by use of groundcovers, shrubs, trees and climbers. Shade tolerant plants should be used on the southern sides of buildings and structures, and other planting to be appropriately selected for microclimate conditions.
4. All dwellings on single allotments are to provide ground level private open space adjoining the main living area of the dwelling. The private open space is to include:
 - a principal private open space area of at least 25sqm with a minimum dimension of 4m, having access from a major living area.
 - an external area for clothes drying, with at least 2 hours of full solar access between 9:00am and 5:00pm on the winter solstice, screened or not visible from the street.
5. Houses to maximise north-facing courtyards.

Single Dwellings

No specific controls apply other than those listed under "General".

Super Lots

No specific controls apply other than those listed under "General".

6. Cut and Fill, Building Design, Streetscape and Fencing

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint. Refer to Figure 7

4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:

- A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
- A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
- Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

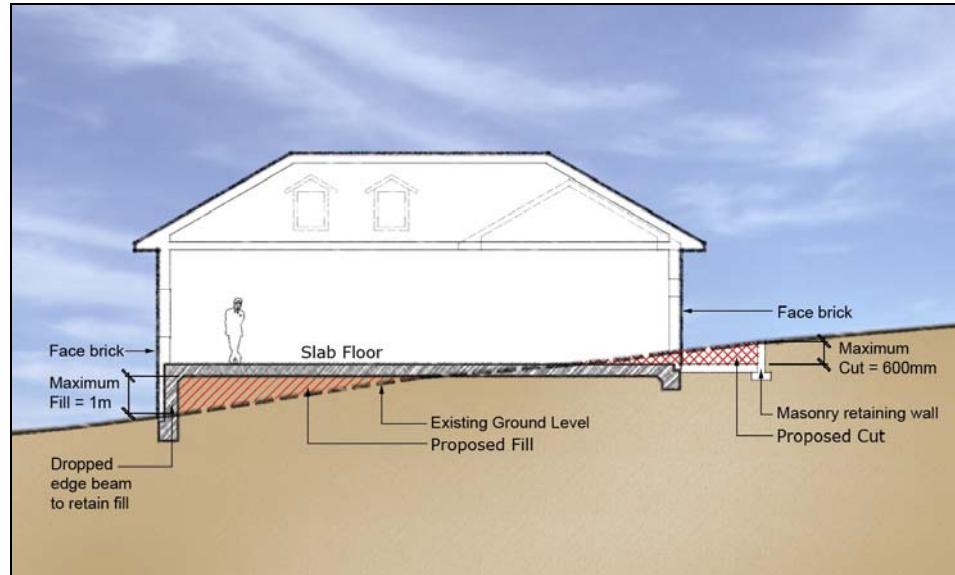


Figure 7 Example of Cut and Fill

Building Design

Objectives

- To achieve development which is sympathetic to its neighbourhood context.
- To encourage innovative contemporary designs which enhance and reinforce the character of the neighbourhood.
- To maintain and enhance the landscape character of the neighbourhood.
- To ensure that building appearance from public streets and adjoining sites responds to and is visually compatible with either the predominant character of existing surrounding residential development or, where identified, the future urban character of the area.
- To ensure that garages, in particular garage doors, do not visually dominate the streetscape.

Controls

- All buildings are to be orientated to the street. Refer to Figure 8.

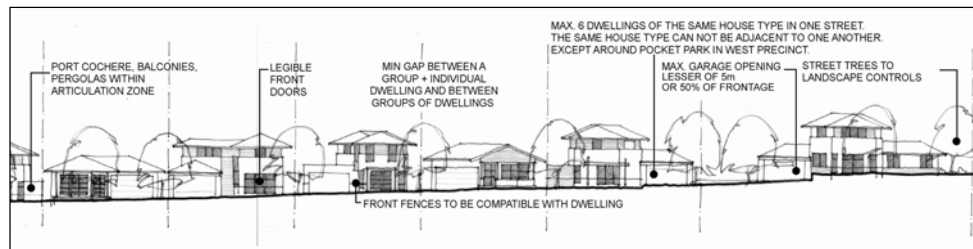


Figure 8 Detached Dwelling streetscape principles

- All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the public domain.
- Corner lots shall address both street frontages with verandahs, pergolas or similar modulating elements.

4. Roofs to be gable, hip, or skillion. Mixtures of hip and gable will only be allowed on merit.
5. Walls shall be a mix of masonry, rendered or bagged, and painted, lightweight clad and painted, and/or flush joint face brick. Justification will be required for 100% face brick facades or 100% rendered and painted brick and will be assessed on merit.
6. Eaves overhang are to provide sun shading and protect windows and doors and provide aesthetic interest – see Figure 9. Except for walls built to the boundary, eaves should have a minimum of 400mm overhang and be provided to a minimum of 70% of the dwelling.

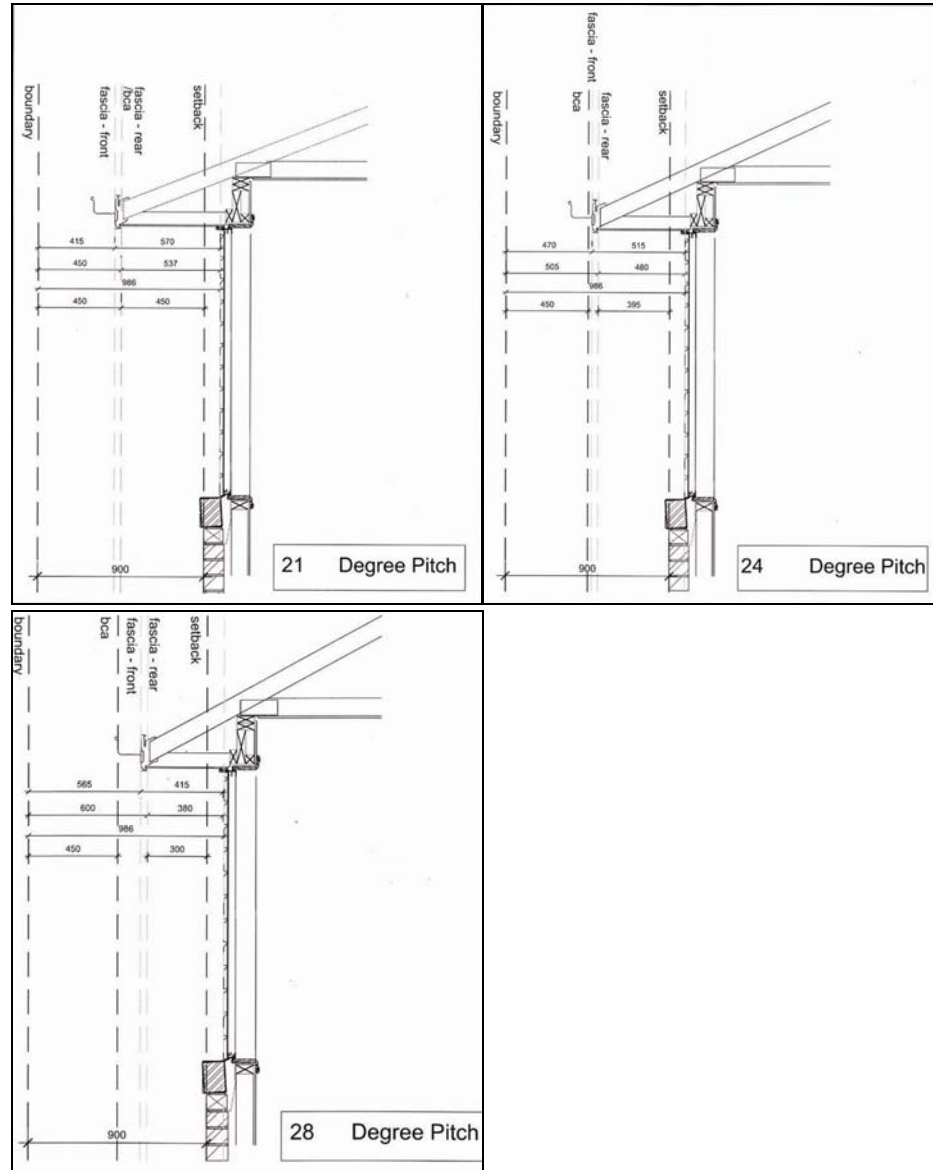


Figure 9 Suggested roof overhang

7. Incorporate front porches, entries, pergolas and verandahs on front facades. 'Blank' facades will not be permitted.
8. Innovative, contemporary design to prevail. Avoid pseudo-historic decorative effects or styles, e.g. finials, lions, Corinthian columns, etc.

9. Exterior materials and colours are to be in accordance with those provided in the accompanying palettes. The colour palettes are available through Design Review Panel.
10. The entry of each dwelling shall be emphasised
11. The maximum length of any second storey wall is 14 m.
12. Provide a building frontage and entry clearly legible from the street or access place.
13. Facades can be articulated by:
 - Use of different materials and detailing;
 - Inclusion of balconies, verandahs, pergolas, landscaped beds and shading devices. Refer to Figure 10.
14. Proportion of windows and other openings to be compatible with the scale of the building.
15. Modulation of the façade should be integral to the design (Refer to Figure 10 Building design).

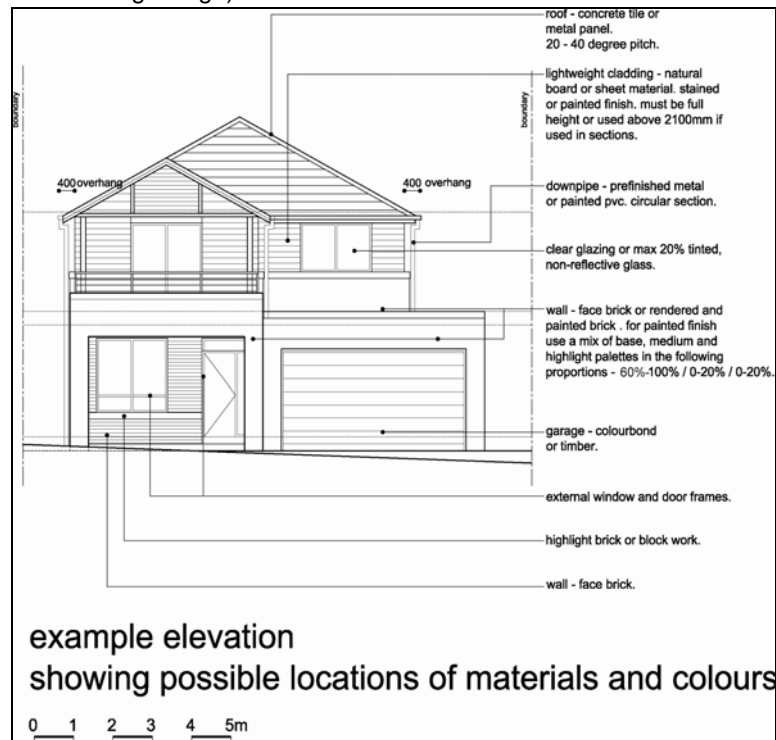


Figure 10 Building design

16. Roofs should be simple in the form of gable, hip or skillion design. Roof pitches are to be between 20 and 40 degrees. Gutters should be half round or quad with rectangular or tubular down pipes. Gutters and downpipes can be either metal or PVC.
17. Pitched roof cladding can either be:
 - Prefinished metal in custom orb or plain ribbed tray profile.
 - Concrete or terracotta tile.
18. Porches and entries should be used to:
 - Create a legible access and building entry area.
 - Provide shelter to people entering the dwelling.

- Provide design detail and articulation that adds character to the streetscape.
- Form part of the dwelling and not appear to be 'stuck on'.
- An extension of the street's landscape.

19. Verandahs and pergolas should be provided to:

- Provide a seamless link between and help create useable internal and external living areas.
- Protect/shade all elevations that are exposed to western and northern sun.
- Improve energy efficiency.
- Appear as an extension of the house.
- Be comprised of timber battens, or metal frames.

20. Balconies and terraces:

- Should have sufficient drainage control.
- Should be used to connect external and internal living areas but not dominate the landscape area.
- Should be utilised to provide external living areas to upper floor areas.
- Can be either of a recessed or protruding design.
- Can form a design detail to the street or corner elevation.
- Can provide additional opportunities to overlook the street and other public places for security.
- Should be designed to limit intrusion of privacy to adjacent dwellings.
- Should use materials of a permeable or semi-permeable nature on ground level where possible.

21. Solar hot water units:

- Solar panels for hot water should be located flush with the roofline to minimise their visibility from the street and public spaces.
- No solar panels are to be on the street elevation.
- Water storage tanks are to be located on the ground, not on the roof.

22. The following wall treatments are acceptable:

- Face brick in smooth, unfigured, unmottled finish (unless justification is provided).
- Rendered and painted brick.
- Bagged and painted brick.

Lightweight cladding:

- Timber boarding or equivalent fibre cement profile, painted.
- Timber boarding or plywood boarding, stained.
- Lightweight cladding elements must be full height or above 2.1m if used in sections. Refer to Figure 11.

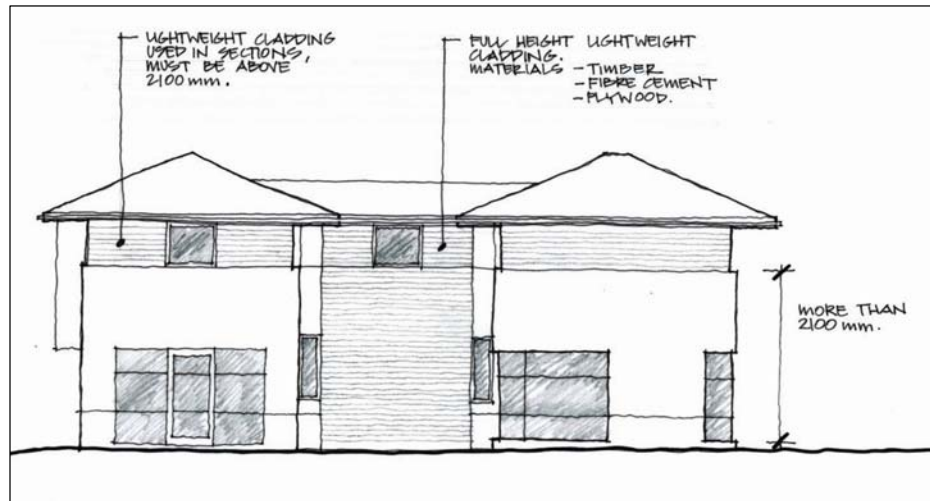


Figure 11 Lightweight cladding options

23. Both painted or stained timber and pre-coloured aluminium window and door frames are acceptable.
24. All glazing should be clear or maximum 20% tinted, non-reflective glass.
25. Opaque or translucent windows are not permitted to the street facade.
26. Sunscreens and awnings made from timber battens or exterior fabric on timber or metal frames are encouraged and are required over glazing which is otherwise unprotected. Refer Figure 1 – Sun shading principles.
27. Incorporate garages that are adjacent to dwellings into the envelope of the house with living rooms or pergolas forward of the garage face and visible from the street.
28. Garages will not be permitted forward of the building line. Note: on larger lots, garages can be located separately and detached from the main dwelling.
29. No repetition of the same detached dwelling type next to one another, except around open space. Maximum of seven (7) detached dwellings of the same type to be in the same street. Repetition of the same detached dwelling type is encouraged around open space. A change in materials and/or colour does not make a dwelling a new type.

Single Dwellings

No specific controls apply other than those listed under "General".

Super Lots

Maximum of six (6) attached two storey dwellings in a row.

Streetscape and Fencing

Objectives

- a) To provide streetscapes which enhance the built form, landscape and environmental conditions of the locality.
- b) To maximise the attributes of a site while establishing a good relationship between dwellings on a site and with neighbouring buildings.
- c) To provide a clear transition between the public and private areas.
- d) To provide variety in the streetscape.

Controls

General

1. Dwellings and garages to be designed to create streets that are not dominated by garages.
2. Garages to be built in complementary materials to the dwelling.
 - A minimum width of a dwelling's ground level from elevation must include an entrance door and window of a habitable room.
 - Recessed garage doors or those shadowed by an overhanging element, such as a balcony, are preferred.
3. Front fences are to be built across the full frontage, except for driveways and entry gates.
4. Front fences to be a minimum of 600mm and a maximum of 900mm high, constructed of masonry, timber and/or landscaped. See Figure 14.
5. Planting, shrubs and groundcovers to be provided and maintained along front fences (in accordance with the landscaping guidelines), except for driveways and entry gates.
6. Where retaining walls are proposed, planting should endeavour to conceal and soften both top and bottom of walls.
7. The retaining wall structure including footings and fence shall be contained wholly on private land. No encroachment is permitted on public land or road reserve.
8. Front gardens should extend to the street boundary and be defined by a fence, shrubs, mass planting, or hedges that clearly defines the private and public domains.
9. Mass planting, shrubs and hedges to 1.5m width, or fences are generally required at the street boundary of dwellings to clearly delineate the public and private domain.
20. The options for a masonry fence are rendered and painted/bagged and painted/faced masonry.
21. Where timber battened is used for the fencing, it shall be either painted or stained. The framing is to be on the inside and batten sizes are a maximum 75mm width with spaced gaps between 30 - 70mm. Battens can be either vertical or horizontal.
22. For corner sites, the property boundary on the secondary frontage must be clearly defined. The same fencing or other boundary treatment used on the primary street frontage must be extended along the secondary frontage.
23. Driveways are to be a minimum of 6m from the tangent to the kerb return on corner allotments.
24. Pedestrian gates are encouraged. Decorative effects should be avoided.
25. Driveways do not necessarily need to have gates. Driveway and entrance gates are to be at least 50% open and constructed from galvanised steel, painted or pre-finished, or timber with battens, painted or stained.
26. Side and rear fences between allotments to be 1.8m maximum and of lapped and capped timber construction. Painted high side fences are to end 1.5m back from the building setback line and to be 600 – 900mm maximum between the front boundary and the building line. Refer to Figure 14.
27. Fences and walls should aim to provide privacy and security while not eliminating views, outlook or light. Fences should also, where possible, be screened or partly screened with trees, shrubs, informal hedges or climbers.
28. Fencing is to be provided as per Figure 13, 14, 15 and 16.

29. Sectional panel lift garage doors are preferred.
30. The dwelling entry is to be lit for safety.
31. The use of garden lighting is strongly encouraged although not required. Lighting associated with letter boxes, gate pillars, in-ground garden lighting and pathway bollard lighting are the preferred types. External light fittings are to be 240v/compact fluorescent lights, 12v low voltage lighting or preferably solar powered lighting.
32. Bins and drying areas should be located in the least visible position, especially where lots have two street frontages. Where unavoidable, a timber battened screen with climbers covering should be used to eliminate visibility from the streets.
 - Each dwelling should have its own space for garbage and recycling bins.
 - For detached and semi-detached dwellings, this may be provided within the garage area.
 - For attached dwellings it can be provided in a separate enclosure that has the same appearance and finish of the main built forms and is integrated into the building façade.
 - Separate enclosures should be located in areas that are accessible but not overtly visible and behind the front building line.
33. Where retaining walls on boundaries are proposed, the designer shall ensure that an adequate drainage discharge point is available for the subsoil drainage line.

Single Dwellings

1. Maximum garage opening is to be no more than 50% of lot width or 5m, whichever is the lesser.

Super Lots

1. No garage is permitted in line with the street crossing.
2. Rear garages with potential lofts are permitted.
3. Each private driveway is to have a minimum of 2 lofts over their garages.
Refer to Figure 12 for controls.
4. Each private driveway is to have a secure gate at the street boundary entry.

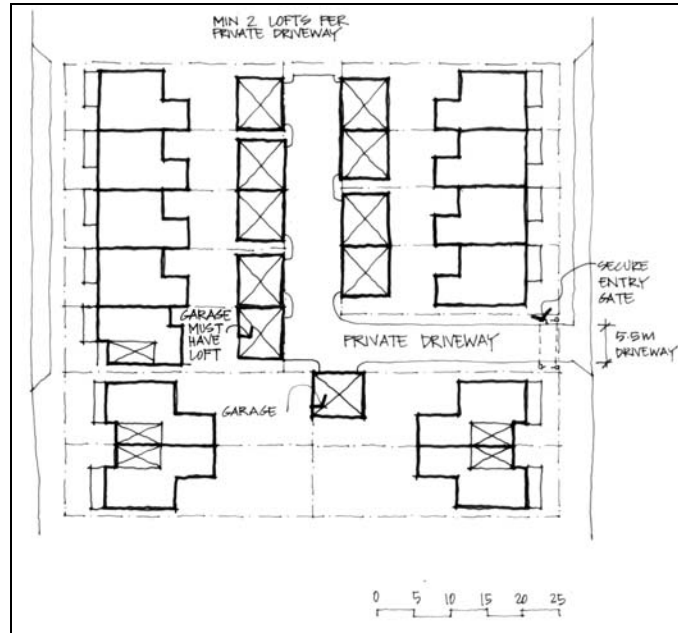


Figure 12 Private driveway controls



Figure 13 Fence Type and Location

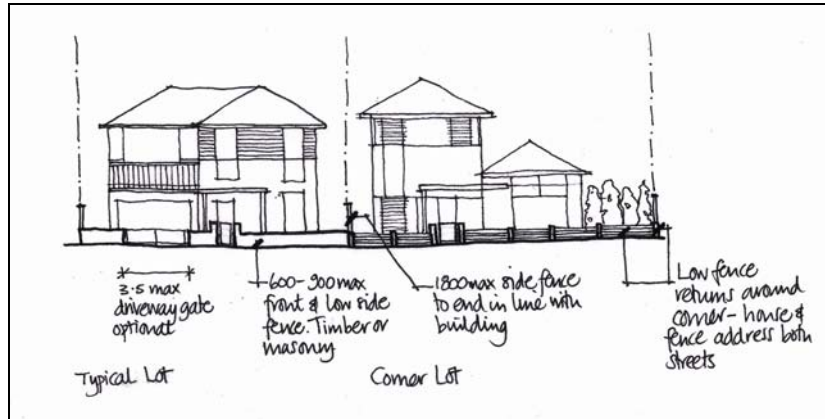


Figure 14 Fence principles in elevation

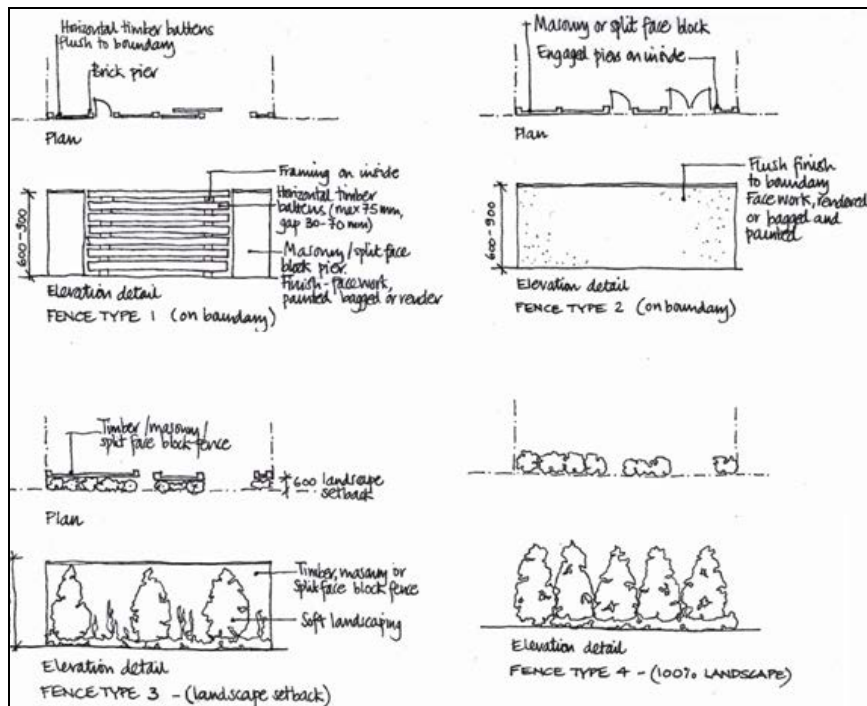


Figure 15 Fence options

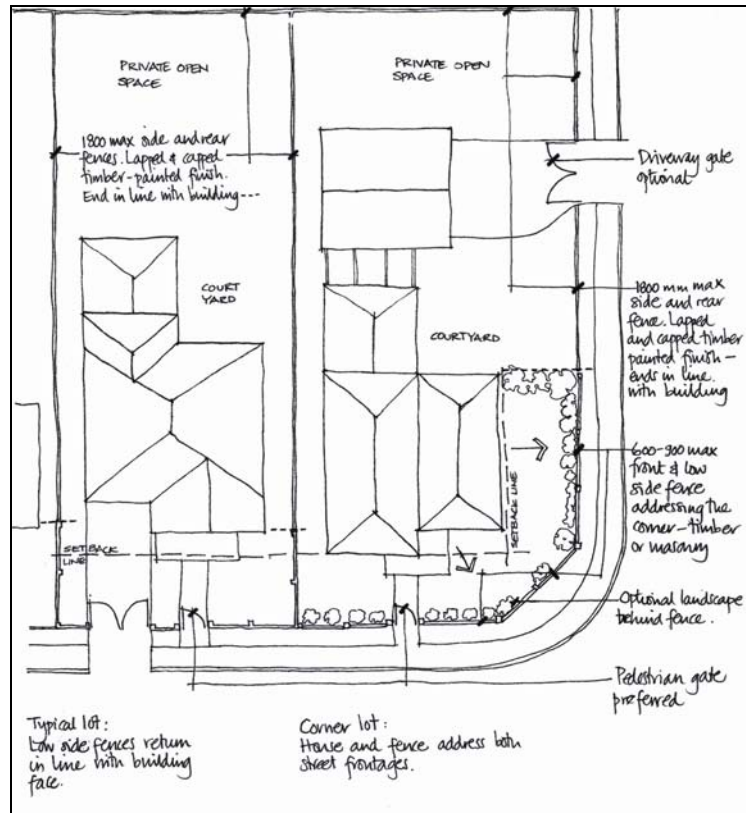


Figure 16 Fence Principles in plan

Barrier Free Access, Safety and Security

Objectives

- To consider the needs of people with particular access requirements, including people with prams, wheelchair users, those with walking difficulties, sight, hearing or intellectual impairment.
- To promote community safety.
- To provide personal security for residents.

Controls

General

- House plans must ensure that there is adequate surveillance of streets provided from living areas on the ground floor and bedrooms above.
- It is likely that the main living areas will be located at the rear of lots; however, secondary activities (studios, bedrooms, etc.) must be located at the front of the dwellings to promote visual surveillance of the street.
- Dwelling entries shall be well lit at night.
- Casual surveillance of the street from balconies should be encouraged by the use of permeable materials such as batten screening.
- On site parking shall be designed so that it does not restrict casual surveillance.
- Landscaping shall be designed so that it does not significantly obscure sight lines between the dwelling and the street.
- Spaces that cannot be easily overseen by either the public or residents are to be avoided.

7. Landscaping

Objectives

- a) To retain existing mature trees within development in a way that ensures their ongoing health and vitality.
- b) To reinforce and enhance the existing streetscape, house lot frontages/entries and visual appearance of houses.
- c) To provide wind protection in exposed areas.
- d) To facilitate surveillance of public spaces (including shared zones such as cycleways, pedestrian ways and public areas such as the school and private shared driveways);
- e) The principles driving the private residential landscape design should:
 - Maximise solar access and microclimatic benefits. For example, tree planting for summer shade and winter sun.
 - Provide areas of privacy, protection and screening, especially to rear gardens. For example, planting of hedges, shrubs, trees and climbers, and use of trellises, pergolas and tree placement.
 - Maximise views where appropriate and relevant, both immediate and distant views, views to streetscapes, focal points and axis points.
 - Utilise an appropriate landscape design according to soil profile and conditioning regime to provide optimum growing conditions and plant selection.
 - Enhance and reinforce predominantly native and robust streetscape character within private lot boundary through an adoption of an efficient low water usage landscape design.

Controls

1. As a frontage to the road, the landscape can be addressed in one of two ways. It is important to have a green buffer between the buildings and the roads for both privacy and to give the streetscape a green leafy character.
2. Setback the boundary fence/wall by 500 – 1500mm and plant a lush evergreen strip of planting (refer to Appendix 3 – Planting Schedule: Road Margins), or immediately behind the front fence/wall into the property 500 – 1500mm planting bed of evergreen flowering plants (refer to Planting Schedule: Shrubs available through the Design Review Panel).
3. Tree and shrub planting in gardens should compromise 30% native species. Where a lot has frontage to open space, 50% of the planting to the frontage is to be native plants. Proposed trees, shrubs and plants should be chosen for their ability to survive and flourish in the local environment and with low water consumption.
4. A minimum of two substantial trees are to be planted in the rear yard between 800mm to 5m from the rear boundary or between 500mm to 3m from side boundaries, with at least one as a native species, however three or four trees will give a better canopy and in most cases a more pleasant microclimate. A minimum of 30% of all rear yard planting is to be native. Refer Planting Schedule: Trees available through Australand and Landcom).
5. Where underground services are located, trees are to be planted at least 1m away from these services.
6. Tree location and selection criteria are to be carefully considered where services run overhead.

7. Each tree selection should be carefully considered, as the selection criteria can be misleading. For example a 30m high palm tree will have a lesser effect than a 30m plane tree in regards to shadowing, foliage drop and root ball size. Therefore the suitable proximity of trees to buildings, fence lines, and services will vary in accordance to tree selection.
8. The following tree selection and suitability criteria should be considered when choosing suitable trees in residential situations:
9. Tree canopies not to encroach over adjacent properties more than 3m from boundary.
10. Landscape should endeavour to create a pleasant outdoor environment and microclimate with variety and practical/useable spaces.
11. Other criteria, which will need to be considered, includes:
12. Maintenance requirements. For example pruning, fertilising, mulching, crown lifting.
13. Scale of the tree, scale of the garden, scale of the other trees and landscape surrounding.
14. Special features of the specimen. For example fruit, flowers, fragrance, habit and form,
15. Other detrimental characteristics of the specimen, e.g. suckering of roots, thorns, poisonous parts, limb drop, and invasive roots.

Note: For a list of suitable trees for rear yard planting, refer to Planting Schedule: Trees available through the Design Review Panel.

8. Car Parking and Access

Car Parking

Objectives

To provide convenient and safe parking which is adequate for residents and visitors and which is not visually obtrusive.

Controls

1. The siting of car spaces and garages should in general show scope for a minimum of 2 vehicles to be accommodated within the private property of each residence. Tandem parking meets these criteria.
2. At least one car parking space is to be located behind the main building line.
3. The parking area per vehicle is to be in accordance with AS 2890:1.
4. Garages are to be setback a minimum of 1.5m from the main façade of the building.
5. Detached garages must have a minimum setback of 5.5m from the street.
6. Parking is to be provided so that at least one space per dwelling is covered.

Single Dwellings

No specific controls apply other than those listed under "General".

Driveways

Objectives

- a) To make appropriate provisions for vehicle turning movements.
- b) To ensure the safety of pedestrians, cyclists and vehicles.
- c) To enhance and compliment the visual appearance of development.
- d) To ensure that driveways not to visually dominate the appearance of dwellings and streetscape.

Controls

1. Use of unit pavers, or of insitu coloured paving for driveways are to be in accordance with the Colour Palettes.
2. The location and design of driveways and parking areas should enable the opportunity for landscaping to modulate the streetscape.
3. Driveways are preferred to be located a minimum of 1.6m from the base of street trees where possible.
4. Driveways are preferred to be paved with a unit paver of maximum size of 600 x 400mm, with a preference of standard brick or block proportions. Clay or concrete pavers are acceptable. Also acceptable are poured surfaces, e.g. coloured concrete (refer to Colour Palettes), in a monolithic finish or plain unit expression if properly marked.
5. Stencilled, stamped and patterned concrete finishes are permitted. Colours should be in keeping with the Colour Palettes.
6. Pavers are not permitted on Council owned land. That is, from the kerb to the private lot boundary. The driveway in this area shall comprise of insitu concrete. Pavers may only be used on privately owned lots.

Single Dwellings

1. The driveway crossing is to have at the property boundary and at the kerb, a maximum width of 5m.
2. A preferred range of colours and textures is provided but decorative effects should be avoided. Generally non-glare mid tones is sought with preference expressed for light brown/honey colours.

Super Lots

1. The shared private driveway crossing is to have at the property boundary and at the kerb a maximum width of 5.5m.
2. Shared private driveways are to have soft landscaped areas on either side, to a minimum of 600mm suitable for infiltration.
3. Shared private driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.

Note: Colour Palettes are available from the Design Review Panel.

9. Amenity and Environmental Impact

Privacy

Objectives

- a) To site and design buildings in a manner which protects the visual and acoustic privacy of nearby dwellings and private open space.
- b) To contain noise between dwellings or in communal areas without unreasonable transmission to adjoining dwellings.

Controls

1. All air conditioner units must be screened from public view and located so that they do not create any noise impacts to adjoining properties.
2. Acoustic treatment is required for habitable rooms that have a zero lot line, other than for garages or if the room forms a party wall.
3. Ensure that upper floor window placements avoid overlooking of adjacent open outdoor living space.
4. Stagger placement of upper floor windows to avoid direct visual intrusion.
5. Use screening where possible when the above strategies cannot be achieved.
6. Habitable room windows that have a direct outlook to the principle private open space or habitable room windows of an adjacent dwelling within 9m are to:
 - i. be offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent windows; or
 - ii. have sill heights of 1.5m above floor level; or
 - iii. have fixed obscure glazing or screening devices to any part of the window as appropriate.
7. The design of attached dwellings must minimise the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.
8. In attached dwelling, living areas and service equipment must be located away from bedrooms of neighbouring dwellings.
9. In attached dwellings, bedrooms of one dwelling are not to share walls with living spaces or garages of adjoining dwellings, unless it is demonstrated that the shared walls and floors meet the noise transmission and insulation requirements of the Building Code of Australia.

Single Dwellings

No specific controls apply other than those listed under "General".

Super Lots

No specific controls apply other than those listed under "General".

Sunlight

Objective

To provide living areas and private open space areas of proposed and adjoining development with adequate sunlight.

Controls

1. Provide 3 hours solar access to 50% of the required principle private open space area from 9:00am to 5:00pm on 21st June.

- any overshadowing of neighbouring properties must not result in less than 4 hours of sunlight access to any habitable rooms in the principle open space area, between 9.00am and 5.00pm on the winter solstice (June 21).

2. Sun shading:

- screens and pergolas with climbers, sunscreens and awnings, comprised of timber battens, exterior fabric or metal louvres are encouraged for all elevations and are required for otherwise unprotected western elevations unless appropriate glazing is applied.
- Refer to Sun Shading Principles diagram for required locations – Figure 17.

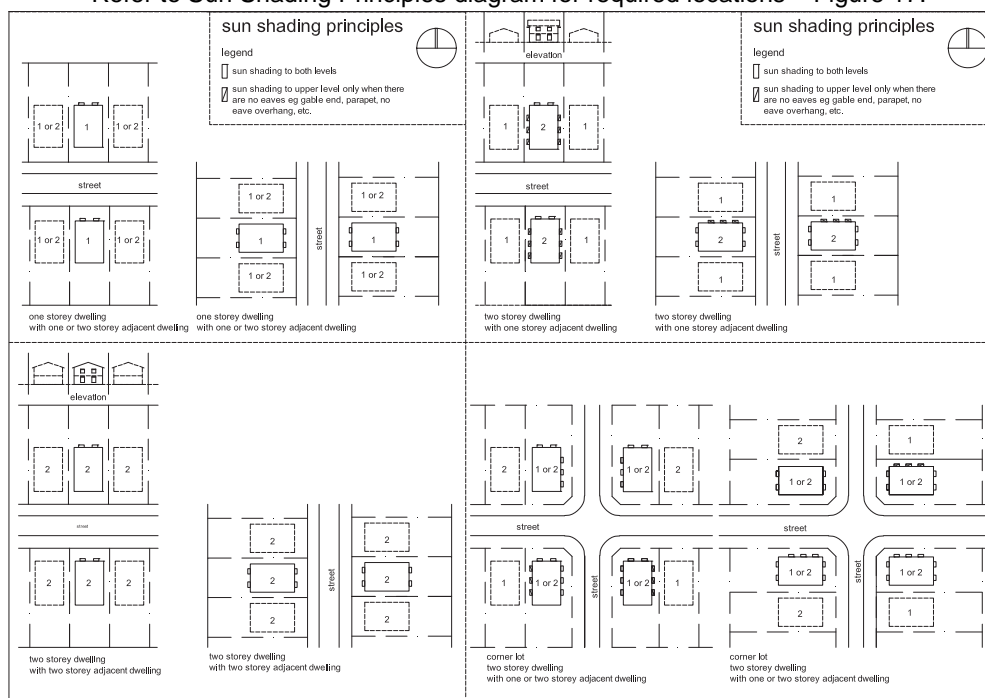


Figure 17 Sun shading principles

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with *Part F5 of the Building Code of Australia*.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

10. Site Services

Utilities/Site Facilities

Objectives

- a) To ensure site facilities are designed to be conveniently reached.
- b) To ensure utilities and site facilities blend in with the development and streetscape character and require minimal maintenance.

Controls

General

1. Letter boxes should be incorporated into front walls or fences and be designed to reflect the main building character and design. Letter boxes must be located so that they are accessible from the public domain with the opening to the street. They cannot be free standing elements.
2. Homes are expected to have a minimum amount of storage. Sufficient storage should be provided both within the dwelling and in outside storage for elements such as garden and sports equipment. The following volumes have been identified:
 - External 3.5m³ for single garage, 6.0m³ for double garage
 - Internal 4.5m³ per household
3. Utility boxes, and other similar elements are to be housed within the building façade or integrated into fencing walls or be suitably screened.
4. Developments comprising two or more dwellings should provide one common TV antennae or satellite dish for access by all dwellings.
5. Clothes lines are to be provided to all dwellings.
6. Clothes lines are to be carefully positioned so as to be hidden from the street and screened from neighbouring properties.
7. Fold down, wall mounted clothes lines are preferred.
8. A domestic air conditioning system must be located in a position on the premises not closer than 3m from any boundary line or fence.
9. Noise emissions generated from the air conditioning unit must not exceed the ambient background level plus 5 dBA when measured at the boundary of the premises.
10. Where a domestic air conditioning system is to be located on a property closer than 3m from any boundary line or fence, an acoustical enclosure must be provided and installed in that the noise levels recorded at 1m from the window or door (whether open or closed) of any other dwelling or adjoining premises dwelling does not exceed 60 dBA.
11. The acoustical enclosure is to be constructed in accordance to the provisions of the *Building Code of Australia*, be aesthetically acceptable in respect to visual impact, and not cause loss of amenity to any adjoining premises or the neighbourhood.
12. The acoustical enclosure must not restrict any vehicular or pedestrian access to or from the premises or site.

Single Dwellings

No specific controls apply other than those listed under "General".

Super Lots

No specific controls apply other than those listed under "General".

11. Secondary dwelling/Studio

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A Secondary dwelling can be a maximum of one storey high, unless the granny flat is above the garage facing a rear laneway, where the granny flat must be one storey high above the garage.
2. A Secondary dwelling should be attached to the main dwelling, as provided by Part 2 of the DCP. However, Council may consider applications for detached Secondary dwelling on a merit base.
3. A Secondary dwelling should compliment the main dwelling design by using the same style of construction and a similar colour.

Note: Secondary dwellings will be included in the overall floor space ratio of a property, and only one Secondary dwelling is permitted per lot.

12. Additional Information

12.1 Greenway Views Design Review Panel

1. The principle aim of the Greenway Views Design Review Panel is to assist in creating a high quality development within a parkland community that is distinctive within West Hoxton, setting Greenway Views apart as a special place to live. The Development Control Plans controls are intended to produce a consistent image while maintaining opportunities for diversity of product and variety in design within each part of the community. This strategy will help to protect the values of property and provide the ability for variation in building concepts within the context of an integrated community.
2. The key purposes of the Panel is to:
 - Assist purchasers, designers and builders in selecting, designing and building detached dwellings that are well suited to the lot, taking maximum advantage of open space and internal planning.
 - Produce detached dwellings that create streetscapes which maximise the amenity and attractiveness of the public domain, including streets and parks, and that are not dominated by cars and garages.
 - Distinguish particular places and frontages where a defined treatment should be incorporated such as along main entry routes.
 - Minimise delays in the processing of applications with the relevant authorities.
3. The Panel will ensure that the dwellings achieve the level of quality expected in these controls rather than merely 'checking boxes'. Careful attention must be given to fences, gates and security doors, materials, colours, proportions, scale, address and relationship to neighbouring dwellings. The Panel will operate until the last allotment or super lot is developed.
4. The Panel consists of Landcom, Australand, Council representatives and the Estate Architect. A Landscape Architect is to consult. Landowners will be given an information package including Design Controls. Within this guide are suggested siting guidelines and examples to assist purchasers in selecting a house type that best suits their needs and the selected allotment.
5. Once the purchaser has selected a house type the development application is to be submitted to the Panel. A recommendation from the Panel is required prior to DA submission to Council.
6. A favourable endorsement of the design will be provided by the Panel and should form part of the documentation submitted with Council.
7. This endorsement will enable Council staff to assess your application within seven (7) days providing the owners of adjoining properties have signed the plans submitted as part of the DA.
8. This process (of 7 days) does not apply to multi unit housing.

Colour Palettes and Planting Schedule

The approved colour palettes and Planting Schedule are available from the Design Review Panel.

Appendix 1

Site Analysis Checklist

A site analysis is the first important step in preparing a DA and helps to determine development options for the site. Essentially, this analysis will be in the form of a plan providing important information relating to the site and its surroundings.

All applicants are to complete this checklist, indicating whether the following features have been shown on the site analysis plan lodged with their DA. This checklist is also to be lodged with the DA.

The Site	Yes (4)
Site dimensions and site area	
North point	
Spot levels and contours measured to AHD, highlighting areas of slope >18%	
Easements for drainage and services	
Location and species name of existing vegetation, including the height and spread of established trees	
Location of existing buildings and other structures	
Orientation and noise sources	
Views to and from the site	
Access points	
Assessment of potential for contamination to exist on the site	
Identification of any previous use, contaminated soils or filled areas	
Location of fences, boundaries and any other notable features (natural or historical)	
Prevailing winds	
Natural drainage channels, watercourses and overland flow paths	
Pedestrian and vehicles access	
Any overshadowing of the site by neighbouring structures	
The Site	Yes (4)

Location of any existing dams and an assessment of any associated contamination or salinity	
The location, height and use of neighbouring buildings and outbuildings (including location of any facing doors and windows)	

The Site	Yes (4)
Any adjacent private open spaces and living room windows which have outlooks towards the site, particularly those within 9m of the site	
Characteristics of any adjacent public open space	
Location and height of walls or fences built to or near the site's boundary	
Views and solar access enjoyed by adjacent residents	
Major trees on adjacent properties, particularly those within 9m of the subject site	
Street frontage features such as poles, street trees, kerb crossovers, bus stops and other services	
The built form and character of adjacent and nearby development, including characteristic fencing and garden styles	
In the case of medium and high density development direction and distances to local shops, schools, public transport, parks and community facilities	
The difference in levels between the subject land and adjacent properties	
Sources of nuisance and noise such as flight paths, roads or commercial/industrial development	
Major trees and vegetation	



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Liverpool Development Control Plan 2008
Part 2.8
Land Subdivision and Development North of
the Railway Line at Voyager Point

19 February 2014

Part 2.8 must be read in conjunction with Part 1

Refer to Part 3.8 for Non Residential Development in Residential Zones

Liverpool Development Control Plan 2008

Part 2.8 Land Subdivision and Development North of the Railway Line at Voyager Point

Table of Contents

1. Preliminary.....	5
2. Controls for Public Domain.....	6
2.1 Street Network and Street Types.....	6
2.2 Pedestrian and Cyclist Networks.....	9
2.3 Streetscape and Street Trees.....	11
2.4 Open Space.....	14
2.5 Vegetation Management.....	14
2.6 Bushfire Risk Management.....	17
2.7 Water Cycle Management.....	19
3. Controls for Private Domain.....	22
3.1 Dwelling Types, Lot Size and Site Coverage.....	22
3.2 Orientation.....	23
3.3 Residential Amenity.....	24
3.4 Amenity and Environmental Impact.....	25
3.5 Landscaped Area and Private Open Space.....	25
3.6 Dwelling frontages, Streetscapes and Fencing.....	26
3.7 Car Parking and Access.....	29
3.8 Private driveways.....	29

Table of Figures

Figure 1 Land to which this Part applies	5
Figure 2 Indicative street network and hierarchy for the site	7
Figure 3 Entry Local Street	8
Figure 4 Local Street	8
Figure 5 Perimeter Road	8
Figure 6 Access Street/ Cul-de-sac	9
Figure 7 Indicative Shared Path Network.....	10
Figure 8 Tree Protection	12
Figure 9 Indicative street tree network	13
Figure 10 Riparian and Vegetation Conservation	16
Figure 11 Bushfire Risk Mitigation	18
Figure 12 Indicative Water Management Strategy	21
Figure 13 An example of building streetscape	27
Figure 14 Fence types	28

1. Preliminary

Applies to

1. Part 2.8 applies to the land, shown in Figure 1.
2. Part 1 also applies to the land shown in Figure 1.
3. Part 3.8 applies for Non Residential Development on the land.
4. Parts 3.1 – 3.7 do not apply to the land.



Figure 1 Land to which this Part applies

Background

The subject land above presents the last parcel of land north of the railway line at Voyager Point. This subject land is bounded by Council owned land to the north and east, Williams Creek to the west and existing residential to the south.

This part of the DCP provides controls for the subdivision including street layout and development controls for the subject land.

Objectives

To achieve quality development on the Voyager Point Land through high standards of urban design and environmental performance with particular reference to enhancing accessibility, achieving environmental sustainability and delivering social and economic benefits.

2. Controls for public domain

This section provides controls and objectives relating to development in the public domain. It covers:

- Access.
- Community context.
- Streetscape.
- Soil management and contamination.
- Water cycle, flood risk and vegetation management.

These controls apply to development in areas that are accessible to, and will be used by, the wider community.

2.1 Street Network and Street Types

Background

The estate is to be an accessible place linked to its surroundings with streets, pedestrian and cyclist pathways and connections to public transport.

Objectives

- a) To provide an attractive residential street environment
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability
- d) To provide safe, legible and efficient access based on the street network and augmented by connections through public open space.
- e) To link the Estate with its surroundings by connecting to external road networks, pedestrian and cycle paths, public transport routes and public open space networks.
- f) To take advantage of public transport opportunities, such as the East Hills railway line.
- g) To ensure adequate access for emergency vehicles on all edge roads.
- h) To ensure servicing is able to be carried out appropriately.
- i) To ensure appropriate access for people who are disabled.
- j) To ensure safety for pedestrians.
- k) To ensure street network and resultant lot layout provide maximum opportunity for passive solar access to dwellings when orientated towards the street.

Controls

1. Provide access from and relate development to Sirius Road.
2. The Sirius Road frontage of the site is to be upgraded with new pavement and kerb and gutter. The road width is to accommodate buses and a bus stop just beyond the eastern edge of the site.
3. Provide only one access point to the site from Sirius Road.
4. Provide an edge road to all public land boundaries with the site that complies with all relevant requirements and provides indented visitor parking.
5. The street and block network is to be legible, permeable and fine grained facilitating walking and cycling.

6. All streets are to be legibly signposted with street names and property numbers.
7. Street layouts are to be designed to ensure pedestrian safety and design speed of 50km/h.
8. A street network plan is to be submitted for all applications showing street and intersection types and any other proposed street treatments.
9. All intersections are to be designed in accordance with the RTA *Austroads Road Design Guide* and the specifications set out in the Transport and Traffic Assessment.
10. Kerb ramps are required at all intersections where footpaths are provided.
11. Footpaths must be provided on one side for local streets.
12. Provide an access easement in favour of Liverpool City Council for emergency vehicles only from Buxifolia Court to the southwest corner of the site. Access to the emergency access link shall be restricted by gate/bollards.

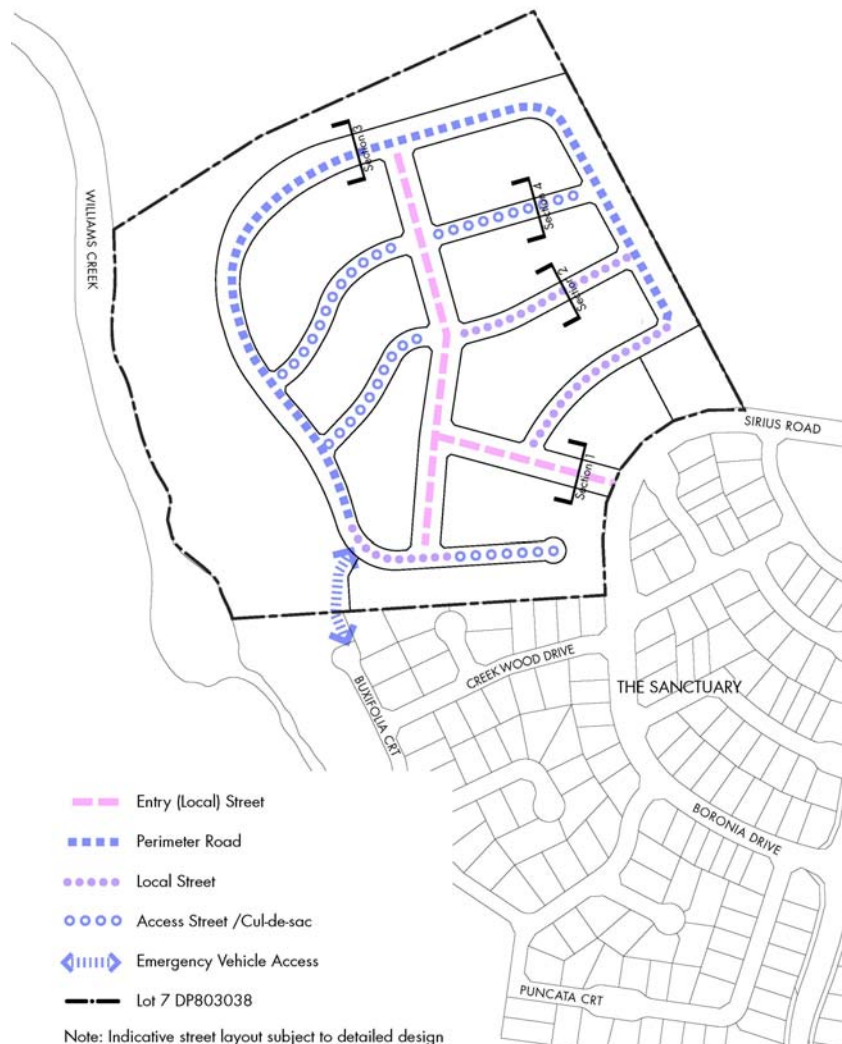


Figure 2 Indicative street network and hierarchy for the site

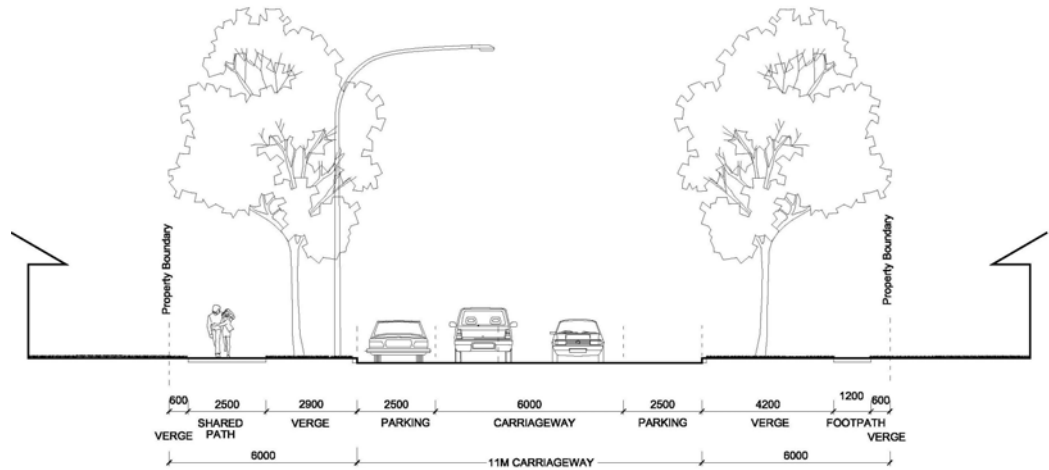


Figure 3 Entry Local Street

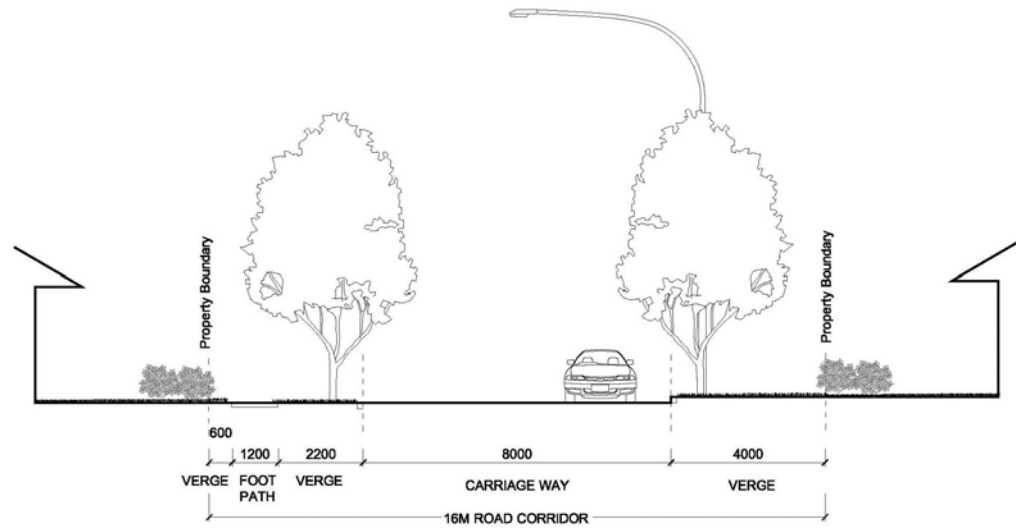


Figure 4 Local Street

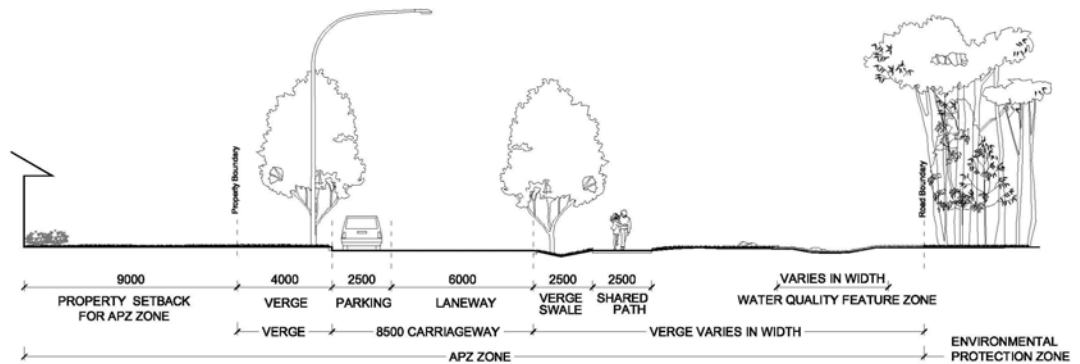


Figure 5 Perimeter Road

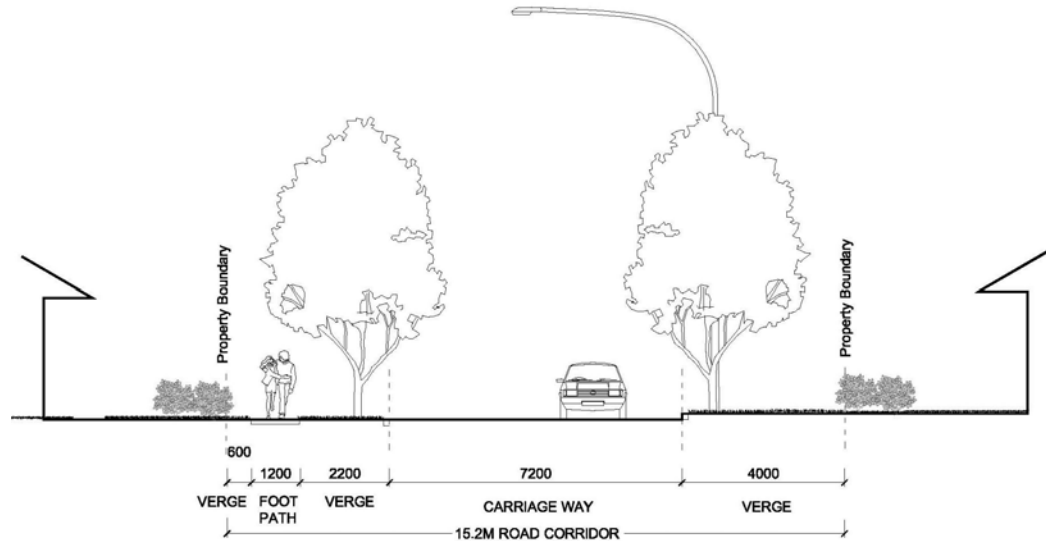


Figure 6 Access Street/ Cul-de-sac

2.2 Pedestrian and Cyclist Networks

Background

This Plan seeks to encourage walking and cycling. Pedestrian and cycle facilities in public spaces are to be safe, clearly defined, functional and accessible to all. They should provide linkages to social leisure activities, and should be characterised by excellence of design appropriate to the area. An indicative shared path network is illustrated on Figure 8.

Vehicle crossings over footpaths need to be managed and minimised to ensure that they do not detract from the quality of the public domain, disrupt pedestrian or cycle movement, or threaten user safety.

Objectives

- a) To encourage walking and cycling as opposed to the use of private vehicles for local trips.
- b) To provide a permeable and interconnected network of streets and pathways that give safe, convenient and legible access to areas of attraction both within and beyond the suburb.
- c) Minimise and prevent, where possible, vehicular crossings over pedestrian or cyclist pathways.

Controls

1. Driveways are to be designed and located to minimise conflicts with pedestrians and cyclists on footpaths.
2. Wherever possible driveways are to be a single crossing, perpendicular to the kerb alignment.
3. Pedestrian and cycle paths in open space areas should be located close to streets on the edge of open spaces to take advantage of street lighting and allow casual surveillance by residents and drivers. Where this is not possible, paths should be well-lit and visible from the street.
4. Pedestrian and cycle paths are to link the open space network within and outside the suburb.
5. Shared pedestrian and cycle paths are to be a minimum 2.5m wide.

6. Designated pedestrian-only paths are to be a minimum of 1.2m wide.
7. Pedestrian and cycle facilities in public spaces are to be safe, well lit, clearly defined, functional and accessible to all.
8. Pedestrian and cycle paths are to be designed to be fully accessible by all with access points and gradients being designed in accordance with AS 1428:1-4.

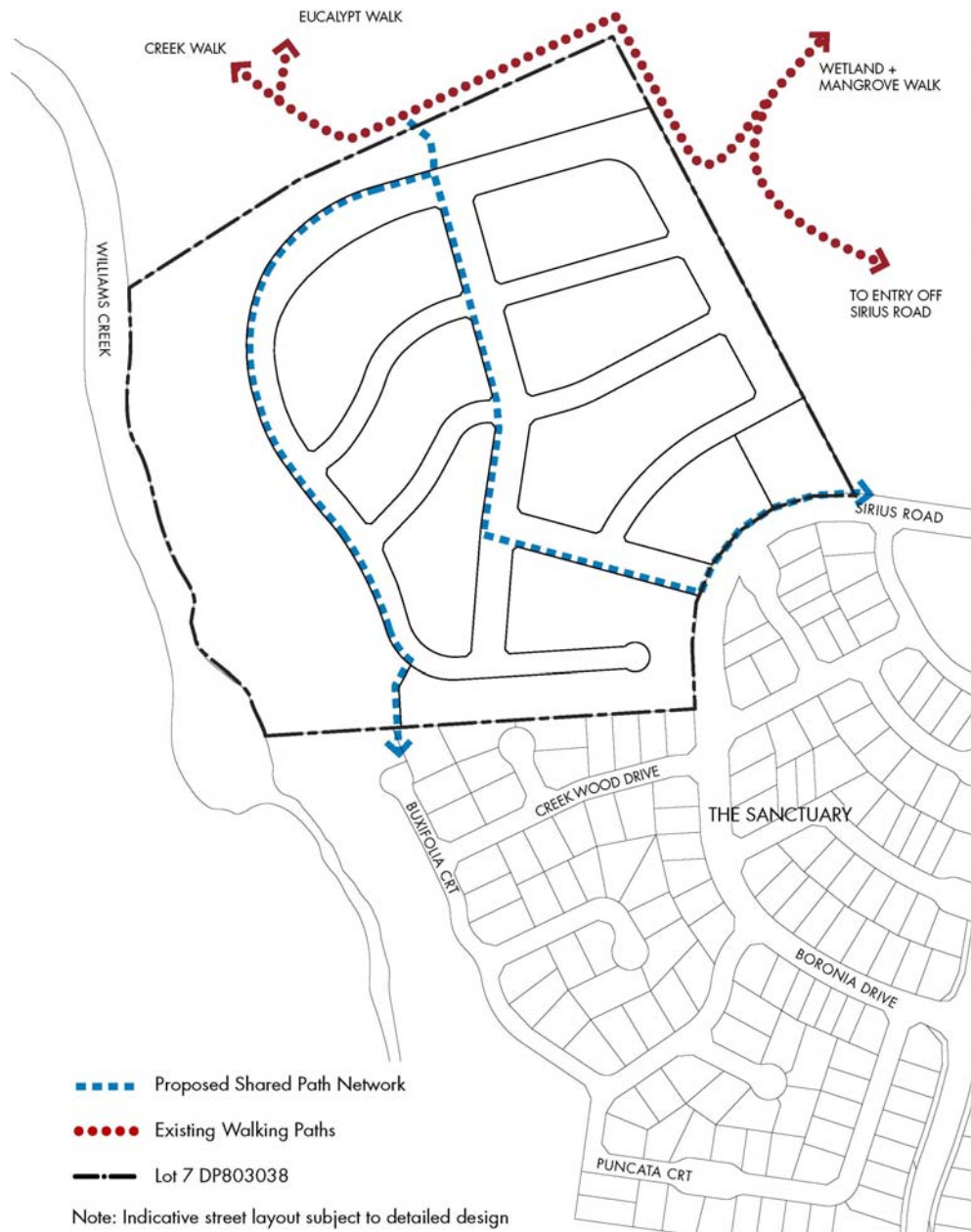


Figure 7 Indicative Shared Path Network

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

- 1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
- 2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
- 3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

- 1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
- 2. One street tree shall be planted for each allotment created.
- 3. The street trees shall be planted prior to the release of the subdivision certificate.
- 4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 8 for details.
- 5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.

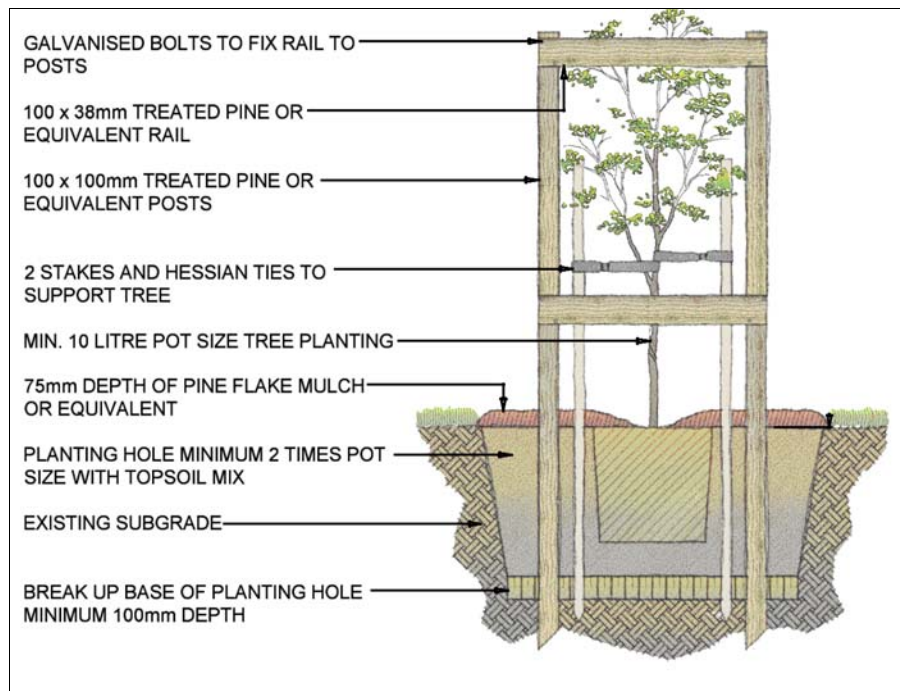


Figure 8 Tree Protection



Figure 9 Indicative street tree network

2.4 Open Space

Background

Public spaces can be designed to promote vibrant social interaction, civic pride and a sense of public ownership and belonging. Landscaped areas and open space within the public domain play a major role in setting the character of the locality. These areas should make the neighbourhood pleasant and welcoming and be convenient to the needs of the community.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development.
- c) To provide links between the open space areas and community and retail facilities.
- d) To endorse public ownership of open spaces and environmental protection zones within the site to promote local and regional recreational and ecological values.
- e) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development.
- f) To integrate landscape design with water cycle management across the development area to promote water sensitive urban design principles as part of the development.
- g) To extend, link and reinforce the natural features of the area, particularly the natural watercourses and habitat.
- h) To encourage the use of native species and low maintenance landscape treatments.
- i) To ensure good quality open space to meet the recreational needs of residents.

Controls

- 1. Public open spaces within the site are to be designed and landscaped to minimise maintenance and be in accordance with the *NSW Planning for Bushfire Protection Guidelines*. This is to be achieved through the use of appropriate native species. The Landscape Plan submitted with the Subdivision DA must demonstrate how the proposed landscape treatments will minimise maintenance.
- 2. Public open space is to have frontage to public streets with adjacent buildings oriented towards the open space.
- 3. Existing trees, tree stands and vegetation, in good health, are to be retained where possible.

2.5 Vegetation Management

Background

Existing vegetation is to be conserved through the provision of a vegetation management plan focusing on protection zones as illustrated on Figure 10.

Objectives

- a) To maximise opportunities for creek restoration and enhancement that mimics natural stream processes.
- b) To conserve, protect and enhance existing vegetation and biological connectivity through the provision of continuous vegetated riparian protection zones along Williams Creek.

- c) To enable existing watercourses to contribute to and be enhanced by a coordinated approach to development within the area.
- d) To provide for appropriate traffic and pedestrian circulation throughout the site while providing for the protection of existing vegetation and its environmental functions.
- e) To link the riparian corridors to other remnant areas of vegetation in the north-west corner of the site and along the western boundary.

Controls

- 1. Development should generally be in accordance with the *Voyager Point Vegetation Management Plan* prepared in August 2005 by BES Bushfire and Environmental Services.
- 2. The riparian corridor adjacent to Williams Creek is to be a minimum of 40m in width measured from the top of bank. An additional 10m vegetated buffer area should also be provided.
- 3. All remnant vegetation along the creeks should be protected and enhanced.
- 4. Development is to be excluded within the riparian corridor including buildings, roads, recreational facilities and car parks.
- 5. Any bank stabilisation measures are to employ techniques that minimise visual impacts and complement the natural environment.
- 6. The location of public footpaths and cycleways should be sensitive to, and not significantly disrupt the integrity of the vegetated riparian corridor and be located at the outside edge of the riparian corridor (furthest from the watercourse). Access to the watercourse can be provided at strategic locations where the ecological integrity of the existing riparian vegetation and stream bed and bank stability will not be compromised.

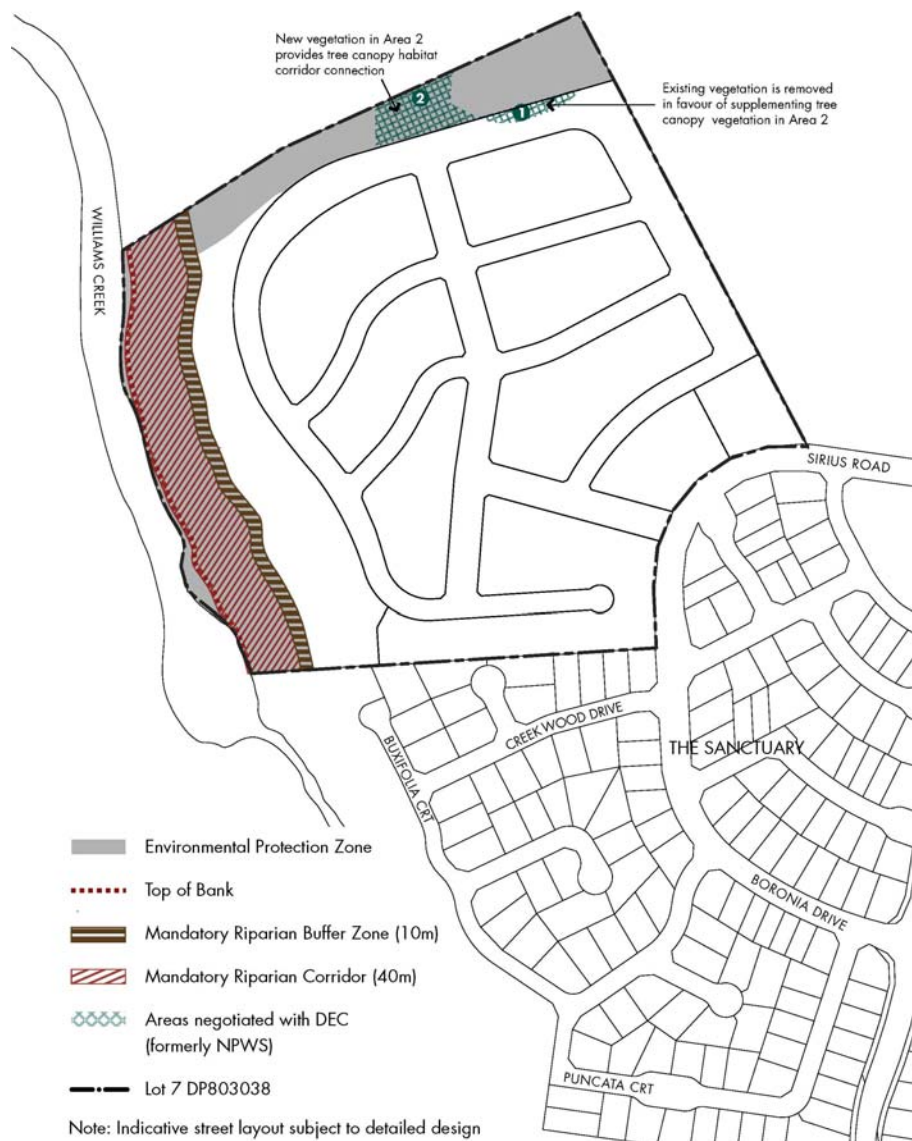


Figure 10 Riparian and Vegetation Conservation

2.6 Bushfire Risk Management

Background

All development on Bush Fire Prone Land must satisfy the aim and objectives of the *NSW Planning for Bushfire Protection Guidelines*.

This plan aims to provide for the protection of human life and to minimise impacts on property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment.

Objectives

- a) To afford occupants of any building adequate protection from exposure to a bush fire.
- b) To provide for a defensible space to be located around buildings.
- c) To provide appropriate separation between a bushland hazard and buildings which, in combination with other measures, prevent direct flame contact and consequent ignition.
- d) To ensure that safe operational access and egress for emergency service personnel and residents is available.
- e) To provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ).
- f) To ensure that utility services are adequate to meet the needs of fire-fighters (and others assisting in bushfire fighting).

Controls

1. Development should generally be in accordance with the:
 - Voyager Point Vegetation Management Plan prepared in August 2005 by BES Bushfire and Environmental Services.
 - Preliminary Bushfire Protection Assessment prepared BES Bushfire and Environmental Services in October 2004
 - *NSW Planning for Bushfire Protection Guidelines*.
2. Provision of an APZ within the defined limited of the site in accordance with *NSW Planning for Bushfire Protection Guidelines*. The APZ shall not be located in the riparian corridor or buffer zone (APZ identified on Figure 11).
3. The vegetation within the APZ (refer to Figure 11) will be managed as an Inner Protection Zone as prescribed in the *NSW Planning for Bushfire Protection Guidelines*.
4. A perimeter road is to be provided between the riparian corridor and residential development in accordance with *NSW Planning for Bushfire Protection Guidelines*.
5. Provision of an emergency access route linking the proposed public perimeter road with the existing public road (Buxifolia Circuit) within the APZ in the southwest corner of the estate. The emergency access is to be:
 - A minimum trafficable width of 4m.
 - Surfaces should be sufficient to support a 13 tonne emergency fire vehicle.
 - Trafficable under all weather conditions.
 - A minimum vertical clearance of 6m to any overhanging obstruction, including tree branches.
 - Clearly signposted as an emergency access.
 - Public vehicular access is to be restricted by a gate or removable bollards.



Figure 11 Bushfire Risk Mitigation

2.7 Water Cycle Management

Background

There is a need for development of the site is to maintain and enhance the quality of the natural environment including the functioning of waterways to minimise flood risk and preserve the ecological values of the site. Figure 12 illustrates an indicative water management strategy for the site.

Objectives

- a) To reduce the impact and risk of flooding on both people and property.
- b) To ensure that there are no adverse impacts on existing flood regimes in the surrounding areas, as a result of the proposed development.
- c) To encourage a holistic approach to water cycle management, implementing total catchment management principles.
- d) To integrate water management measures with innovative urban design.
- e) To minimise the impact of urbanisation on stormwater quality within the catchment so that stream flows mimic natural pre-development flows by encouraging salinity management principles and water sensitive urban design practices.
- f) To prevent development within overland flow paths that would change their course or decrease their flood storage capacity.
- g) To allow land uses and development that are compatible with the predicted flood hazard and have minimal impact on the natural functions and flood storage capacity of the water cycle (including the floodplain, floodways and overland flow paths).
- h) To minimise the volume of stormwater draining from the site and maximise opportunities for water conservation and re-use.
- i) To minimise the stormwater run-off through the provision of pervious areas and vegetation.
- j) To minimise any risk to human life and damage to vehicles as a result of inundation.
- k) To ensure that the principles of water sensitive urban design are to be implemented having regard to erosion management principles.

Controls

1. Development will generally be in accordance with the *Stormwater Management Strategy* prepared in September 2004 by Parsons Brinckerhoff.
2. Where any construction within the floodplain, adjacent to a watercourse, drainage depression or an enclosed drainage system is proposed, the Subdivision DA is to be accompanied by a hydrologic and hydraulic assessment to allow a determination of the risk and impact by, and on, the development proposal by flooding. The assessment is to include:
 - Analysis of the impact of the development on flood storage capacity, flood conveyance, flood levels, and flow velocities.
 - Identification of the flood risk to both people and property as a result of the development.
 - External and internal catchment hydrology for rainfall events up to the probable maximum flood (PMF), including the 1% Annual Exceedence Probability (AEP) design storm.
 - An estimation of the capacity of the existing drainage system.
 - Predicted extent of flood inundation.

- Depths and velocities of predicted flood flows to allow effective hazard categorisation.
- The development shall have no adverse impact on the existing flood regime in the surrounding areas and shall demonstrate the operation of any proposed flood mitigation measures.
- The use of infiltration trenches will not be permitted immediately upslope of building foundations, retaining walls or unstable embankments. A proposal for the use of infiltration trenches must be supported by specialist engineering advice having regard to:
 - Catchment hydrology.
 - Soil permeability.
 - Recharge.
 - Water table level.
 - Effect on adjoining properties.
 - Proposed outlet/absorption/infiltration devices.
- The trunk drainage system shall be designed to convey the 1% AEP flood event, with a freeboard of 300 mm. Roads adjacent to trunk drains are to be designed to carry flows in excess of the drainage system. The crown of the road shall be at least 300mm above the 1% AEP flood level. Buildings adjacent to these roads shall have habitable floor levels 300mm above the crown of the road.
- Where drainage depressions pass through a property, adequate provisions must be made for the passage of stormwater runoff with adequate freeboard to building floor levels.
- It may be necessary to enhance the site's drainage capacity. This could result in the need to locate drainage services across Council-owned land. In this event it may be necessary to obtain Council approval. Such action needs to be identified and addressed at the Subdivision DA stage.
- In the event of Council being requested to approve the location of a piece of infrastructure on its land, it will require:

Documentation that such an activity will not prejudice the use of the land for the purpose for which it exists.

The possible preparation or amendment to the Plan of Management for the land.

3. The following restrictions apply to applications for development in overland flow paths:

- No slab-on-ground construction is permitted within an overland flow path.
- Where buildings are required to be raised above the flood level due to their location in an overland flow path or a flood affected area, the space underneath the building must not be filled or enclosed in any way. Spaces underneath such buildings must not be used for the purpose of habitable rooms, however they may be used for parking, and small-unenclosed structures may be permitted at Council's discretion.
- Where fences are proposed within an identified overland flow path, there must be adequate provision for water conveyance.



Figure 12 Indicative Water Management Strategy

3. Controls for private domain

Controls relating to the private domain are designed to ensure residential development responds to the distinctive natural and urban features within and beyond the site and sensitive ecological features.

3.1 Dwelling Types, Lot Size and Site Coverage

Background

The Estate presents opportunities for a range of lot sizes to suit a variety of dwelling types. The main objective is to provide choice through a mix of housing types associated with high quality open spaces. The predominant housing type will be detached dwellings.

Objectives

- a) To promote sustainable forms of suburban development.
- b) To establish a compact community with high levels of liveability and amenity.
- c) To encourage the provision of a range of housing types and forms at an appropriate dwelling density.
- d) To ensure an appropriate development interface with the existing development in 'The Sanctuary'.
- e) To establish an acceptable interface with public open spaces.
- f) To increase the walkability of suburban living, and decrease reliance on private vehicles.

Controls

1. Housing in the Estate can comprise of any of the following as appropriate:
 - Dwelling houses.
 - Semi detached dwellings.
 - Small lot dwellings.
2. The maximum lot yield from the Voyager Point Estate site is 137 dwellings.
3. The residential areas to have a maximum dwelling density of 12.4 dwellings per hectare (based on original gross site area) with the housing and subdivision design complementary to 'The Sanctuary'.
4. Lots adjoining established residential lots in "The Sanctuary", to have a lot size of 550sqm or larger and shall be restricted to detached dwellings.
5. Lots fronting Sirius Road must be 450sqm or greater.
6. Development fronting Sirius Road shall be restricted to detached dwellings.
7. The minimum lot size permitted is 400sqm notwithstanding this control, 25% of the maximum lot yield may be developed at a range between 300 – 400sqm as part of Integrated Housing.
8. Smaller lots (between 300 – 400sqm) must be located within 200m of useable accessible public open space.
9. The maximum building footprint on lots above 400 sqm is 55%. Notwithstanding this control, a maximum building footprint of 60% applies on lots between 300 – 400 sqm as part of Integrated Housing.
10. The minimum lot frontage for lots above 400sqm is 12m, calculated from the specified front setback (building line). Notwithstanding this control, the minimum lot

frontage of 11m applies to lots between 300 – 400sqm as part of Integrated Housing.

11. For irregularly shaped lots, the minimum lot width is calculated from the specified front setback (building line) and is 12m for all dwelling types.
12. Lot sizes and dimensions are to take into account: the slope of the land to minimise earthworks/retaining wall construction and the retention of existing trees.
13. A maximum requirement for lot splays of 6 x 6m is required on corner lots. For corner lots on streets with indented car parking the maximum requirement is 3 x 3m. Splays are to be designed in accordance with the diagrams below.

3.2 Orientation

Background

The orientation of dwellings on the lots should be designed to maximise solar access to reduce household energy consumption and to make best use of the land available.

Maximising solar access is an important consideration, but it must be balanced with:

- Establishing a desired streetscape character (e.g. by aligning dwellings to the street);
- Providing for enjoyment of views (e.g. towards open space); and
- Fitting with the topography.

Objectives

- a) To optimise solar access to dwellings.
- b) To contribute positively to desired streetscape character.
- c) To support the amenity and design of public and private open space.
- d) To ensure lots are oriented to optimise solar access to facilitate micro-climate management, including the application of energy conservation principles.
- e) To ensure all dwellings address the street and overlook open space where possible;
- f) To ensure that lot size and dimensions take into consideration the physical characteristics of the land, in a way which promotes retention of existing vegetation and reduces the incidence of damaging earthworks and retaining wall construction.
- g) To sensitively relate to ecologically significant features and ensure adequate separation from natural constraints including bushfire and flooding.
- h) To ensure passive surveillance of public space through the effective and functional layout designs of new developments.

Controls

1. Generally and where consistent with desired street and public open space layout, orient lots within 30 degrees east and 20 degrees west of north.
2. Select dwelling types which respond to the streetscape while optimising solar access.
3. Design solutions include:
 - Use courtyards, L-shaped configurations and increased setbacks to northern boundaries.
 - Optimise solar access to living spaces and associated private open spaces by orienting them to the north.
 - Detail building elements to modify environmental conditions, as required, maximising sun access in winter, and sun shading in summer.

3.3 Residential Amenity

Setbacks

Background

The street setback of a development is an important consideration for the streetscape, and buildings should be sited to complement and enhance the streetscape.

Objectives

- a) To ensure consistent front setbacks.
- b) To contribute to the creation of attractive and memorable streetscapes that has a consistent character.
- c) To provide adequate space for tree planting to front and rear of dwellings.

Controls

Front setbacks

The street setback for all dwellings shall be a minimum of 4.5m.

Side setbacks

- 1. Single storey dwellings: the minimum side setback is 1m.
- 2. Two storey dwellings: the minimum side setback is 1.2m.
- 3. Elements such as fascias, gutters, downpipes, eaves (up to 450mm wide), chimneys, flues and pipes may encroach into the side setback.

Rear setbacks

All dwellings shall have a minimum rear setback of 6m.

Asset protection zone

Dwellings which are affected by the APZ must not have any part of the dwelling within the protection zone.

Corner sites

- 1. Corner sites are to provide a dwelling frontage to both streets.
- 2. Corner lots are to have a secondary/side setback of a minimum 3m.

Solar access

Objectives

- a) To optimise solar access to habitable rooms and private open spaces.
- b) To minimise overshadowing of neighbouring properties.

Controls

- 1. All daytime living areas to receive a minimum of 4 hours sunlight between 9.00am and 3.00pm at the winter solstice (June 21).
- 2. Any overshadowing of neighbouring properties must not result in less than 4 hours sunlight access to living areas between 9.00am and 3.00pm on the winter solstice (June 21).
- 3. The shadows cast by neighbouring dwellings, the proposed tree plantings and fences are to be shown on a shadow diagrams submitted as part of the Residential Dwelling DA for each block. Side and front setback dimensions are to be adjusted to ensure solar access objectives are met.
- 4. The shadow diagrams shall indicate, at a minimum, the shadow impact at 9am, 12 noon and 3pm midwinter (June 21). Shadow diagrams at other times, particularly at equinox and midsummer would assist in determination of the application. These

diagrams must show shadows cast by the proposed building(s), tree plantings, courtyard walls, fences and any other neighbouring development.

5. All dwellings are to control sun access with a minimum eave width of 400mm.

3.4 Amenity and Environmental Impact

Background

Visual and acoustic privacy is a component of overall residential amenity. Residents have reasonable expectations about the levels of privacy they should enjoy within their dwelling and principle open space area. Designs must consider the visual and acoustic privacy of both new and existing residences.

Objectives

- a) To ensure buildings are designed to achieve visual and acoustic privacy.
- b) To protect visual privacy by minimising direct overlooking of habitable rooms and private open space.
- c) To contain noise within dwellings and minimise noise from outdoor areas.

Controls

Visual Privacy

1. Habitable room windows that have a direct outlook to the principle open space area or habitable room windows of an adjacent dwelling within 9m are to:
 - Be offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent windows; or
 - Have sill heights of 1.5m above floor level; or
 - Have fixed obscure glazing in any part of the window below 1.5m above floor level.

Acoustic Privacy

2. The design of attached dwellings must minimise the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.
3. Living areas and service equipment must be located away from bedrooms of neighbouring dwellings.
4. In attached dwellings, bedrooms of one dwelling are not to share walls with living spaces or garages of adjoining dwellings, unless it is demonstrated that the shared walls and floors meet the noise transmission and insulation requirements of the Building Code of Australia.

3.5 Landscaped Area and Private Open Space

Background

High quality private open space contributes to high levels of residential amenity and outdoor recreational and relaxation opportunities within the boundary of a property. The design of private open space must consider the need for high levels of solar access as well as the need for privacy.

Objectives

- a) To provide useable private open space that offers a high level of residential amenity.
- b) To enhance the spatial quality, outlook and useability of private open space.
- c) To reduce stormwater run-off through the provision of pervious areas.

- d) To facilitate safety through passive surveillance.
- e) To each block is to provide adequate private open spaces for outdoor play, entertaining, living and services, and ensure deep root zone for tree planting.
- f) To ensure landscape design is responsive to local microclimate and dwelling design.

Controls

1. For each dwelling provide private open space at ground level which is a minimum of 30% of the lot area or a minimum of 70sqm which ever is the greater.
2. The primary outdoor living area (within the private open space) is to receive a minimum of 4 hours sunlight at the winter solstice between the hours of 9am and 3pm.
3. 80% of outdoor areas to have pervious surface treatments (excluding driveways).
4. Each dwelling is to provide ground level private open space adjoining the main living area of the dwelling. The private open space is to include:
 - A primary area of at least 35sqm with a minimum dimension of 4m, directly accessible from a major living area.
 - An external area for clothes drying, with at least 2 hours of full solar access between 9:00am and 3:00pm on the winter solstice.
 - An all weather outdoor area of 18sqm having a minimum dimension of 3 m adjacent to daytime living spaces.
 - Adequate private open spaces for outdoor play and entertaining, and ensure deep soil zone for tree planting.
5. Front courtyards are not permitted.

3.6 Dwelling frontages, Streetscapes and Fencing

Dwelling Frontages

Background

Dwelling frontages are important as the meeting place of the public and private domains. The way a dwelling interacts with the street influences perceptions of the street and, in turn, the character of the suburb. Dwelling frontages can be designed to form a welcoming, safe, interesting and green streetscape environment.

Objectives

- a) To provide attractive, architecturally coherent streetscapes which reinforce the social and circulation functions of a street.
- b) To enhance the setting, outlook and amenity of dwellings.
- c) To provide a clear distinction between public and private space which enhances the streetscape.
- d) To improve real and perceived levels of safety in residential streets through casual surveillance of the street and dwelling entries.

Controls

1. The ground floor level of the front façade of dwellings is to contain at least one window to a habitable room to allow casual surveillance.
2. Verandas, porches and balconies are encouraged on front elevations to provide articulation and allow casual surveillance.
3. Dwelling entries must be visible from the street and be covered to provide protection against the weather.

4. Entry features or porticos should be utilised to provide visual interest to the façade. Entry features may encroach in the setback by up to 1.5m.
5. The presentation of blank walls to the street is not permitted. Windows to service rooms such as bathrooms and laundries should not be situated on the front dwelling façade.
6. The street front property boundaries of dwellings should be defined, which may involve the use of low height walls, hedges or other landscape features, excluding front fences and courtyard walls.
7. On corner sites, the property boundary on the secondary frontage must be clearly defined, with continuation of the treatment used on the primary street frontage from the corner of the lot to at least 3m behind the front building setback.



Figure 13: An Example of Building Appearance (Indicative Only – Not to Scale)

Fencing

Background

Front fences are optional; however they provide a clear delineation between private and public land.

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

Primary Frontage

1. Front fences to be a minimum of 0.6m and a maximum of 1.2m in height, and constructed of masonry, timber and/or vegetation.
2. Front fences are to be light coloured and low in height or open form.
3. Fences should not prevent surveillance by the building's occupants of the main open or communal areas within the property or the street frontage.
4. The front fence must be 20% transparent.
5. Front fences are to be constructed of materials compatible with the proposed design of the dwelling.

Secondary Frontage

6. Side fences must be a maximum of 1.8m in height, and constructed of masonry, timber, metal pickets and/or landscaped.

7. For side fences along the secondary frontage, a maximum height of 1.2m is required for the first 9 m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure below). The secondary setback is the longest length boundary. If there is no fence at the front of the dwelling the side fence must then start no more than 9m from the front boundary.
8. Side fencing facing a public street or open space must not be constructed of sheet metal. However, metal sheet fencing is permitted on internal boundaries.

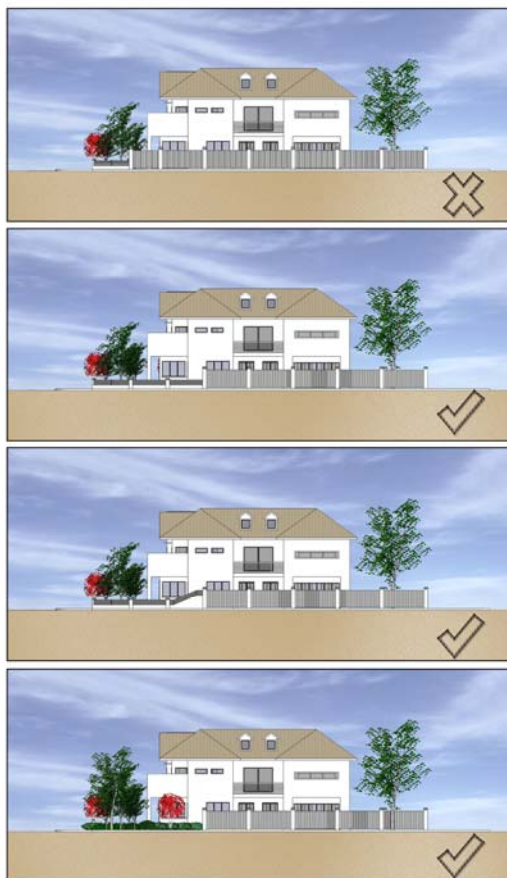


Figure 14 Fence types

3.7 Car Parking and Access

Background

The provision of on-site parking is required for all residential allotments. On-site parking is to be provided in a way that does not compromise the appearance of dwellings from the street.

Objectives

- a) To provide sufficient and convenient parking for residents and visitors.
- b) To ensure that parked vehicles do not create traffic or pedestrian hazards, and do not degrade landscaped areas such as grass verges.
- c) To reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.

Controls

- 1. The visual impact of garages is to be minimised, as illustrated on Figure 14.
- 2. A minimum of one and a maximum of two roofed car parking spaces shall be provided for each dwelling.
- 3. The parking area per vehicle is to be in accordance with AS 2890:1.
- 4. On lots with a frontage 12m or less, side by side garages are not permitted on single storey dwellings. Single garages or tandem garages may be utilised as an alternative.
- 5. All parking spaces for adaptable housing are to comply with AS 2890:1 for disabled parking.
- 6. All garage and carport entries are to be set back a minimum of 5.5m from the front property boundary.
- 7. Garage design, form and materials must be compatible with the dwelling character.
- 8. Stacked or tandem car parking spaces are acceptable, provided that at least one space is located a minimum of 5.5m from the front property boundary.

3.8 Private driveways

Background

Private driveways can be designed to minimise their impact on the streetscape and on the environment.

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas;
- b) To create a pleasant, low maintenance place.
- c) To clearly define public and private spaces, such that driveways are for the sole use of residents;
- d) To permit casual surveillance of private driveways from dwellings and from the street; and
- e) To minimise conflict between pedestrians and vehicles at the junction of driveways and footpaths.

Controls

1. The driveway crossing the verge between the property boundary and the kerb is to have a maximum width of 5.5m.
2. Driveways to be no wider than 3.5m at front property boundary.
3. Driveways are to have surface treatments on either side suitable for infiltration.
4. Driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
5. Access to allotments in the vicinity of roundabouts and traffic islands and intersections shall not be provided within 10m.
6. On corner allotments, driveways are not to be within 6m of the tangent to the kerb return.
7. Driveways are not to be within 0.5m of any drainage facilities on the kerb and gutter.
8. At the street entry, the driveway is to have low visual impact and be clearly distinguishable as private access only.
9. Planting at driveways should not block lines of sight for pedestrians, cyclists and vehicles.
10. Driveways to be in accordance with the relevant Australian Standards for vehicular turning circles, visibility distances and gradients.



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Liverpool Development Control Plan 2008
Part 2.9
Land Subdivision in
Former Hoxton Park Airport Site

19 February 2014

Part 2.9 must be read in conjunction with Part 1

Refer to Part 3.8 for Non Residential Development in Residential Zones

Refer to Part 7 for Industrial Development

Refer to Part 6 for Business Development

Liverpool Development Control Plan 2008

Part 2.9 Former Hoxton Park Airport Site

Table of Contents

1.	Preliminary	5
2.	Controls for Public Domain in the Residential Area	9
2.1	Street Network.....	9
2.2	Pedestrian and Cyclist Paths.....	15
2.3	Streetscape and Street Trees.....	17
2.4	Interpretation Strategy	19
2.5	Open Space	19
2.6	Stormwater Management	20
2.7	Bushfire Protection	21
3.	Controls for Public Domain in the Residential Area	23
3.1.	Street Network.....	23
3.2	Streetscape and Street Trees.....	24
4.	Controls for the Neighbourhood Centre	26
4.1.	General.....	26
4.2.	Parking and Access.....	26
4.3.	Public Domain Treatment	26
4.4.	Design of the Neighbourhood Centre	27
5.	Controls for the Private Domain.....	29
5.1.	Site Planning	29
5.2.	Setbacks.....	30
5.3.	Dwelling Typology	33
5.4.	Landscaped Area and Private Open Space	33
5.5.	Cut and Fill, Building Design, Streetscape and Layout	35
5.6.	Landscaping and Fencing	39
5.7.	Car Parking and Access	42
5.8.	Amenity and Environmental Impact.....	43

Table of Figures

Figure 1 Land to which this Part applies	6
Figure 2 Street Network	10
Figure 3 Collector Street	13
Figure 4 Local Street	14
Figure 5 Asset Protection Road	15
Figure 6 Cycleway routes in Hoxton Park Aerodrome	17
Figure 7 Tree Protection	19
Figure 8 Cross Section of Creek Lands	21
Figure 9 Areas of Site Fill	22
Figure 10 Tree Protection	26
Figure 11 Desired Car Parking in Neighbourhood Centre	28
Figure 12 Central meeting point in the Neighbourhood Centre	29
Figure 13: Example of a Site Analysis Plan	30
Figure 14: Example of Ground Floor & Second Storey Minimum Setbacks	32
Figure 15: Zero Lot Lines	33
Figure 16: An Example of Landscaped Area & Private Open Space	35
Figure 17: Cut & Fill Requirements	37
Figure 18: An Example of Building Appearance	38
Figure 19: Maximum Total First Floor Wall Length of a Two Storey Dwelling	39
Figure 20: Fence Treatments on Secondary Frontage	42
Figure 21: Private Driveways	44
Figure 22: Privacy and Amenity	45

List of Tables

Table 1: Front and Secondary Setbacks	31
Table 2: Side and Rear Setbacks	32

1. Preliminary

Applies to

1. This Part applies to land shown in Figure 1.
2. The controls in this part relate to:
 - i. Subdivision and development of residential land;
 - ii. Development of the public domain within the industrial zoned land; and
 - iii. Development of the business zoned land.

Note: Notification of a Dwelling House is not required if the Development Application complies with all the provision of Part 2.9.

3. Part 1 also applies to the land.
4. Minimum lot sizes and widths are to comply with the requirements within Part 1 of the DCP.
5. Part 3.8 also applies for non residential development on residential land.
6. Parts 3.1 - 3.7 do not apply to the land.
7. Controls on development in the Industrial Zones (except for the public domain) in this locality are in Part 7.
8. Additional controls on development in the Business Zone in this locality are in Part 6.



Figure 1 Land to which this Part applies

Background

The Former Hoxton Park Airport site was rezoned under the Liverpool LEP 2008. It is envisaged that development of the site will link to Middleton Grange, Cecil Hills and to Cowpasture Road. The only access at the beginning of the development of the site is from the southern end of the site off Cowpasture Road. This access point is flood liable and cannot easily be made flood free.

In order to make the site available for development an alternative access point to Cowpasture Road will be required. Subsequently it is expected that access will also be made to Cecil Hills and to Middleton Grange.

Voluntary Planning Agreement

The provision of the access and the provision of public facilities on site are to be by way of a Voluntary Planning Agreement. The timing and scope of the provision of public facilities is specified in the Voluntary Planning Agreement.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.
- b) Guaranteeing a movement system that relates accessibility demand to location of development type.
- c) Ensuring that servicing is able to be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and give priority to pedestrians and children.
- e) Guaranteeing adequate accessibility for emergency vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising the existing street layout.
- g) Providing safe access during flooding events.

Social Benefits

To establish affordable and accessible facilities and resources that allow people to maintain wellbeing, live and recreate by:

- a) Making appropriate provision for social and community needs.
- b) Providing for a full range of housing types, form and tenure.
- c) Establishing a hierarchy of recreation facilities and parks/reserves.
- d) Ensuring that development creates a 'people place' by giving priority to people and human relationships through housing mix and safety.
- e) Accommodating life-long educational and learning needs.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage and floodplain management that, contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water and air pollution management and water quality.
- e) Maintaining and enhancing the quality of the natural environment.
- f) Connecting and enhancing vegetation corridors and providing links between the Western Sydney regional parkland and the Hinchinbrook Creek Corridor.
- g) Promoting the conservation of flora and fauna, including the retention of Cumberland Plain Woodland.
- h) Promoting the development of place and a quality built environment with people and human relationships as a central consideration.

Economic Benefits

To establish economic capital that is accessible and meets the needs of the community by:

- a) Ensuring appropriate accessibility to employment.

- b) Ensuring the area's needs are identified in a local context through provision of local facilities and services.
- c) Ensuring infrastructure is sufficient to meet current and predicted need.
- d) Providing appropriate locations for local institutions.

2. Controls for Public Domain in the Residential Area

2.1 Street Network

The development of the site will involve industrial development in the larger southern portion of the site. There will be residential development in the northern portion of the site. It is envisaged that there will be further residential development to the north of the site which will link to the residential area in Cecil Hills.

It is envisaged that there will be an east west link road which will separate the residential and industrial precincts. This road link will provide access to Middleton Grange in the west and flood free access to Cowpasture Road in the east.

It is also envisaged that there would be a link capable of carrying public transport linking north to Cecil Hills. There would also be a direct link south through the industrial area to Cowpasture Road, which would provide for industrial traffic as well as public transport.

In addition to these links there will be a local street network.

Link roads

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To provide safe access during flooding events.
- f) Provide safe, legible and efficient access both within the site and through the creation of new connections to the existing road network.
- g) Encourage pedestrian and cycle use through a clear footpath and cycleway network, providing the potential to link to key destinations in the surrounding district such as the Western Sydney Regional Parklands, Hinchinbrook Creek corridor, schools and local community and retail facilities.

Controls

- 1. The major road links shall be provided in accordance with Figure 2.
- 2. The timing of the provision of road links will need to be consistent with the Voluntary Planning Agreement.
- 3. Works to facilitate the installation of signals and the construction of slip/turning lanes at the two proposed traffic intersections with Cowpasture Road is to be carried out by the developer.

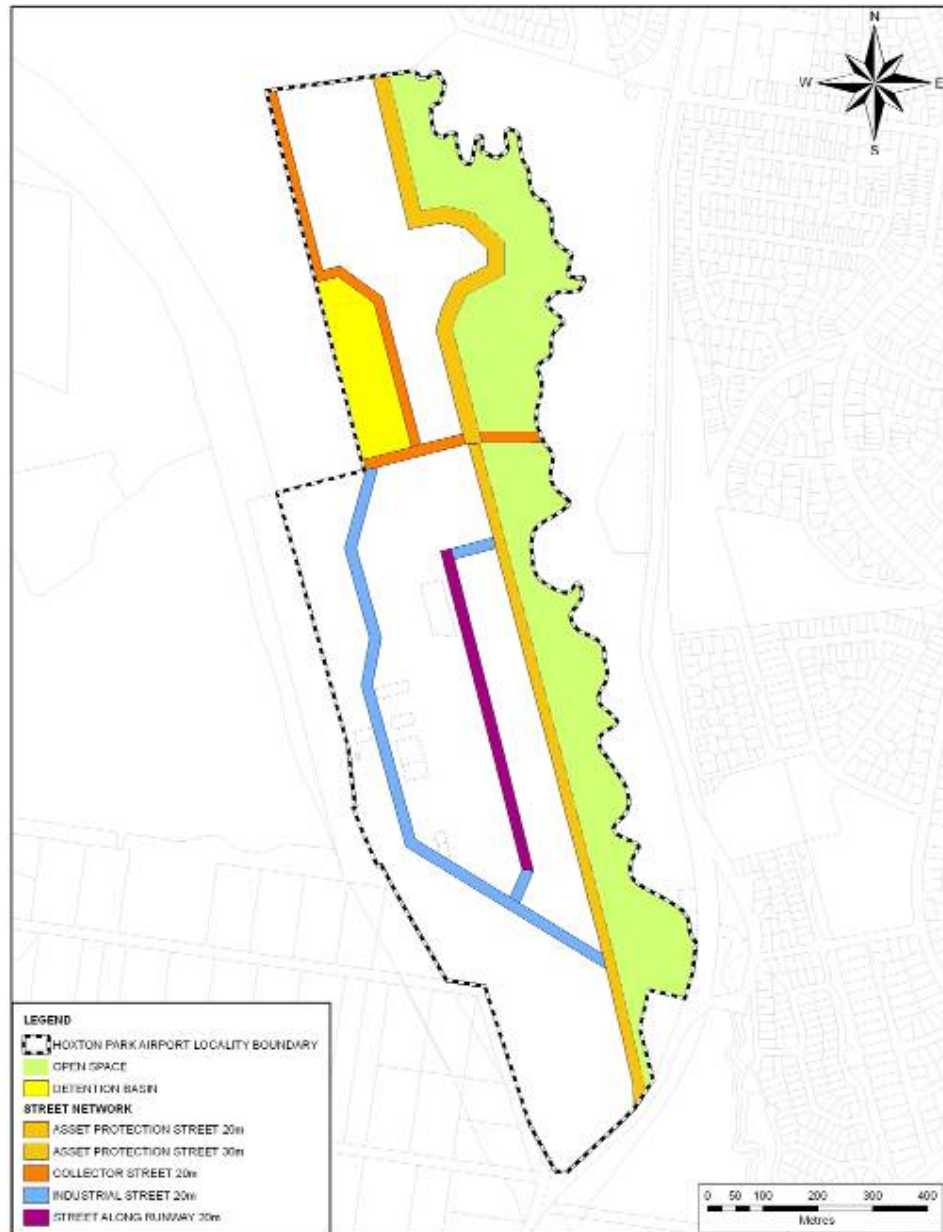


Figure 2 Street Network

Local Street Network

Objectives

- To encourage a low-speed traffic environment.
- To develop a comprehensive street network that links the site to the surrounding residential, commercial and employment areas.
- To provide a comprehensive pedestrian and cycle network linking residential areas with parks, recreation areas and village centre.
- To create a high quality safe environment for walking and cycling.

Controls

1. Subdivision plans are required to comply with the fixed roads identified in Figure 2.
2. Provide a grid-like street network pattern to facilitate walking and cycling and enable direct local vehicle trips within the neighbourhood. Cul-de-sacs will not be supported other than where alternative street patterns are not achievable.
3. Design safe pedestrian crossing points.
4. All intersections are to be designed in accordance with the RTA Austroads standards.
5. Street sections are to comply with Figures 3 - 5.
6. Streets planned to accommodate bus routes are to have a minimum carriageway width of 7m.
7. Local streets shall front open space and avoid back fences to open space and other public areas.
8. All streets are to be legibly signposted with streets names and property numbers.
9. Footpaths are to be provided on both sides of all streets.
10. All Development Applications for subdivision are to detail the proposed kerb type.
11. Barrier kerbs are to be used:
 - On all streets within the town centre.
 - On any street frontage to open space.
 - At all intersections (between the potential driveway location on one frontage to the potential driveway location on the alternative street frontage). Driveways are not to be located within 6m of the tangent point of any intersection.
 - Barrier kerb shall be installed for the entire length of bus zones and for 10m on the approach of the bus stop.
12. Roll kerbs may be used in other locations to the above.

Street Types

The following types of streets are to be provided.

East West Link Road

An east west link road is to be provided from the M7 Motorway underpass to Cowpasture Road. This road is to incorporate a bridge crossing of Hinchinbrook Creek. The bridge is to be designed and constructed in a way which minimises impacts upon flora and fauna within the Hinchinbrook Creek Riparian Corridor. The proponent is to provide a signalised intersection and any works for the provision of an intersection at the junction of the east west link road and Cowpasture Road. This may include turning lanes, median separator, kerbs etc.

East West Link Road in Village Centre

These pedestrian-orientated streets have 6m wide footpaths to allow for outdoor eating areas. These streets have active retail frontages with opportunities for commercial and residential uses on other levels. The Town Centre Secondary Streets follow a north oriented grid pattern. The southern side of east-west streets on the grid have a wider footpath allowing for solar access in winter. Deciduous trees are proposed for the east-west streets to maintain solar access in winter. Outdoor eating areas must not impact on the provision of adequate pedestrian circulation especially adjacent to bus stops. Refer to Figure 4.

Collector Street

This street provides a connection north from the East West Link Road through the residential area to Cecil Hills. It will be the public transport route. Refer to Figure 3.

Local Streets

These streets are designed for slow residential traffic. The road reserve is 15.2m wide. Refer to Figure 4.

Asset Protection Road

This road is situated between the proposed urban areas and adjoining conservation areas that may be prone to bush fires. Pedestrian and cycle paths will encourage recreational use in what will be a scenic environment. Appropriate night lighting is important on this road to allow for incidental surveillance along the bushland fringe. Asset protection roads will have a road reserve of 15m of which is taken by the carriageway and road verges. The remaining 5m is proposed to be and dedicated cycleway, grassland and scattered trees and may serve a passive recreation purpose. Refer to Figure 5.

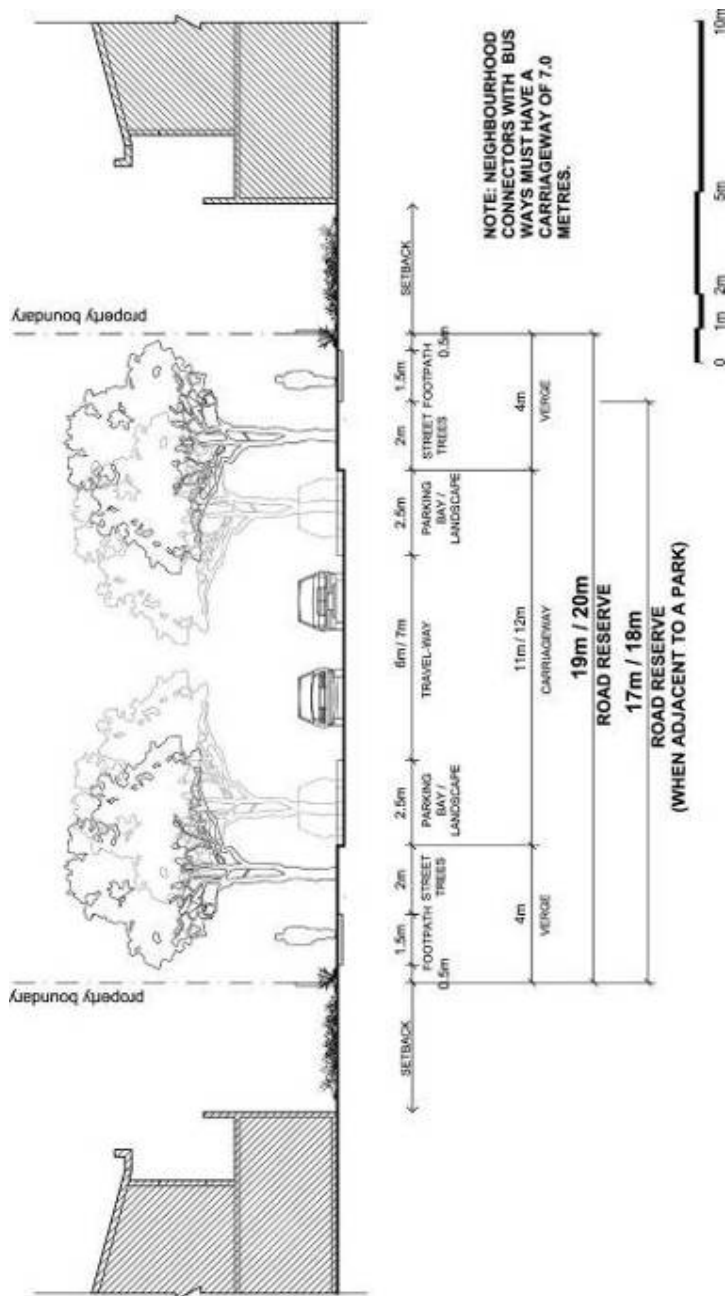
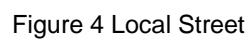


Figure 3 Collector Street



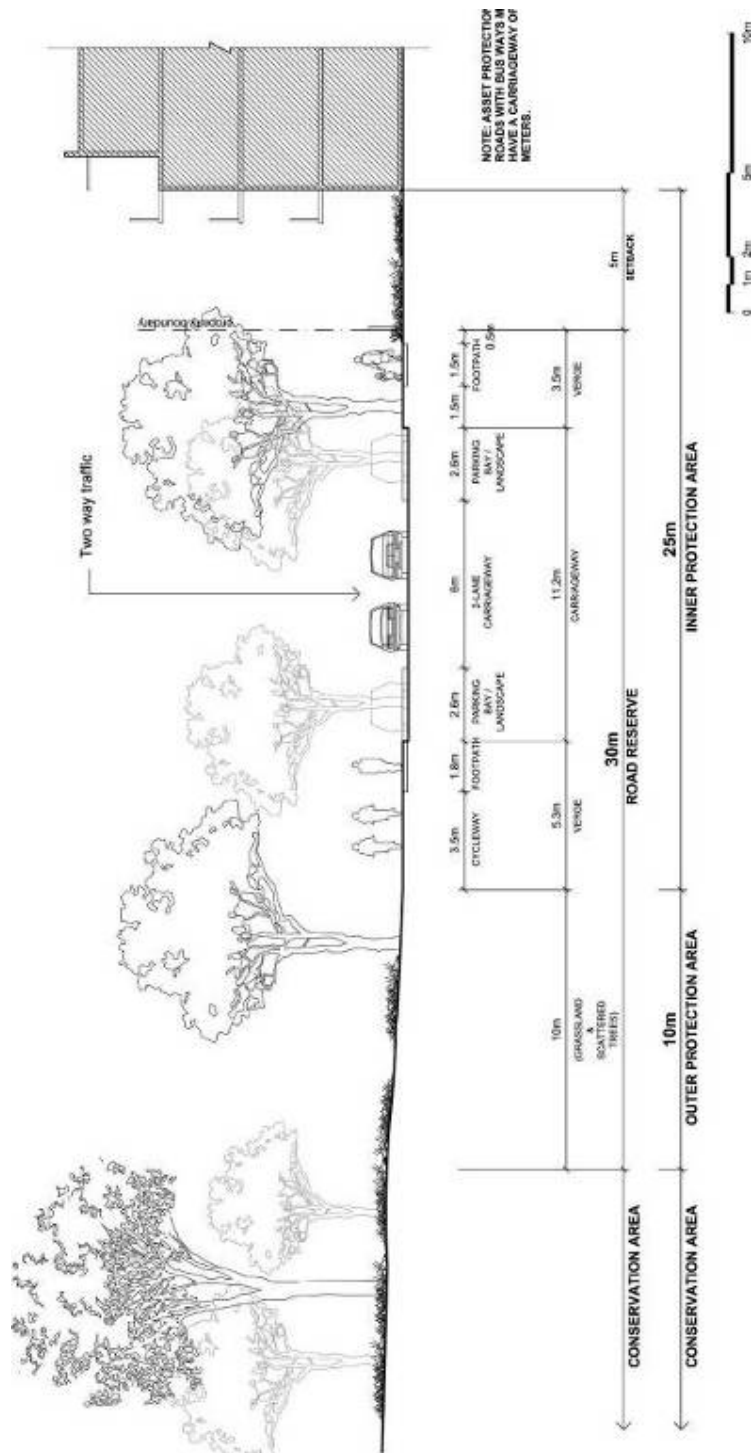


Figure 5 Asset Protection Road

2.2 Pedestrian and Cyclist Paths

Background

Pedestrian and cycle facilities in public spaces provide linkages to social and cultural activities and educational facilities, and should be characterised by excellence of design appropriate to the area.

Objectives

- a) To encourage walking and cycling for local trips.
- b) To provide a permeable and interconnected network of streets and pathways that gives safe, convenient and legible access to areas of attraction both within and beyond the suburb.

Controls

- 1. Pedestrian and cycle paths shall be provided in conjunction with the subdivision of land, creation of streets and development of open space in accordance with Figure 6.
- 2. Shared pedestrian/cycle links, cycle ways, public streets and lanes shall be clearly and frequently signposted to indicate their shared status.
- 3. Designated cycle lanes on streets shall be clearly indicated by line-markings on the road surface and/or by signs beside the road.
- 4. Shared pedestrian and cycle paths shall be a minimum 2.5m wide.
- 5. Pedestrian footpaths along school frontages shall be a minimum of 2.5m wide.
- 6. Pedestrian footpaths through the neighbourhood centre shall be full verge width and paved with a Council approved paver.
- 7. Designated pedestrian-only paths shall be a minimum of 1.5m wide and located in accordance with Figures 3 - 4.



Figure 6 Cycleway routes in Hoxton Park Aerodrome

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.
4. Elements from the *Hoxton Park Airport Interpretation Plan and Strategy* should be provided for the benefit of enhanced public domain, to reflect the sites previous land use and the significance of the 'defence' theme and to communicate the importance of significant events, places and people associated with Hoxton Park Airport.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted for each allotment created.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 7 for details.
5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.
6. The trees planted along the main access avenue are to be; *Lophostemon confertus* or an equivalent tree.
7. Where appropriate, incorporate interpretative streetscape elements reflecting the former land use history on the site having regard to the Heritage Interpretation Plan and Strategy Report.

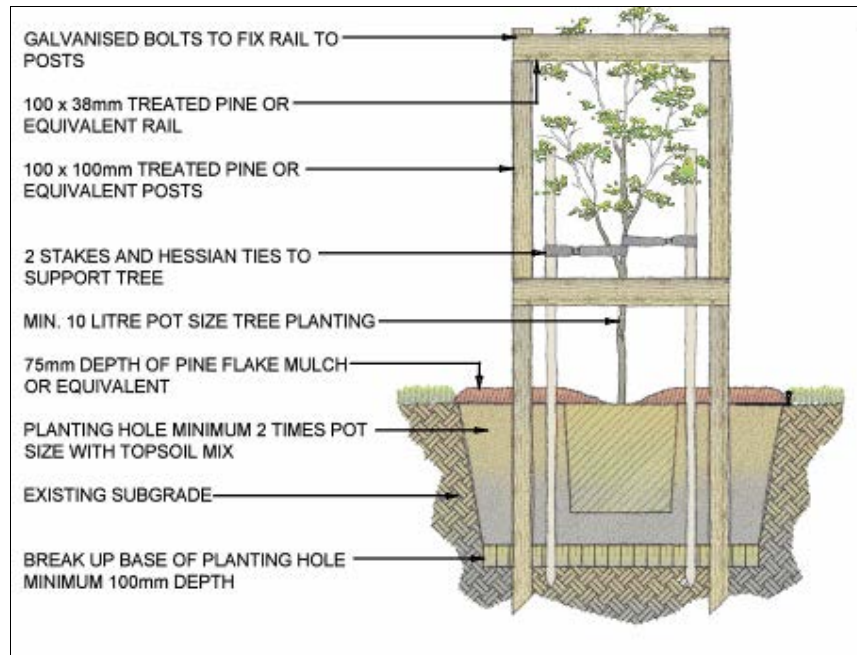


Figure 7 Tree Protection

2.4 Interpretation Strategy

Objective

To provide physical infrastructure which interprets the historical significance of Hoxton Park Airport within elements of the new development and open space parcels.

Controls

1. Provide interpretation signage within the developable land. This can be in the form of free standing signage, plaques, or signage within the industrial and retail buildings.
2. Interpretive signage should not be intrusive and be scratch and graffiti proof to ensure minimal ongoing maintenance.
3. The runway is one of the last remaining original features of Hoxton Park Airport. Its location is to be reflected via the proposed road pattern and highlighted by the street name, landscape treatments and signage.
4. Public open spaces, former aeroplane hideouts and taxiways shall be embellished with features such as sculptures, signage/plaques, play equipment and shade structures following an aeronautical and defence theme.

2.5 Open space

Background

Public spaces can be designed to promote vibrant social interaction, civic pride and a sense of public ownership and belonging. Landscaped areas and open space within the public domain play a major role in setting the character of the locality. These areas should make the neighbourhood pleasant and welcoming and be convenient to the needs of the community.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents

- b) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development
- c) To provide links between the open space areas and community and retail facilities
- d) To create a variety of linked public spaces that fulfils functional requirements as well as creates attractive and memorable places.
- e) To endorse public ownership of open spaces and environmental protection zones within the site to promote local and regional recreational and ecological values.
- f) To integrate landscape design with water cycle management across the development area to promote water sensitive urban design principles as part of the development.
- g) To extend, link and reinforce the natural features of the area, particularly the natural watercourses and habitat.
- h) To encourage the use of native species and low maintenance landscape treatments.
- i) To ensure good quality open space to meet the recreational needs of residents.

Controls

- 1. All landscape plans are to be prepared by a qualified Landscape Architect or suitably qualified person, and are to follow the requirements under Part 1.
- 2. All landscaped areas must incorporate shade planting
- 3. Any neighbourhood recreation spaces created within the open space are to be readily accessible from the residential area and create a precinct focus.
- 4. Embellishment of open space shall reflect the former land use history on the site having regard to the *Heritage Interpretation Plan and Strategy Report*
- 5. The provision of Open Space shall be in accordance with the Voluntary Planning Agreement.
- 6. Neighbourhood and playground parks are to create a precinct focus.
- 7. Public open spaces are to be designed and landscaped so as to minimise the need for maintenance. This is to be achieved through the use of appropriate native species (refer to Appendix 2 in Part 1). The Landscape Plan submitted with the DA must demonstrate how the proposed landscaping will minimise maintenance.
- 8. Public open space should be bounded by public streets with buildings oriented towards the open space.
- 9. Significant existing trees, tree stands and vegetation are to be retained, relocated or replaced by the same species.
- 10. Pedestrian and cycle paths must be provided as part of parks and recreation areas.
- 11. Street name and information signs are to be designed to reinforce the distinct identity of the locality and to facilitate accessibility and mobility.
- 12. The design of fences must be consistent throughout the public domain, parks and open space.
- 13. Existing trees, tree stands and vegetation, in good health, are to be retained where possible.
- 14. A Landscape Plan must be lodged with all DAs.

2.6 Stormwater Management

Creeks

Objectives

- To conserve, protect and enhance the creek corridors and biological connectivity through the provision of continuous vegetated creek protection zones along either side of Hinchinbrook Creek.
- Maximise opportunities for stream/creek restoration and enhancement.
- Enable existing water courses to contribute to and be enhanced by a coordinated approach to development within the area.
- Ensure the rehabilitation of the creek corridors is integrated into floodplain management planning.

Controls

- The Hinchinbrook Creek corridor interfaces are to be constructed in accordance with Section A-A and Section C-C of Figure 8.
- Asset protection zones (APZs) are to be generally located outside the creek corridor.
- Should public footpaths and cycleways have to be incorporated within the creek zone, they are to be located at the outer edge of the creek land corridor.
- Any flood impact or hydraulic assessment should consider not only the initial vegetation density but also the final growth, with due allowance for debris build-up before and during flooding.

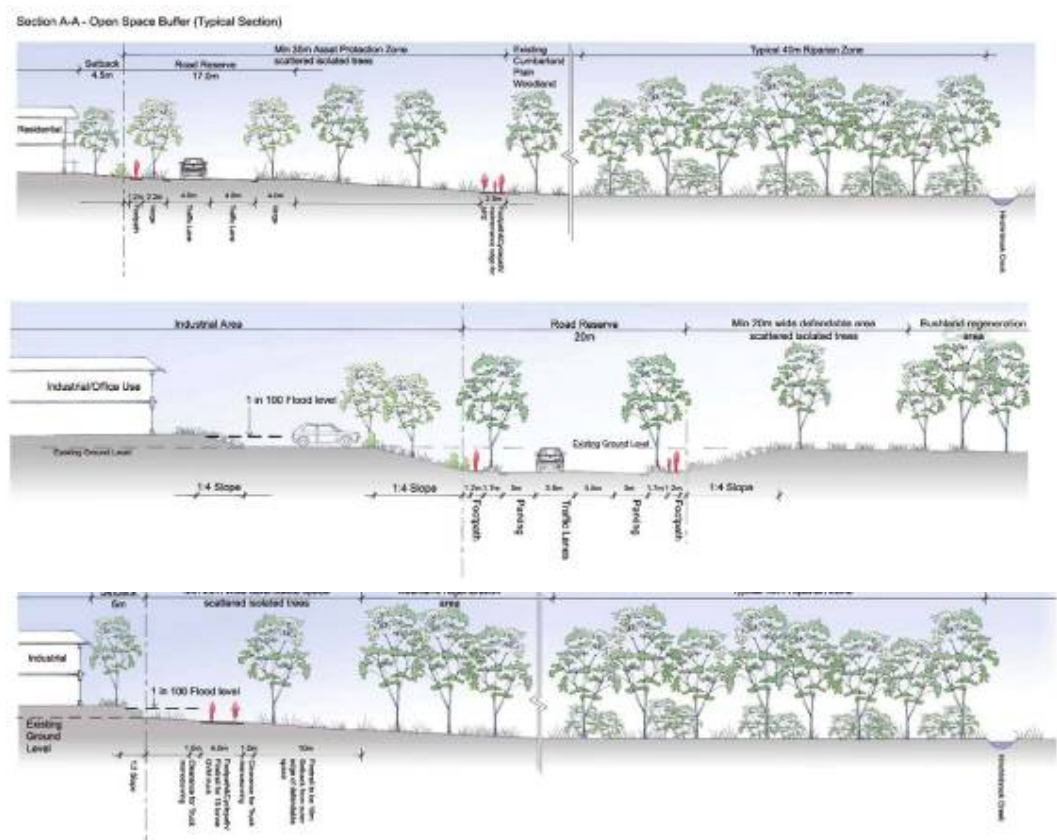


Figure 8 Cross Section of Creek Lands

Waterway Crossings

Objectives

- a) To minimise the impact of development on the creek environs.
- b) To ensure that any crossing does not restrict natural passages of aquatic life

Controls

1. A detailed assessment by a suitably qualified person is required for any proposed crossing of Hinchinbrook Creek.
2. The design of the proposed creek crossing is to be in accordance with Department of Primary Industries (Fisheries) policies and guidelines for road crossings and bridges including "Fish Passage Requirements for Water Crossings".
3. Rehabilitation of affected creek areas and creek should be implemented post construction; and,
4. Stormwater erosion and sedimentation controls for construction and operation should be designed as part of any proposed development to minimise impacts on Hinchinbrook Creek.

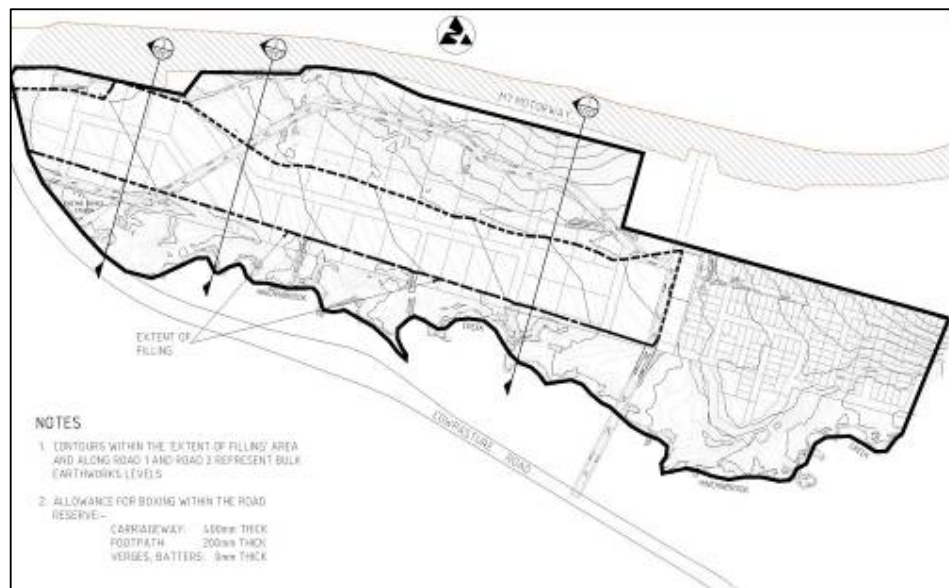


Figure 9 Areas of Site Fill

2.7 Bushfire Protection

Objectives

- a) To protect life and property from bushfire attack by incorporating adequate mitigation measures.
- b) The incorporate bushfire protection measures consistent with the *Planning for Bushfire Protection 2006 Policy* (as amended).

Controls

1. Incorporate an Asset Protection Zone (APZ) to the east of the residential, business and industrial precincts.
2. Allow for a temporary APZ width for the northern and western perimeter of the residential areas as well as bushfire construction standards to apply only if the

adjoining land is not developed prior to the creation of the perimeter lots on the northern and western edge of the residential precinct.

3. Provision of a 20m wide defensible space building setback from the eastern boundary of the residential, industrial and commercial zones.
4. A hydrant water supply shall be installed to the subdivision in accordance with the relevant Australian Standard.
5. Provide for a perimeter road with two way access which delineates the extent of the intended development.
6. Dwelling setbacks may need to be increased for lots on perimeter roads in order to incorporate the required APZ's.
7. APZ's are to be contained within the private land holding and not within land owned by, or to be dedicated to Council.

3. Controls for Public Domain in the Industrial Area

3.1 Street Network

The development of the site will involve industrial development in the larger southern portion of the site.

It is envisaged that there will be an east west link road which will separate the residential and industrial precincts. This road link will provide access to Middleton Grange in the west and flood free access to Cowpasture Road in the east.

It is also envisaged that there would be a link capable of carrying public transport linking north to Cecil Hills. There would also be a direct link south through the industrial area to Cowpasture Road, which would provide for industrial traffic as well as public transport.

In addition to these links there will be a local street network. Detailed conceptual street sections are provided in Section 2.1.

Link roads

Objectives

- a) To provide safe access during flooding events.
- b) Provide safe, legible and efficient access both within the site and through the creation of new connections to the existing road network.
- c) To promote a movement system that, where appropriate, gives priority to walking, cycling and public transport.
- d) Encourage pedestrian and cycle use through a clear footpath and cycleway network, providing the potential to link to key destinations in the surrounding district such as the Western Sydney Regional Parklands, Hinchinbrook Creek corridor, schools and local community and retail facilities.

Controls

1. The major road links shall be provided in accordance with Figure 2.
2. The timing of the provision of road links will need to be consistent with the Voluntary Planning Agreement.

Street Types

Objectives

- a) To ensure that entry roads and internal access arrangements are suitable for the anticipated nature and volume of traffic and provide a safe movement system.
- b) To provide safe easy access throughout the precinct for walking and cycling.
- c) To create attractive streetscapes by integrating landscaping and pathways along the road verge.

Controls

1. A minimum 13m wide road carriageway for all streets.
2. All intersections to be designed in accordance with the RTA *Austroads Road Design Guide*.
3. Pedestrian footpaths with a minimum width of 1.2m to be provided on both sides of the road.

4. Street verges are to incorporate suitable levels of landscaping.
5. Street carriageways are to be endorsed by Council prior to the release of development applications for subdivision.

3.2 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted for every 20m of street frontage.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 10 for details.
5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.
6. The trees planted along the main access avenue are to be; *Lophostemon confertus* or an equivalent tree.
7. Where appropriate, incorporate interpretative streetscape elements reflecting the former land use history on the site having regard to the *Heritage Interpretation Plan and Strategy Report*.

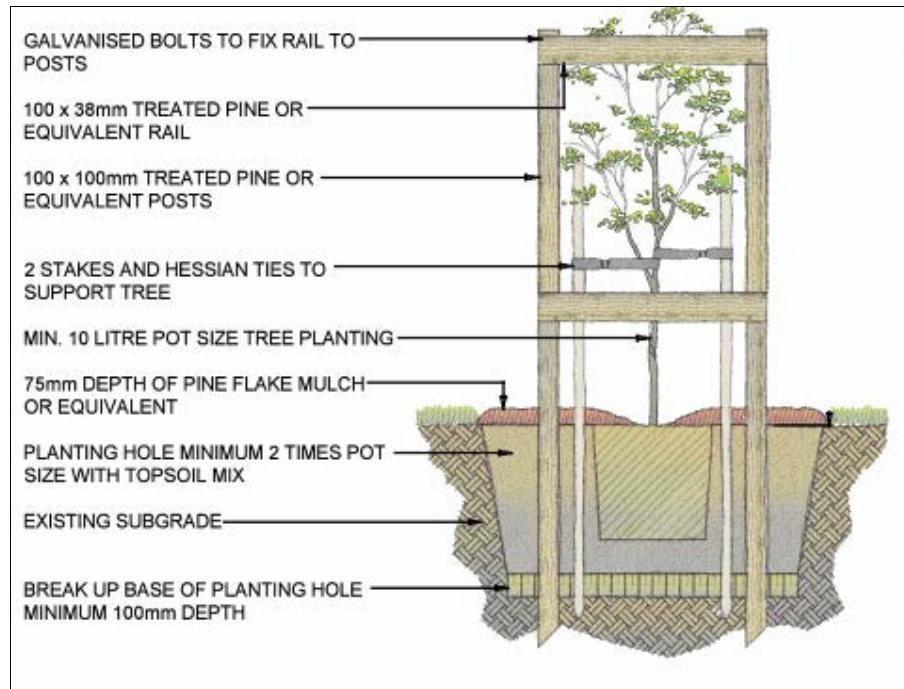


Figure 10 Tree Protection

4. Controls for the Neighbourhood Centre

4.1 General

Objectives

- a) To allow for a variety of retail and commercial uses to serve the needs of the people who live, work and visit the local area.
- b) To ensure a high quality built appearance that maintains a human scale and prevents adverse amenity impacts on adjoining land uses.
- c) To maintain a vibrant and safe public domain with active street frontages and good pedestrian linkages.

Controls

1. Development is to comply with the Minimum lot size, Height, and Floor Space Ratio's as set out in the *Liverpool LEP 2008*.
2. Protruding elements such as porches, verandas or canopy type structures shall be used to reinforce the entry to buildings.

4.2 Parking and Access

Controls

1. Off site car parking layout and design is to be provided in accordance to Part 1.
2. The number of access points from a site should be limited and located where they will cause the least interface between vehicular and pedestrian movement on public roads.
3. Adequate space should be provided on site for loading and unloading activities of service vehicles.
4. Appropriate bicycle racks along with trip facilities for staff including lockers and showers, are to be provided to encourage cycling to the local centre.

4.3 Public Domain Treatment

Controls

1. A minimum 2.5m wide landscaped strip is required around the street frontages to enhance the streetscape.
2. Provide a 2.5 x 5m long landscape bay with suitable shade tree planting for every 8 on-site car parking spaces to enhance public domain amenity.
3. Appropriate provision to enable safe pedestrian access is to be incorporated into the design.

4.4 Design of the Neighbourhood Centre

The Neighbourhood Centre is an important part of the development of the former Hoxton Park Airport Site and ensuring a vibrant, permeable and easily accessible town centre is of high importance.

Objectives

- a) To provide for a vibrant and successful town centre
- b) To have a centre with high permeability
- c) To provide for a central meeting place and outdoor shopping spaces.
- d) To ensure that adequate and appropriate street furniture is provided.
- e) To provide for car parking in appropriate and convenient locations.

Controls

- 1. The Neighbourhood Centre must provide for shops and entrances to all street faces.
- 2. The Neighbourhood Centre must not provide more than 30% of the total front to street faces as blank walls.
- 3. Smaller retail and commercial uses should be provided closer to the street front, and the central meeting point.
- 4. Parking for bicycles and motorcycles should be provided.
- 5. Connection to the regional cycleway network is desirable.
- 6. Car parking should be provided as shown in Figure 11 below, along street frontages to maximise convenience for users of the centre.

Note: This style of car parking will count towards the total required for the Neighbourhood Centre.



Figure 11 Desired Car Parking in Neighbourhood Centre

7. A central meeting point should be integrated into the neighbourhood centre, with smaller scale retail and commercial leading off from this, as shown in Figure 12. This space should also be used for external retailing uses such as outdoor dining. Larger retail or commercial uses such as supermarkets should be located behind the meeting point.
8. The larger and smaller retail or commercial uses should be integrated into one building.
9. This central meeting point should have an outlook towards Hinchinbrook Creek, or any other significant vegetative or point of interest as well as a frontage street.



Figure 12 Central meeting point in the Neighbourhood Centre

10. Street furniture, including trees within the town centre should be designed to ensure compatibility with the buildings.
11. Trees within the central meeting point should maximise shade cover of this space.

5. Controls for the Private Domain

5.1 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 13).
2. There must be a direct link from at least one living area to the principal private open space.
3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.



Figure 13: Example of a Site Analysis Plan

5.2 Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access;
- b) To set dwellings back from each other to provide visual and acoustic privacy;
- c) To create a streetscape that provides a desirable and safe environment;
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality;
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.
- f) To discourage vehicular parking across street verges and footpaths

Controls

Front and Secondary Setbacks

1. Dwelling houses, Semi-detached dwellings, Attached dwellings and Multi-Dwelling Housing shall be setback in accordance with Table 1.

Table 1: Front and Secondary Setbacks

Height	Front Setback	Secondary Setback	Secondary Setback
		Lots under 450m ²	Lots 450m ² and over
Ground floor	4.5m*	2.0m**	2.5m
Second storey	4.5m*	2.0m**	2.5m

* The dwelling setback may be reduced to 3m for lots fronting land zoned RE1 Public Recreation.

** The dwelling setback may be reduced to 1m for a maximum length of 4m.

2. For dwellings fronting RE1 Public Recreation the front setback may be reduced to 3m. A front verandah, porch or patio may be built to within 1.8m of the front setback. The garage setback is to be maintained at a minimum of 5.5m.
3. Verandahs, balconies, eaves and other sun control devices may encroach a maximum of 2.5m forward of the front setback. On the secondary setback, encroachments must not be constructed within 1m from the property boundary.
4. Garages must be set back a minimum of 1m behind the main face of the dwelling. The main face is the first wall of a habitable room.
5. The secondary street frontage setback is the longest length boundary and does not include laneway frontage.
6. Garages that address the secondary frontage must be setback 1m or 5.5m and greater. Garages are not permitted to be setback between 1m - 5.5m.
7. Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wrap around verandah, bay window, corner entry or roof feature.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2: Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9 m	4.0 m*
Second storey component of dwelling houses	1.2 m	6.0 m
Living room doors (including family rooms and rumpus rooms)	4.0 m	4.0 m

* Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

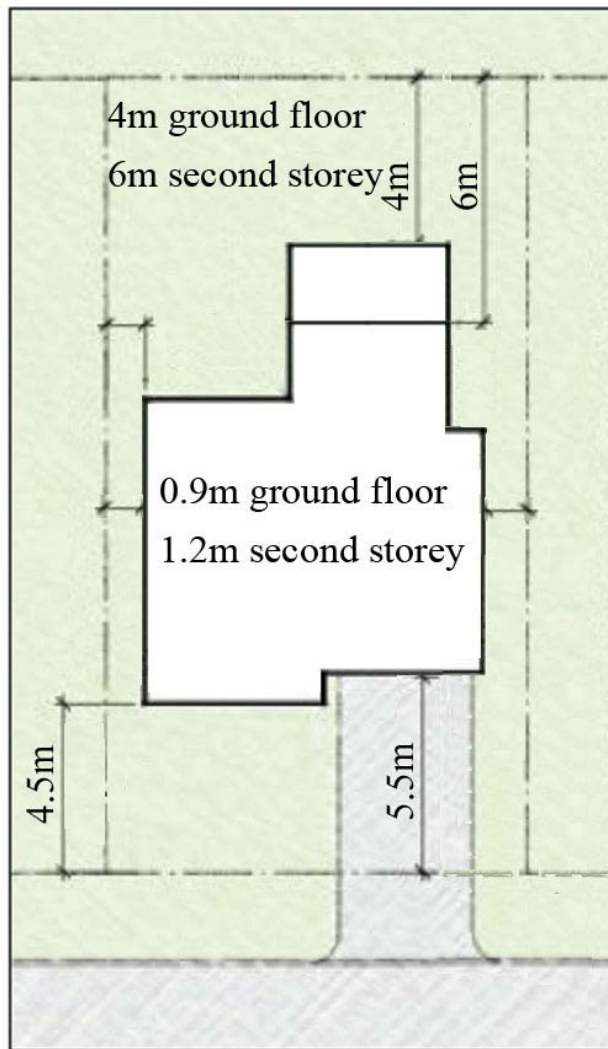


Figure 14: Example of Ground Floor & Second Storey Minimum Setbacks

Zero lot lines

1. Walls are generally to be 150mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the adjacent side boundary length. The maximum length of a second storey zero lot line wall is 12 metres.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 900mm shall be provided on the adjoining boundary. Refer to figure 15.

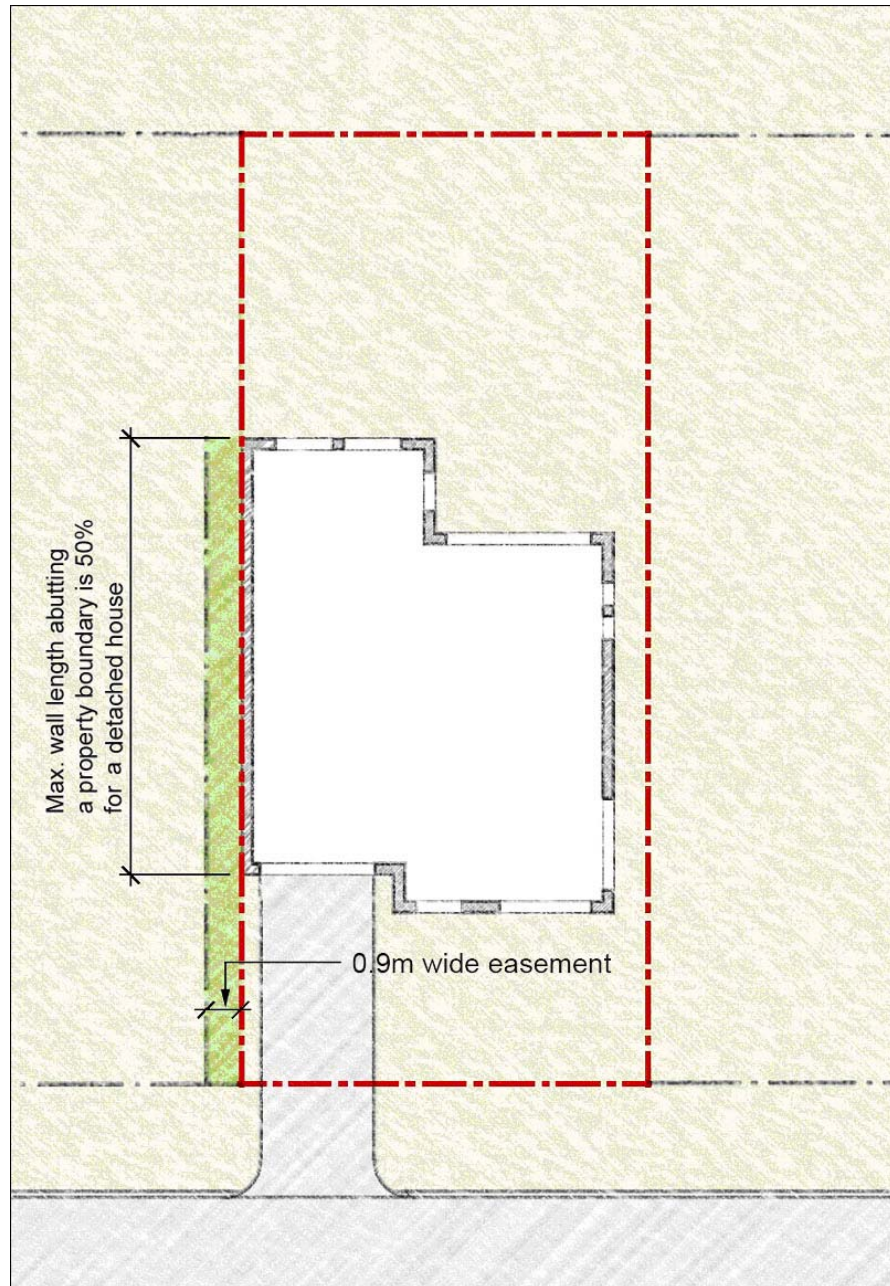


Figure 15: Zero Lot Lines

5.3 Dwelling Typology

Objectives

- a) To provide for certainty as to the location of dwelling types.
- b) To provide for the orderly development of South Cecil Hills.
- c) To provide for areas of higher density near areas of high amenity such as parks and creeks.

Controls

In order to establish dwelling density and certain character through built form, the below list identifies building types proposed within the residential zoning.

Multi Dwelling Housing and Attached Dwellings

Opportunities are provided for row housing in small groups, duplexes, triplexes or Terraces. They are located in areas of higher amenity and may contain home businesses. These need rear lanes for parking and servicing.

Dwelling house

These locations are suitable for free standing traditional one and two storey houses often in prime or feature locations (corner site, wider streets). The larger lots provide the opportunity for large traditional family homes. These are often free standing but can have a zero lot line on one boundary.

5.4 Landscaped Area and Private Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum unincumbered area of 4m x 6m shall be provided to accommodate deep rooted trees.
3. A minimum of 50% of the front setback area shall be Landscaped Area.
4. A minimum unincumbered area of 3m x 3m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum of 50sqm of Private Open Space.
2. Areas less than 2.5m in width do not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the Principal Private Open Space of 25sqm, which is directly accessible from the main living area and has a minimum dimension of 4m.
6. The Principal Private Open Space must receive 2 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.

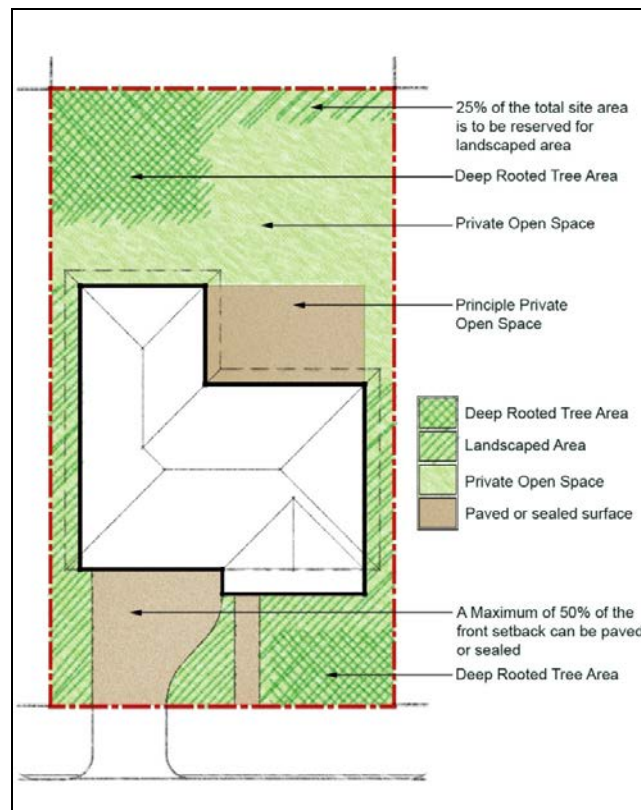


Figure 16: An Example of Landscaped Area & Private Open Space

5.5 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

- 1. The maximum cut on a site should not exceed 1m.
- 2. All retaining wall structures shall be masonry construction where visible from the street and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
- 3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint. Refer to Figure 17.
- 4. Contaminated fill is not permitted.
- 5. In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) **PRIOR TO** the release of the occupation certificate.
- 6. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - i. A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - ii. A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - iii. Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) **PRIOR TO** the commencement of any building works.

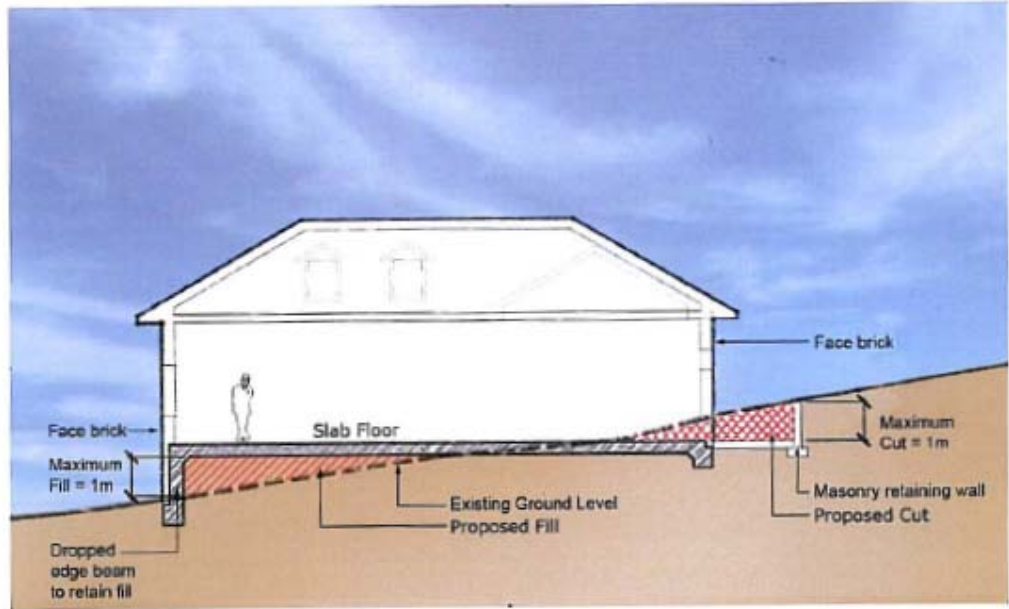


Figure 17: Cut & Fill Requirements

Building Envelopes

Background

The orientation and site cover of a building has significant implications for residential amenity. Building envelopes determine the orientation and footprint of a dwelling, as well as the total volume of the dwelling.

Objectives

- To facilitate the efficient use of the site area.
- To maximise private amenity within the building.
- To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.
- To provide an acceptable scale of development.

Controls

- The building footprint for single detached dwellings is not to occupy more than 55% of the site and the total impervious area is not to exceed 75% of the total site area.
- The building footprint for denser development (i.e. attached/zero lot housing, terrace, townhouse or villa development) is not to occupy more than 60% of the site and the total impervious area is not to exceed 75% of the total site area.

Building Design and Appearance

Objectives

- To encourage designs that will enhance the character of the neighbourhood.
- To promote variation of building facade and design.
- To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- To ensure buildings address all street frontages.

- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

- 1. All dwelling houses are to be orientated to the street.
- 2. The front pedestrian entrance must be visible from the street.
- 3. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
- 4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
- 5. Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
- 6. "Mirror – imaging" of facades on Semi-detached dwellings and Attached dwellings are not permitted.

Two storey dwellings

- 1. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 18)
- 2. The maximum total length of the side walls of the first floor component of a dwelling shall be a maximum of 33m as measured from any point within 3m of that side wall (for example 14m + 19m = 33m) (See Figure 19).



Figure 18: An Example of Building Appearance (Indicative Only – Not to Scale)

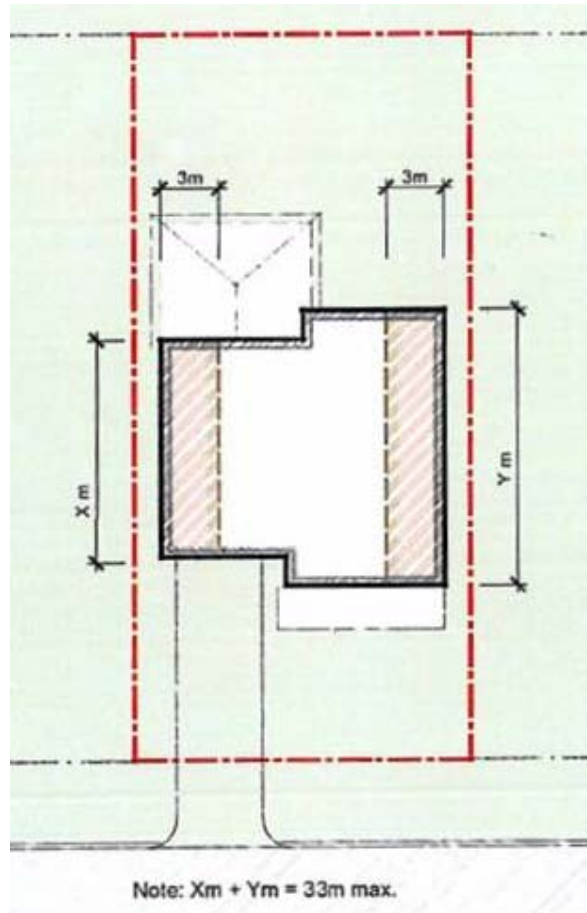


Figure 19: Maximum Total First Floor Wall Length of a Two Storey Dwelling

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports shall not be built in front of the building line and shall be:
 - i. No larger than 5.5 x 6m.
 - ii. Built of a similar colour and materials of the house.
 - iii. Compatible with the local streetscape.
6. The conversion of garages to living space may only be permitted if:
 - i. At least one car parking space is provided behind the front setback.
 - ii. The additional living area does not result in the building exceeding the maximum permitted floor space ratio.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- c) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- d) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- 1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
- 2. Living rooms should take advantage of northern aspects where possible.
- 3. Access to private open space must be from at least one living room.
- 4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
- 5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
- 6. Each dwelling must provide a minimum storage area of 8m³.
- 7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
- 8. Dwelling entries must be oriented to the street.

5.6 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
- 2. Trees planted on the northern side of private open space and habitable rooms are encouraged to be of a deciduous species.
- 3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided.

4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
5. A landscape plan must be lodged with all new dwellings and is to provide the following details:
 - i. The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - ii. The location of any trees on adjoining properties that is likely to be damaged as a result of excavations or other site works.
 - iii. The position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

Fencing

Objectives

- b) To provide a clear transition between public and private areas.
- c) To provide a visual element within the streetscape.
- d) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
3. Front fences shall be constructed in masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (see Figure 20).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure 20). The secondary setback is the longest length boundary.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.

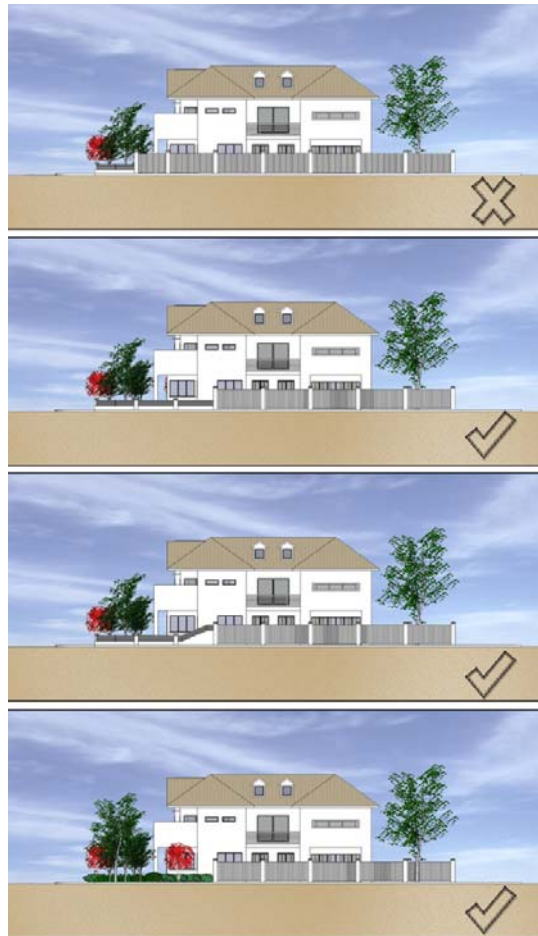


Figure 20: Fence Treatments on Secondary Frontage

5.7 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on-street car parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling, except for lots under 300sqm which must provide a minimum of 1 car parking space.
- 2. At least one car parking space must be provided behind the front setback.
- 3. A car parking space is to have a minimum dimension of 2.5m x 5.5m.
- 4. A single garage is to be a minimum of 3m wide internally and provide unobstructed access.
- 5. All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

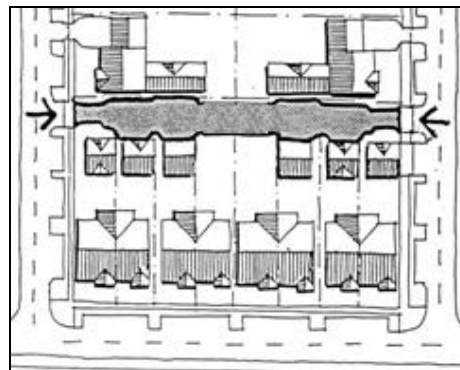
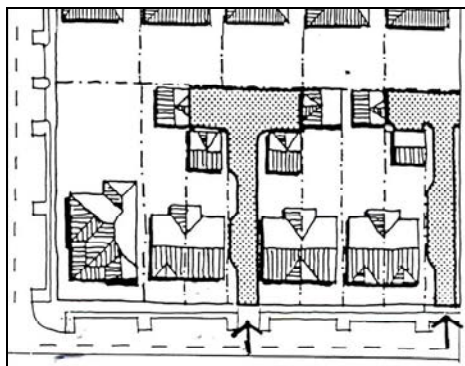
Private Driveways

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To clearly define public and private spaces, such that driveways are for the sole use of residents.

Controls

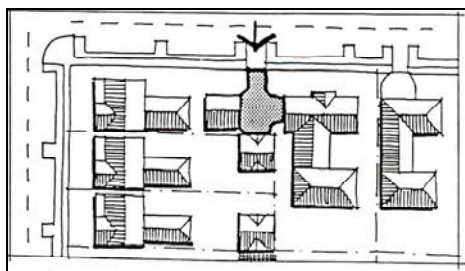
- 1. Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
- 2. A lot on which an off-street car parking space is provided must have a driveway to a public road.
- 3. A driveway on a lot must be constructed in accordance with Australian Standard AS 2890.1 - 1993, Parking facilities - Off-street car parking.
- 4. Development on corner lots on collector streets shall have access from the street perpendicular to the collector street.



T-Shaped

- Driveway should be from the frontage road of the narrow lot dwellings
- Use where block geometry or available road frontage precludes 'close'

Where driveways are to serve several lots they should connect through to public roads.



Common Apron

- Maximum 3 dwellings

Figure 21: Private Driveways

5.8 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- i. One living room, rumpus room or the like.
- ii. 50% of the private open space.

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 22).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (See Figure 22).

3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

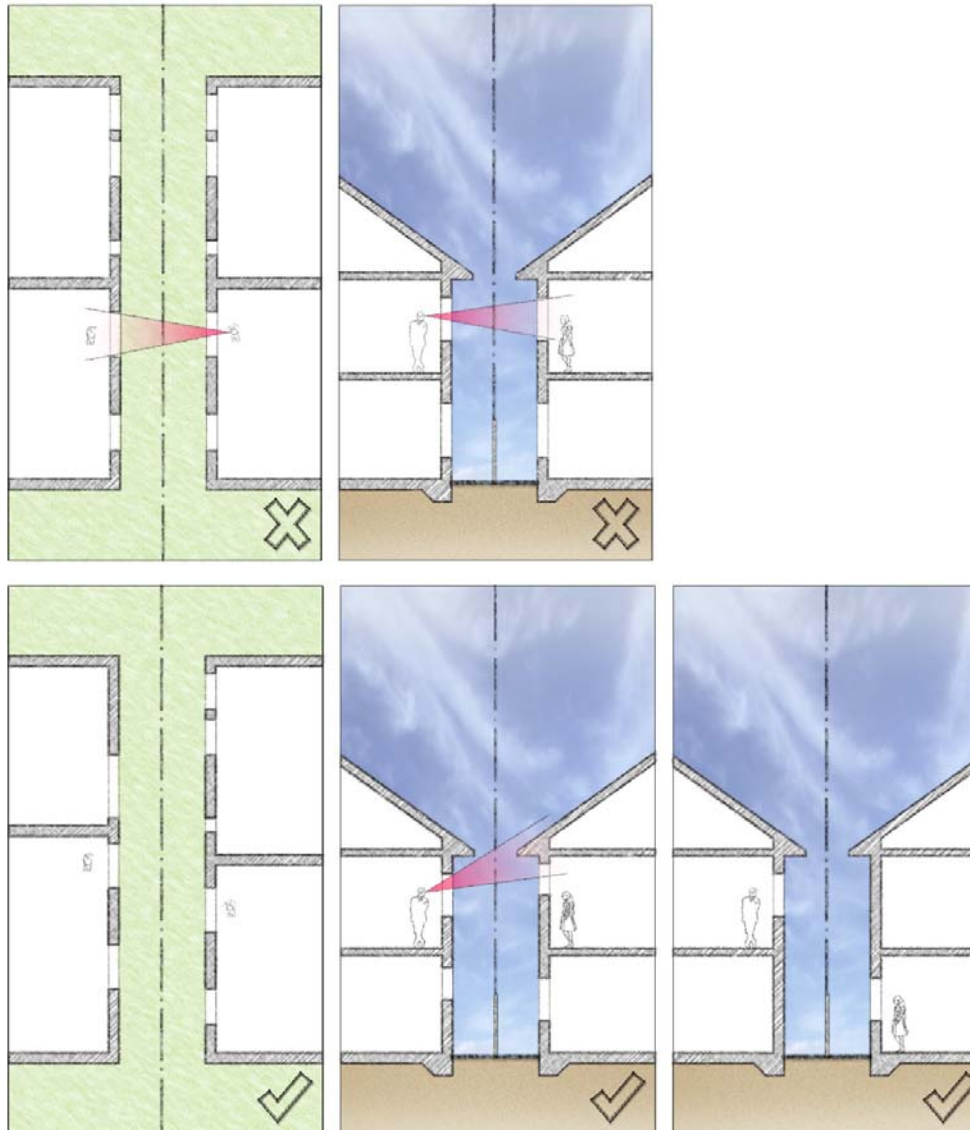


Figure 22: Privacy and Amenity



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Liverpool Development Control Plan 2008
Part 2.10
Development in
Moorebank East

19 February 2014

Part 2.10 must be read in conjunction with Part 1

Refer to Part 6 for development in Business Zones

Liverpool Development Control Plan 2008

Part 2.10 Moorebank East

Table of Contents

1. Preliminary	5
2. Controls for Public Domain	8
2.1 Street Network	8
2.2 Pedestrian and Cyclist Amenity	13
2.3 Streetscape and Street Trees.....	14
2.4 Open Space	13
2.5 Views and View Sharing.....	16
2.6 Foreshore Access	16
2.7 Drainage	17
3. Controls for Private Domain	19
3.1 Subdivision, Frontage and Allotment Size	19
3.2 Site Planning	21
3.3 Setbacks	23
3.4 Landscaped Area and Private Open Space	24
3.5 Cut and Fill, Building Design, Streetscape and Layout	26
3.6 Landscaping and Fencing	29
3.7 Car Parking and Access.....	31
3.8 Amenity and Environmental Impact.....	33
3.9 Site Services	35
3.10 Secondary dwellings (Granny Flats).....	36

Table of Figures

Figure 1 Land to which this plan applies	5
Figure 2 Street Network	10
Figure 3 Collector Street	11
Figure 4 Local Street	12
Figure 5 Tree Protection	15
Figure 6 Area of fill to be removed	18
Figure 7 Highest density generally located in accessible places with highest amenity	20
Figure 8 Lot Orientation	20
Figure 9 Private open space considerations on an east-west lot	21
Figure 10 Site Analysis	22
Figure 11 Landscaped Area	25
Figure 10 Cut and Fill requirements for a dwelling	27
Figure 11 Example of Building Appearance	28
Figure 12 Fence types	31
Figure 14 Private Driveway Options	33
Figure 15 Privacy and Amenity	34

List of Tables

Table 1 Setbacks	23
Table 2 Side and Rear Setbacks	24

1. Preliminary

Applies to

1. Part 2.10 applies to the land, shown in Figure 1.
2. Part 1 applies to the land shown in Figure 1.
3. Part 3.8 also applies for non residential development on the land.
4. Parts 3.1 – 3.7 do not apply to the land.
5. Controls on land within the Business Zone in this locality are in Part 6.



Figure 1 Land to which this plan applies

Background

The site currently consists of a landscape and garden supplies business and sand extraction industry adjoining the Georges River.

The sand extraction industry has reached the end of its economic life. Landfill has been placed over some of the site to a level above the 1% flood on the Georges River. It is proposed to be redeveloped for residential and business uses with possibly private recreation along the foreshore.

The landscape and garden supplies business is proposed to redevelop.

Voluntary Planning Agreement

Two Voluntary Planning Agreements also apply to the site.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.
- b) Guaranteeing a movement system that relates accessibility demand to location of development type.
- c) Ensuring that servicing can be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and give priority to pedestrians and children.
- e) Guaranteeing adequate accessibility for emergency vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising the existing street layout.
- g) Providing safe access during flooding events.

Social Benefits

To establish affordable and accessible facilities and resources that allow people to maintain wellbeing, live and recreate by:

- a) Ensuring that development creates a 'people place' by giving priority to people and human relationships through housing mix and safety.
- b) To increase the range of housing opportunities available.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage and floodplain management that contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water and air pollution management and water quality.
- e) Maintaining and enhancing the quality of the natural environment.
- f) Connecting and enhancing vegetation corridors and providing links between the Western Sydney regional parkland and the Hinchinbrook Creek Corridor.
- g) Promoting the conservation of flora and fauna, including the retention of Cumberland Plain Woodland.
- h) Promoting the development of place and a quality built environment with people and human relationships as a central consideration.
- i) To ensure that future development will not detract from the level of residential amenity and environmental quality enjoyed by residents of adjoining properties
- j) To ensure that future residents and occupants of the site will enjoy a high standard of residential amenity and environmental quality
- k) To ensure that future development responds sympathetically to existing streetscape, riverscape and townscape values
- l) To provide a possible location for a commercial centre and recreational facilities

Economic Benefits

To establish economic capital that is accessible and meets the needs of the community by:

- a) Ensuring appropriate accessibility to employment.
- b) Ensuring infrastructure is sufficient to meet current and predicted need.

2. Controls for Public Domain

2.1 Street Network

Background

It is envisaged that Moorebank East will be an accessible place with a clearly identifiable hierarchy of streets. There will be a network of footpaths and cycleway that will help connect the precinct to the immediate surrounding areas. The proposed precinct is to comprise a network and hierarchy of streets that link the site with the surrounding urban fabric. A road link from Brickmakers Drive is proposed to link to Davy Robinson Drive, although this is not envisaged to be a short cut from Newbridge Road.

Objectives

- a) To provide for attractive residential and commercial street environments
- b) To ensure safe, efficient and direct access to commercial, residential and recreational areas
- c) To provide for an efficient circulation of bus services and convenient pedestrian access
- d) To minimise the amount of through traffic in residential areas
- e) To ensure safety for pedestrians
- f) To guarantee adequate accessibility for emergency vehicles
- g) To integrate development with the surrounding public transport network.

Controls

- 1. Subdivision of the land shall be in accordance with Figure 2.
- 2. Subdivision of the land shall incorporate a link road between Brickmakers Drive and Davy Robinson Drive as shown on Figure 2. The link road shall be a minimum 20m wide and be able to accommodate a bus route.
- 3. Street sections are to comply with Figures 3 – 4.
- 4. Flood free access via a road bridge from Brickmakers Drive shall be provided prior to any subdivision of Lot 7 DP 1065574.
- 5. The street network is to be clearly legible with signposts showing street names and property numbers.
- 6. Street layouts at key locations are to be designed to ensure pedestrian safety.
- 7. Kerb ramps are required at all intersections where footpaths are provided
- 8. Footpaths must be provided along at least one side of every street.
- 9. A street network plan is to be submitted for all subdivision applications showing street and intersection types and any other proposed street treatments.
- 10. Local streets shall front open space and avoid back fences to open space and other public areas.
- 11. All plans must indicate street types and intersection treatments.
- 12. A direct road connection is to be provided from the Road Bridge through the Residential to the private open space.
- 13. A pedestrian access shall be provided from land in the R3 zone through the B6 zone through to Newbridge Road.

14. Barrier kerbs shall be used:

- On any street frontage to open space.
- At all intersections (between the potential driveway location on one frontage to the potential driveway location on the alternative street frontage). Driveways are not to be located with 6m of the tangent point of any intersection.
- Barrier kerb shall be installed for the entire length of bus zones and for 10m on the approach of the bus stop.

15. Roll kerbs may be used in other locations to the above.

Street Types

The following streets are provided:

Collector Street (Link Road)

This street provides a connection between Brickmakers Drive and Davy Robinson Drive.

Local Streets

These streets are designed for slow residential traffic. The road reserve is 15m wide.



Figure 2 Street Network

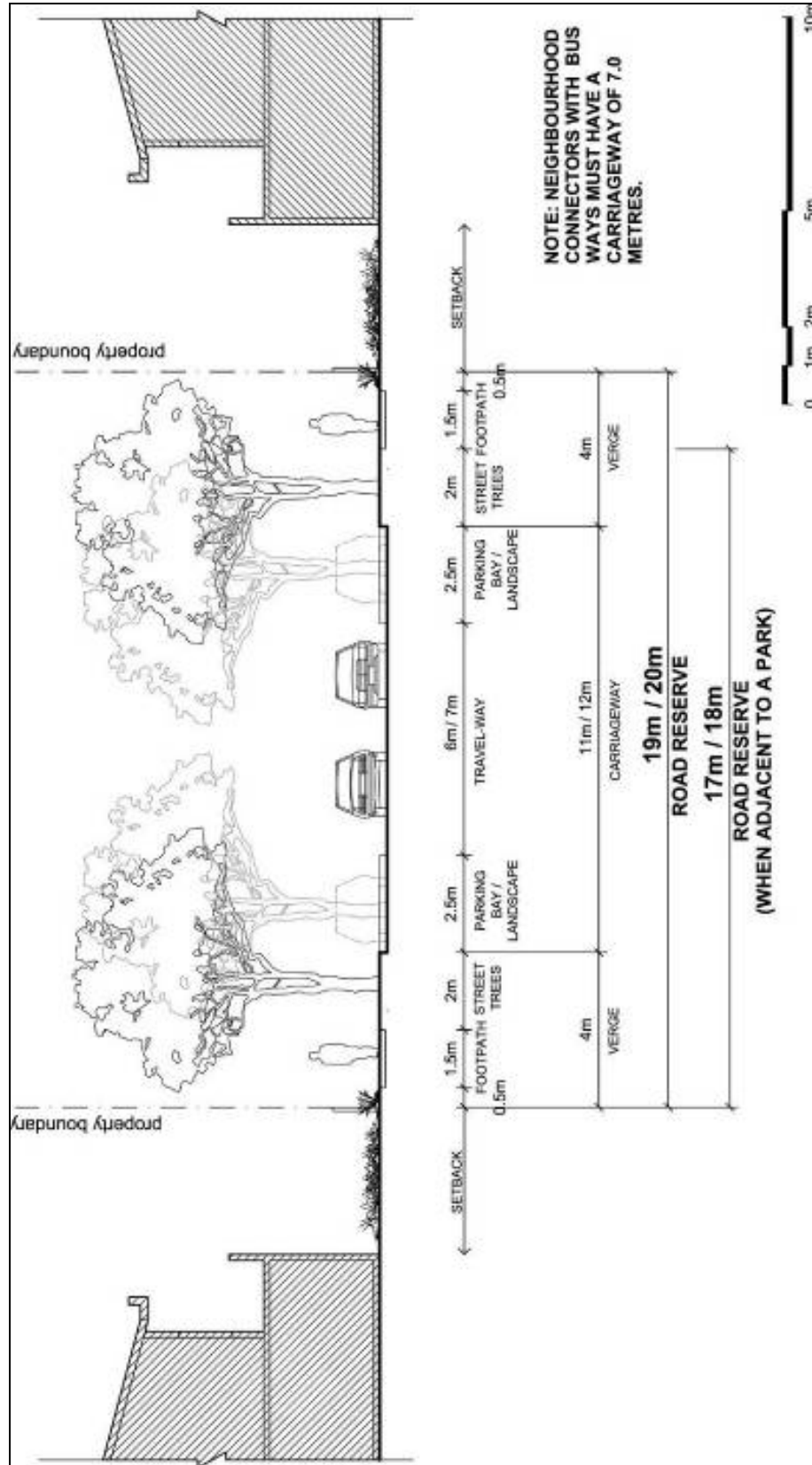


Figure 3 Collector Street

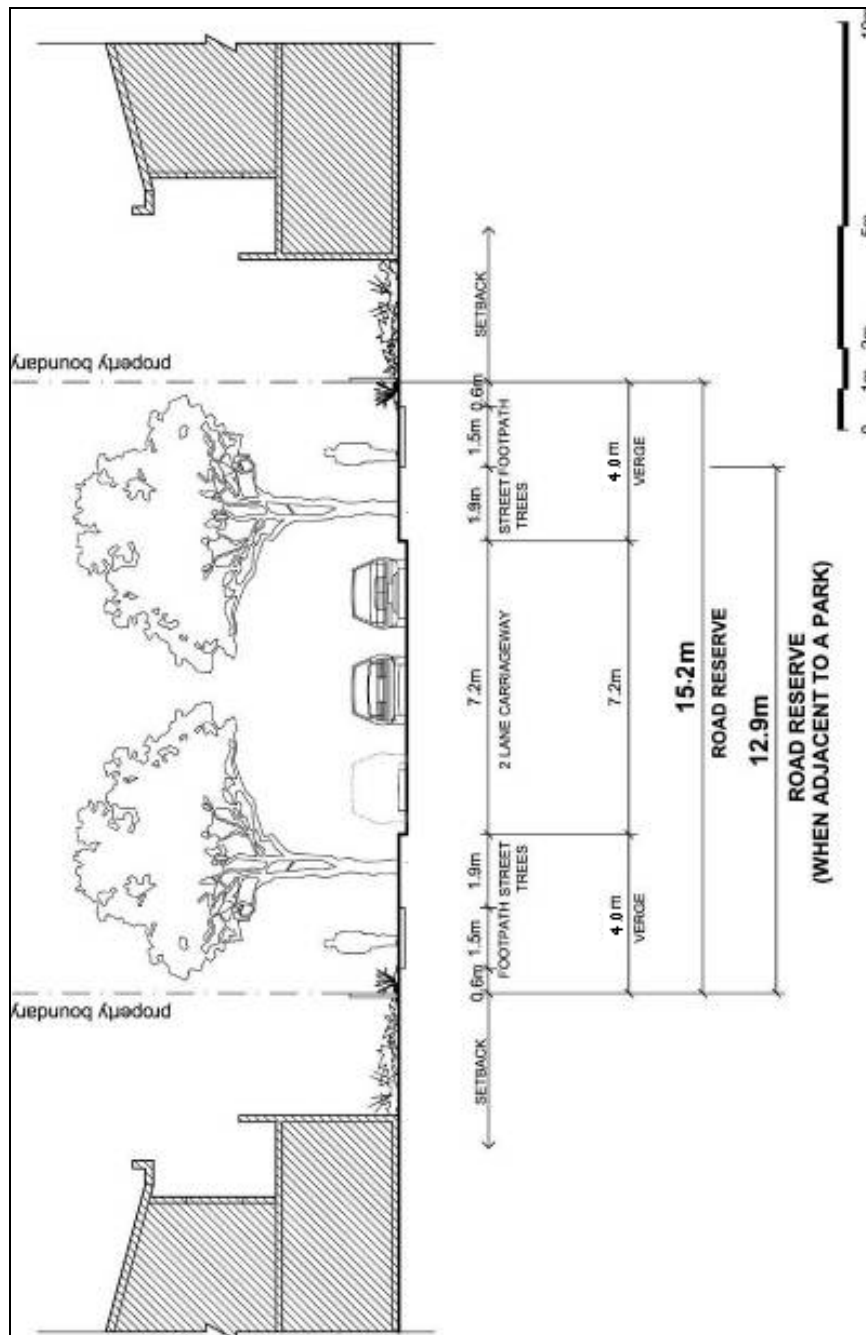


Figure 4 Local Street

2.2 Pedestrian and Cyclist Amenity

Background

Pedestrian and Cycle facilities in public spaces provide for linkages to social and cultural activities and educational facilities, and should be characterised by excellence of design appropriate to the area.

Vehicle crossings over footpaths need to be managed and minimised to ensure that they do not detract from the quality of the public domain, disrupt pedestrian or cycle movement, or threaten user safety.

Objectives

- a) To encourage walking and cycling as opposed to the use of private vehicles for local trips
- b) To provide a permeable and interconnected network of streets and pathways that gives safe, convenient and legible access both within and beyond the site
- c) To minimise and prevent, where possible, vehicular crossings over a pedestrian or cyclist pathways

Controls

- 1. Vehicle access to developments is to be designed and located to minimise conflicts with pedestrians and cyclists on footpaths, particularly along high volume pedestrian streets.
- 2. Wherever practicable, vehicle access to developments is to be a single crossing, perpendicular to the kerb alignment.
- 3. Where practical, pedestrian and cycle paths in open space areas should be located close to streets on the edge of open spaces to take advantage of street lighting and allow for casual surveillance by residents and drivers. Where this is not practical, paths should be well - lit and visible from the road.
- 4. Pedestrian and cycle paths are to link the key facilities within and outside the area, such as the open space network.
- 5. Shared pedestrian/cycle links, cycle ways public roads and lanes are to be clearly and frequently signposted to indicate their shared status.
- 6. Designated cycle lanes on streets are to be clearly indicated by line – markings on the road surface and/or by signs beside the road.
- 7. Shared pedestrian and cycle paths are to be a minimum of 2.5m wide.
- 8. Designated pedestrian – only paths are to be a minimum of 1.5m wide.
- 9. Pedestrian and Cycle facilities in public spaces are to be safe, well lit, clearly defined, functional and accessible to all. An appropriate level of pedestrian lighting to ensure security and contribute to the legibility of streets.
- 10. Pedestrian and cycle 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 AS 1428:1 – 4.

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

- 1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
- 2. Street furniture is to be located so as not to impede mobility in accordance with AS 1428:1 - 4.
- 3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

- 1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
- 2. One street tree shall be planted for each residential dwelling created.
- 3. The street trees shall be planted prior to the release of the subdivision certificate.
- 4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 5 for details.
- 5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.
- 6. Intensive planting shall be provided along the Link Road between the R3 and B6 zones.

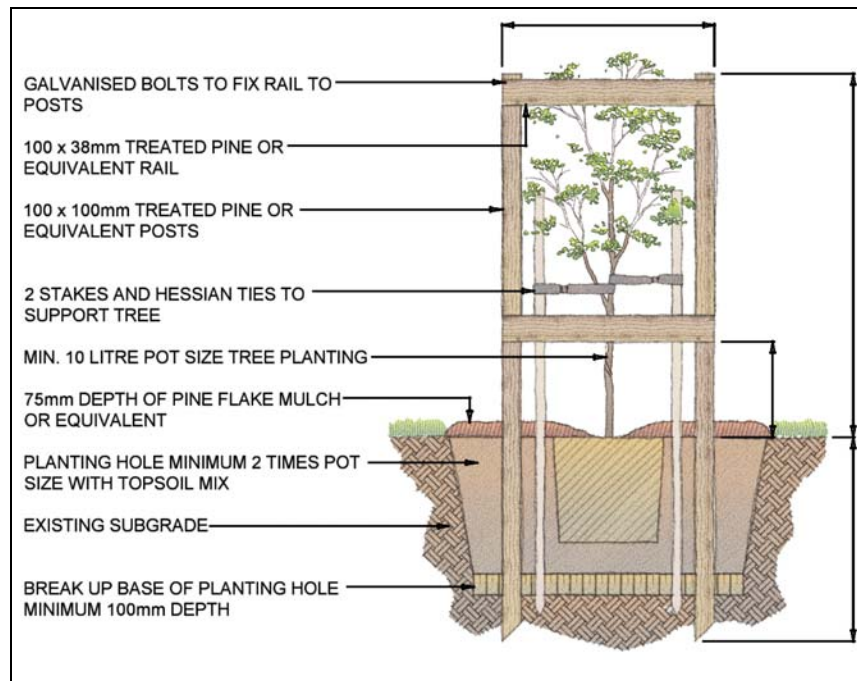


Figure 5 Tree Protection

2.4 Open Space

Background

Public Open Spaces can play an important role in meeting recreational and social needs. Public Open Space at Moorebank East should include continuous foreshore access and pedestrian and cycle connections throughout the precinct.

Public spaces should be designed to promote vibrant social interaction, civic pride and a sense of public ownership and belonging. Landscaped areas and open space within the public domain play a major role in setting the character of the locality. These areas should make the neighbourhood pleasant and welcoming to be convenient to the needs of the community, especially in higher density areas.

Objectives

- a) To provide public access to the Georges River Foreshore for residents.
- b) To ensure adequate provision and distribution of public space to meet the need of the residents.
- c) To provide for adequate links between major open space, community, recreational, and retail facilities.

Controls

1. Direct public access (pedestrian/ bicycle) should be provided from the residential zone east through the private recreation zone, to the Georges River Foreshore reserve.
2. A shared pedestrian/cycleway access should also be provided, along the western boundary of the RE2 zone, to the Georges River foreshore reserve.
3. Local parks provided within the residential area, should be a focal point for development and activity.

4. Ensure that development which surrounds open space is orientated towards the park to offer casual surveillance.
5. Perimeter streets should be provided to all parks on at least three sides of the park. Where a street frontage is not provided the development must front the park to provide surveillance.
6. Sufficient lighting to be provided within local parks

2.5 Views and View Sharing

Background

The Moorebank East Precinct has several viewpoints, and potential views to the Georges River. It is important to ensure that there are equitable opportunities for lots with potential views.

Objectives

- a) To provide for equitable view sharing.
- b) To provide for a subdivision pattern that maximises view points.
- c) That view points should be located prior to subdivision.

Controls

1. Higher Density lots should be located to best utilise potential view.
2. View corridors out of or into the site should be identified, maintained and improved where possible.
3. Buildings along the southern and eastern edge of the residential zone must be no wider than 35m and separated from other buildings by at least 10m.

2.6 Foreshore Access

Objective

To provide access to land in the RE1 zone along the Georges River foreshore for residents and Council maintenance equipment.

Controls

1. A 10m wide access shall be dedicated free of charge to Council to link a public road with the land in the RE1 zone along the Georges River foreshore at the northern end of Lot 7 DP 1065574 to permit access by the public and Council maintenance vehicles.
2. A right of way access shall be provided free of charge to Council to link a public road with the land in the RE1 zone along the Georges River foreshore at the southern end of Lot 7 DP 1065574 to permit access by Council maintenance vehicles.

2.7 Drainage

Objective

To provide appropriate on-site stormwater system which can be economically maintained.

Controls

1. The site should be generally drained east toward the Georges River, rather than to the drain on the western side of the site.
2. An onsite detention basin is required to avoid any increase in peak stormwater discharge from the drain on the western boundary of the property.
3. Use gross pollutant traps and water quality control ponds to remove suspended sediment, nutrients and bacteria.

2.8 Removal of Fill

Any Development Application on Corner Lot 2 DP 602988 is to include provisions for the removal of 35,000m³ of fill from the area indicated in Figure 6.

3. Controls for Private Domain

3.1 Subdivision, Frontage and Allotment Size

Objectives

- a) To provide a range and mix of lot sizes to suit a variety of dwellings types distributed throughout the area.
- b) To locate higher density in places of greatest amenity, such as near parks, other open spaces and along transport nodes.
- c) To ensure that the density of development and siting of dwellings maintain a high standard of privacy.
- d) To ensure lots are oriented to optimise solar access to facilitate micro-climate management, including the application of energy conservation principles.
- e) To ensure all dwellings address the street.
- f) To ensure that lot size and dimensions take into consideration the physical characteristics of the land, in a way, which promotes retention of existing vegetation and reduces the incidence of damaging earthworks and retaining wall construction.
- g) To ensure passive surveillance of public space through the effective and functional layout designs of new developments.
- h) To ensure that the dwelling siting minimises impacts on views from adjacent existing residential development.

Controls

- 1. 25% of lots must be 300sqm or greater
- 2. At least 25% of lots must be less than 300sqm
- 3. Any lot greater than 400sqm should have a frontage of at least 12m.
- 4. All development needs to be in accordance with Council's adopted residential subdivision design principles.

Dwelling Mix

Objectives

- a) To ensure development provides a mix of apartment types and sizes to accommodate a range of household types and needs
- b) To provide for a variety of residential unit mix, sizes and layouts within each residential development

Controls

- 1. A maximum of 216 Dwellings are permitted on the site.
- 2. Subdivision, lot sizes and orientation are to address the principles in Figures 7 and 8.

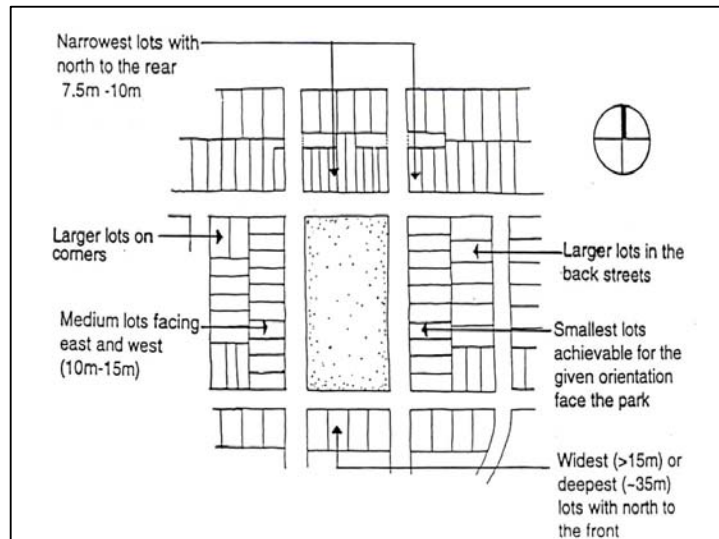


Figure 7 Highest density generally located in accessible places with highest amenity

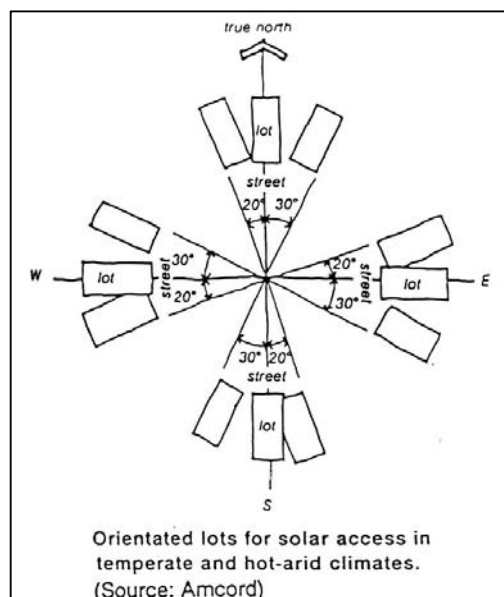


Figure 8 Lot Orientation

1. Lot sizes and dimensions are to take into account the slope of the land to minimise earthworks/retaining wall construction and the retention of existing trees.
2. Minimum allotment width is 6m.
3. Any application for subdivision creating allotments of 6m width must be accompanied by an application for a dwelling house on each of those allotments.
4. On east-west lots, houses and private open space are to be sited generally in accordance with Figure 9.

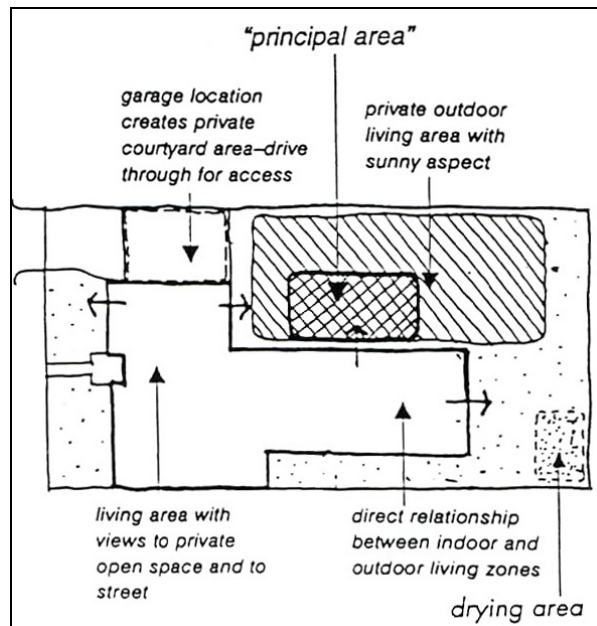


Figure 9 Private open space considerations on an east-west lot

3.2 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 10).
2. There must be a direct link from at least one living area to the principal private open space.
3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

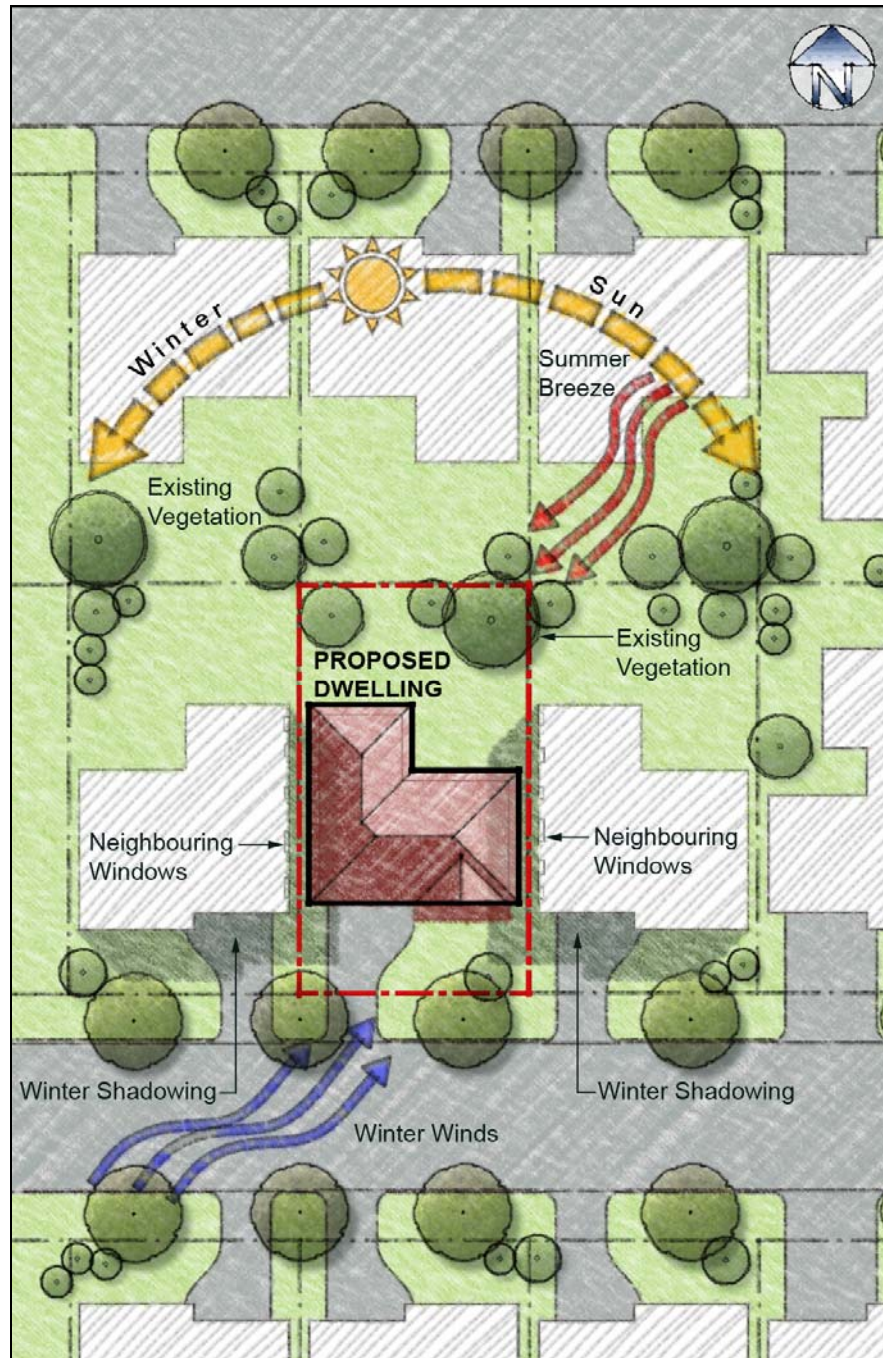


Figure 10 Site Analysis

3.3 Setbacks

Front and Secondary Setbacks

Objectives

- a) To ensure appropriate front setbacks.
- b) To contribute to the creation of attractive and memorable streetscapes that has a consistent character.
- c) To reduce the potential visual effects of garages on dwelling facades and streetscapes.
- d) To provide adequate space for landscaping or open space.

Controls

- 1. Dwelling houses shall be setback in accordance with Table 1.

Table 1 Setbacks

Height	Front Setback	Secondary Setback
Ground floor	4.5m	2.5m
First floor	5.5m	2.5m

- 2. Garages must be set back a minimum of 1m behind the main face of the dwelling. (The main face is the first wall of a habitable room)
- 3. Verandahs, balconies, eaves and other sun control devices may encroach on the minimum front and secondary setback by up to 1m.
- 4. The secondary setback is the longest length boundary.
- 5. Garages that address the secondary frontage must have a minimum setback of 5.5m.
- 6. Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wrap around verandah, bay window, corner entry or roof feature.

Side and Rear Setbacks

Objectives

- a) To maximise private amenity within the building.
- b) To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- c) To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.

Controls

Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9m	5.0m
Second storey component of dwelling houses	1.2m	8.0m
Living room doors (including family rooms and rumpus rooms)	4.0m	5.0m

Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

Zero lot lines

1. Walls are generally to be 180mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the adjacent side wall boundary.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 700 mm shall be provided on the adjoining boundary.

3.4 Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.
- f) Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

1. A minimum of 20% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum unincumbered area of 5 x 6m shall be provided in rear setback to accommodate deep rooted trees.
3. A minimum of 50% of the front setback area shall be landscaped area.

4. A minimum unincumbered area of 3 x 5m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum of 50 m² of Private Open Space.
2. Areas less than 2.5m in width does not qualify as Private Open Space.
3. Private open space areas are not permitted within the primary street setbacks.
4. The Private Open Space shall include the principal private open space, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6 m
5. The Principal Private Open Space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.

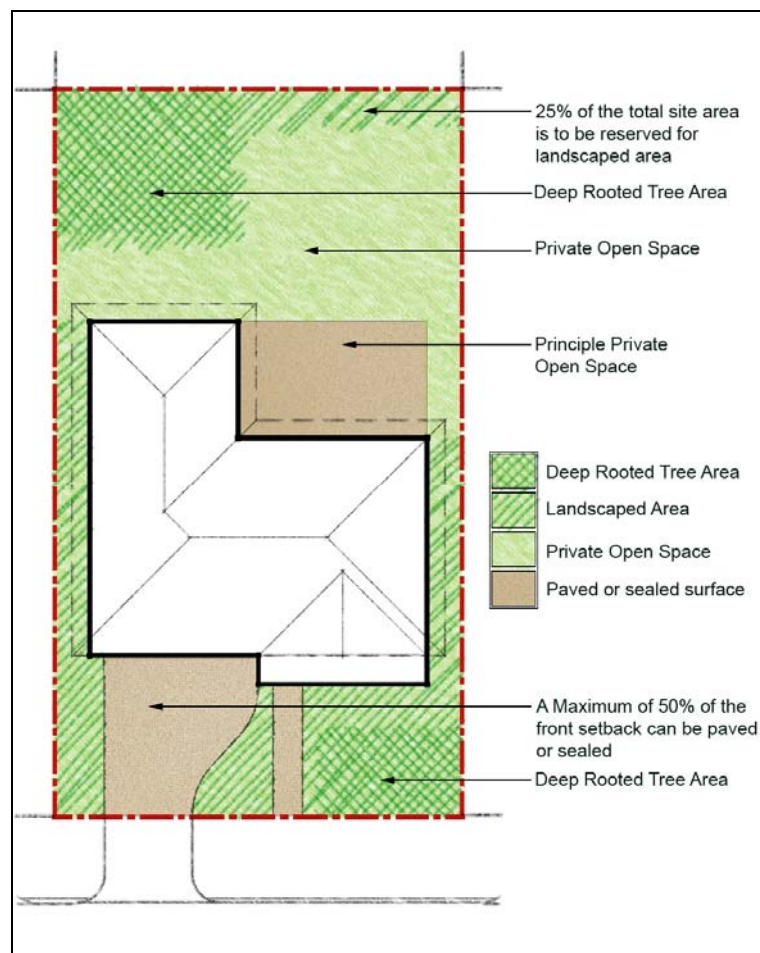


Figure 11 Landscaped Area

3.5 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1 m. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

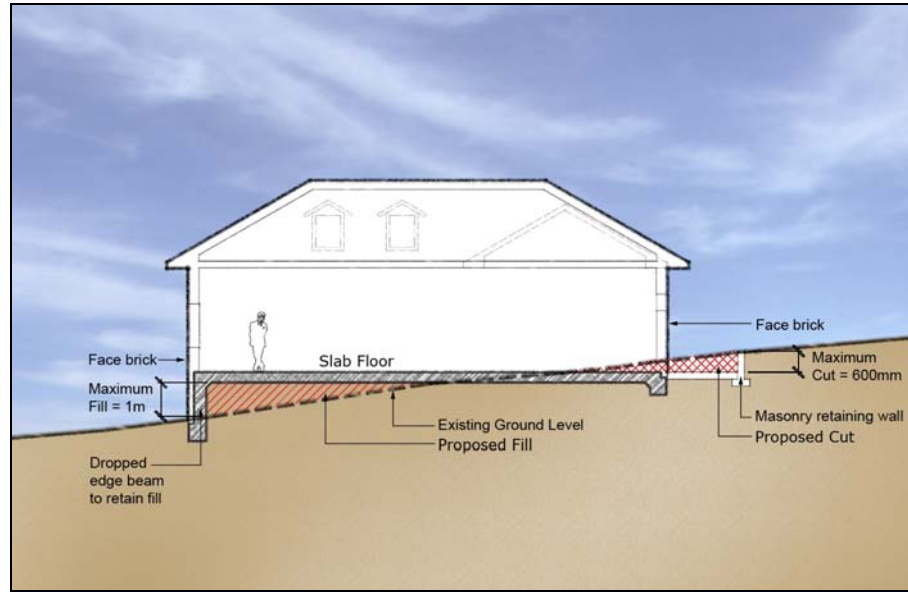


Figure 12 Cut and Fill requirements for a dwelling

Building Design and Appearance

Objectives

- To encourage designs that will enhance the character of the neighbourhood.
- To promote variation of building facade and design.
- The building enhances the streetscape through the use of suitable built form design and landscaping.
- To ensure buildings address all street frontages.
- To discourage garages and in particular garage doors, from visually dominating the streetscape.
- To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- To ensure habitable rooms address the street.
- To encourage balconies over garages in two storey dwellings.

Controls

Dwellings

- All dwellings are to be orientated to the street (See Figure 13).
- The front pedestrian entrance must be visible from the street.
- The front Building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
- For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.
- Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400 mm and be provided to a minimum of 70% of the dwelling.
- Dwellings that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

7. Balconies facing the street on two storey dwellings are encouraged (See Figure 13).

Two storey dwellings

To break up the bulk of two storey dwellings balconies built above garages are encouraged

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade.
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports may be built in front of the garage *only if* the carport is:
 - No larger than 5.5 x 6m.
 - Built of a similar colour and materials of the house.
 - Setback 2m from the front property boundary.
 - Compatible with the local streetscape.
6. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.



Figure 13 Example of Building Appearance (Indicative Only – Not to Scale)

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.

- d) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- e) That each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- 1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
- 2. Living rooms should take advantage of northern aspects.
- 3. Access to private open space must be from at least one living room.
- 4. The internal layout of the dwelling must incorporate cross ventilation.
- 5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
- 6. Each dwelling must provide a minimum storage area of 8m³.
- 7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
- 8. The main living area must receive at least 3 hours of sunlight between 9.00am and 5.00pm on 21 June.

3.6 Landscaping and Fencing

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
- 2. Trees planted on the northern side of private open space and habitable rooms are to be deciduous.
- 3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided.
- 4. Any tree with a mature height over 8 m should be planted a minimum distance of 3 m from the building or utility services.
- 5. A landscape plan must be lodged with all Das, and is to provide the following details
 - The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - The location of any trees on adjoining properties that are likely to be damaged as a result of excavations of other site works.

- The position of each shrub and tree species proposed to be planted. Each plant is to

Fencing

Objectives

- b) To provide a clear transition between public and private areas.
- c) To provide a visual element within the streetscape.
- d) To ensure fencing enhances the streetscape.

Controls

- 1. Wall finishes must have low reflectivity.
- 2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

- 1. The maximum height of a front fence is 1.2m.
- 2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
- 3. The front fence must be 30% transparent.
- 4. Front fences shall be constructed in masonry, timber, metal picket fencing and/or vegetation and must be compatible with the proposed design of the dwelling.
- 5. The maximum height of the front fence is 1.2m.

Secondary Frontage

- 1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (see Figure 13).
- 2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure 12). The secondary setback is the longest length boundary.
- 3. Side fencing must not be constructed of sheet metal.

Boundary Fences

- 1. The maximum height of side boundary fencing within the setback to the street is 1.2m.
- 2. Boundary fences shall be lapped and capped timber or metal sheeting.

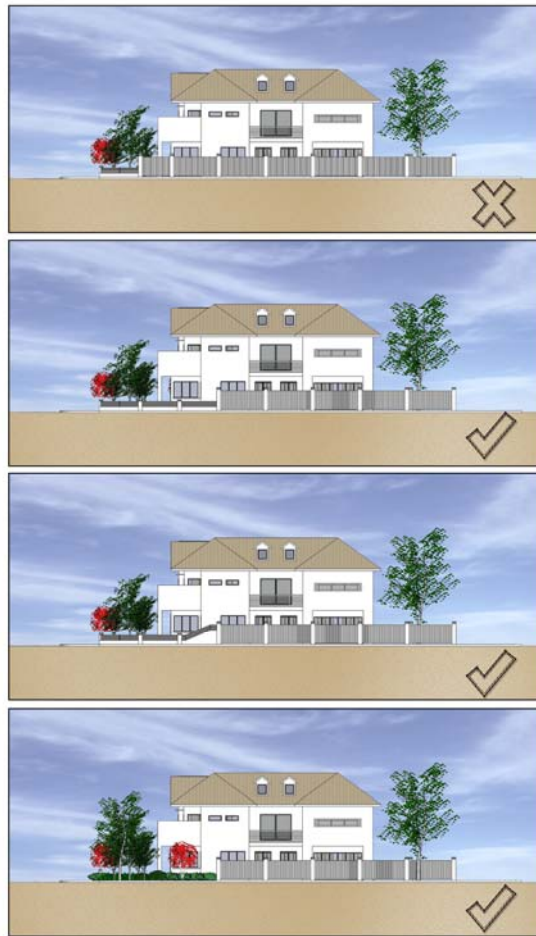


Figure 13 Fence types

3.7 Car Parking and Access

Car Parking

Background

The provision of on-site parking is required for all residential allotments. On-site parking is to be provided in a way that does not compromise the appearance of dwellings from the street.

Objectives

- a) To provide sufficient and convenient parking for residents and visitors.
- b) To ensure that parked vehicles do not create traffic or pedestrian hazards, and do not degrade landscaped areas such as grass verges.
- c) To reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.

Controls

1. Two car parking spaces shall be provided for each dwelling.
2. At least one car parking must be provided behind the front setback.
3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
4. A single garage is to be a minimum of 3m wide internally and unobstructed.

5. All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

Internal Driveways

Background

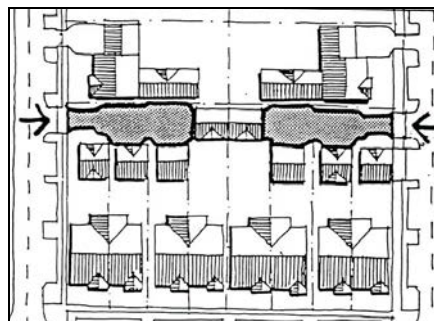
Where private driveways are used they are designed to minimise their impact on the streetscape and on the environment.

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To create a pleasant, low maintenance place.
- c) To ensure clearly defined public and private spaces, such that driveways are for the sole use of residents.
- d) To ensure casual surveillance of private driveways from dwellings and from the street
- e) To minimise conflict between pedestrians and vehicles at the junction of driveways and footpaths.

Controls

1. The driveway crossing the verge between the property boundary and the kerb is to have a maximum width of 5.5m.
2. Driveways are to have soft landscaped areas on either side, suitable for infiltration.
3. Private driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
4. Private driveways are to be constructed as one of three general types, depending on block geometry and garages to be accessed. (See Figure 13).
5. Higher density development fronting to collector streets is to have rear access through laneways, car courts and the like. Developers are to identify opportunities for rear lanes parallel to collector streets.
6. Corner lots on collector streets are to have access from the street perpendicular to the collector street.
7. At the street entry, the driveway is to be landscaped to have low visual impact and be clearly distinguishable as private access only.
8. Landscaping at driveways should not block lines of sight for pedestrians, cyclists and vehicles.



TYPE 1 – CLOSE
- **Preferable**

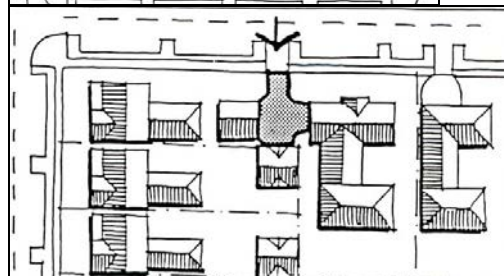
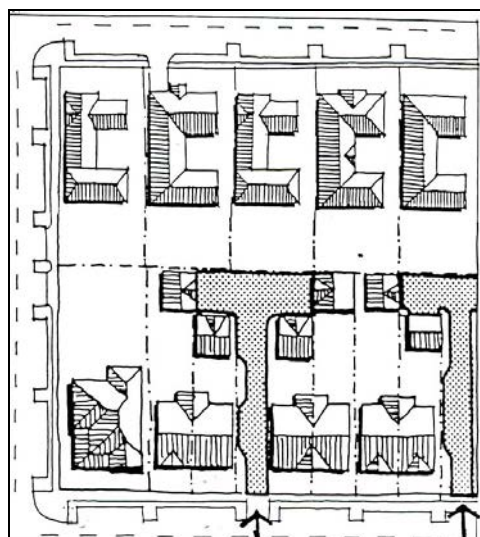


Figure 14 Private Driveways



TYPE 2 – T-SHAPED
- Driveway should be from frontage road of the narrow lot dwellings
- Use where block geometry or available road frontage precludes “close”.

Figure 15 Private Driveway Options

3.8 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- One living room, rumpus room or the like.
- 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 16).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (See Figure 16).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

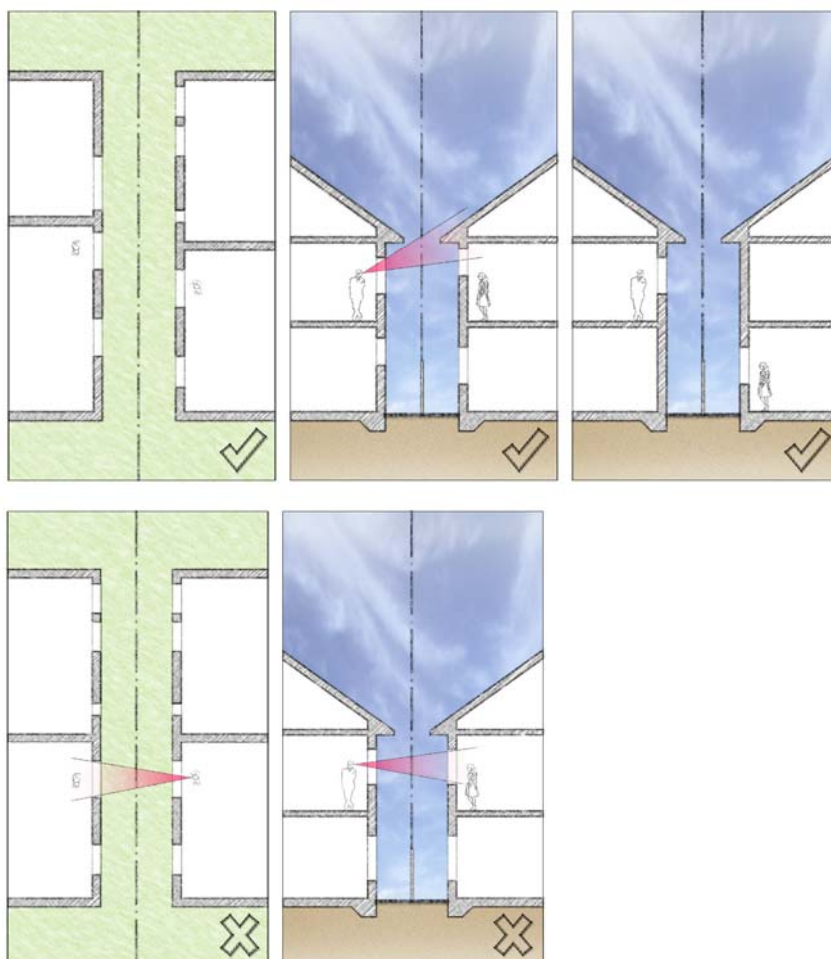


Figure 16 Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

3.9 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development involving residential flat buildings or shop top housing. These shall be located adjacent to the driveway entrance to the site or at the rear if a rear lane is provided.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
 - Details of the design of waste disposal facilities are shown in Part 1.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage

3.10 Secondary Dwellings (Granny Flats)

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A Secondary dwelling can be a maximum of one storey high, unless the granny flat is above the garage facing a rear laneway, where the Secondary dwelling must be one storey high above the garage.
2. A Secondary dwelling should be attached to the main dwelling, as provided by Part 2 of the DCP. However, Council may consider applications for detached granny flats on a merit base.
3. A Secondary dwelling should compliment the main dwelling design by using the same style of construction and a similar colour.

Note: Secondary dwellings are included in the overall floor space ratio of a property, and only one Secondary dwelling is permitted per lot.



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Liverpool Development Control Plan 2008

Part 2.11

Land Subdivision and Development in Edmondson Park

18 April 2018

Part 2.11 must be read in conjunction with Part 1

Liverpool Development Control Plan 2008

Part 2.11 Edmondson Park

Table of Contents

1. Preliminary.....	7
1.1 <i>Indicative Layout.....</i>	9
1.2 <i>Development within Sub Precincts.....</i>	11
1.3 <i>Hierarchy of Centres.....</i>	14
1.4 <i>Character Area Statements.....</i>	14
1.5 <i>Public Transport.....</i>	20
2. Controls for the Public Domain.....	23
2.1 <i>Street Network and Access.....</i>	23
2.2 <i>Pedestrian and Cycleway Network.....</i>	47
2.3 <i>Streetscape and Street Trees.....</i>	51
2.4 <i>Open Space.....</i>	52
2.5 <i>Environmental Management.....</i>	57
2.6 <i>Water Cycle Management.....</i>	60
2.7 <i>Contamination.....</i>	63
3. Controls for Residential Development in Urban areas (28 Dwellings/Hectare) and Residential Flat Buildings.....	64
3.1 <i>Preliminary.....</i>	64
3.2 <i>Site Planning.....</i>	64
3.3 <i>Setbacks.....</i>	66
3.4 <i>Landscaped Area and Private Open Space.....</i>	69
3.5 <i>Building Design and Streetscape.....</i>	71
3.6 <i>Car Parking and Access.....</i>	84
3.7 <i>Amenity and Environmental Impact.....</i>	86
3.8 <i>Site Services.....</i>	88
3.9 <i>Residential Choice and Mix for Apartment Buildings.....</i>	89
3.10 <i>Studio dwellings.....</i>	90
4. Controls for Residential Development Urban Transition areas (17&21 Dwellings/Hectare).....	93
4.1 <i>Preliminary.....</i>	93
4.2 <i>Site Planning.....</i>	93
4.3 <i>Setbacks.....</i>	95
4.4 <i>Landscaped Area and Private Open Space.....</i>	101
4.5 <i>Cut and Fill, Building Design and Streetscape.....</i>	102
4.6 <i>Car Parking and Access.....</i>	111
4.7 <i>Landscaping and Fencing.....</i>	113
4.8 <i>Amenity and Environmental Impact.....</i>	115
4.9 <i>Site Services.....</i>	117
4.10 <i>Studio dwellings.....</i>	118
5. Controls for residential development in Suburban areas (14 Dwellings/Hectare).....	120
5.1 <i>Preliminary.....</i>	120
5.2 <i>Site Planning.....</i>	120
5.3 <i>Setbacks.....</i>	121
5.4 <i>Landscaped Area and Private Open Space.....</i>	123

5.5	<i>Cut and Fill, Building Design, Streetscape and Layout</i>	125
5.6	<i>Car Parking and Access</i>	130
5.7	<i>Landscaping and Fencing</i>	131
5.8	<i>Amenity and Environmental Impact</i>	133
5.9	<i>Site Services</i>	136
5.10	<i>Studio Dwellings</i>	136
6.	Controls on Land in the R3 Zone “The Village Centres”	138
6.1	<i>Preliminary</i>	138
6.2	<i>Subdivision, Frontage and Allotment Size</i>	139
6.3	<i>Site Planning</i>	140
6.4	<i>Setbacks</i>	140
6.5	<i>Landscaped Areas and Pedestrian Areas</i>	141
6.6	<i>Building Form, Streetscape and Layout</i>	141
6.7	<i>Landscaping and Fencing</i>	149
6.8	<i>Car Parking and Access</i>	150
6.9	<i>Amenity and Environmental Impact</i>	151
6.10	<i>Site Services</i>	151
7.	Controls for Land in the B6 Zone – Enterprise Corridor	153
7.1	<i>Site Planning</i>	153
7.2	<i>Setbacks</i>	153
7.3	<i>Landscaped Areas and Pedestrian Areas</i>	154
7.4	<i>Building Form, Streetscape and Layout</i>	154
7.5	<i>Landscaping and Fencing</i>	156
7.6	<i>Car Parking and Access</i>	158
7.7	<i>Amenity and Environmental Impact</i>	158
7.8	<i>Site Services</i>	159
8.	Controls for Certain Sites	160
8.1	<i>North of Maxwell’s Creek urban park</i>	160
8.2	<i>Lots backing onto Camden Valley Way and the Rail Corridor</i>	161

Table of Figures

Figure 1: Land to which this part applies	7
Figure 2: Indicative Edmondson Park Layout Plan	10
Figure 3: Sub-precincts	12
Figure 4: Artistic view of Neighbourhood Centre.....	14
Figure 5: Locations of Character Areas	16
Figure 6: Possible Public Transport Routes	18
Figure 7: Fixed Roads	21
Figure 8: Street Types.....	25
Figure 9: Camden Valley Way.....	26
Figure 10: Camden Valley Way Intersection and Service Road Treatment.....	27
Figure 11: Bus Priority Corridor	28
Figure 12: Buchan Ave/Rynan Ave.....	29
Figure 13: Collector Street.....	30
Figure 14: Park Street	31
Figure 15: Local Street	32
Figure 16: Residential Laneway	34
Figure 17: Former Asset Protection Road	35
Figure 18: Artistic views of street types	36
Figure 19: Communal Driveways.....	38
Figure 20: Garage Location and Access.....	40
Figure 21: Bicycle Network.....	44
Figure 22: Tree Guard and Planting Details.....	46
Figure 23: Open Space Network	48
Figure 24: Areas which may be filled with Council Consent.....	56
Figure 25: Contamination	57
Figure 26: Example of a Site Analysis Plan	59
Figure 27: Front Setback Line	61
Figure 28: Zero Lot Lines	62
Figure 29: Examples of variable attached building design	69
Figure 30: Cross Ventilation	74
Figure 31: Car parking at ground level.....	79
Figure 32: Screening and lower level balconies.....	81
Figure 33: Example of a Site Analysis Plan	88
Figure 34: Small lot housing corner lot articulation	90
Figure 35: Front Setback.....	91
Figure 36: Lot orientation principles.....	93
Figure 37: Zero Lot Line	94
Figure 38: An example of Cut and Fill	97
Figure 39: Garage and Driveway design	106
Figure 40: Fence treatments on secondary frontage	109
Figure 41: Example of a Site Analysis Plan	115
Figure 42: Front Setback.....	116
Figure 43: An example of Cut and Fill	120
Figure 44: Example of Building Appearance.....	123
Figure 45: Fence treatments on secondary frontage	127
Figure 46: Privacy and Amenity Privacy	129
Figure 47: Landscaping around a Local Centre	151
Figure 48: Design guidelines for development to the n'th of Maxwell's Creek Park	155

List of Tables

Table 1: Setbacks within the 28 dw / ha area	60
Table 2: Side and Rear setbacks within the 28 dw / ha area	60
Table 3: Private open space in the 28 dw / ha area for all other dwellings.....	64
Table 4: Setbacks within the 17 dw/ha area	89
Table 5: Side and rear setbacks within the 17 & 21 dw/ha areas.....	91
Table 6: Private open space in the 17 & 21 dw/ha area.....	96
Table 7: Setbacks within the 14 dw/ha area	116
Table 8: Side and rear setbacks within the 14 dw/ha area.....	116
Table 9: Private open space in the 14 dw / ha area	118

1. Preliminary

Applies to

1. Part 2.11 applies to the land, shown in Figure 1.
2. Part 1 also applies to the land shown in Figure 1.
3. Part 3.8 also applies for non-residential development on the land.
4. Parts 3.1 – 3.7 do not apply to the land.



Figure 1: Land to which this part applies

Background

1. Edmondson Park has been master planned to achieve current public policy objectives in terms of meeting the future housing needs for the changing community, reducing the environmental impact and enabling greater social interaction. The proposed development will be characterised by a greater mix of housing types, higher residential densities, vibrant communities, active streets and environmentally responsible development.
2. The vision of Edmondson Park is to create a primarily residential neighbourhood located and focused around neighbourhood centres or the Town Centre. The neighbourhood centres will provide a central node and will accommodate a mix of convenience retail, limited commercial uses and residential development. The Town Centre will be located centrally within the release area, supported by the Edmondson Park train station, part of the South West Rail Link. The Town Centre will provide a full range of retail, commercial and high density residential uses and development will be orientated around a main street. This vibrant development is to be set in a context of high value natural habitat, which is both a visual backdrop and a usable open space amenity to the residents.
3. A primary precursor to success of the development, as an attractive and vibrant place to live, will be the controls of the built form and the consideration given to safety and security, the quality of the public open space and the provision of public transport services, both bus and rail.
4. The need to respond to the potential for integrated uses, higher residential densities and higher public transport use at this location and at this time is a critical responsibility when considered in the context of:
 - Limited land resources;
 - Minimisation of the development footprint; and
 - The environmental damage caused to water systems, ecological communities and decreasing air quality by current suburban development.
5. The specific qualities of Edmondson Park provide the opportunity to create an environment that addresses future community needs while being sustainable and urban.

Objectives

- a) To facilitate urban design that responds to the physical, cultural and urban heritage of the area;
- b) To facilitate urban development that meets environmental sustainability objectives;
- c) To ensure all development achieves a high standard of urban and architectural design quality;
- d) To ensure housing density targets are met through the provision of a range of housing types that offer greater diversity and affordability;
- e) To create walkable neighbourhoods, with good access to public transport;
- f) To ensure vehicular, pedestrian and cycle ways link efficiently within and between all land uses;
- g) To accommodate access for all people throughout Edmondson Park;
- h) To maximise opportunities for local employment and business in appropriate locations;
- i) To create a compact, vibrant and successful town and village centres;
- j) To provide cultural, recreational and social infrastructure that is flexible, adaptable and accessible;

- k) To protect and enhance riparian corridors, significant trees and vegetation;
- l) To ensure the timely delivery of critical infrastructure and efficient use of land and existing infrastructure;
- m) To deliver quality places of learning to service the future educational demands of the precinct; and
- n) To provide opportunities to reduce water consumption and manage stormwater runoff.

1.1 Indicative Layout

The Indicative Layout Plan (ILP) at Figure 2 illustrates the broad level development outcomes for Edmondson Park. It outlines the development footprint, land uses, density ranges, open space and riparian corridors, heritage areas, major transport linkages and location of community facilities and schools.

Objectives

- a) To ensure that development of the precinct is undertaken in a co-ordinated manner consistent with the South West Structure Plan and the DCP.

Controls

1. All development is to be undertaken generally in accordance with the Indicative Layout Plan at Figure 2 subject to compliance with the objectives and development controls set out in this Part;
2. Where variation from the ILP is proposed, the applicant is to demonstrate that the proposed development is consistent with the Vision and Development Objectives for the precinct set out within this Part.

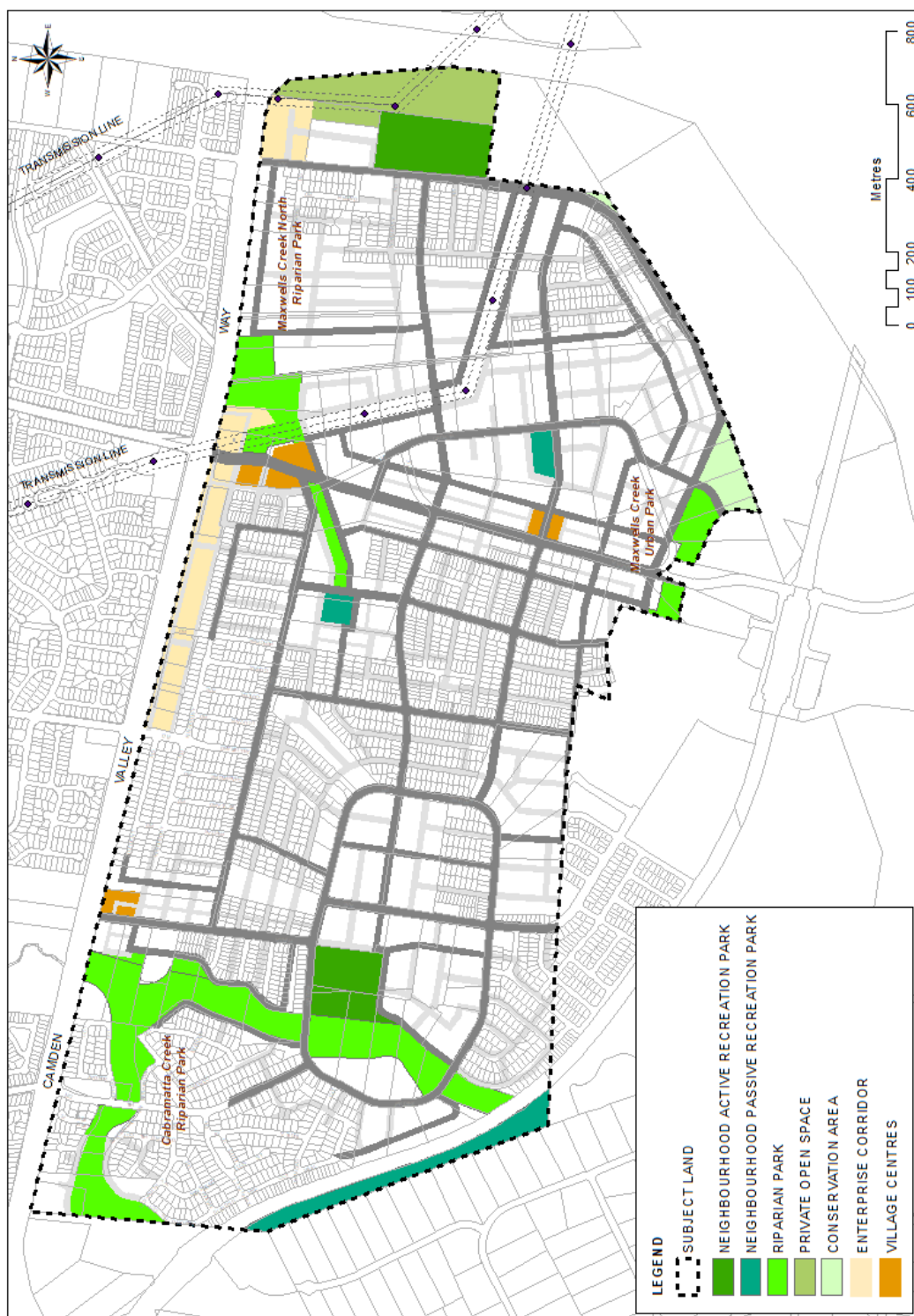


Figure 2: Indicative Edmondson Park Layout Plan

1.2 Development within Sub Precincts

Sub-Precincts are defined by the main fixed streets as show in Figure 3. While the boundary streets to the sub-precincts are fixed, there is flexibility to make layout

changes to the internal streets except those identified as 'Fixed Roads' in Figure 7, subject to meeting the Objectives and Controls below.

Objectives

- a) To allow departure from the Indicative Layout Plan should a demonstrated development and community benefit be achieved; and
- b) To ensure that access, drainage and servicing is appropriately provided

Controls

An applicant may depart from the subdivision layout within a sub-precinct provided that it is demonstrated that:

- 1. The block layout and subdivision objectives and controls outlined in Figure 3 are met.
- 2. The level of access to fixed roads is retained.
- 3. The provision of drainage and service infrastructure is retained.
- 4. There is no adverse impact on adjoining sub-precincts.

Figure 3 also shows an indicative staging of development based on the location of existing infrastructure. Development can proceed outside of this indicative staging should access to services, drainage & roads be resolved to the satisfaction of Council.

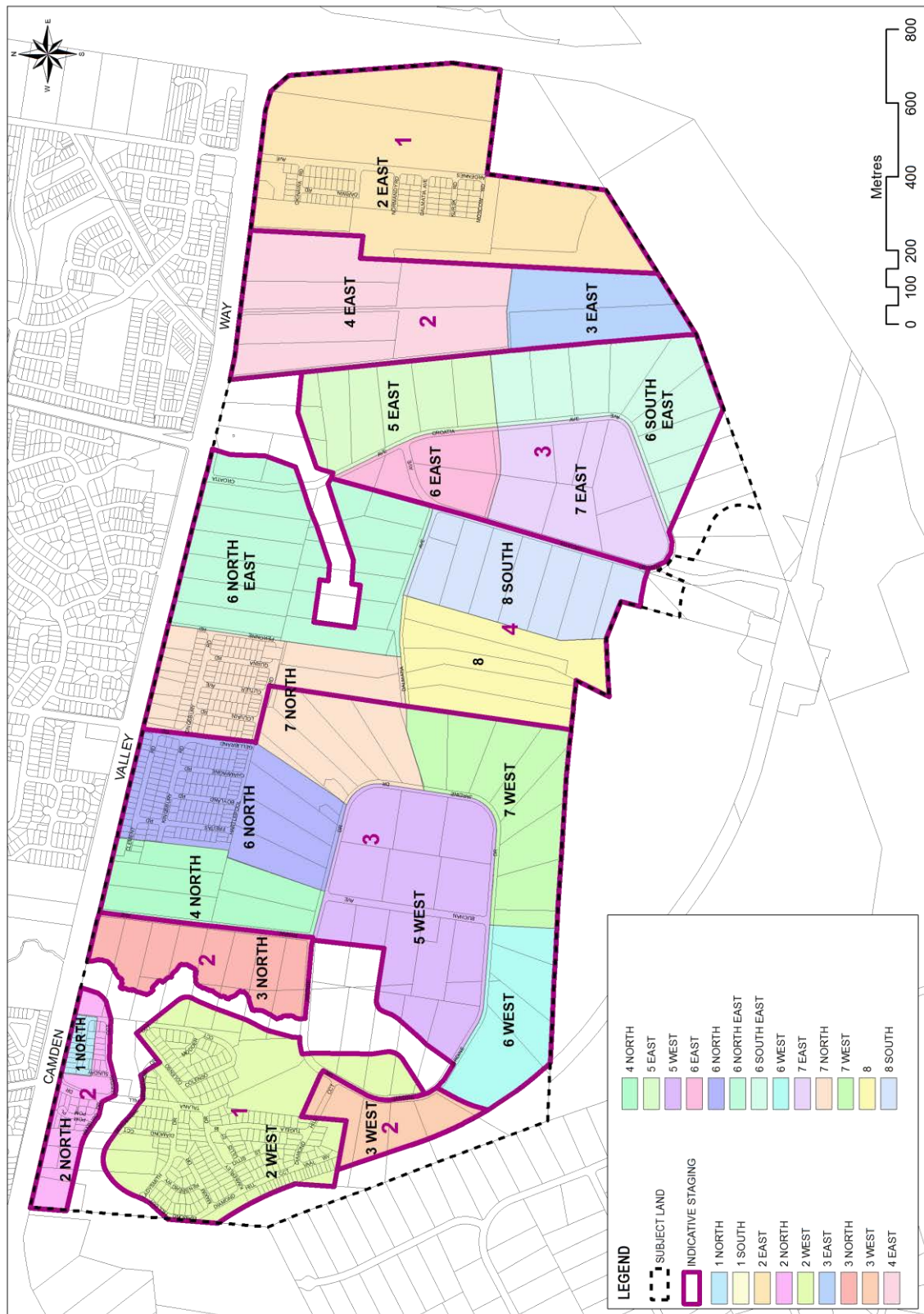


Figure 3: Sub-precincts

1.3 Hierarchy of Centres

Objectives

- a) To ensure an appropriate supply, distribution, and mix of retail, commercial and employment floor space across the precinct.
- b) To ensure that the retail floor space within Edmondson Park does not undermine the potential of existing and proposed centres within the region.
- c) To create a compact, vibrant and successful town centre and village centres.
- d) To encourage the early investment and delivery of employment generating development and retail uses to serve the population.

Controls

Development is to be consistent with the characteristics detailed as follows.

Edmondson Park Town Centre

1. Development in the Edmondson Park Town Centre is facilitated by the SEPP (State Significant Precincts) 2005 and is not subject to this Part.

Village Centres

1. Village Centres (up to 1000sqm of retail space) are not intended to act competitively with the proposed Edmondson Park Precinct town centre. Rather they provide a convenient alternative for residents who would otherwise have to invest more time and money to visit a larger centre.
2. The following criteria have been used to determine the location of the village centres:
 - 750 - 1,000 housing lots within a 500m catchment of the village centre.
 - The proximity of key destinations such as parks, water bodies and schools.
3. It is envisaged that Edmondson Park will have 3 mixed-use village centres that respond to various qualities of the site, such as environmental amenities or access routes. The character envisaged for the village centres are described in Section 6.

1.4 Character Area Statements

As the Edmondson Park Release Area will create a new town centre with large areas of surrounding residential neighbourhoods and village centres. It is important that there is variety, diversity and choice in living, working and recreational environments. There is more to development than land use and density. It is important that the built form, layout, style and public domain reinforce the desired character for each area, and gives an identity and sense of place to different areas within Edmondson Park. The character areas are:

- The Town Centre,
- Village Centres,
- Enterprise Corridor,
- Urban,
- Urban Transition,
- Suburban, and
- Residential Large Lot.

The character areas are loosely tied to the minimum dwelling density maps (LLEP 2008), refer to Figure 5 for the locations of Character Areas.

Town Centre

1. The Edmondson Park Town Centre is situated on land in Edmondson Park South and is not subject to this Part. For development controls relating to the Edmondson Park Town Centre refer to the Edmondson Park South DCP 2012.

Village Centres (Zone R3)

1. The Village Centres will form a **node** within a walkable and cycling catchment of the majority of new and existing residents. The centres will provide for daily conveniences within a pedestrian friendly setting and have a maximum of 1,000sqm of retail space. The centres are located at the confluence of community facilities to enhance the village experience and life of the centre. The Village Centre will contain small businesses at ground level that encourage a mix of small scale convenience retail uses with shop-top housing above. Medium density attached housing and apartments surrounding the village centres will reinforce the urban character.
2. The **urban form** of the villages will be compact with narrow shopfronts. Architecturally, the buildings will be urban in character reflecting the character of traditional village centres. Convenience retail uses are to front directly onto the footpath. It is envisaged that there will be a number of small shops of less than 80sqm gross floor area each. Total retail/commercial gross floor space will be 1,000sqm max. per village centre.
3. The Rynan Avenue village centre is characterised by 2 - 3 storey attached buildings. The village centre at the intersection of Camden Valley Way and the Bus Priority Corridor (Bernera Road) is characterised by 3 - 4 storey attached buildings, while the village centre at the intersection of the Bus Priority Corridor and Poziers Road is characterised by 4 - 6 storey attached buildings with a large component of shop-top housing.
4. The **public domain** of the centres is to be characterised by formal and well framed streetscapes containing formally and regularly spaced, 6 – 8m apart, large deciduous trees in hard verges and tree wells, street furniture and wide paved footpaths capable of holding outdoor café seating. Ease of pedestrian and cyclist movement and access is to be prioritised over vehicle movement, and the streetscape is to be designed to incorporate subtle urban design led traffic calming elements.



Figure 4: Artistic view of Village Centre – Neighbourhood park and community facilities

Enterprise Corridor (Zone B6)

1. The Enterprise Corridor character area is located at the northern end of the locality along Camden Valley Way and at the northern end of Ardennes Avenue. It will service passing trade travelling along Camden Valley Way. A service road

will run parallel to Camden Valley Way with 45 degree parking to provide access to all properties and businesses fronting Camden Valley Way. Rear lane access is to be provided to service these businesses. The area is characterised by up to 2 storey retail and commercial premises built to the street alignment. To maximise active frontages and to minimise the scale of individual buildings, each retail unit will have a maximum street frontage of 30m and a maximum gross floor area of 1,000 sqm.

Urban (Zone R1, 28dw/Ha)

1. The Urban Character Area is a **dense, urban, but predominately residential** zone that provides a transition between the Town Centre and the medium to lower density residential areas. The character area helps define the main avenue, the Bus Priority Corridor, that leads into the Town Centre and helps frame the Urban Parkland and Maxwell's Creek Urban Park.
2. Housing types that reinforce the urban character and need for well-located higher densities predominate including apartment buildings and small lot/attached housing. A minimum net residential density of **28 dwellings per hectare is required**. Building setbacks are relatively shallow, and there is a close interaction of buildings to the surrounding streets.
3. Taller buildings are encouraged to frame the Bus Priority Corridor and the Maxwells Creek Urban Park. Buildings are predominantly between 3 - 6 storeys and massed towards the public realm.
4. The **public streetscape** is formal in arrangement consisting of wide footpaths, large deciduous trees spaced evenly every 8m max., placed in a hard landscaped verge and forming a large street canopy. To minimise the visual and physical impact of vehicle access to properties on the public streetscape, including footpath crossovers and garages, vehicle access and servicing is via side/secondary streets or rear lanes.

Urban Transition (Zone R1, 17 & 21dw/Ha)

1. The Urban Transition Character Area is a predominantly **residential zone** that provides a transition between the more urban higher density and the more suburban lower density character areas. Urban Transition reinforces the legibility and structure of Edmondson Park through the framing of the secondary routes, village centres and parkland.
2. It comprises a range of housing to cater for varying household needs including low rise apartments, attached, semi-detached and detached housing. A minimum net residential density of **17 or 21 dwellings per hectare** is required. Lots for detached residential dwellings are typically between 250 and 400sqm.
3. Buildings are predominantly 2 storeys, with potential for 3 storeys along parks, adjacent to 'Urban' Character Area, and to reinforce corners. Buildings will contain medium setbacks and good landscaping.
4. The **public streetscape** is formal in arrangement and transitional in character, containing large trees in soft verges spaced 8m apart.

Suburban (Zone R1, 14dw/Ha)

1. This predominantly **low density residential** area is characterised by 1 - 2 storey detached and semi-detached homes in a rich landscaped setting. A minimum net residential density of **14 dwellings per hectare** is required. Housing typically features verandahs fronting onto the street, overhanging eaves. Lots are typically between 400 and 700sqm.
2. The public and private domain features informal native and non-native planting that requires little watering, and attracts native flora and fauna. Verges in the public streetscape are soft landscaped, containing low level ground cover and multiple tree species spaced 8 – 12m apart.

Residential Large Lot

1. Residential Large Lot zoned land is situated on land in Edmondson Park South and is not subject to this Part. For development controls relating to the Residential Large Lot zoned land refer to the Edmondson Park South DCP 2012.

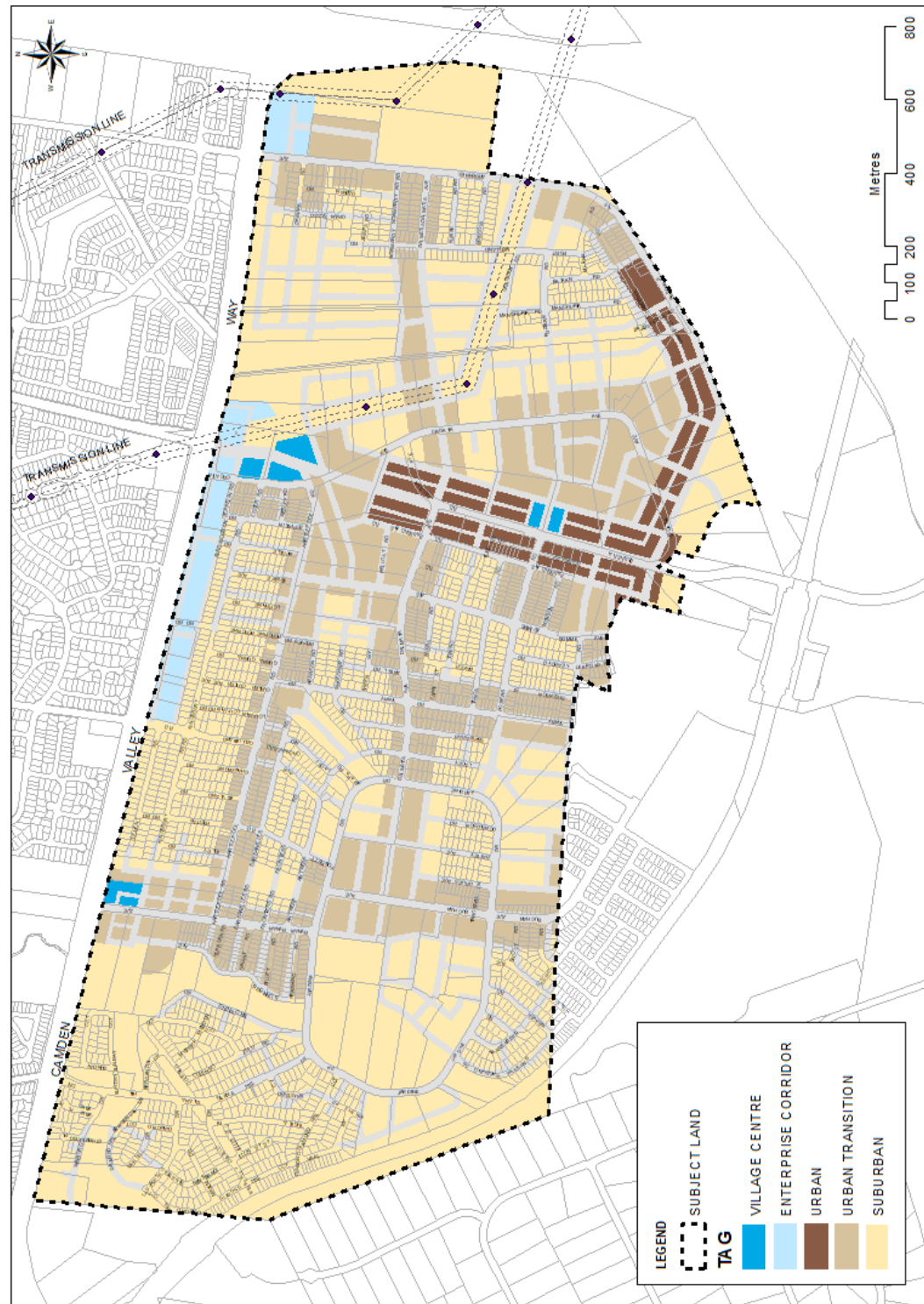


Figure 5: Locations of Character Areas

1.5 Public Transport

The construction of the train station and the bus priority corridor will provide an opportunity to integrate public transport with residential areas and the town centre in order to promote public transport usage.

Placing bus stops and providing a frequent bus service where there is a concentration of retail, commercial activity, medium density residential development, schools and community centres will encourage people to use the public transport system.

Increased availability of public transport reduces car dependency. A convenient and safe pedestrian network and the provision of attractive facilities are central to encouraging public transport use.

Objectives

- a) To provide and promote public transport that is accessible to all residents and village or town centre users and visitors.
- b) To locate public transport stops close to retail, offices, community facilities, schools, community facilities and areas of medium density residential development.
- c) To ensure clear, safe pedestrian links to all public transport stops.

Controls

- 1. Optimal distances between bus stops outside the town centre will be determined in consultation with the relevant bus service provider (stops in the order of every 400m).
- 2. Ensure bus stops and mixed use activities are co-located to provide security and activity.
- 3. Provide two local feeder bus routes through the release area as indicated in Figure 6. The location of feeder bus stops will serve people's travel patterns and be located in consultation with the bus service provider.
- 4. Public transport is to be easily accessible and located close to focal points (i.e. parks, schools, village centres etc).
- 5. Bus shelters are to be located at every bus stop (except within the village centres where bus stops are incorporated into the built form of the buildings, by elements such as covered walkways and awnings).
- 6. All roads that are bus routes are to have a minimum carriageway width of 7m.

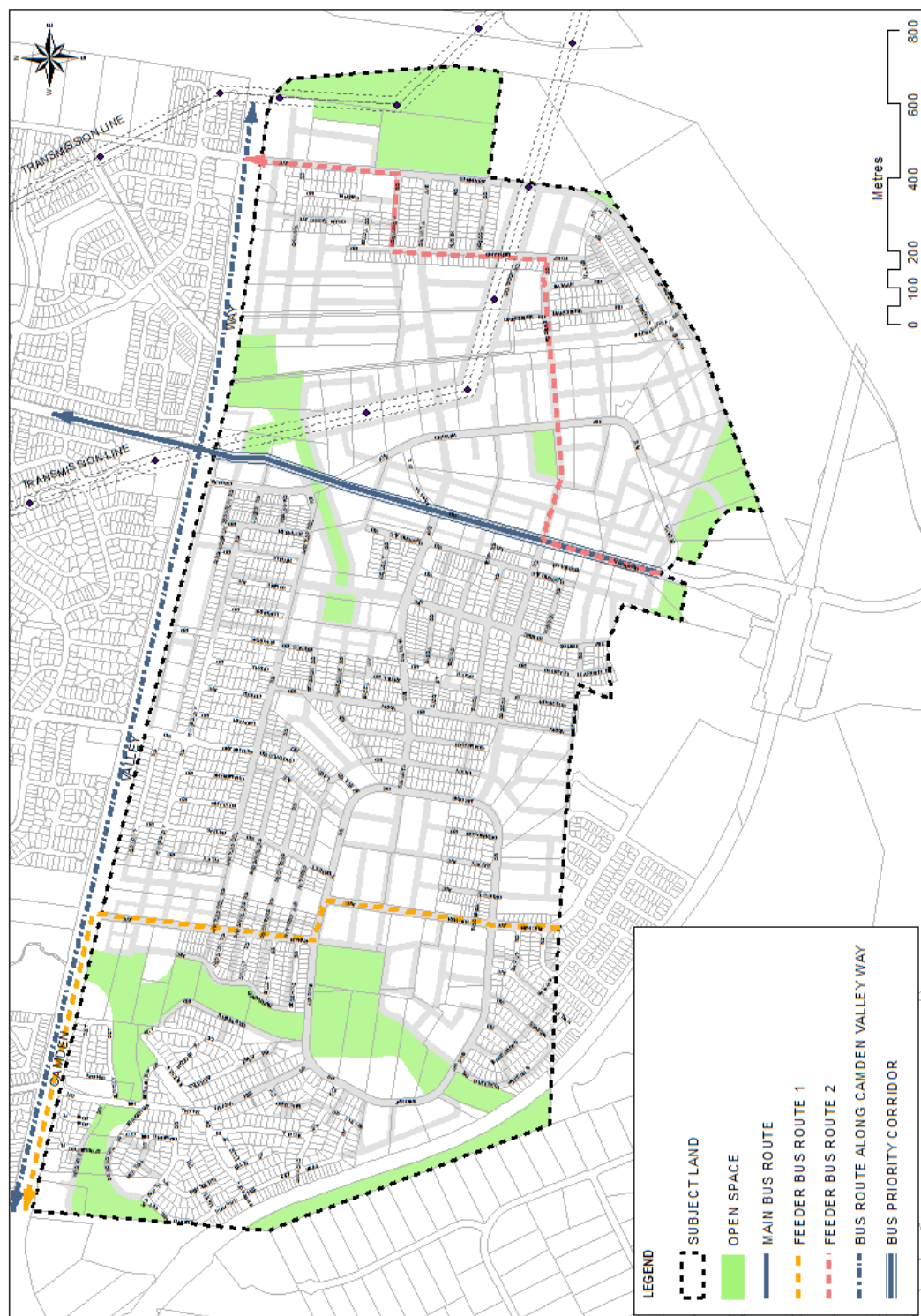


Figure 6: Possible Public Transport Routes

2. Controls for the Public Domain

The controls in this part relate to the subdivision of land. Controls on land within allotments created in this locality are located in Section 3 and 4 of this chapter.

The public domain is the part of the release area which is not privately owned and which is accessible to the public.

The design, management and safety of elements within the public domain such as public streets, parks and spaces, paving, street furniture, street trees, and gardens should be coordinated so that the character and image of the location is enhanced.

2.1 Street Network and Access

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To provide regional district and local transport access with clear vehicular, pedestrian and cycle connections to the surrounding areas.
- f) To integrate the development with bus priority corridor and the South-West Rail Link.
- g) To ensure safe efficient and direct access to retail and commercial areas.
- h) To improve air quality by reducing local vehicular trips.

Controls

Regional Network Connections

1. Left and right in-out turns to and from Edmondson Park will be provided at the signalised intersections shown in Figure 7.
2. In addition to these intersections, a left in-out turn is permitted from Edmondson Park onto Camden Valley Way as indicated in Figure 7.

Local Street Network

1. With applicable Development Applications, a subdivision plan is to be submitted highlighting the street network. All plans must indicate street types and intersection treatments.
2. Council may require additional traffic calming measures to be incorporated into four-way intersections where traffic volumes necessitate controls in addition to signage. Measures may include roundabouts, carriageway narrowing or realignment, pedestrian islands or raised platforms. In circumstances where traffic volumes require traffic calming measures in excess to that provided in the section 94 plan, these are to be provided by the developer.
3. Subdivision plans are required to comply with the fixed roads identified in Figure 7.
4. The proposed local street networks detailed within Figure 8 are to provide a clear hierarchy for roads in the form of a modified grid road pattern.
5. Retain and incorporate existing streets into the road network where possible and practical.
6. Provide a grid-like street network pattern to facilitate walking and cycling and enable direct local vehicle trips within the neighbourhood. Cul-de-sacs will not be supported other than where alternative street patterns are not achievable.

7. Design safe pedestrian crossing points to the satisfaction of Council.
8. All intersections are to be designed in accordance with the RMS Austrorads standards.
9. Street sections are to comply with Chapters 2.2 and 2.3 of this Part.
10. Streets planned to accommodate bus routes are to have a minimum carriageway width of 7m.

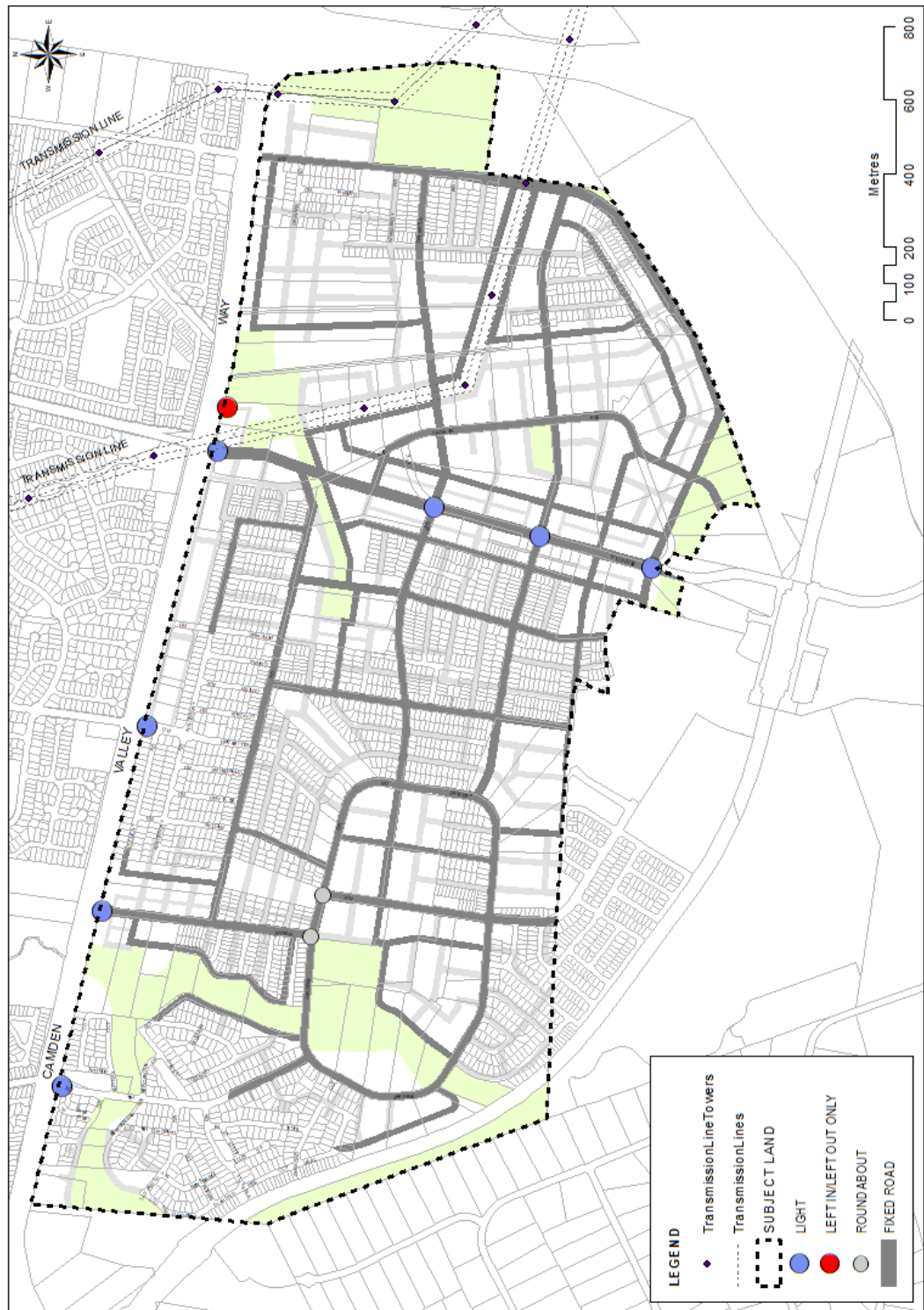


Figure 7: Fixed Roads

Street Types

Background

The proposed development comprises a network and hierarchy of streets that link the site with the surrounding urban fabric.

The location of the train line and the bus priority corridor connection to the Liverpool - Parramatta Bus Transit Way provides a good opportunity to increase the accessibility of the site through the public transport system.

A pedestrian and cycle network linking residential areas, villages and the town centre provides the opportunity to discourage the use of private vehicles and promotes exercise and enjoyment of the environment.

Objectives

- a) To encourage a low-speed traffic environment.
- b) To develop a comprehensive street network that links the site to the surrounding residential, commercial and employment areas.
- c) To provide a comprehensive pedestrian and cycle network linking residential areas with parks, recreation areas, and town and village centres.
- d) To create a high quality safe environment for walking and cycling.
- e) To provide dignified and equitable disabled access to public places, streets, public / commercial buildings and residential areas.
- f) To enhance the existing landscape character of Campbelltown Road.
- g) To improve the landscape character of Camden Valley Way.
- h) To provide highly accessible neighbourhoods with clear linkages to employment, retail and recreation areas both within and external to the suburb.
- i) To provide access to bus and rail services from commercial, residential and neighbouring areas.

Controls

1. Two main streets are to link the town centre with Camden Valley Way.
2. The extension of Bernera Road generally along a realigned Croatia Avenue will provide the main road based public transport access. This road will have a bus priority corridor linking with the train station at an interchange in the south and the Liverpool – Parramatta Bus Transitway in the north; and
3. Buchan Avenue, a diagonal north-west spine road linking the western part of the site to the town centre.
4. Edmondson Park must provide:
 - A secondary system of north-south streets, linking Camden Valley Way with the villages and the town centre,
 - A secondary system of east-west streets, and
 - A former asset protection road following the northern boundary of the conservation area. Refer to Figure 8.
5. Curved roads are to be provided along the Maxwell's Creek Riparian Park.
6. All central road medians are to be low maintenance.
7. The street network is to retain a predominantly grid-like form, facilitating walking and cycling and enabling direct local vehicle trips within the neighbourhood.
8. All streets are to be legibly signposted with streets names and property numbers.
9. All intersections are to be designed in accordance with the RMS Austroads Road Design Guide.
10. There is to be no vehicular access to properties directly from Camden Valley Way or Campbelltown Road. Access to these lots will be from a service road or alternative road.

11. Footpaths are to be provided on both sides of all streets.
12. All Development Applications for subdivision are to detail the proposed kerb type.
13. Barrier kerbs are to be used:
 - On all streets within the B6 Enterprise Corridor or R3 Medium Density Residential.
 - Along The Bus Propriety Corridor, Rynan Avenue, and the Park Avenues.
 - In all areas with a density of 28 dw / ha.
 - On any street frontage to open space.
 - On any street that is a bus route.
 - Along and adjacent to schools and community facilities.
 - At all intersections (between the potential driveway location on one frontage to the potential driveway location on the alternative street frontage). Driveways are not to be located within 6m of the tangent point of any intersection.
 - Barrier kerb shall be installed for the entire length of bus zones and for 10m on the approach of the bus stop.
14. Roll kerbs may be used in other locations to the above.

Street Hierarchy

The following types of streets are provided in Edmondson Park.

Camden Valley Way

Access to businesses along Camden Valley Way on the Edmondson Park side is via a service road located parallel to Camden Valley Way within the development area. Refer to Figure 10.

Bus Priority Corridor (Bernera Road)

This road provides the main public transport access through Edmondson Park to the train station. The road will follow Bernera Road (formally known as Croatia Avenue) into the town centre. The width of this corridor gives definition to the high density larger scale development (potentially 3 to 6 storey buildings) located on both sides of the corridor. The Bus Priority Corridor has a 3m median strip allowing for tree planting and a dedicated bus lane at the intersections with Camden Valley Way and Campbelltown Road. Access to properties along the corridor should be primarily from side streets or rear laneways. Refer to Figure 11.

Buchan Avenue/Rynan Avenue

This is a main neighbourhood street that links the north-western access of Edmondson Park to the town centre. Medium density developments are encouraged along this street. Refer to Figure 12.

Collector Streets

These streets connect the outlying localities to the town centre. These streets will have a 19 / 20m wide road reserve. Some Collector Streets may have a 7m wide travel-way for buses with restricted parking and narrow verges. Refer to Figure 13.

Park Streets

This network of streets allows for pedestrian links to neighbourhood parks, schools, riparian and conservation areas. These streets have an off-road cycleway located at the edge of the verge. Refer to Figure 14.

Local Streets

These streets are designed for slow residential traffic. The road reserve is 15.2m wide. Refer to Figure 15.

Former Asset Protection Road

This road is situated between the proposed urban areas and adjoining conservation areas that may be prone to bush fires. Pedestrian and cycle paths will encourage recreational use in what will be a scenic environment. The Former Asset protection roads will have a road reserve of 20.5m, 11.2m of which is taken by the carriageway. Refer to Figure 17.

Residential Laneways

Lanes assist in providing service vehicle access in residential areas. These are two-way carriageways 5.5m wide, with a 0.3m verge on one side and 1.2 m verge on the other side (to support street-lighting and services) with setbacks to rear garages. Small splays will be needed to cater for vehicle manoeuvring needs. Refer to Figure 16.

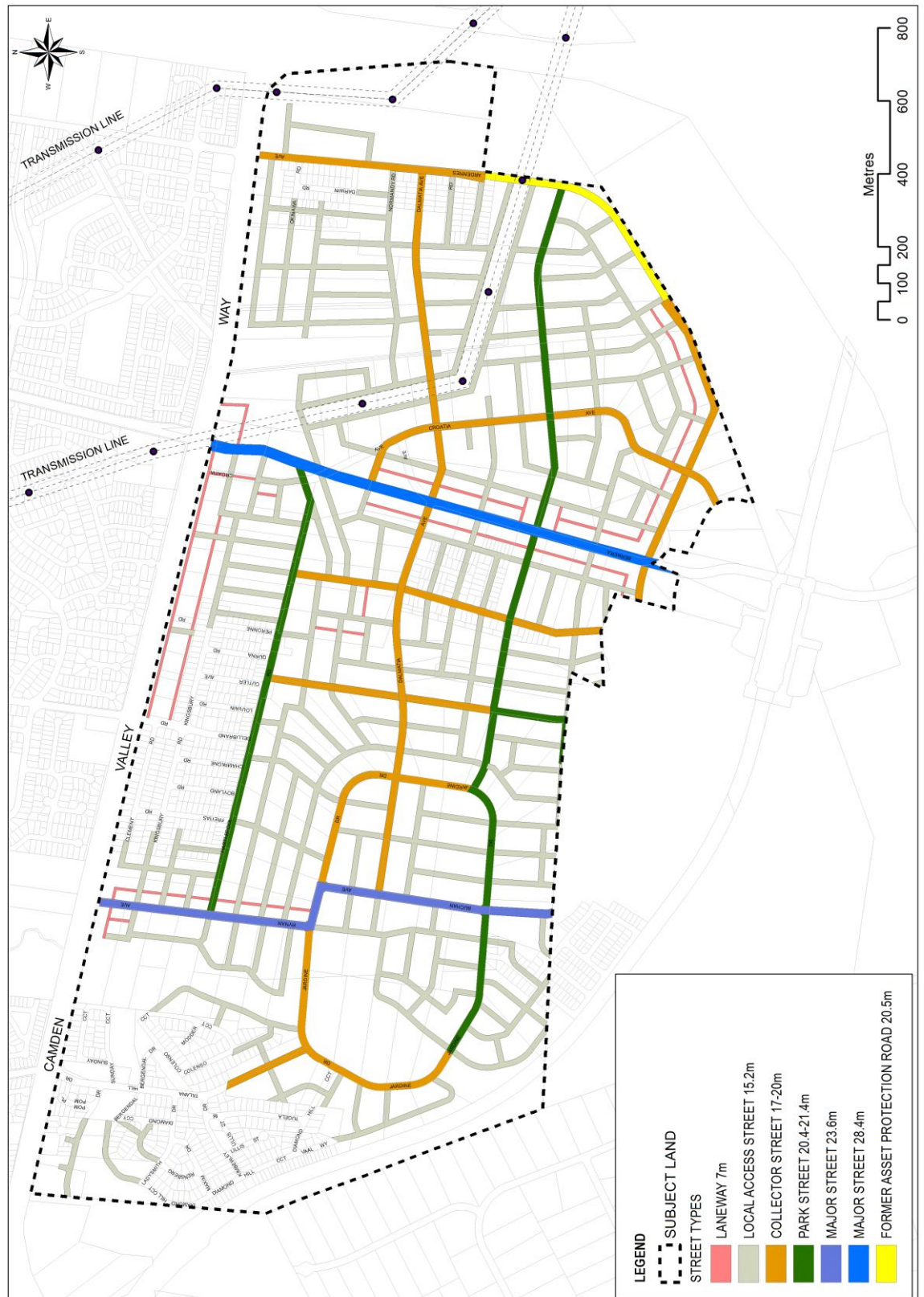


Figure 8: Street Types

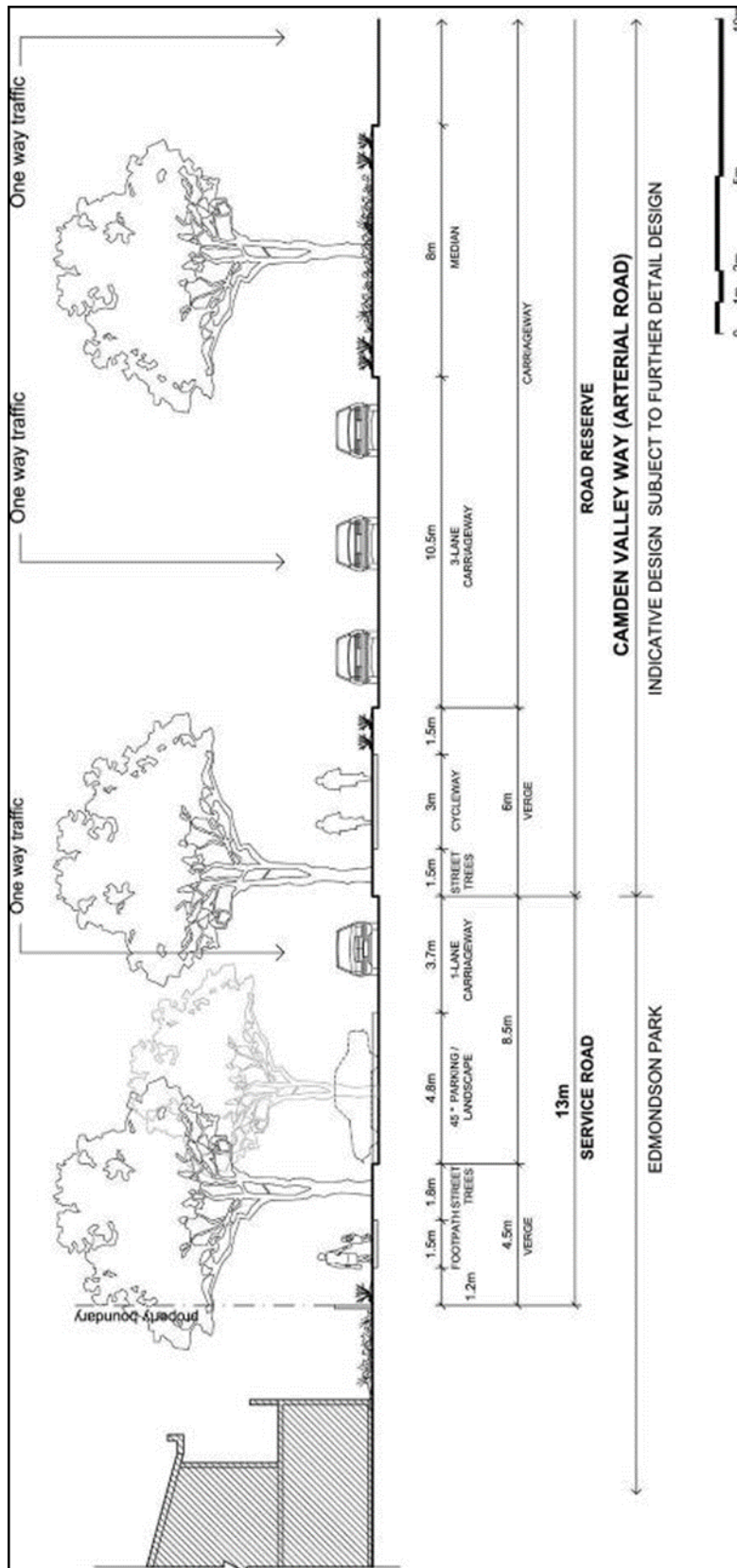


Figure 9: Camden Valley Way

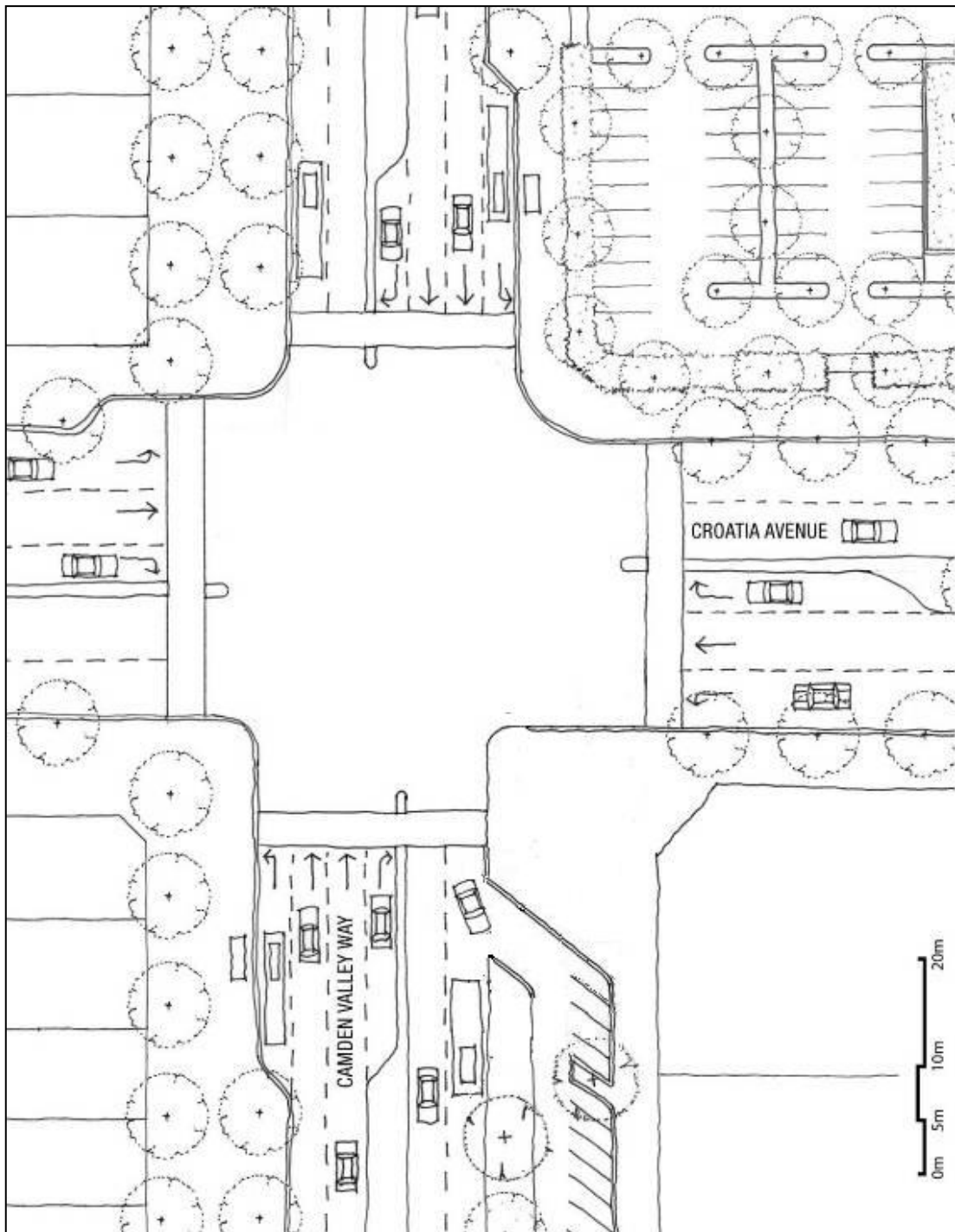


Figure 10: Camden Valley Way – Indicative Intersection and Service Road Treatment

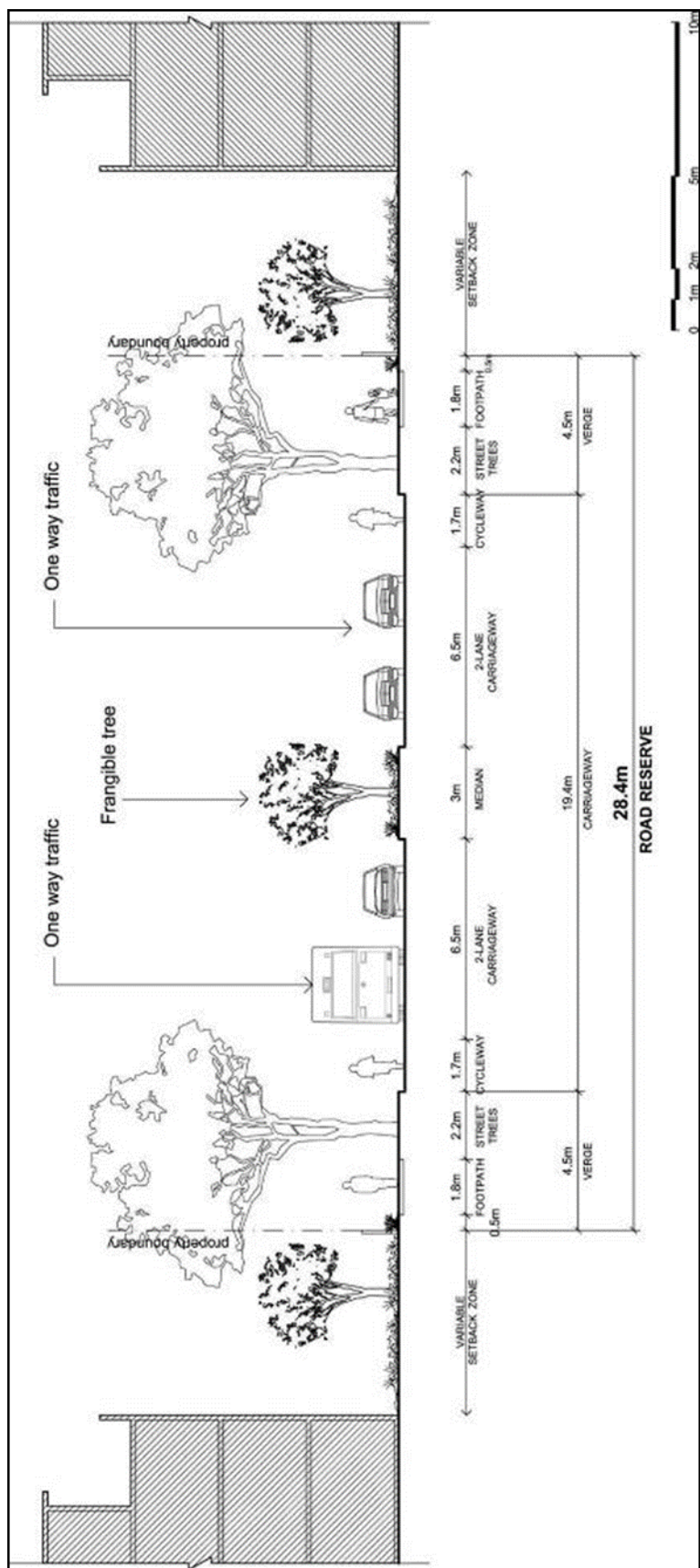


Figure 11: Bus Priority Corridor

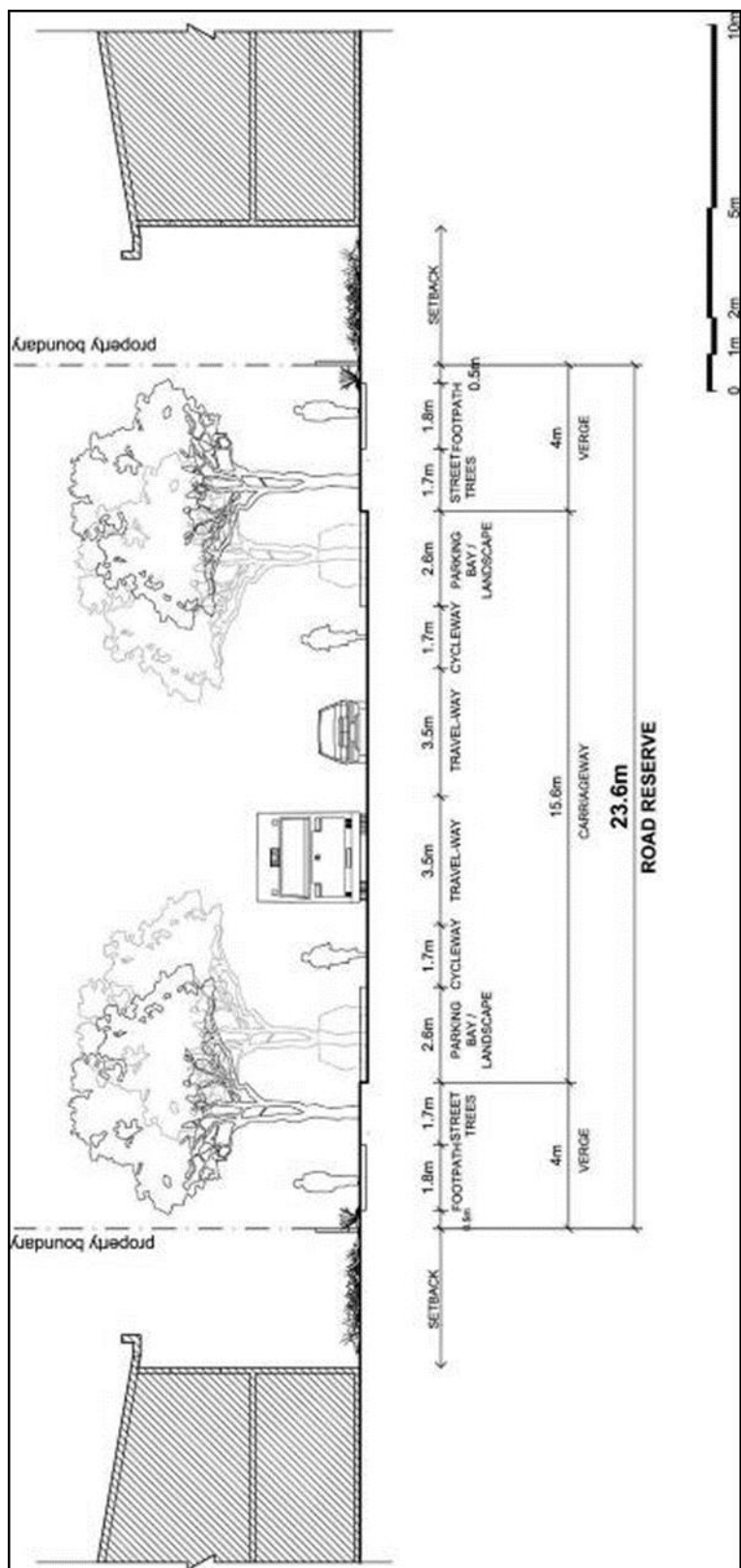


Figure 12: Buchan Ave/Rynan Ave

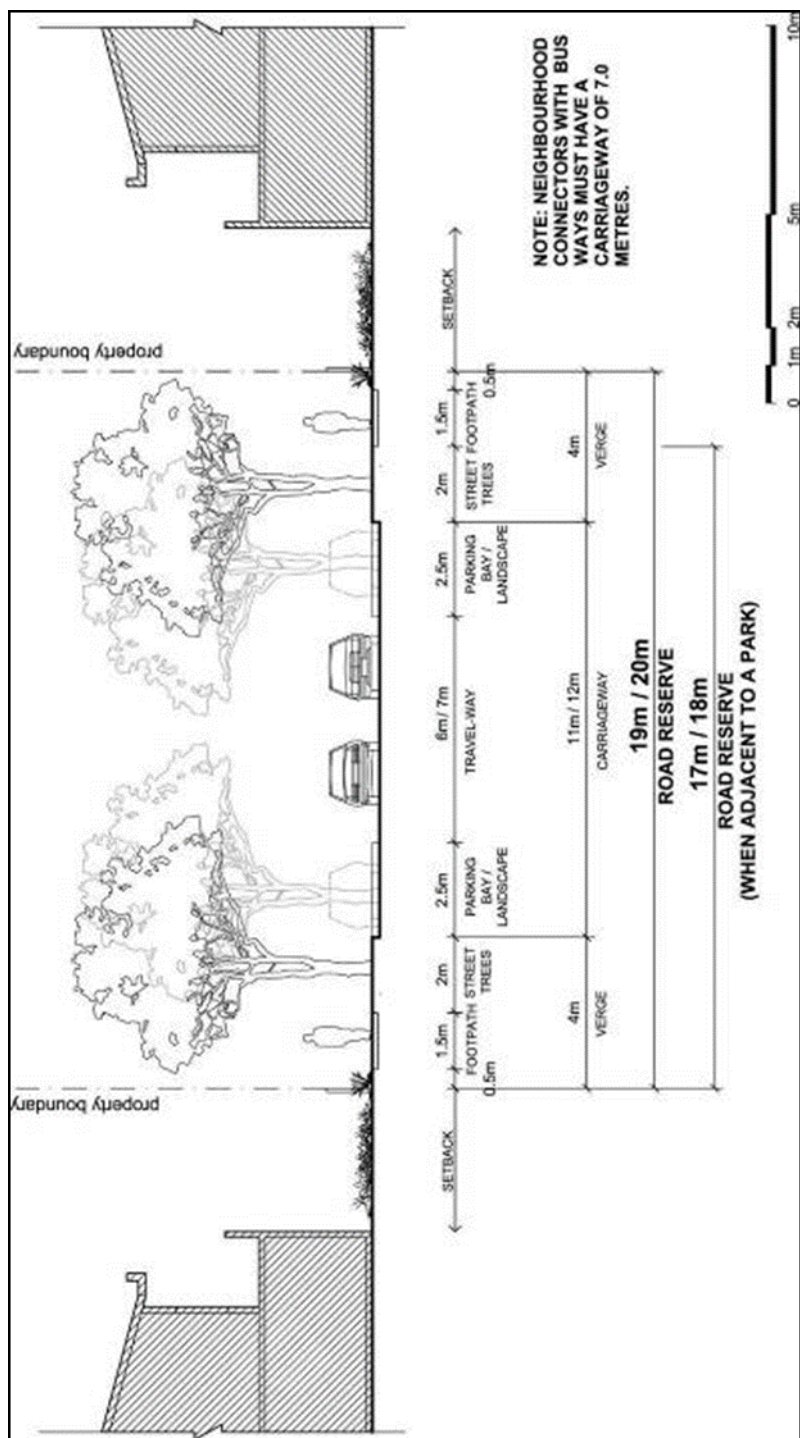


Figure 13: Collector Street

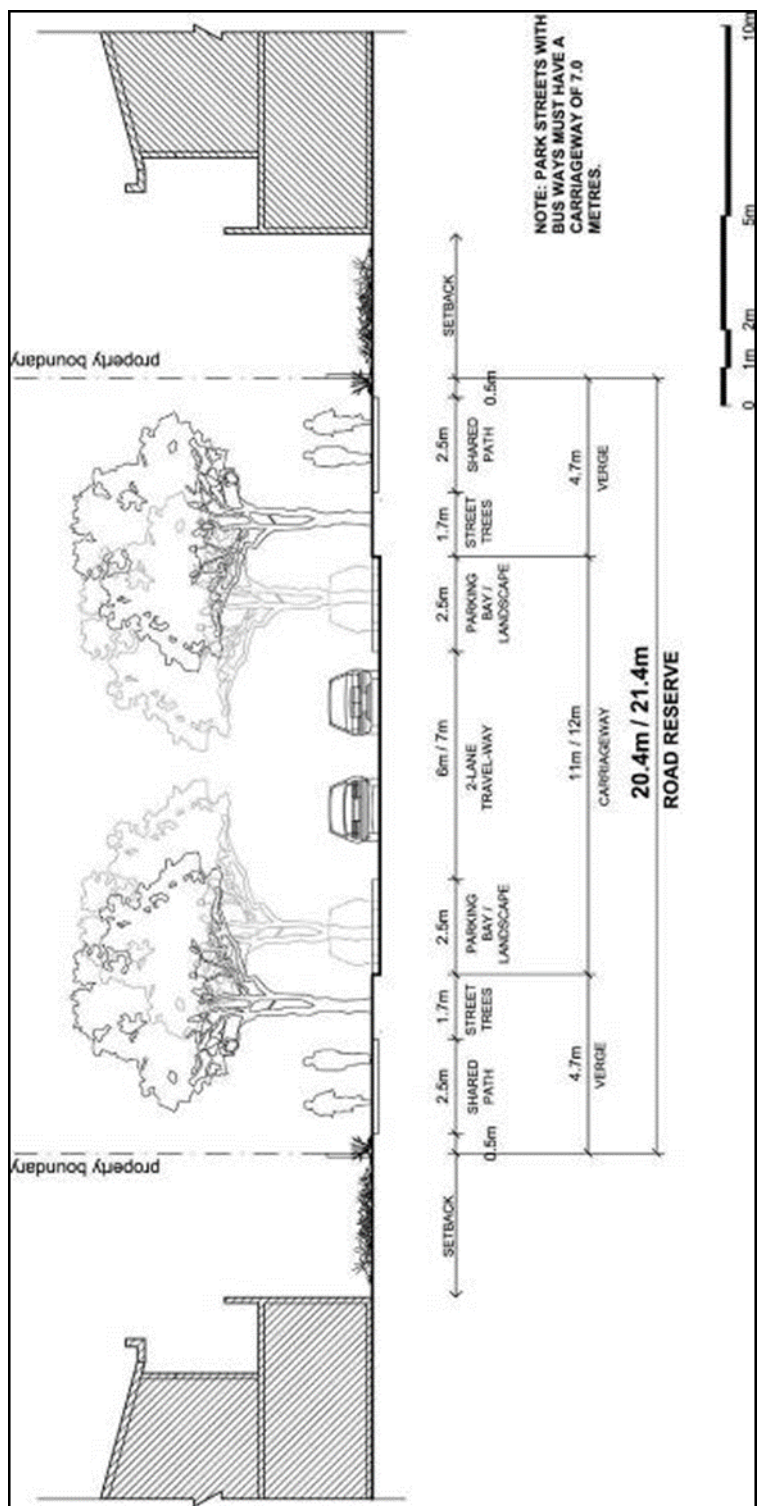


Figure 14: Park Street

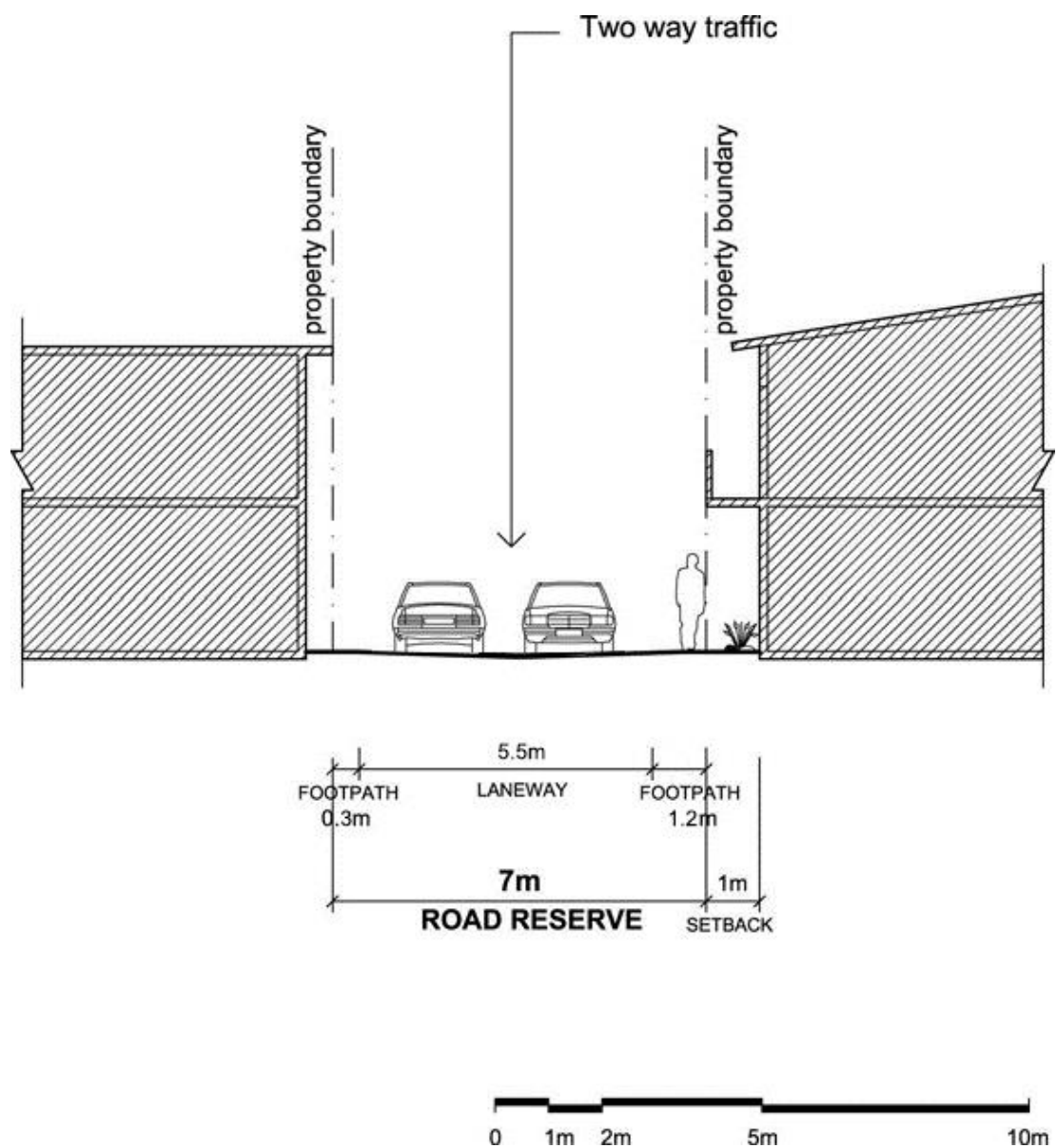


Figure 16: Residential Laneway

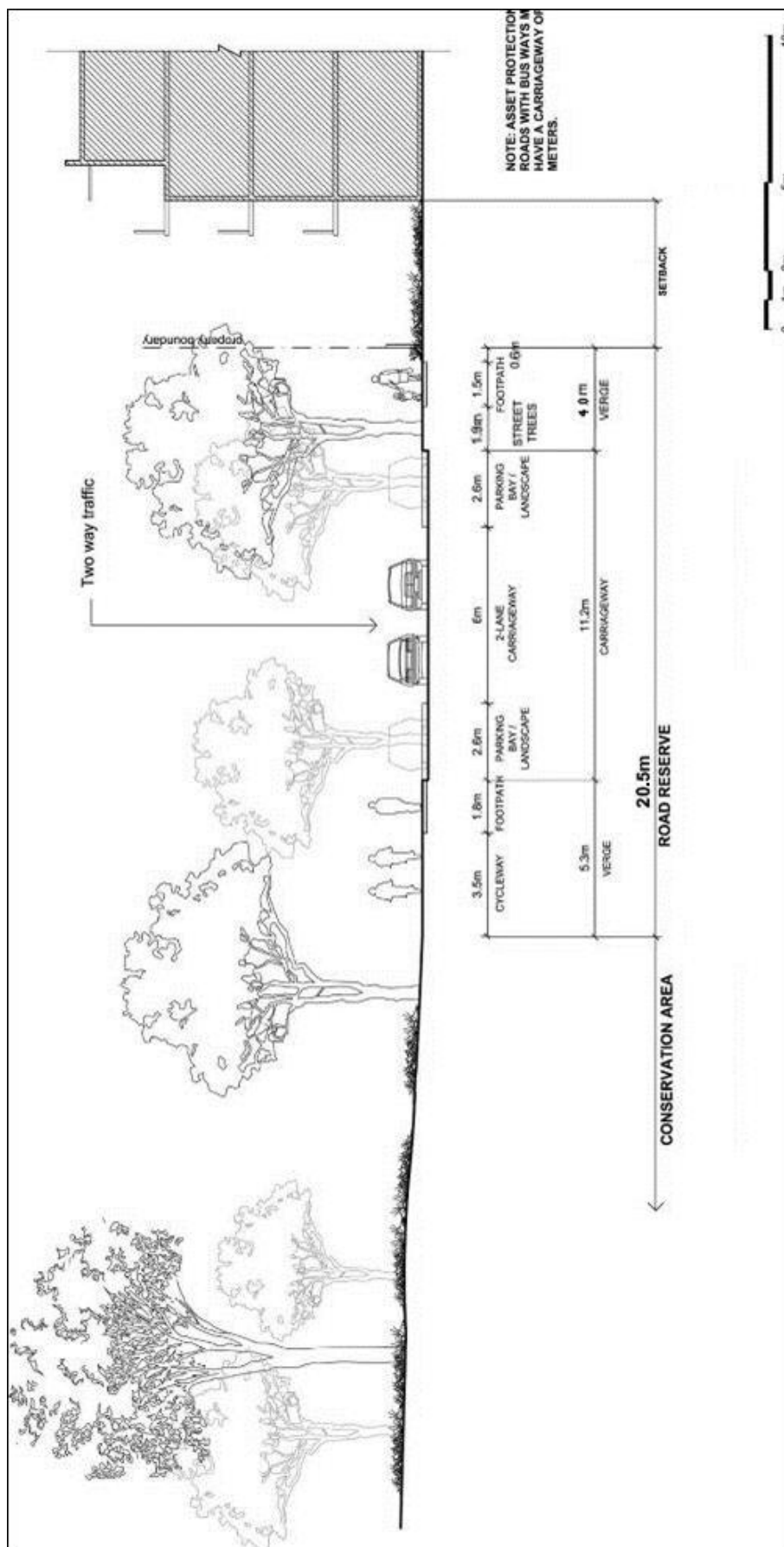


Figure 17: Former Asset Protection Road



Bus Priority Corridor



Former Asset
Protection Street



Residential Street

Figure 18: Artistic views of street types

Laneways and Garage Connections

The location, type and design of vehicle access points to dwellings can have significant impacts on the streetscape, the site layout and the building façade design.

Objectives

- a) To minimise the impact of vehicle access points on the quality of the public domain.
- b) To minimise the impact of driveway crossovers on pedestrian safety and streetscape amenity.
- c) To provide safe and convenient access to garages, carports and parking areas.
- d) To clearly define public and private spaces, such that driveways are for the sole use of residents.
- e) To permit casual surveillance of private driveways from dwellings and from the street.
- f) To minimise conflict between pedestrians and vehicles at the junction of driveways and footpaths.

Controls

- 1. Where possible, vehicular access is to be integrated with site planning from the earliest stages of the project to eliminate or to reduce potential conflicts with the streetscape requirements and traffic patterns and to minimise potential conflicts with pedestrians.
- 2. The driveway crossing the verge between the property boundary and the kerb is to have a maximum width of 2.7m.
- 3. Private driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
- 4. Communal driveways are to be constructed as one of three general types, depending on block geometry and garages to be accessed. Refer to Figure 19.
- 5. Access to allotments in the vicinity of roundabouts and associated splinter islands shall not be provided within 10m of the roundabout.
- 6. On corner allotments, driveways are not to be within 6m of the tangent to the kerb return.
- 7. Driveways are not to be within 0.5m of any drainage facilities on the kerb and gutter.
- 8. Where possible, medium and higher density developments fronting Buchan Avenue, Rynan Avenue, the Park Streets or the Collector Streets are to have vehicular access via the side streets, rear laneways, or communal driveways.
- 9. Rear lane access is to be provided for dwellings as indicated on the Indicative Layout Plan, including dwellings in Character Area 'Urban' and adjacent to Village Centres.
- 10. Where possible, rear lane access is to be provided to dwellings that front parks.
- 11. Corner lots on collector streets are to have access from the street perpendicular to the collector street.
- 12. Planting and walls adjacent to driveways must not block lines of sight for pedestrians, cyclists and vehicles.
- 13. Driveways are to have soft landscaped areas on either side, suitable for infiltration.
- 14. Driveways must be in accordance with the relevant Australian Standards for vehicular turning circles, visibility distances and gradients.

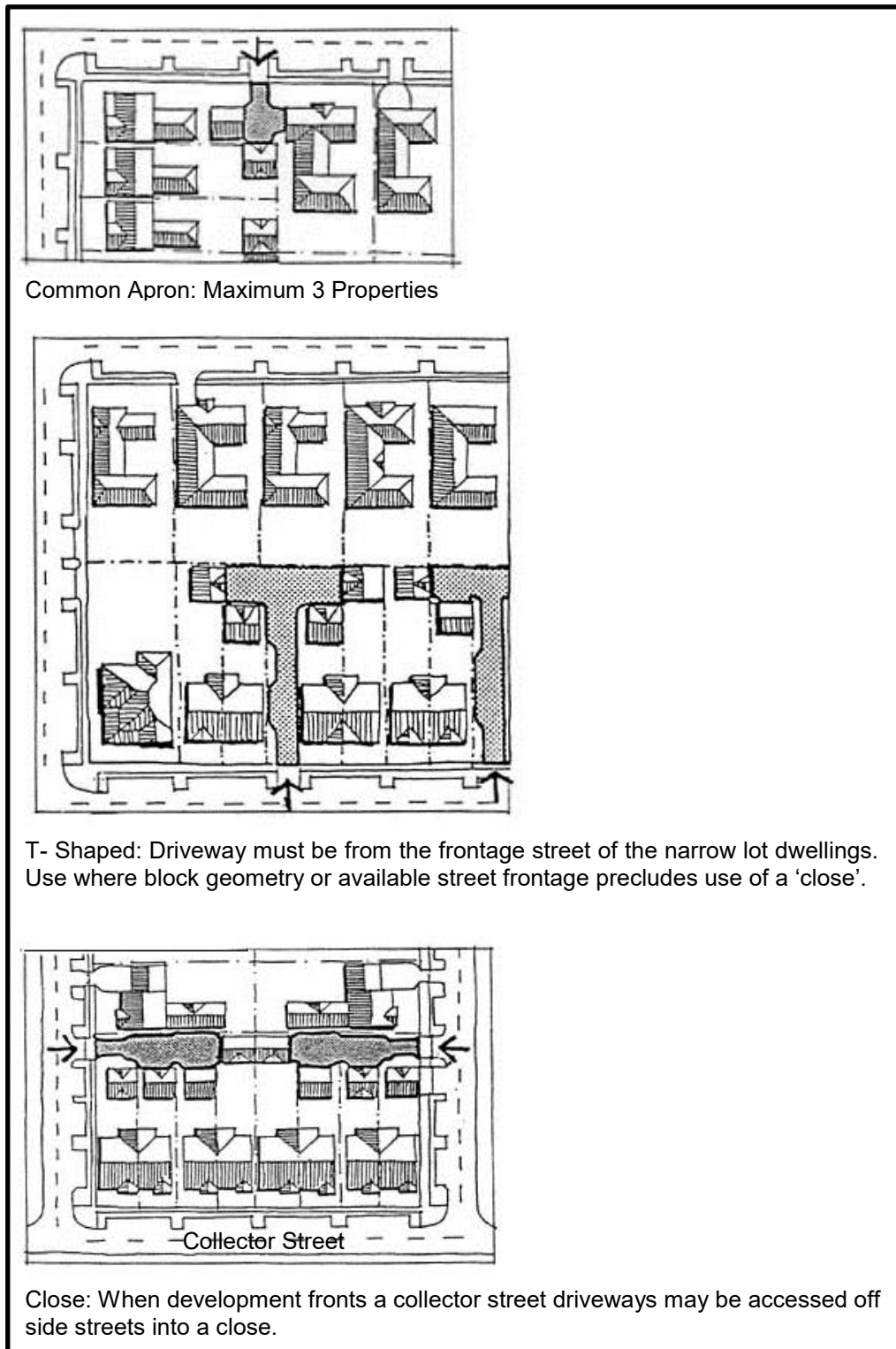


Figure 19: Communal Driveways

Carports and Garages

The provision of on-site parking is required for all residential allotments. Carports and garages are to be visually recessive and must not compromise the appearance of the dwellings from the street.

Objectives

- a) To provide sufficient and convenient parking for residents and visitors.
- b) To ensure that parked vehicles do not create traffic hazards.
- c) To reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.

Controls

1. Minimise the visual impact of garages, as illustrated in Figure 20.
2. Front access double garages (6m max. width) are generally only permitted on lots with a street frontage* of 15m and above. Front access double garages may be considered on lots 12m or above subject to meeting all of the following criteria in addition to the primary objectives and controls:
 - Garages are not to exceed 45% of the building frontage width.
 - Garage doors are to be visually recessive and made of high quality materials such as treated timber.
 - Garages are to be designed as an integral part of the architecture of the dwelling, and must be well articulated with features such as overhanging verandahs and pergolas etc.
 - The dwelling frontage is to contain a front door and a window to a habitable room, in addition to the garage.
 - No more than three dwellings in a row can have a double garage on the narrower lots (12 m+).
 - The total number of narrower lot dwellings (12.5 m+) with double garages are not to exceed 40% of any street / block frontage.
3. The maximum width of a front access garage on lots with a street frontage below 15m is 3m (a single garage). Additional parking may be provided in carports or in hard stand areas. Stacked or tandem car parking spaces are acceptable, provided that at least one space is located 5.5m min. from the front property boundary.
4. Garages and carport entries are to be setback a min. of 1m from front setback.
5. Garage design, form and materials must be compatible with the dwelling character. Garage dominance can be reduced by use of shadows, setbacks, coloured porticos or entry roof features.
6. All parking spaces for adaptable housing units are to comply with AS 2890:1 for disabled parking.

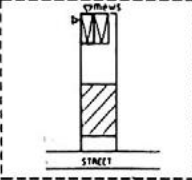
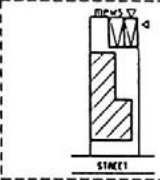
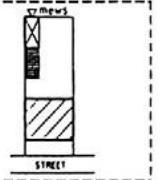
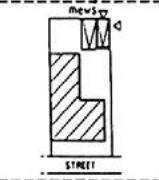
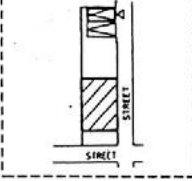
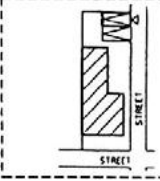
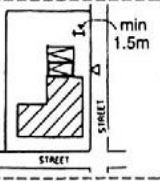
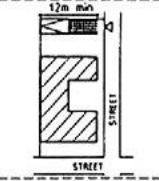
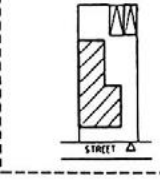
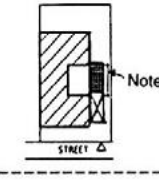
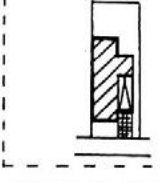
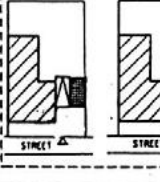

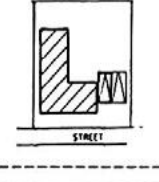





Garage Location and Access	7.5m (nominal) Lot Width Townhouse	10m-12m Lot Width House	12m-15m Lot Width House	15m-18m Lot Width House	Notes
Rear Garage Mews Access		 OR 			Where a rear lane occurs and provides rear access to a lot, parking should be accessed from rear lane, regardless of the size of the lot.
Rear Garage Side Access (on corner lot)		 OR  OR 			On corner lots, the use of the side street for access to the garage is encouraged
Rear Garage Front Access	N/A	N/A	 OR 		Minimum width between the dwelling wall and side boundary for side driveway is 2.5m. Note 1
Front Garage Front Access	N/A		 OR 		
Key	 Primary Garage Location  Garage Door at One End  Garage Door at Both Ends				 Secondary Garage Location  Carport or Hardstand Space Note 1: Garage not permitted in the courtyard area of this type of house

Figure 20: Garage Location and Access

Private Driveways

Objectives

- To provide safe and convenient access to garages, carports and parking areas.
- To clearly define public and private spaces, such that driveways are for the sole use of residents.

Controls

- Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
- Private driveways shall be constructed as one of three general types, depending on block geometry and garages to be accessed, as in Figure 20.
- Higher density development fronting to collector streets shall have rear access through laneways, car courts and the like.
- Development on corner lots on collector streets shall have access from the street perpendicular to the collector street.

2.2 Pedestrian and Cycleway Network

The aim is to establish a non-vehicular (pedestrian and cyclist) system, which connects major activities and open spaces in a direct, safe and legible manner. Pedestrian and cycle ways should provide links from predominantly residential areas to social and cultural activities and educational facilities.

Objectives

- a) To provide a clear pedestrian and cycle way system that provides links between:
 - Residential areas,
 - Open spaces and conservation areas,
 - Educational facilities,
 - Social and cultural facilities, and
 - Town centre and the villages.
- b) To create an interconnected pedestrian and cycle network comprising streets and paths that are clear, safe, legible, and comfortable.

Controls

Location

1. The pedestrian and cycle way circulation system must provide linkages between major activity areas and streets within as well as outside the release area, such as schools, the town centre, and the open space network.
2. Provide cycle ways as illustrated in Figure 21.
3. Provide designated cycle lanes on streets in the form of on-street cycle lanes as illustrated in Figure 21.
4. Pedestrian and cycle paths must be provided as part of parks and recreation areas. However these should be provided outside the core riparian corridor areas where practical.

Safety

1. Ensure designated cycle lanes are clearly identified on streets by line-markings / surface treatment on the street surface and / or by signs beside the street.
2. Design and locate vehicular access to all developments to minimise conflicts with pedestrians and cyclists.
3. Ensure a high level of activities and surveillance is provided to off-street pathways.
4. Ensure pedestrian and cycle facilities in public spaces are safe, well lit, clearly defined, functional and accessible to all users.
5. Locate pedestrian paths and cycle ways in open spaces close to the streets to take advantage of street lighting to allow casual surveillance by residents and motorists. Where this is not practical, paths must be well lit and visible from the street.
6. Wherever practicable, provide single vehicle access to developments, perpendicular to the kerb alignment.
7. Clearly and frequently signpost shared pedestrian / cycle links, as well as cycle lanes on public streets and lanes to indicate their shared status.

Design

1. Provide shared pedestrian paths and cycle ways to a minimum of 2.5m wide. Refer to Figure 21.
2. Provide designated pedestrian pathways with a minimum width of 1.5 m, or greater as indicated in relevant street sections, on both sides of all streets.
3. Design pedestrian and cycle ways, as well as pedestrian refuge islands so that they are fully accessible by all users in terms of access points and gradients, in accordance with AS 1428 (Part 1 to 4 Design for access and mobility).

4. Pedestrian footpaths along the main school frontage are to be full verge width. Pedestrian footpaths along secondary school frontages are to be a minimum of 2.5m wide.
5. Pedestrian footpaths within the village centres are to be full verge width and paved with a Council approved paver.
6. Pram ramps are to be provided at all street corners.

Provision

1. Bicycle racks shall be provided in appropriate numbers at villages, sporting grounds, parks, community facilities and schools.

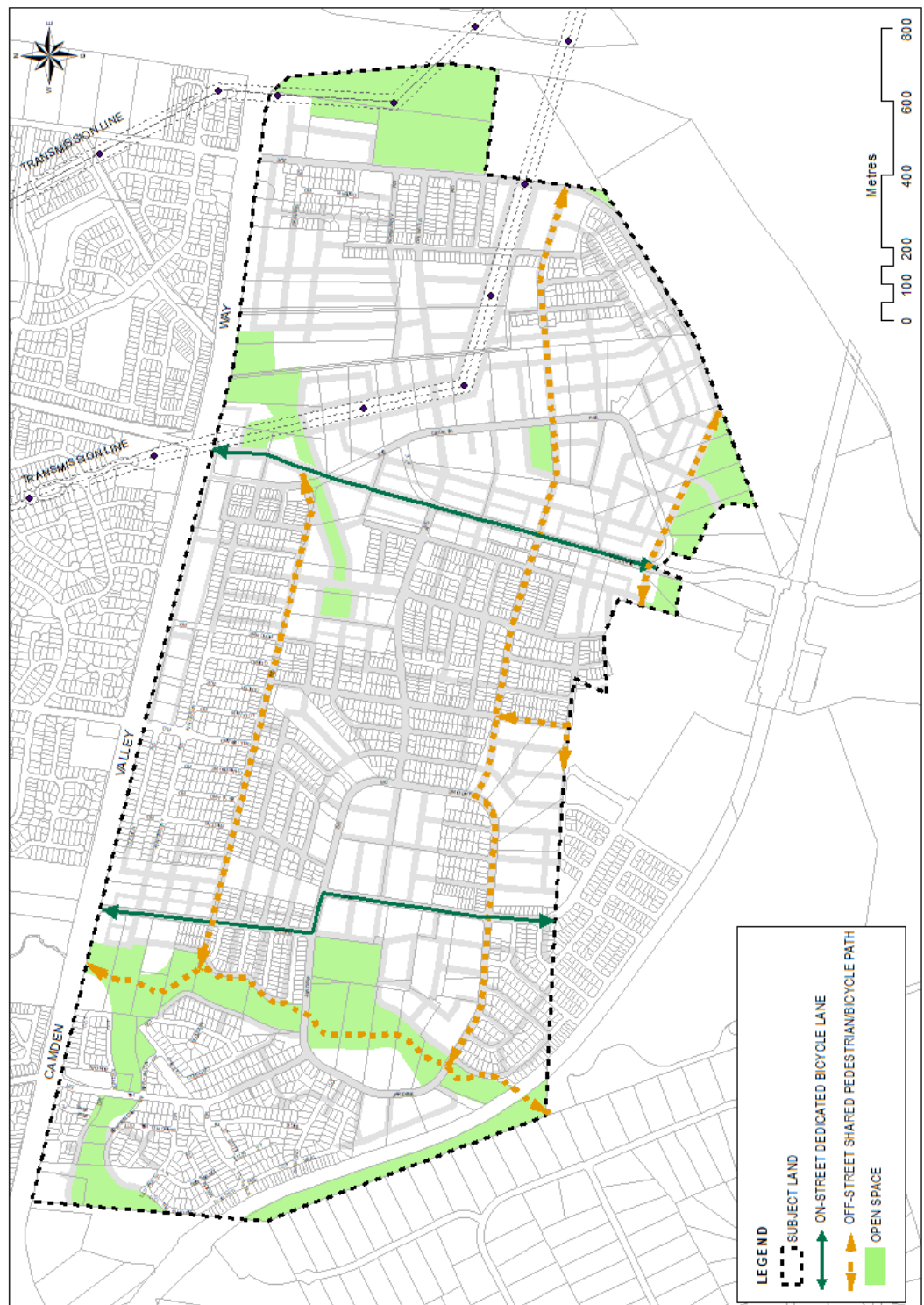


Figure 21: Bicycle Network

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that are visually attractive and integrate with surrounding street layout.

Controls

Street Furniture

- 1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
- 2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
- 3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

- 1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
- 2. A minimum of two trees is to be provided for every 6m of street frontage. These are to reach at least 4m at mature height.
- 3. The street trees shall be planted prior to the release of the subdivision certificate.
- 4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 22 for details.
- 5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.

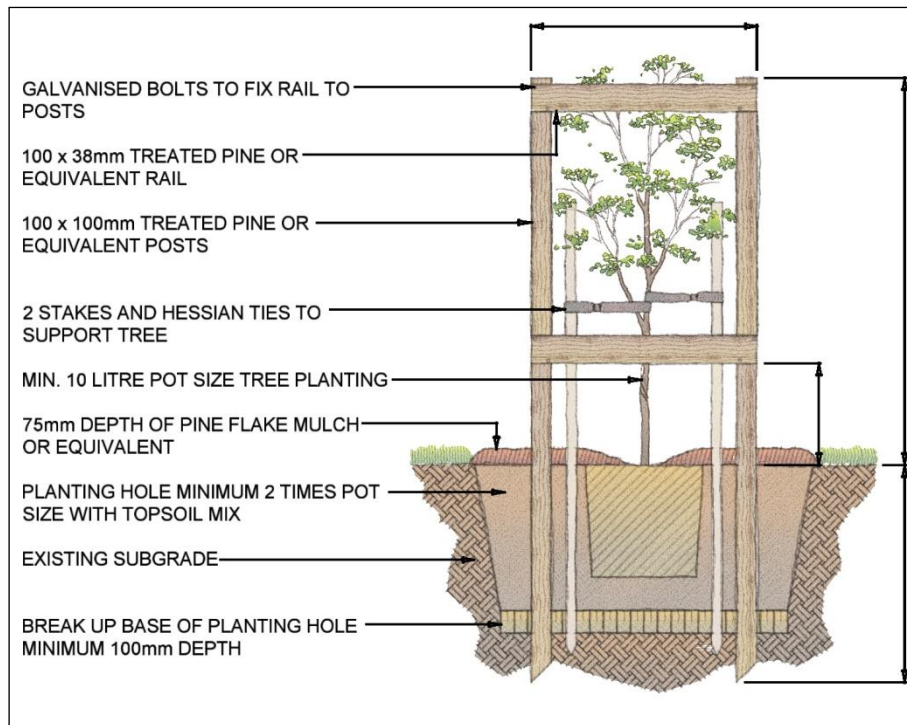


Figure 22: Tree Guard and Planting Details

2.4 Open Space

Background

1. A key element of this Part is to ensure the provision of an open space system which caters for and supports the development of Edmondson Park. Edmondson Park provides for three levels of open space plus pocket parks and conservation areas. These include:
 - Level 1 – District Park,
 - Level 2 – Neighbourhood Parks (passive and active),
 - Level 3 – Passive Parks (Riparian Parks and asset protection zones), and
 - Conservation Areas.
2. Each level of open space provides various recreational facilities for the community. Level 1 open space is centrally located and provides civic uses and active and passive recreation for the release area. Level 2 open space is neighbourhood orientated and facilitates active and passive recreation. Level 3 parks comprise Riparian Parks and asset protection zones and serve as passive recreational areas. Additionally, conservation areas of approximately 150 hectares contain areas of significant Cumberland Plain Woodland vegetation. Access to the conservation areas for passive recreational activities is an essential component of the strategy.
3. It is predicted that a higher proportion of small lot / attached housing is likely to attract first home buyers, young renters and older members of the community, hence an increased proportion of the population in the 0 - 4 year, 25 - 34 year age and in the over 50s groups is predicted.
4. Recreation requirements for the 0 - 4 year age group is predominantly private garden area, which is familiar, safe and secure and either communal open space or small parks close to the home. For the 25 - 34 year olds and the over 50s age groups, involvement in organised sports becomes less important, and there is a greater emphasis on family orientated activities and watching sports.

5. The open space provision for Edmondson Park has therefore been designed to cater for these predicted demographics. Importantly, it is intended that the Edmondson Park Release Area be seen as a whole entity, and that people from both Campbelltown and Liverpool LGAs can share facilities. Furthermore, it is envisaged that there will be a co-use of the school playing fields, to maximise the use of these facilities and encourage a community feeling for the area.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To retain and integrate existing landscape elements, such as vegetation and topographic features, in the design of new development.
- c) To provide links between the open space areas and community and retail facilities.
- d) To establish open spaces as an interconnected network incorporating conservation areas, parks, squares and streets, rather than a series of unrelated, unconnected spaces.
- e) To provide centrally located open space with a range of uses and activities in each village, which will assist in casual surveillance and promote user safety.
- f) To incorporate environmentally sensitive areas such as riparian land, bushland, and archeologically sensitive sites into the open space network and provide appropriate protection and management mechanisms.
- g) To ensure that open space is of a high quality and promotes local character and identity.
- h) To ensure that open space design is flexible and responds to changes in demand and opportunity.
- i) To ensure that the location of open space promotes equality of access and opportunity and is readily accessible by a range of transport modes.

Controls

1. The open space network for Edmondson Park must be provided in accordance with Figure 23.
2. Link the open spaces using streets, riparian corridors, pedestrian paths and cycle ways.
3. Parks within villages are to be a focal point for development and community activities.
4. Provide a street frontage on all sides of parks within the village centres.
5. Ensure the design of parks can accommodate the desired activities and that they can be adapted for a variety of potential future uses.
6. Ensure that development which surrounds open space is orientated towards the park to offer casual surveillance.
7. Perimeter streets should be provided to all parks on at least three sides of the park. Where a street frontage is not provided the development must front the park to provide surveillance.

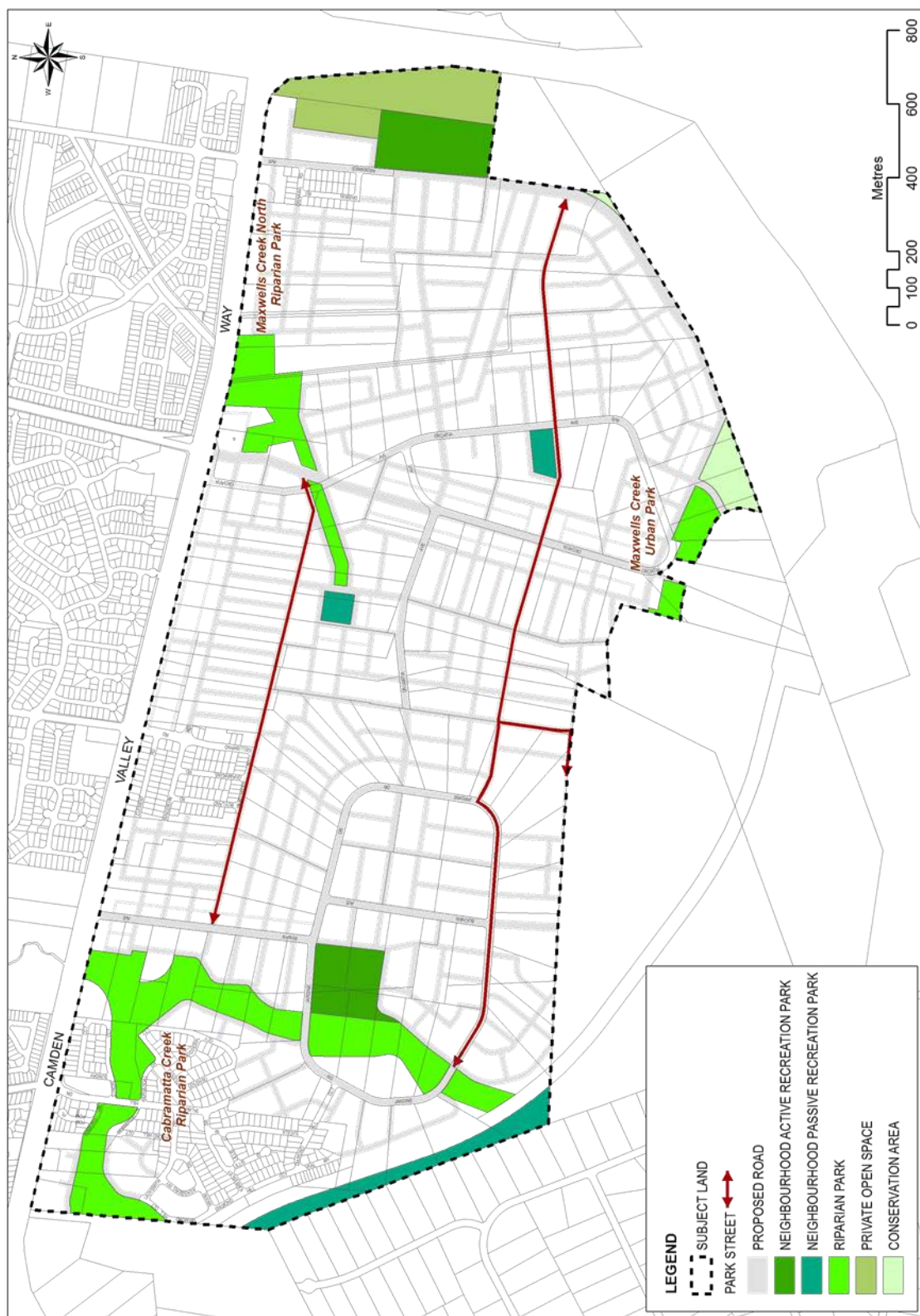


Figure 23: Open Space Network

Conservation areas

There are 3 conservation areas within Edmondson Park, which are located within Edmondson Park South. These areas are not subject to this Part.

Riparian Parks

Riparian parks provide for stormwater drainage and flood storage areas. By being enhanced and retained in a natural state they also protect native vegetation and archaeological sites, and act as natural habitat corridors outside the conservation areas. Access to watercourses, patches of high quality vegetation and any archaeological sites will be controlled in these areas. Riparian parks will have water quality swales as part of their landscape design.

There are three riparian parks in the Edmondson Park (Refer to Figure 23):

- Cabramatta Creek Riparian Park: This comprises the corridor along Cabramatta Creek north of the rail line and the tributary that runs eastward and joins Cabramatta Creek. The riparian park joins with an active recreation neighbourhood park west of Rynan Avenue.
- Maxwells Creek North Riparian Park: This park is located in the northern area adjacent to Camden Valley Way along the tributary of Maxwells Creek. The riparian park joins with a passive recreation neighbourhood park west of the Bus Priority Corridor.
- Maxwells Creek Urban Park: This park is the main landscape feature at the northern end of the town centre. The park will be a more formally landscaped urban park reflecting its relationship with the town centre and higher density residential areas.

Objectives

- a) To integrate stormwater detention basins and water quality detention basins as part of the landscape of the open space network.
- b) To manage, protect and enhance ecosystems and their biodiversity, including water quality, soil stability, fauna habitat and aquatic habitat.
- c) To ensure that important watercourses are integrated into the open space network.
- d) To maintain and promote the regeneration of native vegetation adjacent to creek lines.
- e) To protect and enhance native vegetation, archaeological and cultural values.
- f) To restore and enhance the degraded riparian remnant vegetation.
- g) To provide a landscaped passive open space area associated with riparian areas that improves amenity and provides a focus to surrounding development where appropriate.
- h) To encourage a sense of ownership over the riparian parks.
- i) To encourage educational, social and cultural opportunities and interpretation within riparian corridors.

Controls

1. Development, other than low impact recreational facilities and detention basins, is to be excluded from the CRC, including buildings, streets and car parks. Low impact recreational facilities include pathways, picnic shelters, seating, educational and interpretative features. Special attention is to be given to the location and type of facility in the core riparian corridor to minimise impact on existing vegetation and the ecological integrity.
2. Provide access to the water course at locations where the ecological integrity of the existing riparian vegetation and stream bed and bank stability will not be significantly compromised.
3. Provide educational and interpretative features and information in riparian corridors at key locations.
4. Retain aquatic connectivity through use of crossing structures consistent with the NSW Department of Primary Industries – Fisheries guidelines.
5. Remnant vegetation along the creeks is to be protected and enhanced.
6. Perimeter streets are to be provided between riparian parks and development.

7. Outer asset protection areas may be located within riparian parks. Inner protection areas must be located fully outside of riparian parks. Refer to Figure 17

Neighbourhood Parks

Neighbourhood parks have been designed for either passive or active recreational uses.

Neighbourhood passive recreation parks are small in scale in order to create intimate spaces adjacent to residential areas. Edmondson Park has three neighbourhood passive recreation parks, two located in close proximity to the village centres, and one to the west of Maxwell's Creek North Riparian Park and Croatia Avenue.

Active recreation parks contain a mix of competition standard sporting fields and passive recreation spaces. Edmondson Park has two neighbourhood active recreation parks, one to the east of Ash Road adjacent to Maxwell's Creek North Conservation Area, and one to the west of Ryman Avenue adjacent to Cabramatta Creek Riparian Park.

Objectives

- a) To provide open space areas for the enjoyment of the local population.
- b) To ensure that open space is of a high quality and, where appropriate, promotes local character and identity.
- c) To provide open space which can be used by a range of users, linked with other activities and services.

Controls

1. Neighbourhood parks are to be provided as illustrated in Figure 23.
2. Neighbourhood active recreation parks are to have a mix of the following activities:
 - Car parking,
 - Collection of competition standard specialised playing fields,
 - Kick-about areas,
 - Informal recreation areas,
 - Play equipment,
 - Footpaths and cycle ways,
 - Electric or gas BBQ facilities,
 - Planting / formal gardens, and
3. Retain, wherever possible and practical, existing endemic vegetation.

District Park

The Edmondson Park Release Area includes a district park which is located in Edmondson Park South and not subject to this Part.

Safety and Security

For Edmondson Park to be a desirable place to live, work and visit, it will need to be perceived as a safe place. A safe and secure environment encourages activity, vitality and therefore viability. Two major principles are involved in achieving a secure environment, casual surveillance of public space and the avoidance of physical threats to safety.

Objectives

- a) To provide personal and property security for residents and visitors in the public domain.
- b) To enhance perceptions of community safety.
- c) To provide pedestrians with safe, clear and direct routes of travel.

- d) To provide clear views of the street by adjoining buildings and passing traffic, providing a high level of passive surveillance.

Controls

Design

1. Landscape planting should not obscure visibility, and should avoid opportunities for concealment.
2. Appropriate evening and night-time lighting is to be provided in all streets, public spaces and parks, particularly along pedestrian and cyclist routes.
3. In parks, provide pedestrian pathways that are direct with clear sightlines. This will be particularly important to join the residential areas across Maxwell's Creek Urban Park to the town centre.
4. Provide adequate signage describing pathways and facilities.
5. The design of streets and location of street furniture is to allow adequate sight lines for motorists.
6. The design and maintenance of paving and other ground plane treatments is to ensure the avoidance of trip hazards and be approved by Council.
7. Driveway entry-exits are to provide adequate sight lines to adjacent footpaths, streets and cycle ways. Shared driveways are to be used wherever possible.

Casual Surveillance

1. All public spaces including streets, parks, squares and plazas must be directly overlooked by adjacent development.
2. Active uses must be orientated to streets in commercial or mixed-use areas. In residential areas, living rooms, verandahs and / or kitchens are encouraged to be orientated to the street.
3. Locate perimeter streets to each neighbourhood park. Where a street frontage is not provided the development is to front the park to provide surveillance.

2.5 Environmental Management

Vegetation within Riparian Corridors

1. Provide for the protection of the riparian environment, including water quality, soil stability and creek bed habitat.
2. Regenerate vegetation using local provenance Alluvial Woodland and Shale Plains Woodland species.
3. Bush fire asset protection zones to be incorporated into boundary street design and outside the conservation areas and riparian zones. Refer to Figure 17.
4. Maximise opportunities for the public to experience remnant native bushland.

Vegetation in Developable Areas

1. Require that canopy trees where possible and some saplings are retained through the Development Application process.
2. Avoid tree root damage to retained trees throughout development.
3. Avoid the removal of existing trees in the following zones:
 - R5 – Large Lot Residential
 - RE1 - Recreation - Public,
 - RE2 - Recreation - Private,
 - W1 – Natural Waterways
 - E1 – National Parks and Nature Reserves, and
 - E2 – Environmental Conservation.

Core Riparian Corridors

Core Riparian Corridors (CRCs) are areas of protected land along both sides of a creek that allows for the protection of riparian vegetation, water quality and bed and bank stability.

To create an interface between the CRCs and developable areas, it is necessary to provide an additional buffer area which forms the outer protection zone part of the Asset Protection Zone.

Objectives

The objectives of this Part with regard to Core Riparian Corridor (CRC) management are:

- a) To maximise opportunities for stream / creek restoration and enhancement that mimics natural stream processes.
- b) To conserve, protect and enhance riparian corridors and biological connectivity through the provision of continuous, vegetated riparian protection zones along either side of the creeks.
- c) To enable existing watercourses to contribute to and be enhanced by a coordinated approach to development within the area.
- d) To provide for appropriate traffic cycle and pedestrian circulation throughout the release area while providing for the protection of the riparian zone and its environmental functions.
- e) To ensure the rehabilitation of creek corridors is integrated into floodplain management planning.
- f) To encourage a sense of ownership over riparian corridors.
- g) To encourage educational, social and cultural opportunities and interpretation within riparian corridors.

Controls

Stream and Riparian Management Plan

1. A Stream and Riparian Management Plan (SRMP) is to be prepared as part of the Water Cycle Management Plan and submitted with the subdivision Development Application for the full extent of each creek corridor within the subdivision being developed. These SRMPs are to be prepared in consultation with Council and Department of Natural Resources, and require the approval of Council.
2. The SRMPs are to include the following:
 - Plans showing, in detail, the existing creek channels, riparian vegetation (including remnant native vegetation), geomorphic features and aquatic habitats (reed beds, snags etc).
 - Detailed plans of any channel modification and stabilisation works.
 - A longitudinal stream survey section (if stream works are proposed) of the existing and proposed creek channel bed in sufficient detail to identify changes in bed level and hydraulic features (i.e. pools and riffles).
 - Details on the staging and sequencing of any works within the riparian zone.
 - Recommendations on how to address the modified drainage system and reaches.
 - A vegetation management plan is to be incorporated into the SRMP for the establishment of riparian corridors. It must use natural and assisted regeneration and planting of locally native vegetation (trees, shrubs and groundcover species).
3. Proposed crossings to creeks must be designed to facilitate the movement of aquatic and terrestrial species, and are to incorporate features that allow for light penetration beneath the structure.
4. The design of the 3 structures crossing Cabramatta Creek and Maxwell's Creek are to ensure the following:
 - 1% AEP flood conveyance.

- Flora and fauna connectivity.
- Scour protection.

Core Riparian Corridors in Edmondson Park Creeks

Controls

1. The following describes the Core Riparian Corridor (CRC) and inner protection zone to be provided for each creek. The CRC will be measured from the top of the existing creek's embankment as identified by appropriate survey plans. The minimum requirements to be provided adjacent to each creek.

Cabramatta Creek:

- Provide an average 20m wide CRC on each side of the creek (measured from the top of the bank).
- Provide a minimum 10m wide buffer from the CRC to developable land. This area can include the outer protection zone.

North western tributary to Cabramatta Creek:

- Provide an average 20m wide CRC on each side of the creek (measured from the top of the bank),
- Provide a minimum 10m wide Inner Protection Zone from the CRC to developable land.

Maxwell's Creek:

- Provide a 20m wide CRC on each side of the western tributary of Maxwell's Creek (measured from the top of the embankment).
- Provide a 10m wide buffer zone from the CRC to developable land.
- Develop a formal urban park open space for passive and active recreational use by the adjacent residents and workers from the town centre.
- Drainage channel to be re-engineered. Soft engineering solutions are preferred. Stream bed and bank stabilisation to be utilised as appropriate. Permanent water bodies to be "off stream" where possible.

Northern tributary of Maxwell's Creek:

- Establish an urban drainage corridor within the zoned open space,
- Re-engineer the entire corridor to Camden Valley Way. Soft engineering solutions are preferred. Stream bed and bank stabilisation to be utilised as appropriate, and
- Locate water quality treatment facilities "off stream" but within the open space zoned corridor.

2. All remnant vegetation along the CRC must be protected and enhanced unless required to be removed as part of the re-engineering works to improve the system.
3. Development, other than low impact recreational facilities and detention basins, is to be excluded from the CRC, including buildings, streets and car parks. Low impact recreational facilities include pathways, picnic shelters, seating, educational and interpretative features. Special attention is to be given to the location and type of facility in the core riparian corridor to minimise impact on existing vegetation and the ecological integrity.
4. Provide access to the water course at locations where the ecological integrity of the existing riparian vegetation and stream bed and bank stability will not be significantly compromised.
5. Provide educational and interpretative features and information in riparian corridors at key locations.
6. Any bank stabilisation measures are to use soft engineering techniques that promote sustainability and naturalness.

7. Perimeter streets are to be provided between the riparian corridor and residential / commercial development.
8. Any assessment of flood impacts and flood modelling must take into account the establishment of a fully structured vegetated riparian corridor along the CRCs. The Manning “n” roughness coefficients are to be such that they represent a diverse and fully structured riparian corridor (trees, shrubs and groundcover) for discharge determinations.
9. Any hydraulic assessment must consider not only the initial vegetation density in CRCs but also the final growth, with due allowance for debris build up before and during flooding.
10. Service utilities can only be provided within CRC’s if no other practical or feasible opportunity exists to cross the corridor at designated crossing points, such as streets and pedestrian crossings.

2.6 Water Cycle Management

The stormwater quantity and quality management seeks to reduce the impact of rapid stormwater conveyance on streams and wetlands, remove pollutants to improve water quality, retain habitats, conserve water, integrate landscape and recreational opportunities and protect downstream development from inundation. Water quality detention / bio-retention basins will be an integral part of stormwater management.

Objectives

- a) To integrate water management measures with innovative urban design.
- b) To ensure that there are no adverse impact on existing flood regimes in the surrounding areas, as a result of the proposed development.
- c) To provide an urban water management system for both stormwater quantity and quality
- d) To minimise hydrological impacts on the environment.
- e) To protect and enhance the natural water systems and water quality.
- f) To ensure no net increase in peak discharges.
- g) To mitigate flood damage to the built environment, inundation of dwellings and stormwater damage to properties.
- h) To provide for urban water management through multiple use systems where feasible and where efficient use of urban land and structuring principles are met.
- i) To ensure that the quality of stormwater discharge from the site complies with the Georges River Stormwater Management Plan and the Growth Centres Commission Development Code.
- j) To provide an urban water management system that will be economically maintained and to ensure that arrangements are in place for on-going maintenance.

Controls

1. Provide off line water quality control bio-retention systems to trap pollutants and fine sediment.
2. Provide structural water quality management devices, including, gross pollutant and sediment traps and litter management devices.
3. Provide bio-retention systems in accordance with the Water Sensitive Urban Design Strategy. Provision of swales, buffer strips, storage tanks, and rooftop planting is also encouraged where appropriate.
4. Encourage areas of deep soil planting in the design of external areas and landscaping.
5. Create water efficient landscape design through the selection of tolerant plant species and efficient irrigation technology.

6. Where any construction adjacent to a creek, natural watercourse, drainage depression, or an enclosed drainage system is proposed, the DA should be consistent with the SRMP and is to be accompanied by a full hydrologic and hydraulic assessment. The assessment is to include:
 - External and internal catchment hydrology for rainfall events including the 1.5, 5, 20 and 100 year ARI (Average Recurrence Interval) design event.
 - An estimation of the capacity of the existing drainage system.
 - Predicted extents of flood inundation, depths, and velocities of predicted flood flows to allow effective hazard categorisation.
7. The trunk drainage system shall be designed to convey the 1% AEP flood. Streets adjacent to trunk drains or utilised as part of the drainage system shall meet the safety requirements of the current flood plain development manual for vehicles and pedestrians (normally depth x velocity < 0.4). Where the street system is used as part of the drainage system a minimum of 3.5m of the width of the street shall be above the 1% flood level.
8. Native vegetation is preferred, particularly in saline areas where deep-rooted vegetation can assist with salinity hazard reduction.
9. Where drainage routes pass through a property, adequate provision must be made for the passage of stormwater runoff with adequate freeboard to building floor levels. In the event of Council being requested to approve the location of a piece of infrastructure on its land, it will require:
 - Documentation that such an activity will not prejudice the use of the land for the purpose for which it exists.
 - A possible preparation or amendment to the Plan of Management for the land, and if this action is necessary a fee may be required.
10. Fill is permitted with Council consent in flood plains in the areas shown in Figure 24.

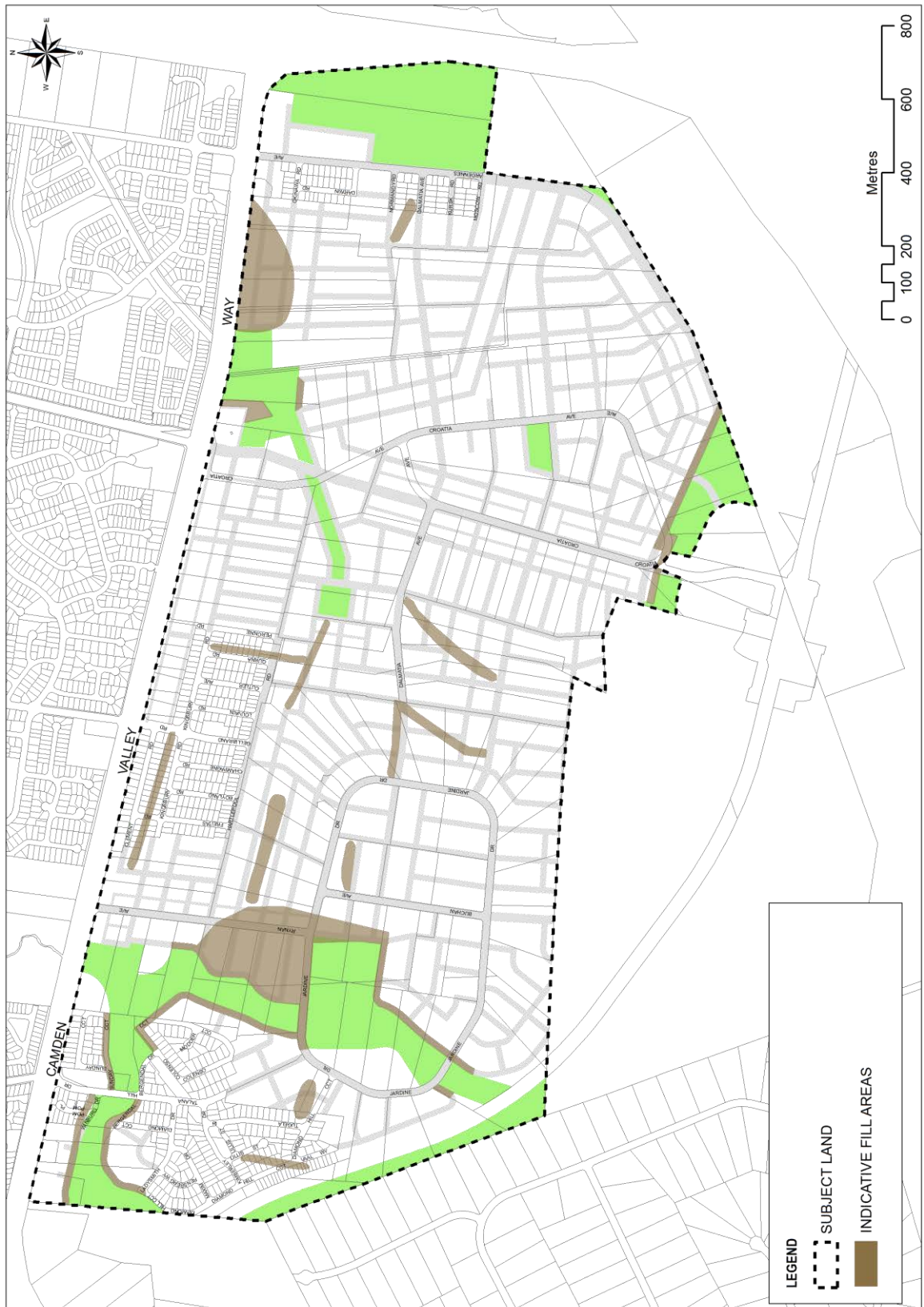


Figure 24: Areas which may be filled with Council Consent

2.7 Contamination

In the consideration of any Development Application, Council must consider whether the land is likely to be contaminated. Refer to Contaminated Land Risk in Part 1 for controls. Refer to Figure 25.

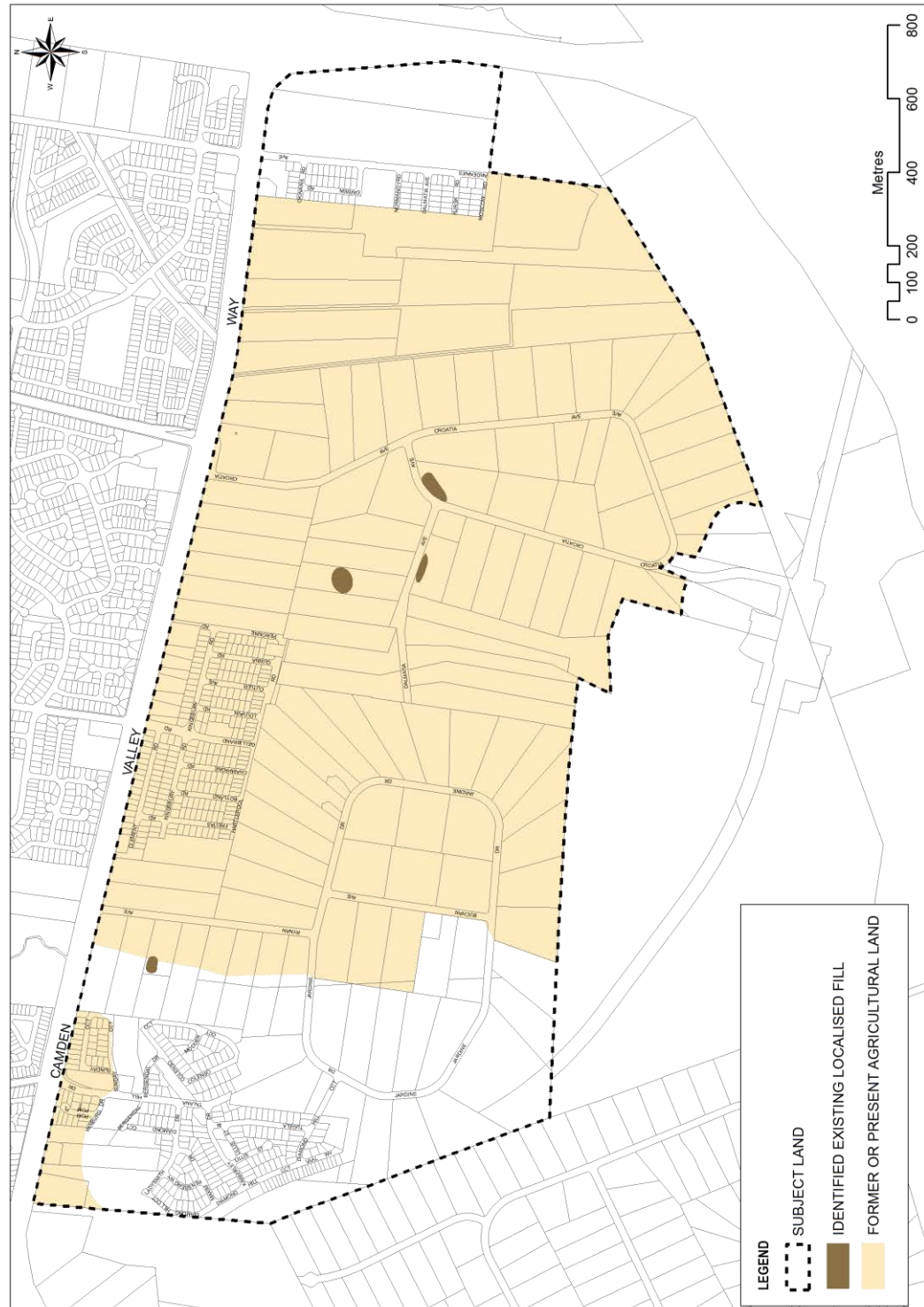


Figure 25: Contamination

3. Controls for Residential Development in Urban areas (28 Dwellings/Hectare) and Residential Flat Buildings

3.1 Preliminary

Applies to

This section applies to land identified in Liverpool LEP 2008 Dwelling Density Map as having a minimum density of 28 Dwellings / Hectare.

Background

Development within the 28 dwellings/hectare area is primarily intended for the Residential Flat Buildings and Multi Dwelling Housing. Development for detached dwellings is strongly discouraged within this area. However detached dwellings are permitted if desired on lots that do not front or back onto the bus priority corridor, any parks or parkland (the E1, E2, E3, RE1 or RE2 zones).

3.2 Site Planning

Objectives

- a) To ensure that the residential flat buildings or dwellings(s) are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 26 for a site analysis plan).
2. Basement car parking (if applicable) should be unobtrusive and blend into the general façade of the building.
3. There must be a direct link from at least one living area to the principal private open space, which for residential flat buildings is the balcony or terrace.
4. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

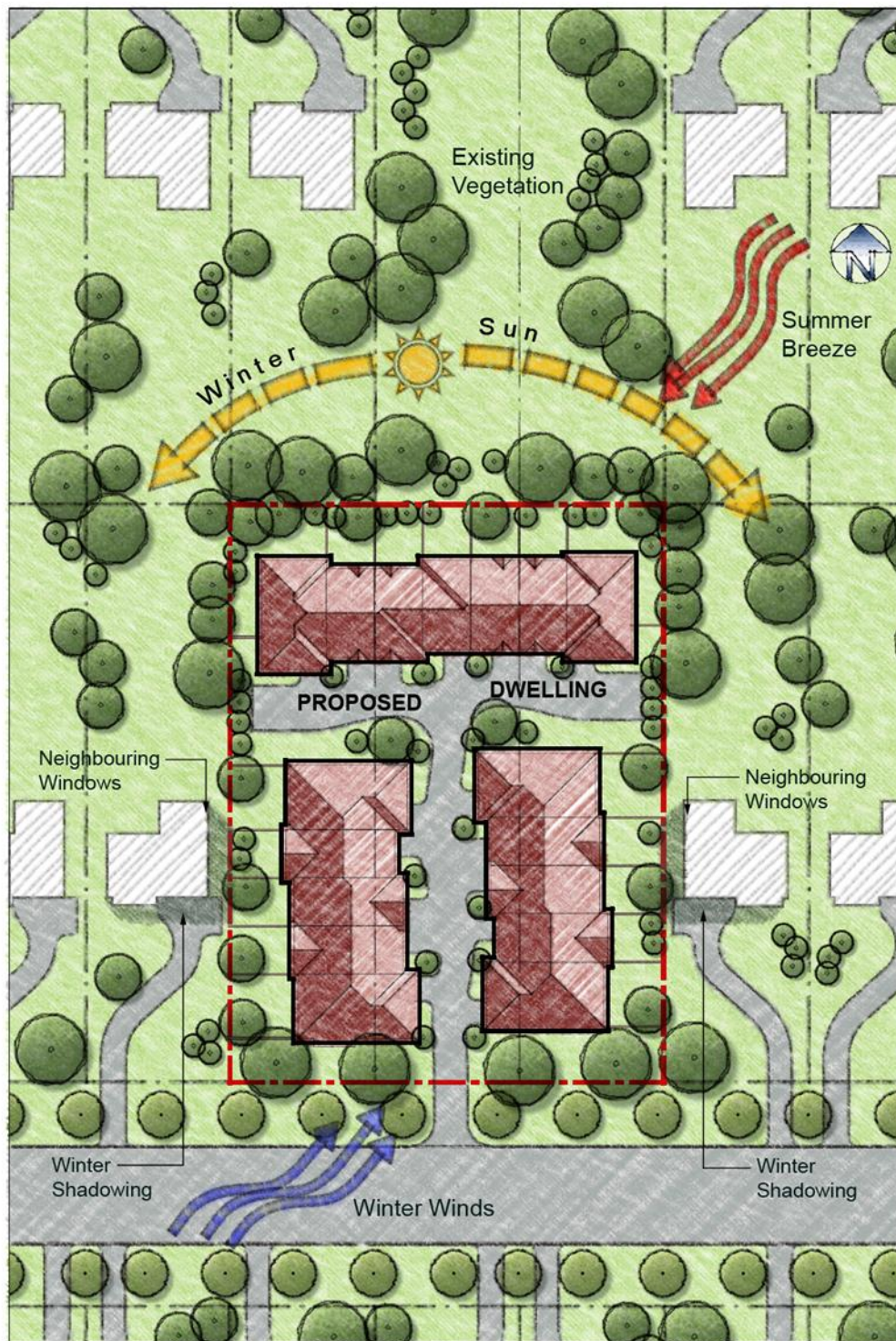


Figure 26: Example of a Site Analysis Plan

3.3 Setbacks

Objectives

- To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- To set dwellings back from each other to provide visual and acoustic privacy.
- To create a streetscape that provides a desirable and safe environment.
- To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

- Buildings shall be setback in accordance with Table 1.

Table 1: Setbacks within the 28 dw / ha area

Front Setback	Secondary Setback
4.5 m	2.5 m

- For lots containing a dwelling house, the secondary setback is generally along the longest length boundary. For multi-dwelling housing or residential flat buildings, the secondary setback faces the secondary road, which is likely to be the shorter boundary(s).
- Garages shall be setback 5.5m from any street frontage, or 1.0m from a secondary boundary when consistent with a typology shown in Figure 20.
- Articulation features such as verandahs, eaves and other sun control devices may encroach on the front and secondary setback by up to 1m.
- Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wraparound verandah, bay window, corner entry or roof feature. The maximum distance for articulation is 1m.

Side and Rear Setbacks

- Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2: Side and Rear setbacks within the 28 dw / ha area

Item	Side Setback			Rear Setback		
	Residential Flat Building	Multi Dwelling Housing	Dwelling house Attached dwelling Semi-detached dwelling	Residential Flat Building	Multi Dwelling Housing	Dwelling house Attached dwelling Semi-detached dwelling
Party Wall	0m	0 m	0 m	n/a	n/a	n/a
1 storey	3 m	0.9 m	0.9 m	6 m	4 m	4 m

2 storey	3 m	1.2 m	1.2 m	6 m	6 m	6 m
3 storeys and above	Refer to Apartment Design Guide (or equivalent)	1.4 m	1.4 m	Refer to Apartment Design Guide (or equivalent)	7 m	6 m

Note: In a terrace style attached dwelling development the upper storey setbacks do not apply to the terraces unless by having the zero lot line will create unreasonable solar shading - (that the adjacent lot's dwelling will not receive the minimum 3 hours sunlight to 50% between 9am and 3pm on the 21st June)

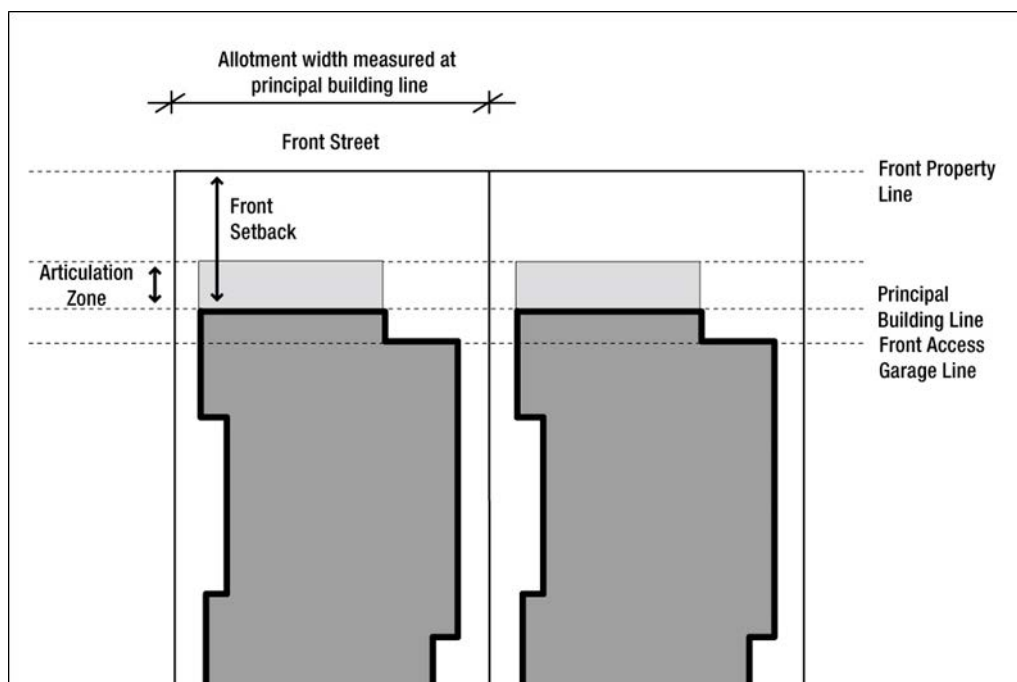


Figure 27: Front Setback Line

Zero lot lines for attached and semi-detached dwellings

This zero lot line control only applies to the end dwellings, in a multi-zero lot line multi dwelling development, such as terraces. It also applies to dwellings that have a zero lot lines. It does not apply to Residential flat buildings.

1. Walls are generally to be 180 mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the lot length.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 0.9m shall be provided on the adjoining boundary. This is shown in Figure 28.

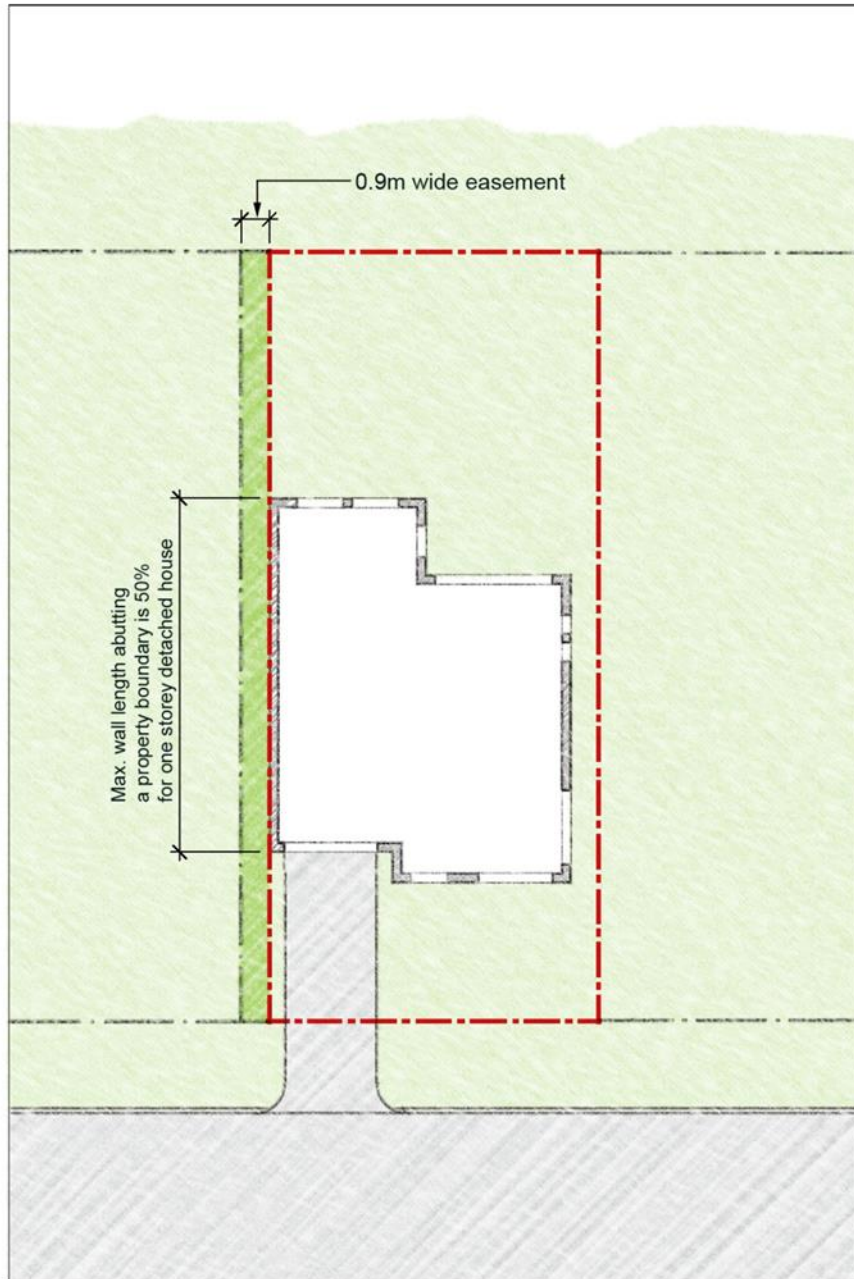


Figure 28: Zero Lot Lines

3.4 Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Landscaped Area (deep soil area)

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To assist with management of the water table.
- c) To assist with management of water quality.
- d) To enhance the existing streetscape and soften the visual appearance of the buildings.

Controls

1. A minimum of 20% of the site area shall be landscaped area.
2. Optimise the provision of consolidated landscaped area within a site by:
 - The design of basement and sub-basement car parking, so as not to fully cover the site.
 - The use of side and rear setbacks.
 - Optimise the extent of landscaped area beyond the site boundaries by locating them contiguous with the landscaped area of adjacent properties.
3. Promote landscape health by supporting for a rich variety of vegetation type and size.
4. Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials.

Open Space

Open space includes Landscaped Areas and hard paved areas such as footpaths and barbeque areas. It does not include driveways, drying areas or waste storage areas.

Objectives

- a) To provide residents with passive and active recreational opportunities.
- b) To provide an area on site that enables soft landscaping and deep soil planting.
- c) To ensure that communal open space is consolidated, configured and designed to be useable and attractive.
- d) To provide a pleasant outlook.

Controls

1. Provide communal open space, which is appropriate and relevant to the context and the building's setting.
2. Where communal open space is provided, facilitate its use for the desired range of activities by:
 - Locating it in relation to buildings to optimise solar access to dwellings.
 - Consolidating open space on the site into recognisable areas with reasonable space, facilities and landscape.
 - Designing its size and dimensions to allow for the range of uses it will contain.
 - Minimising overshadowing.
 - Carefully locating ventilation duct outlets from basement car parking.

3. Locate open space to increase the potential for residential amenity.

Private Open Space

Objective

- a) To ensure that private open space is clearly defined, usable and meets user requirements for privacy, solar access, outdoor activities, accessibility and landscaping.
- b) To provide all dwellings with private open space.

Controls

1. Private open space for residential flat buildings shall be consistent with the Apartment Design Guide (or equivalent document).
2. Private open space shall be provided for in accordance with Table 3 for Multi Dwelling Housing, Attached dwellings, Semi-detached dwellings and Dwelling houses.

Table 3: Private open space in the 28 dw / ha area for all other dwellings

Dwelling Size	Private Open Space Area	Minimum Width
Less than 65 m ²	30sqm	3m
Between 65 and 100	40sqm	3m
Between 101 and 150	50sqm	4m
Between 151 and 200	60sqm	4m
Greater than 200 m ²	70sqm	4.5m

3. Private open space may be provided as a courtyard for ground floor dwellings or as balconies for dwellings above the ground floor.
4. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
5. Private open space should be clearly defined for private use.

For balconies refer to Building Design, Streetscape and Layout for controls on their design.

Drying areas

Objective

To provide adequate clothes drying areas for residents.

Controls

1. Clothes drying facilities must be provided. Clothes drying areas should not be visible from a public place.

3.5 Building Design and Streetscape

Dwelling Houses and Dual Occupancies

Building Envelopes

1. A Dwelling House, Semi-detached dwelling or attached dwelling shall have a maximum of three storeys plus an attic.

2. Attics do not constitute a storey if they are included in a roof space and having a roof slope not greater than 36 degrees pitched from the ceiling level of the uppermost floor; provided that:
 - All windows face the street.
 - Access to the attic must be via permanent stairs.
 - Attics are to be provided with skylights, or a dormer window. A dormer window shall be a maximum of 1.5m wide and must maintain the privacy of the adjoining residents.

Building Design

The built form must be uniform in bulk and scale but seek some variety in terms of building elements such as balconies, entrances, carports and roof forms.

The controls aim to ensure that a level of consistency is maintained in those building elements.

Objectives

- a) To promote an architectural style that is contemporary and innovative
- b) To encourage designs that will enhance the character of the neighbourhood.
- c) To promote variation of building facade and design.
- d) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- e) To ensure buildings address all street frontages.
- f) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- g) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- h) To ensure habitable rooms address the street.
- i) To encourage balconies over garages on two storey dwellings.

Controls

Building Appearance

1. Simply articulated building forms are preferred
2. Dwellings must address the street frontage
3. Mirror imaging of a Semi-detached dwelling is not permitted
4. One building must be set back a minimum of 1m behind the other building in Semi-detached dwellings.
5. Attached dwellings or Semi-detached dwellings are not permitted to zero lot line, except to the other dwelling.
6. Dwellings corner sites must address both street frontages.
7. Use of verandas and balconies are encouraged.
8. Vertically proportioned windows are encouraged.
9. Abutting dwellings within the 28 dwellings / hectare area should provide for a high variety of different building designs, making an eclectic yet coherent streetscape with examples shown in Figure 29.

Building Materials

1. External walls of dwellings can be constructed with the following materials:

- Face brickwork,
 - Rendered brickwork,
 - Stone,
 - Concrete wall,
 - Glass, and
 - Lightweight materials such as, weatherboards, timber boarding or fibre cement.
2. External walls are to display a mix of materials.
 3. Lightweight materials are only permitted on upper storey external walls.

Retaining Walls

1. Retaining walls can be either built of masonry or sandstone.

Roofs

1. Simple use of gables and pitched and hipped roofs is encouraged.
2. Pitched and hipped roofs are to have a minimum of 450mm eaves unless the dwelling has zero metre side setbacks.
3. Roof pitch must not be lower than 22.5 degrees or higher than 45 degrees.
4. Skillion and vaulted roofs are permitted.
5. Flat roofs must not dominate the built form.
6. Flat roofs must not occupy more than 50% of the total roof area.

Balconies

1. Decks and balconies can be built to form framed porticos or entrances.
2. Balconies should incorporate simple railing and balustrade detailing.

Levels

1. Dwellings are to follow the slope of the land.

Building Depth

Objectives

To achieve the development of working and living environments with good internal amenity and that minimise the need for artificial heating, cooling and lighting.

Controls

Maximum building depths for houses are 16m, unless internal courtyards are provided.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.

- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuite, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
8. Dwelling entries must be oriented to the street.



Figure 29: Examples of variable attached building design

Multi Dwelling Housing

Building Design

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages in two storey dwellings.
- i) To encourage steep or sloping site to build split level or stepped development.

Controls

- 1. Unit/s with a street frontage shall orientate the main entrance and where possible at least one living area towards the street.
- 2. Entry points shall be enhanced/emphasised to all dwellings especially those facing the street.
- 3. The first floor of the townhouse developments must be no greater than two thirds of the ground floor area.
- 4. Building facades shall be articulated and roof form is to be varied to provide visual variety.
- 5. Walls shall be a mix of masonry, rendered and or bagged, and painted, lightweight clad and painted and/or flush face brick. Justification will be required for 100% face brick facades or 100% rendered and painted brick and will be assessed on merit.
- 6. Facades can be articulated by:
 - The use of different materials and detailing.
 - The inclusion of balconies, verandahs, pergolas and landscaped beds.
- 7. A sidewall must be articulated if the wall has a continuous length of over 10m.
- 8. The entrance of each dwelling shall be emphasised.
- 9. Units built at the rear of the allotment must be single storey.
- 10. Driveways should avoid a 'gun barrel' effect by curving and siting of buildings, which create a driveway form with the divided carriageway separated by soft landscaping.
- 11. Attic floor space may be used when it is contained wholly within the roof pitch and will not be counted as a storey provided that the attic space is part of the dwelling unit.
- 12. Space used for car parking shall be included as a storey if the ceiling of the car parking level exceeds more than 1m above the natural ground level.
- 13. The maximum roof pitch shall be 36 degrees.
- 14. Townhouses built on steep or sloping lots should be built of split-level construction.

15. Row housing dwellings within the 28 dwellings / hectare area should provide for a high variety of different building designs, making an eclectic yet coherent streetscape with examples shown in Figure 29.

Internal Design

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide natural surveillance from a room addressing the street.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each unit provides a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. Townhouses and villa's located on street boundaries shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects where possible.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side and the rear of the development.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Residential Flat Buildings

Building Design

Objectives

- a) To ensure an attractive streetscape that is consistent with the environment of residential flat buildings.
- b) To promote high architectural quality in residential flat buildings.
- c) To ensure that new developments have facades which define and enhance the public domain and desired street character.
- d) To ensure that building elements are integrated into the overall building form and facade design.

Controls

1. Residential Flat Buildings shall comply with State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development, and should consider the Apartment Design Guide (ADG) or equivalent.
2. Building facades shall be articulated and roof form is to be varied to provide visual variety.
3. The pedestrian entrance to the building shall be emphasised.
4. A sidewall must be articulated if the wall has a continuous length of over 14m.

5. Driveway walls adjacent to the entrance of a basement car park are to be treated so that their appearance is consistent with the basement or podium walls.
6. Sensitive design of basement car parking areas can assist in ensuring that podiums and vehicle entry areas do not dominate the overall design of the building or the streetscape and optimise areas for deep soil planting.
7. The integration of podium design should be an integral part of the design of the development, and as far as possible should not visibly encroach beyond the building footprint.
8. A master antenna shall be provided for any development of more than three dwellings and be located so that it is not visible from the street or any public open space.
9. Consider the relationship between the whole building form and the facade and / or building elements. The number and distribution of elements across a façade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns.
10. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. This may include but are not limited to:
 - Defining a base, middle and top related to the overall proportion of the building.
 - Expressing key datum lines in the context using cornices, a change in materials or building set back.
 - Expressing the internal layout of the building, for example, vertical bays or its structure, such as party wall-divisions.
 - Expressing the variation in floor-to-floor height, particularly at the lower levels.
 - Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.
 - Selecting balcony types which respond to the street context, building orientation and residential amenity.
 - Cantilevered, partially recessed, wholly recessed, or Juliet balconies will all create different facade profiles.
 - Detailing balustrades to reflect the type and location of the balcony and its relationship to the façade detail and materials.
11. Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation.
12. Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height.
13. Co-ordinate and integrate building services, such as drainage pipes, with overall facade and balcony design.
14. Co-ordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design

Internal design

Objective

To ensure that the internal design of buildings provide a pleasant environment for the occupants and residents of adjoining properties.

Controls

1. All staircases should be internal.
2. Minimise the length of common walls between dwellings.
3. Basement car parking shall be located beneath the building footprint.
4. Where possible natural ventilation shall be provided to basement car parking.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings
6. Minimise the location of noise sensitive rooms such as bedrooms adjoining noisier rooms such as bathrooms or kitchens or common corridors and stairwells.
7. Where a site has boundary to a Classified Road, locate bedrooms away from that boundary.
8. Where common walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the Building Code of Australia.
9. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Ground Floor Dwellings

Objectives

- a) To contribute to the desired streetscape of an area and to create active safe streets.
- b) To increase the housing and lifestyle choices available in dwelling buildings.

Controls

1. Design front gardens or terraces, which contribute to the spatial and visual structure of the street while maintaining adequate privacy for dwelling occupants. This can be achieved by animating the street edge, for example, by promoting individual entries for ground floor dwellings.
2. Create more pedestrian activity along the street and articulate the street edge by:
 - Balancing privacy requirements and pedestrian accessibility.
 - Providing appropriate fencing, lighting and/ or landscaping to meet privacy and safety requirements of occupants while contributing to a pleasant streetscape.
 - Utilising a change in level from the street to the private garden or terrace to minimise site lines from the streets into the dwelling for some dwellings.
 - Increasing street surveillance with doors and windows facing onto the street.
3. Planting along the terrace edge contributes to a quality streetscape.
4. Ground floor dwellings are special because they offer the potential for direct access from the street and on-grade private landscape areas. They also provide opportunities for the dwelling building and its landscape to respond to the streetscape and the public domain at the pedestrian scale. Ground floor dwellings also support housing choice by providing accessibility to the elderly and/or disabled and support families with small children.
5. Optimise the number of ground floor dwellings with separate entries and consider requiring an appropriate percentage of accessible units. This relates to the desired streetscape and topography of the site.

6. Provide ground floor dwellings with access to private open space, preferably as a courtyard.

Natural Ventilation

Objectives

- a) To ensure that dwellings are designed to provide all habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants.
- b) To provide natural ventilation in non-habitable rooms, where possible.
- c) To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Controls

1. Utilise the building layout and section to increase the potential for natural ventilation. Design solutions may include:
 - Facilitating cross ventilation by designing narrow building depths and providing dual aspect dwellings, for example, cross through dwellings and corner dwellings.
 - Facilitating convective currents by designing units, which draw cool air in at lower levels and allow warm air to escape at higher levels, for example, maisonette dwellings and two-storey dwellings.
2. Select doors and windows (that open) to maximise natural ventilation opportunities established by the dwelling layout.
3. Provide narrow building depths to support cross ventilation.
4. Avoid single-aspect dwellings with a southerly aspect.
5. Design the internal dwelling layout to promote natural ventilation by:
 - Minimising interruptions in air flow through an dwelling.
 - Grouping rooms with similar usage together, for example, keeping living spaces together and sleeping spaces together. This allows the dwelling to be compartmentalised for efficient summer cooling or winter heating.
 - Select doors and operable windows to maximise natural ventilation opportunities established by the dwelling layout.

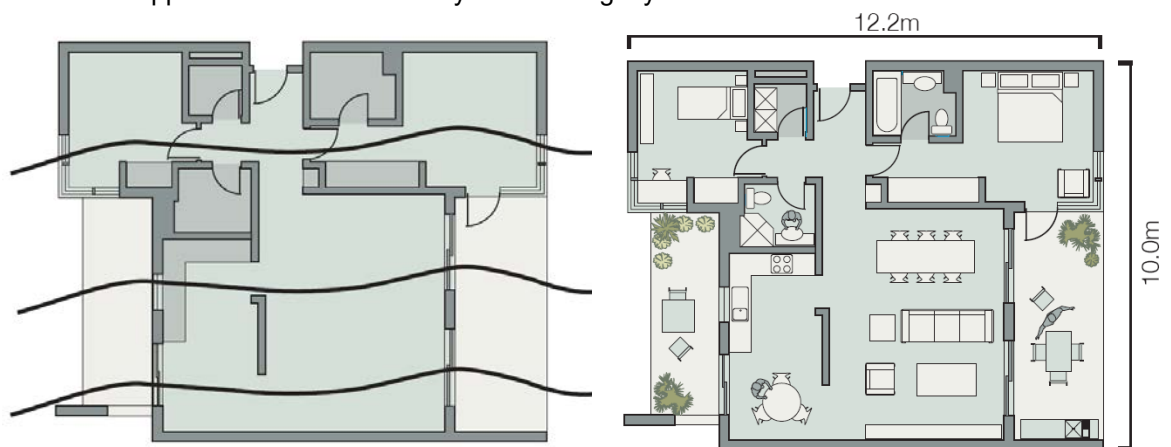


Figure 30: Cross Ventilation

Storage Areas

Objective

To provide for the need of residents to be able to store personal items adjacent to the car parking area.

Controls

1. A secure storage space is to be provided for each dwelling with a minimum volume 8m³ (minimum dimension 2m). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

All Residential Development

Roof Design

Objectives

- a) To provide quality roof designs, which contribute to the overall design and performance of residential flat buildings.
- b) To integrate the design of the roof into the overall facade, building composition and desired contextual response.
- c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
 - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.
 - Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
 - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
 - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.
4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
5. Where habitable space is provided within the roof, optimise residential amenity in the form of attics or penthouse dwellings.

Building Entry

Objectives

- a) To create entrances which provide a desirable residential identity for the development.
- b) To orient the visitor.
- c) To contribute positively to the streetscape and building facade design.

Controls

1. Improve the presentation of the development to the street by:
 - Locating entries so that they relate to the existing street and subdivision pattern, street tree planting and pedestrian access network.
 - Designing the entry as a clearly identifiable element of the building in the street.
 - Utilising multiple entries-main entry plus private ground floor dwelling entries-where it is desirable to activate the street edge or reinforce a rhythm of entries along a street.
2. Provide as direct a physical and visual connection as possible between the street and the entry.
3. Achieve clear lines of transition between the public street, the shared private, circulation spaces and the dwelling unit.
4. Ensure equal access for all.
5. Provide safe and secure access by:
 - Avoiding ambiguous and publicly accessible small spaces in entry areas.
 - Providing a clear line of sight between one circulation space and the next.
 - Providing sheltered well-lit and highly visible spaces to enter the building, meet and collect mail.
6. Generally provide separate entries from the street for:
 - Pedestrians and cars.
 - Different uses, for example, for residential and commercial users in a mixed-use development.
 - Ground floor dwellings, where applicable.
7. Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces.
8. Provide and design letterboxes to be convenient for residents and not to clutter the appearance of the development from the street by:
 - Locating them adjacent to the major entrance and integrated into a wall, where possible.
 - Setting them at 90 degrees to the street, rather than along the front boundary.

Daylight Access

Objectives

- a) To ensure that daylight access is provided to all habitable rooms and encouraged in all other areas of residential flat development.
- b) To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours.
- c) To provide residents with the ability to adjust the quantity of daylight to suit their needs.

Controls

1. Plan the site so that new dwellings are oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.

3. Optimise the number of dwellings receiving daylight access to habitable rooms and principal windows.
4. Ensure daylight access to habitable rooms and private open space, particularly in winter - use skylights, clerestory windows and fanlights to supplement daylight access.
5. Promote two-storey and mezzanine, ground floor dwellings or locations where daylight is limited to facilitate daylight access to living rooms and private open spaces.
6. Ensure single aspect, single-storey dwellings have a northerly or easterly aspect - locate living areas to the north and service areas to the south and west of the development.
7. Avoid south facing dwellings.
8. Design for shading and glare control, particularly in summer, by:
 - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
 - Optimising the number of north-facing living spaces.
 - Providing external horizontal shading to north-facing windows.
 - Providing vertical shading to east or west windows.
9. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
10. On west facing windows, vertical louvre panels or sliding screens protect from glare and low afternoon sun.
11. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
12. Use high performance glass but minimise external glare off windows, by:
 - Avoiding reflective films.
 - Using a glass reflectance below 20%.
 - Considering reduced tint glass.
13. Limit the use of lightwells as a source of daylight by limiting their use as the primary source of daylight in habitable rooms. Where they are used:
 - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6m.
 - Conceal building services and provide appropriate detail and materials to visible walls.
 - Ensure light wells are fully open to the sky.
 - A combination of louvres provides shading for different times of the day.

3.6 Car Parking and Access

Residential Flat Buildings

Objectives

- a) To provide convenient, accessible and safe on site car parking for residents and visitors.
- b) To minimise driveway crossings to maximise on street parking and landscaped nature strips.
- c) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.
- d) To integrate the location and design of car parking with the design of the site and the building.

Controls

1. Visitor car parking shall be clearly identified and may not be stacked or tandem car parking.
2. Visitor car parking shall be located between any roller shutter door and the front boundary.
3. Pedestrian entries and driveways shall be separated.
4. Driveways shall be designed to accommodate removalist vehicles.
5. Where possible vehicular entrances to the basement car parking shall be from the side of the building. As an alternative a curved driveway to an entrance at the front of the building may be considered if the entrance is not readily visible from the street.
6. Give preference to underground parking, whenever possible by:
 - Retaining and optimising the consolidated areas of deep soil zones.
 - Facilitating natural ventilation to basement and sub-basement car parking areas, where possible.
 - Integrating ventilation grills or screening devices of car park openings into the facade design and landscape design.
 - Providing safe and secure access for building users, including direct access to residential dwellings, where possible.
 - Providing a logical and efficient structural grid. There may be a larger floor area for basement car parking than for upper floors above ground. Upper floors, particularly in slender residential buildings, do not have to replicate basement car parking widths.
7. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and street amenity by:
 - Avoid exposed parking on the street frontage.
 - Hiding car parking behind the building facade. Where wall openings (windows, fenestrations) occur, ensure they are integrated into the overall facade scale, proportions and detail.



Figure 31: Car parking at ground level

Pedestrian Access

Objectives

- a) To promote residential flat development and multi dwelling housing that is well connected to the street and contributes to the accessibility of the public domain.
- b) To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their dwelling and use communal areas via minimum grade ramps, paths, access ways or lifts.

Controls

1. Utilise the site and it's planning to optimise accessibility to the development.
2. Provide high quality accessible routes to public and semi-public areas of the building and the site, including major entries, lobbies, communal open space, site facilities, parking areas, public streets and internal streets.
3. Promote equity by:
 - Ensuring the main building entrance is accessible for all from the street and from car parking areas.
 - Integrating ramps into the overall building and landscape design.
 - Design ground floor dwellings to be accessible from the street, where applicable, and to their associated private open space.
4. Maximise the number of accessible and adaptable dwellings in a building by:
 - Providing more than one accessible entrance where a development contains clusters of buildings.
 - Separating and clearly distinguish between pedestrian accessways and vehicle accessways.
 - Locating vehicle entries away from main pedestrian entries and on secondary frontages.

Dwelling Houses, Attached dwellings or Semi-detached dwellings

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling.
- 2. At least one car parking must be provided behind the front setback.
- 3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
- 4. A single garage is to be a minimum of 3m wide internally and unobstructed.

3.7 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- One living, rumpus room or the like; and
- 50% of the private open space.

Privacy

Objectives

- a) To locate and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.
- b) To avoid any external impacts of a development, such as overlooking of adjoining sites.
- c) To provide reasonable levels of visual privacy externally and internally, during the day and at night.
- d) To maximise outlook and views from principal rooms and private open space.

Controls

- 1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
- 2. Windows to habitable rooms should be located so they do not overlook such windows in adjoining properties, other dwellings within the development or areas of private open space.
- 3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
- 4. Where possible the ground floor dwellings should be located above ground level to ensure privacy for occupants of the dwellings.

5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings by:
 - Balconies to screen other balconies and any ground level private open space.
 - Separating communal open space, common areas and access routes through the development from the windows of rooms, particularly habitable rooms.
 - Changing the level between ground floor dwellings with their associated private open space, and the public domain or communal open space.
6. Use detailed site and building design elements to increase privacy without compromising access to light and air by:
 - Offsetting windows of dwellings in new development and adjacent development windows.
 - Recessed balconies and/or vertical fins between adjacent balconies.
 - Solid or semi-solid balustrades to balconies - louvres or screen panels to windows and/or balconies.
 - Fencing.
 - Vegetation as a screen between spaces.
 - Incorporating planter boxes into walls or balustrades to increase the visual separation between areas.
 - Utilising pergolas or shading devices to limit overlooking of lower dwellings or private open space.



Figure 32: Screening and lower level balconies

Acoustic Impact

Objective

To ensure a high level of amenity by protecting the privacy of residents within residential flat buildings.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Buildings having frontage to a Classified Road or a railway and impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.
4. Arrange dwellings within a development to minimise noise transition between dwellings by:
 - Locating busy, noisy areas next to each other and quieter areas next to other quiet areas, for example, living rooms with living rooms, bedrooms with bedrooms.
 - Using storage or circulation zones within an dwelling to buffer noise from adjacent dwellings, mechanical services or corridors and lobby areas.
 - Minimising the amount of common walls with other dwellings.
 - Design the internal dwelling layout to separate noisier spaces from quieter spaces by grouping uses within an dwelling - bedrooms with bedrooms and service areas like kitchen, bathroom, and laundry together.

3.8 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
 - Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

1. In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public street to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage.

3.9 Residential Choice and Mix for Apartment Buildings

A mix of apartment types and sizes is proposed to cater for a variety of socio-economic groups. A range of dwelling sizes and types creates a housing mix that will cater for a diverse population, as well as provide for changing use over time.

Objectives

- a) To ensure development provides a mix of apartment types and sizes to accommodate a range of household types and needs.
- b) To ensure apartment sizes and room proportions are adequate to meet the needs of the occupants and to afford a range of changing activities over time.
- c) Ensure a sufficient proportion of dwellings include accessible layouts and features to accommodate changing requirements of residents.
- d) Ensure the provision of housing that will, in its adaptable features, meet the access and mobility needs of any occupant.

In addition to the provisions for apartment mix as per Part 4 of the Apartment Design Guide (ADG) or equivalent, the following additional controls apply.

Controls

1. Provide a variety of residential unit mix, sizes, and layouts within each residential development, particularly in larger buildings. It is recognised that the dwelling mixes may not be possible in smaller developments of less than six dwellings.

2. To achieve a mix of living styles, sizes and layouts within each residential development, comply with the following:
 - Provide a mix of studio, 1 bedroom, 2 bedroom and 3 bedroom units.
 - Studios and 1 bedroom units are not to be greater than 25% and not less than 5% of the total mix of apartments within each development.
 - Two bedroom units are not to be more than 75% of the total mix of apartments within each development.
3. Provide apartments that are flexible enough to support a change in their use. The applicant will be required to demonstrate that a studio unit can be combined with other units to enable this to occur.
4. 10% of all apartments are to be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes 'pre-adaptation' design details to ensure visit ability is achieved.
5. Where possible, adaptable dwellings are to be located on the ground floor, for ease of access. Dwellings located above the ground level of a building may only be provided as adaptable dwellings where lift access is available within the building. The lift access must provide access from the basement to allow access for people with disabilities.
6. 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 adaptable Housing Standard (AS 4299-1995).
7. Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard for disable parking spaces.

3.10 Studio dwellings

Studio dwelling means a small self-contained dwelling that is erected above a garage facing a rear lane or a secondary road.

For the purpose of definition under the Liverpool Local Environmental Plan 2008, a Type 1 studio dwelling is a secondary dwelling.

For the purpose of definition under the Liverpool Local Environmental Plan 2008, a Type 2 studio dwelling is a dual occupancy or multi-dwelling housing.

Objectives

- a) To provide an alternate form of housing in master planned neighbourhoods that include community facilities.
- b) To provide for a variety of housing types to cater for varied socio-demographic households.
- c) To provide for passive surveillance to laneways and private accessways.

Controls

Type 1 Studio

Type 1 Studios are a room or rooms constructed above a detached garage associated with the main dwelling on the lot. The studio is primarily designed to be used by the occupants of the main dwelling. The studio shall comply with the following:

1. The studio shall be located on corner blocks or addressing secondary streets and on laneway entries and bends to improve surveillance.
2. Located on lots with a minimum size of 300sqm.

3. Must be detached from other studios.
4. Maximum gross floor area: 45sqm.
5. No additional car parking space is required.
6. The studio shall be located above the garage, carport or like structure for the principal dwelling on the land.
7. There may be no subdivision of the studio from the principal dwelling on the land.
8. Windows are not permitted on elevations which directly face the adjoining lots private open space.
9. Garages with studios above are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
10. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
11. Studios shall not reduce the minimum required amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.

Type 2 Studio

Type 2 Studios are a room or rooms constructed above a detached garage that is intended to be separately strata titled to allow for independent living from the principal dwelling on the lot. The studio shall comply with the following:

1. The studio shall be located on corner blocks with laneway vehicle access.
2. Located on lots with a minimum size of 350sqm.
3. Maximum gross floor area: 75sqm.
4. Studio to be located above the garage, carport or like structure for the principal dwelling on the land and are to be detached from other studios.
5. One additional dedicated on-site car parking space is required to be associated with the Type 2 studio.
6. Car parking space is not to be located in front building setback of the principal dwelling.
7. Car parking space is not to be in a stacked configuration.
8. The studio must include provision of a balcony accessed directly off living space having minimum size of 6sqm, plus a minimum 10sqm ground level service yard with space for clothes drying facilities. The balcony shall not protrude over any property boundary.
9. Type 2 studios may be strata subdivided from the principal dwelling, or dwellings on the land.
10. Garages with studios are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
11. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
12. Pedestrian access to studios is to be from the street frontage and not the laneway.
13. Provision for separate services and an on-site garbage storage area e.g. separate letter box.
14. Studios shall not reduce the minimum amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.

15. Windows are not permitted on elevations which directly face the adjoining lots private open space. Windows may be permitted on the elevation facing the principal dwelling on the lot where they have a minimum sill height of 1.7m.
16. Screened access ways (e.g. staircases) for studios to prevent viewing into adjoining private open space areas.

4. Controls for Residential Development Urban Transition areas (17&21 Dwellings/Hectare)

4.1 Preliminary

Applies to

This section applies to land identified in Liverpool LEP 2008 Dwelling Density Map as having a minimum density of 17 or 21 Dwellings / Hectare.

Background

Development within the 17 and 21 dwellings/hectare areas are primarily intended for Multi Dwelling Housing, Semi-detached dwellings and Detached dwellings. Residential Flat Buildings are not preferred in the 17 or 21 dwellings/hectare areas (however, if proposed, they are subject to objectives and controls for the urban 28 dwellings/hectare area).

4.2 Site Planning

Objectives

- a) To ensure that the dwelling(s) are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 33 for a site analysis plan).
2. Basement car parking (if applicable) should be unobtrusive and blend into the general façade of the building.
3. There must be a direct link from at least one living area to the principal private open space.
4. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

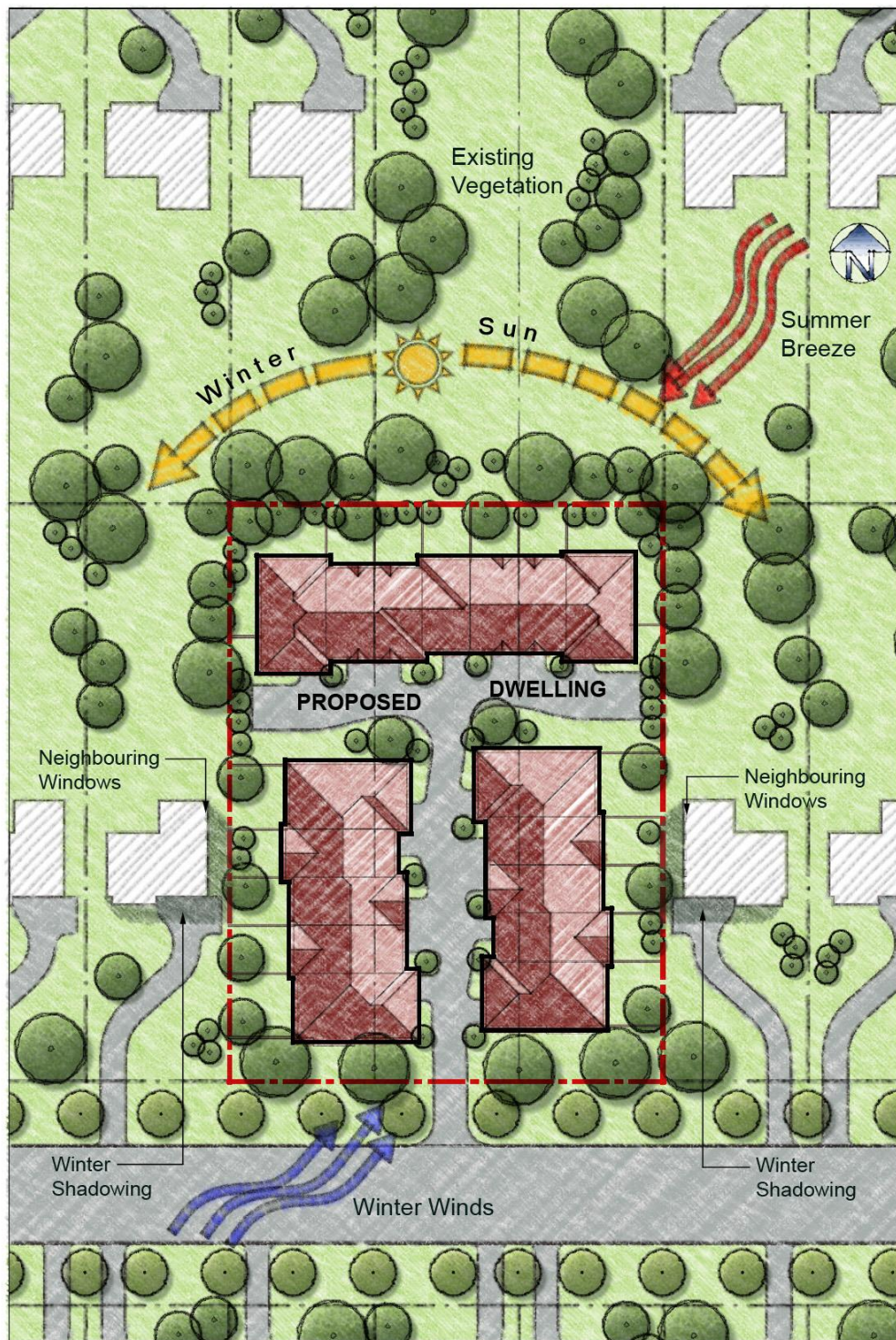


Figure 33: Example of a Site Analysis Plan

4.3 Setbacks

Objectives

- To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- To set dwellings back from each other to provide visual and acoustic privacy.
- To create a streetscape that provides a desirable and safe environment.
- To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

- Buildings shall be setback in accordance with Table 4.

Table 4: Setbacks within the 17 dw/ha area

Front Setback	Secondary Setback
4.5 m	2.5 m

- For lots containing a dwelling house, the secondary setback is generally along the longest length boundary. For multi-dwelling housing, the secondary setback faces the secondary road, which may be the shorter boundary(s).
- Garages shall be setback 5.5m from the street frontage, or 1.0m from a secondary boundary when consistent with a typology shown in Figure 20.
- Articulation features such as verandahs, eaves and other sun control devices may encroach on the front and secondary setback by up to 1m.
- Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wraparound verandah, bay window, corner entry or roof feature.



Figure 34: Small lot housing corner lot articulation

Side and Rear Setbacks

- Buildings shall be setback from the side and rear boundaries in accordance with Table 5.

Table 5: Side and rear setbacks within the 17 & 21 dw/ha areas

Item	Side Setback		Rear Setback	
	Multi Dwelling Housing	Dwelling House, Attached dwelling and Semi-detached dwelling	Multi Dwelling Housing	Dwelling House, Attached dwelling and Semi-detached dwelling
Party Wall	0 m	0 m	n/a	n/a
1 storey	0.9 m	0.9 m	5 m	4 m
2 storey	1.2 m	1.2 m	8 m	8 m
3 storeys and above	1.4 m	1.4 m	8 m	8 m

Note: In a terrace style attached dwelling development the upper storey setbacks do not apply to the terraces unless by having the zero lot line will create unreasonable solar shading - (that the adjacent lot's dwelling will not receive the minimum 3 hours sunlight to 50% between 9am and 3pm on the 21st June)

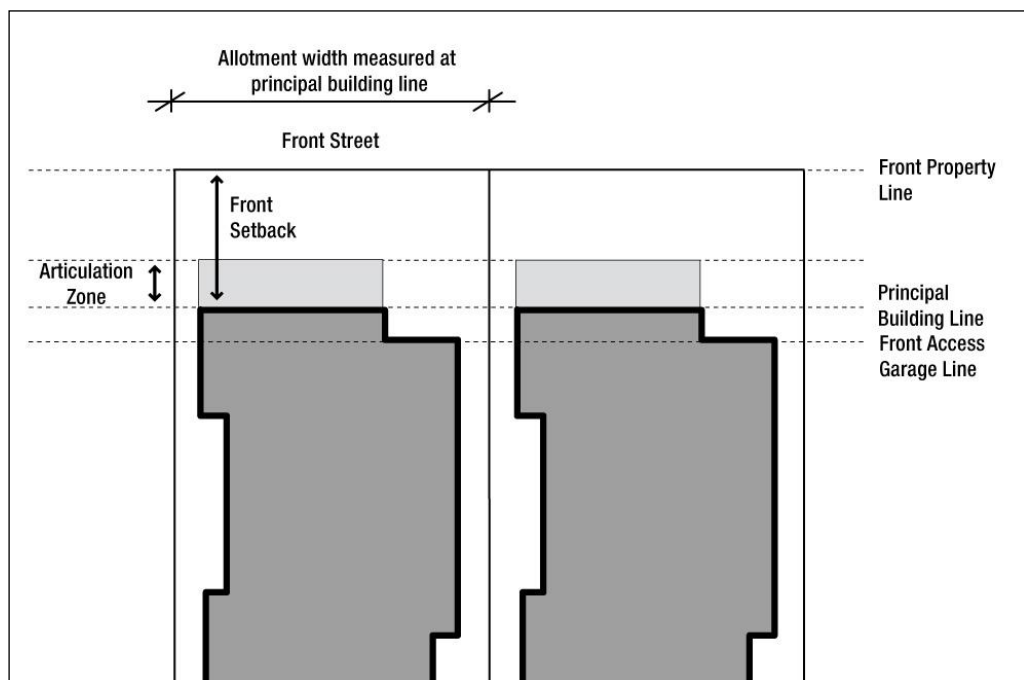


Figure 35: Front Setback

Zero lot lines for attached and semi-detached dwellings

This zero lot line control only applies to the end dwellings, in a multi-zero lot line multi dwelling development, such as terraces. It also applies to dwellings that have a zero lot line.

- Walls are generally to be 180mm clear of the side boundary to allow for gutter and eaves overhang.

2. The length of a zero lot line wall is limited to 50% of the lot length.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 900mm shall be provided on the adjoining boundary.
5. This is shown in Figure 37

Zero Lot Lines

Objectives

- a) To allow flexibility in the distribution of side setbacks in residential areas in order to achieve varying dwelling types and to maximise solar access.
- b) To create attractive and cohesive streetscapes and the efficient use of land.
- c) To maintain appropriate amenity between dwellings.

Controls

1. Zero lot line dwellings are not permitted on an ad-hoc basis. They must form part of a subdivision plan for at least one complete block/street frontage so that a consistent streetscape is achieved and that the privacy and solar access of adjoining dwellings are not adversely impacted upon.
2. Zero lot line dwellings are to provide a side setback on the non zero lot line side that equals to at least twice the minimum side setback requirement in Table 5 Side Setbacks.
3. Zero lot line development is to follow the lot orientation principles as shown in Figure 36 to maximise solar access.
4. Zero lot line development is not permitted on lots that are 15m wide or greater.
5. An easement for maintenance of the zero lot line walls (and any services along the side of the dwelling) is to be provided on the adjoining property. No overhanging eaves or services will be permitted within the easement. The S88b instrument supporting the maintenance easement is to be worded so that Council is removed from any dispute resolution process.

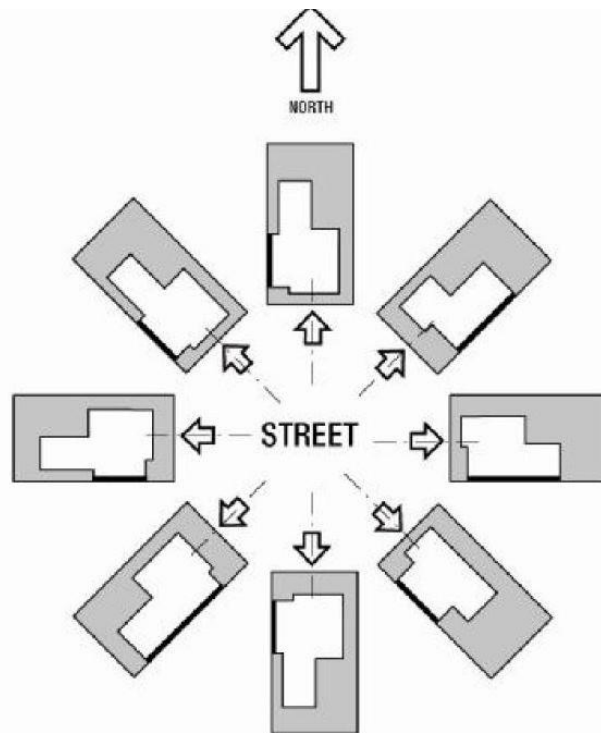


Figure 36: Lot orientation principles

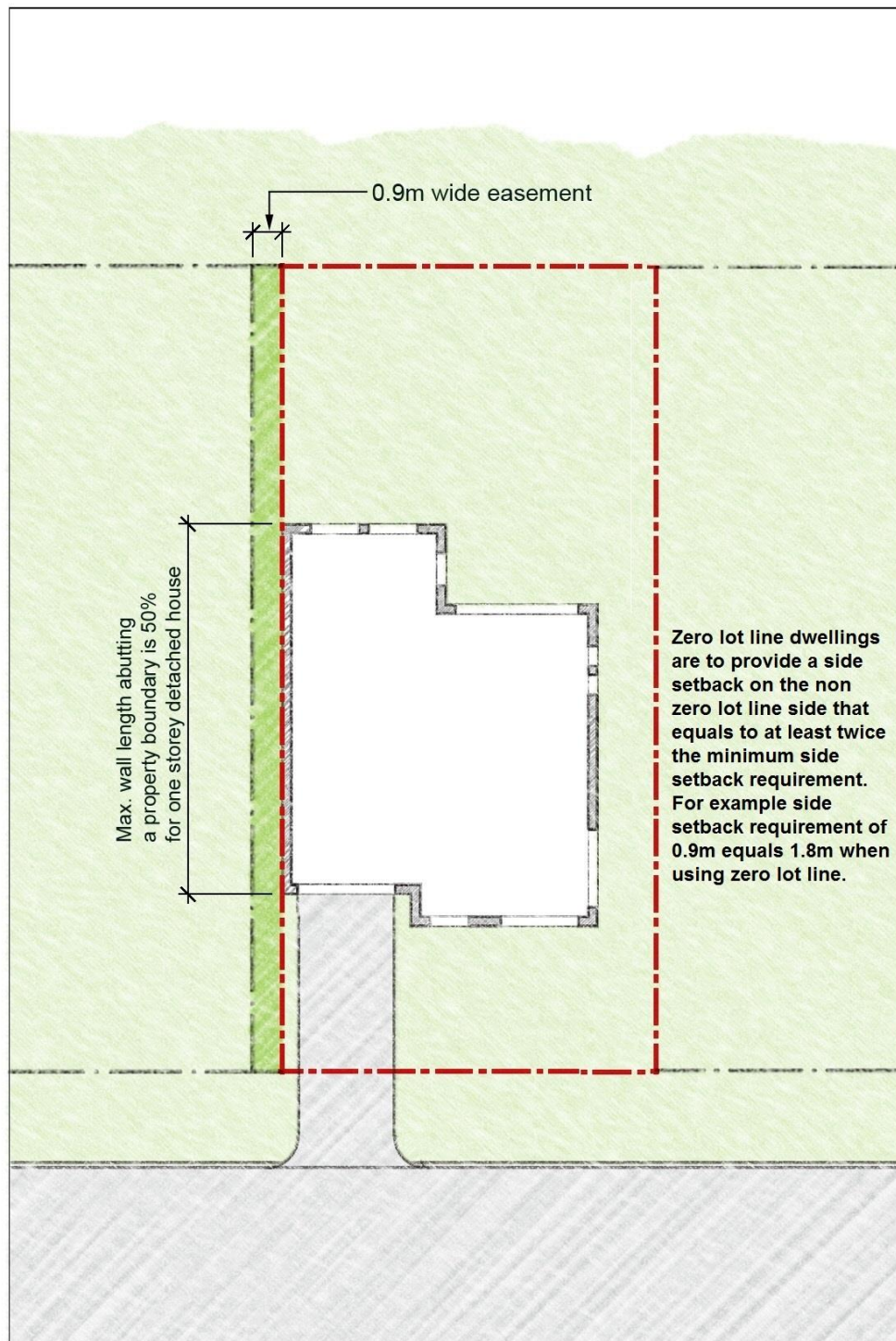


Figure 37: Zero Lot Line

4.4 Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Landscaped Area (deep soil area)

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To assist with management of the water table.
- c) To assist with management of water quality.
- d) To enhance the existing streetscape and soften the visual appearance of the buildings.

Controls

1. A minimum of 20% of the site area shall be landscaped area.
2. Optimise the provision of consolidated landscaped area within a site by:
 - The design of basement and sub-basement car parking, so as not to fully cover the site.
 - The use of side and rear setbacks.
 - Optimise the extent of landscaped area beyond the site boundaries by locating them contiguous with the landscaped area of adjacent properties.
3. Promote landscape health by supporting for a rich variety of vegetation type and size.
4. Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials.

Open Space

Open space includes Landscaped Areas and hard paved areas such as footpaths and barbeque areas. It does not include driveways, drying areas or waste storage areas.

Objectives

- a) To provide residents with passive and active recreational opportunities.
- b) To provide an area on site that enables soft landscaping and deep soil planting.
- c) To ensure that communal open space is consolidated, configured and designed to be useable and attractive.
- d) To provide a pleasant outlook.

Controls

1. Provide communal open space, which is appropriate and relevant to the context and the building's setting.
2. Where communal open space is provided, facilitate its use for the desired range of activities by:
 - Locating it in relation to buildings to optimise solar access to dwellings.
 - Consolidating open space on the site into recognisable areas with reasonable space, facilities and landscape.
 - Designing its size and dimensions to allow for the range of uses it will contain.
 - Minimising overshadowing.
 - Carefully locating ventilation duct outlets from basement car parking.

3. Locate open space to increase the potential for residential amenity.

Private Open Space

Objective

- a) To ensure that private open space is clearly defined, usable and meets user requirements for privacy, solar access, outdoor activities, accessibility and landscaping.
- b) To provide all dwellings with private open space.

Controls

1. Private open space shall be provided for in accordance with Table 6 for Multi Dwelling Housing, Attached dwellings and Semi-detached dwellings and Dwelling houses.

Table 6: Private open space in the 17 & 21 dw/ha area

Dwelling Size	Private Open Space Area	Minimum Width
Less than 65 m ²	30sqm	3m
Between 65 and 100m ²	40sqm	3m
Between 101 and 150m ²	50sqm	4m
Between 151 and 200m ²	60sqm	4m
Greater than 200m ²	70sqm	4.5m

2. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
3. Private open space should be clearly defined for private use.

Drying areas

Objective

To provide adequate clothes drying area for residents.

Controls

1. Clothes drying facilities must be provided. Clothes drying areas should not be visible from a public place.

4.5 Cut and Fill, Building Design and Streetscape

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

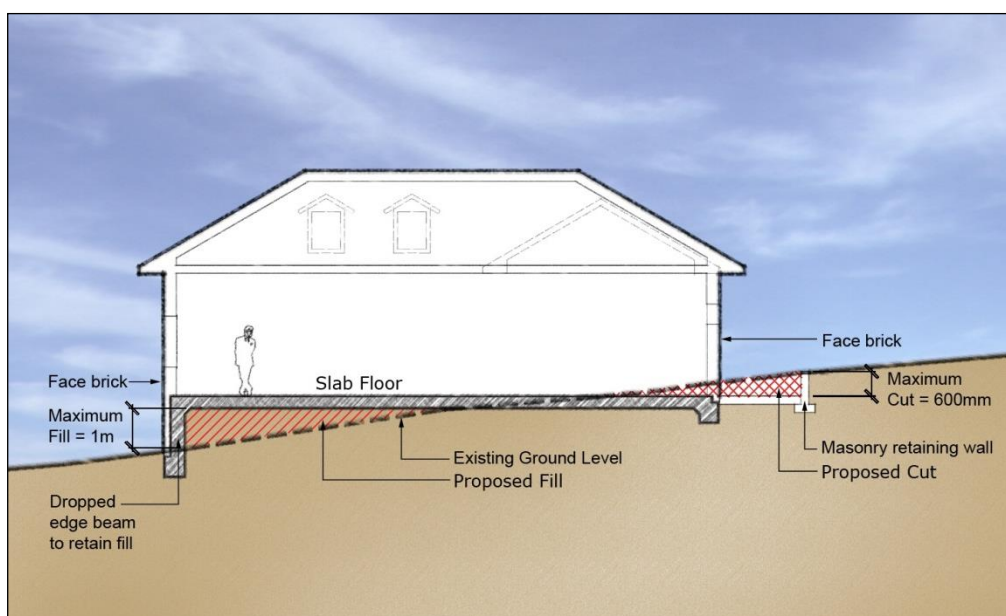


Figure 38: An example of Cut and Fill

Dwelling Houses and Semi-detached dwellings and Detached dwellings

Building Envelopes

1. A Dwelling House, Semi-detached dwellings and attached dwellings may have a maximum of three storeys plus an attic, where building height limits permit.
2. Attics do not constitute a storey if they are included in a roof space and having a roof slope not greater than 36 degrees pitched from the ceiling level of the uppermost floor; provided that:
 - All windows face the street.
 - Access to the attic must be via permanent stairs.
 - Attics are to be provided with skylights, or a dormer window. A dormer window shall be a maximum of 1.5m wide and must maintain the privacy of the adjoining residents.

Building Design

The built form must be uniform in bulk and scale but seek some variety in terms of building elements such as balconies, entrances, carports and roof forms.

The controls aim to ensure that a level of consistency is maintained in those building elements.

Objectives

- a) To promote an architectural style that is contemporary and innovative
- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

Building Appearance

1. Simply articulated building forms are preferred
2. Dwellings must address the street frontage
3. Mirror imaging of Attached dwellings is not permitted
4. One building must be set back a minimum of 1m behind the other building in an Attached dwelling.
5. Attached dwellings must only be attached to one other dwelling.
6. Dwellings corner sites must address both street frontages.
7. Use of verandas and balconies are encouraged.
8. Vertically proportioned windows are encouraged.

Building Materials

1. External walls of dwellings can be constructed with the following materials:
 - Face brickwork,
 - Rendered brickwork,
 - Stone,

- Concrete wall,
 - Glass, and
 - Lightweight materials such as, weatherboards, timber boarding or fibre cement.
2. External walls are to display a mix of materials.
 3. Lightweight materials are only permitted on upper storey external walls.

Retaining Walls

Retaining walls can be either built of masonry or sandstone.

Roofs

1. Simple use of gables and pitched and hipped roofs is encouraged.
2. Pitched and hipped roofs are to have a minimum of 450mm eaves unless the dwelling has zero metre side setbacks.
3. Roof pitch must not be lower than 22.5 degrees or higher than 45 degrees.
4. Skillion and vaulted roofs are permitted.
5. Flat roofs must not dominate the built form.
6. Flat roofs must not occupy more than 50% of the total roof area.

Balconies

1. Decks and balconies can be built to form framed porticos or entrances.
2. Balconies should incorporate simple railing and balustrade detailing.

Levels

Dwellings are to follow the slope of the land.

Building Depth

Objectives

To achieve the development of working and living environments with good internal amenity and that minimise the need for artificial heating, cooling and lighting.

Controls

Maximum building depths for houses are 16m, unless internal courtyards are provided.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.

2. Living rooms should take advantage of northern aspects.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
8. Dwelling entries must be oriented to the street.

Multi Dwelling Housing

Building Design

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages in two storey dwellings.
- i) To encourage steep or sloping site to build split level or stepped development.

Controls

1. Dwellings with a street frontage shall orientate the main entrance and where possible at least one living area towards the street.
2. Entry points shall be enhanced/emphasised to all dwellings especially those facing the street.
3. The first floor of the townhouse developments must be no greater than two thirds of the ground floor area.
4. Building facades shall be articulated and roof form is to be varied to provide visual variety.
5. Walls shall be a mix of masonry, rendered and or bagged, and painted, lightweight clad and painted and/or flush face brick. Justification will be required for 100% face brick facades or 100% rendered and painted brick and will be assessed on merit.
6. Facades can be articulated by:
 - The use of different materials and detailing and / or.
 - The inclusion of balconies, verandahs, pergolas and landscaped beds.
7. A sidewall must be articulated if the wall has a continuous length of over 10m.
8. The entrance of each dwelling shall be emphasised.
9. Dwellings built at the rear of the allotment must be single storey.

10. Driveways should avoid a 'gun barrel' effect by curving and siting of buildings, which create a driveway form with the divided carriageway separated by soft landscaping.
11. Attic floor space may be used when it is contained wholly within the roof pitch and will not be counted as a storey provided that the attic space is part of the dwelling..
12. Space used for car parking shall be included as a storey if the ceiling of the car parking level exceeds more than 1m above the natural ground level.
13. The maximum roof pitch shall be 36 degrees.
14. Multi dwelling housing built on steep or sloping lots should be built of split-level construction.

Internal Design

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide natural surveillance from a room addressing the street.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling provides a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. Townhouses and villa's located on street boundaries shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects where possible.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side and the rear of the development.
6. Each dwelling must provide a minimum storage area of 8 m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

All Residential Development

Roof Design

Objectives

- a) To provide quality roof designs, which contribute to the overall design and quality of the subdivision;
- b) To integrate the design of the roof into the overall facade, building composition and desired contextual response;
- c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
 - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.

- Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
 - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
 - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
 3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.
 4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
 5. Where habitable space is provided within the roof, optimise residential amenity in the form of attics or penthouse dwellings

Building Entry

Objectives

- a) To create entrances which provide a desirable residential identity for the development.
- b) To orient the visitor.
- c) To contribute positively to the streetscape and building facade design.

Controls

1. Improve the presentation of the development to the street by:
 - Locating entries so that they relate to the existing street and subdivision pattern, street tree planting and pedestrian access network.
 - Designing the entry as a clearly identifiable element of the building in the street.
 - Utilising multiple entries-main entry plus private ground floor dwelling entries-where it is desirable to activate the street edge or reinforce a rhythm of entries along a street.
2. Provide as direct a physical and visual connection as possible between the street and the entry.
3. Achieve clear lines of transition between the public street, the shared private circulation spaces and the dwelling..
4. Ensure equal access for all.
5. Provide safe and secure access by:
 - Avoiding ambiguous and publicly accessible small spaces in entry areas.
 - Providing a clear line of sight between one circulation space and the next.
 - Providing sheltered well-lit and highly visible spaces to enter the building, meet and collect mail.
6. Generally provide separate entries from the street for:
 - Pedestrians and cars.
 - Different uses, for example, for residential and commercial users in a mixed-use development.

- Ground floor dwellings, where applicable.
7. Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces.
 8. Provide and design letterboxes to be convenient for residents and not to clutter the appearance of the development from the street by:
 - Locating them adjacent to the major entrance and integrated into a wall, where possible.
 - Setting them at 90 degrees to the street, rather than along the front boundary.

Daylight Access

Objectives

- a) To ensure that daylight access is provided to all habitable rooms and encouraged in all other areas of the dwelling(s).
- b) To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours.
- c) To provide residents with the ability to adjust the quantity of daylight to suit their needs.

Controls

1. Plan the site so that new dwellings are oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
3. Optimise the number of dwellings receiving daylight access to habitable rooms and principal windows.
4. Ensure daylight access to habitable rooms and private open space, particularly in winter - use skylights, clerestory windows and fanlights to supplement daylight access.
5. Ensure single aspect, single-storey dwellings have a northerly or easterly aspect - locate living areas to the north and service areas to the south and west of the development.
6. Avoid south facing dwellings.
7. Design for shading and glare control, particularly in summer, by:
 - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
 - Optimising the number of north-facing living spaces.
 - Providing external horizontal shading to north-facing windows.
 - Providing vertical shading to east or west windows.
8. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
9. On west facing windows, vertical louvre panels or sliding screens protect from glare and low afternoon sun.

10. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
11. Use high performance glass but minimise external glare off windows, by;
 - Avoiding reflective films.
 - Using a glass reflectance below 20%.
 - Considering reduced tint glass.
12. Limit the use of lightwells as a source of daylight by prohibiting their use as the primary source of daylight in habitable rooms. Where they are used:
 - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6m.
 - Conceal building services and provide appropriate detail and materials to visible walls.
 - Ensure light wells are fully open to the sky.
 - A combination of louvres provides shading for different times of the day.

4.6 Car Parking and Access

Multi Dwelling Housing

Objectives

- a) To provide convenient, accessible and safe on site car parking for residents and visitors.
- b) To minimise driveway crossings to maximise on street parking and landscaped nature strips.
- c) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.
- d) To integrate the location and design of car parking with the design of the site and the building.

Controls

1. Visitor car parking shall be clearly identified and may not be stacked or tandem car parking.
2. Visitor car parking shall be located between any roller shutter door and the front boundary.
3. The extent of paved area for driveways shall be kept to a minimum. Driveways abutting dwellings shall be kept to a minimum.
4. Avoid large expanses of driveways, including concentrating double garages adjacent to each other.
5. Land that is unlikely to be used for manoeuvring shall be used for landscaping or for pedestrian areas and be distinguished by different materials and levels.
6. Refer to Figure 39.

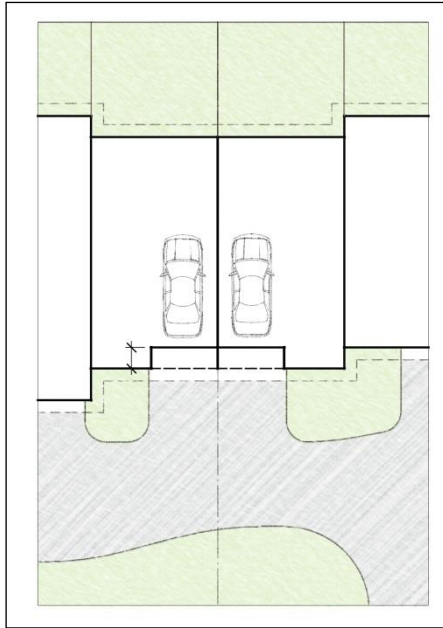


Figure 39: Garage and Driveway design

Basement Car parking

1. Basement car parking is permitted but will be included as a storey if the ceiling is located more than 1m above the natural ground level.
2. On sites that slope away from the street, underground car parking structures that protrude more than 1m above the natural ground level towards the rear will not be included as a storey where topographical features warrant and the streetscape is not adversely affected. The car parking area should be adequately obscured from visible sight by the screen planting.

Access Driveways

1. Driveways to the street shall be kept to a minimum.
2. Driveways may be permitted to individual dwellings provided that the streetscape is not adversely affected and the application complies elsewhere with the DCP.
3. Kerbs shall be provided along the edge of all internal driveways. All traffic must be able to enter and exit the site in a forward direction.

Refer to Part 1 for other controls on Access Driveways

Pedestrian Access

Objectives

- a) To promote multi dwelling housing that is well connected to the street and contributes to the accessibility of the public domain.
- b) To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their dwelling and use communal areas via minimum grade ramps, paths, access ways or lifts.

Controls

1. Utilise the site and it's planning to optimise accessibility to the development.
2. Provide high quality accessible routes to public and semi-public areas of the building and the site, including major entries, lobbies, communal open space, site facilities, parking areas, public streets and internal streets.

3. Promote equity by:
 - Ensuring the main building entrance is accessible for all from the street and from car parking areas.
 - Integrating ramps into the overall building and landscape design.
4. Maximise the number of accessible and adaptable dwellings in a building by:
 - Providing more than one accessible entrance where a development contains clusters of buildings.
 - Separating and clearly distinguish between pedestrian accessways and vehicle accessways.
 - Locating vehicle entries away from main pedestrian entries and on secondary frontages.

Dwelling Houses, Attached dwellings and Semi-detached dwellings

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.

Controls

1. Two car parking spaces shall be provided for each dwelling.
2. At least one car parking must be provided behind the front setback.
3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
4. A single garage is to be a minimum of 3m wide internally and unobstructed.

4.7 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

1. The front and rear setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within the front and rear setback areas.
2. At least one tree shall be planted in the landscaped areas. The tree must reach a mature height of over 8m.
3. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.

4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. The front fence may be built to a maximum height of 1.5m if the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
4. The front fence must be 30% transparent.
5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
6. The front fence may be built to a maximum of 1.8m only if:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and has landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (See Figure 40).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (See Figure 40). The secondary setback is generally the longest length boundary for detached dwelling houses.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.
2. Internal boundary fences shall be lapped and capped timber, masonry or metal sheeting.

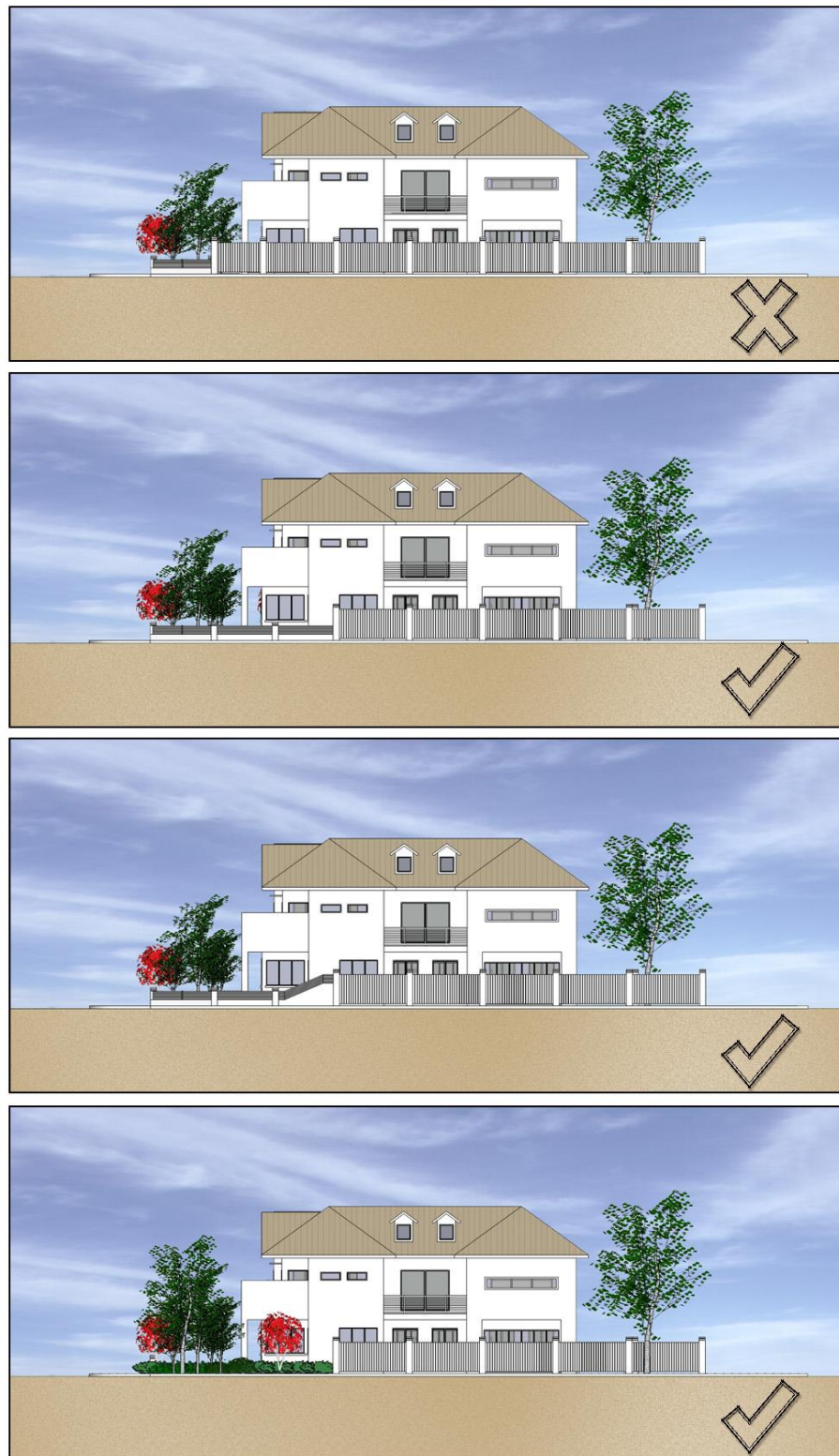


Figure 40: Fence treatments on secondary frontage

4.8 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- One living, rumpus room or the like; and
- 50% of the private open space.

Privacy

Objectives

- a) To locate and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.
- b) To avoid any external impacts of a development, such as overlooking of adjoining sites.
- c) To provide reasonable levels of visual privacy externally and internally, during the day and at night.
- d) To maximise outlook and views from principal rooms and private open space.

Controls

1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
2. Windows to habitable rooms should be located so they do not overlook such windows in adjoining properties, other dwellings within the development or areas of private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
4. Where possible the ground floor dwellings should be located above ground level to ensure privacy for occupants of the dwellings.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings by:
 - Balconies to screen other balconies and any ground level private open space.
 - Separating communal open space, common areas and access routes through the development from the windows of rooms, particularly habitable rooms.
 - Changing the level between ground floor dwellings with their associated private open space, and the public domain or communal open space.
6. Use detailed site and building design elements to increase privacy without compromising access to light and air by:
 - Offsetting windows of dwellings in new development and adjacent development windows.
 - Recessed balconies and/or vertical fins between adjacent balconies.
 - Solid or semi-solid balustrades to balconies - louvres or screen panels to windows and/or balconies.
 - Fencing.
 - Vegetation as a screen between spaces.

- Incorporating planter boxes into walls or balustrades to increase the visual separation between areas.
- Utilising pergolas or shading devices to limit overlooking of private open space.

4.9 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
 - Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public street to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage.

4.10 Studio dwellings

Studio dwelling means a small self-contained dwelling that is erected above a garage facing a rear lane or a secondary road.

For the purpose of definition under the Liverpool Local Environmental Plan 2008, a Type 1 studio dwelling is a secondary dwelling.

For the purpose of definition under the Liverpool Local Environmental Plan 2008, a Type 2 studio dwelling is a dual occupancy or multi-dwelling housing.

Objectives

- a) To provide an alternate form of housing in master planned neighbourhoods that include community facilities.
- b) To provide for a variety of housing types to cater for varied socio-demographic households.
- c) To provide for passive surveillance to laneways and private accessways.

Controls

Type 1 Studio

Type 1 Studios are a room or rooms constructed above a detached garage associated with the main dwelling on the lot. The studio is primarily designed to be used by the occupants of the main dwelling. The studio shall comply with the following:

- 1. The studio shall be located on corner blocks or addressing secondary streets and on laneway entries and bends to improve surveillance.
- 2. Located on lots with a minimum size of 300sqm.
- 3. Must be detached from other studios.
- 4. Maximum gross floor area: 45sqm.
- 5. No additional car parking space is required.
- 6. The studio shall be located above the garage, carport or like structure for the principal dwelling on the land.
- 7. There may be no subdivision of the studio from the principal dwelling on the land.
- 8. Windows are not permitted on elevations which directly face the adjoining lots private open space.
- 9. Garages with studios above are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
- 10. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
- 11. Studios shall not reduce the minimum required amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 4.4 of this Part.

Type 2 Studio

Type 2 Studios are a room or rooms constructed above a detached garage that is intended to be separately strata titled to allow for independent living from the principal dwelling on the lot. The studio shall comply with the following:

- 1. The studio shall be located on corner blocks with laneway vehicle access.
- 2. Located on lots with a minimum size of 350sqm.
- 3. Maximum gross floor area: 75sqm.

4. Studio to be located above the garage, carport or like structure for the principal dwelling on the land and are to be detached from other studios.
5. One additional dedicated on-site car parking space is required to be associated with the Type 2 studio.
6. Car parking space is not to be located in front building setback of the principal dwelling.
7. Car parking space is not to be in a stacked configuration.
8. The studio must include provision of a balcony accessed directly off living space having minimum size of 6sqm, plus a minimum 10sqm ground level service yard with space for clothes drying facilities. The balcony shall not protrude over any property boundary.
9. Type 2 studios may be strata subdivided from the principal dwelling, or dwellings on the land.
10. Garages with studios are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
11. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
12. Pedestrian access to studios is to be from the street frontage and not the laneway.
13. Provision for separate services and an on-site garbage storage area e.g. separate letter box.
14. Studios shall not reduce the minimum amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.
15. Windows are not permitted on elevations which directly face the adjoining lots private open space. Windows may be permitted on the elevation facing the principal dwelling on the lot where they have a minimum sill height of 1.7m.
16. Screened access ways (e.g. staircases) for studios to prevent viewing into adjoining private open space areas.

5. Controls for Residential Development in Suburban areas (14 Dwellings/Hectare)

5.1 Preliminary

Applies to

This section applies to land identified in Liverpool LEP 2008 Dwelling Density Map as having a minimum density of 14 Dwellings / Hectare.

Background

Development within the 14 Dwellings / Hectare area is primarily intended for Dwelling houses, Semi detached dwellings and Attached dwellings. . Whilst multi-dwelling housing and residential flat buildings are permitted in the R1 zone, they are not favoured in the 14 dwellings/Hectare area. Refer to controls in the Urban (28dw/Ha) section for multi-dwelling housing and residential flat buildings

5.2 Site Planning

Objectives

- a) To ensure that the dwelling is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 41 for a site analysis plan).
2. Basement car parking (if applicable) should be unobtrusive and blend into the general façade of the building.
3. There must be a direct link from at least one living area to the principal private open space.
4. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

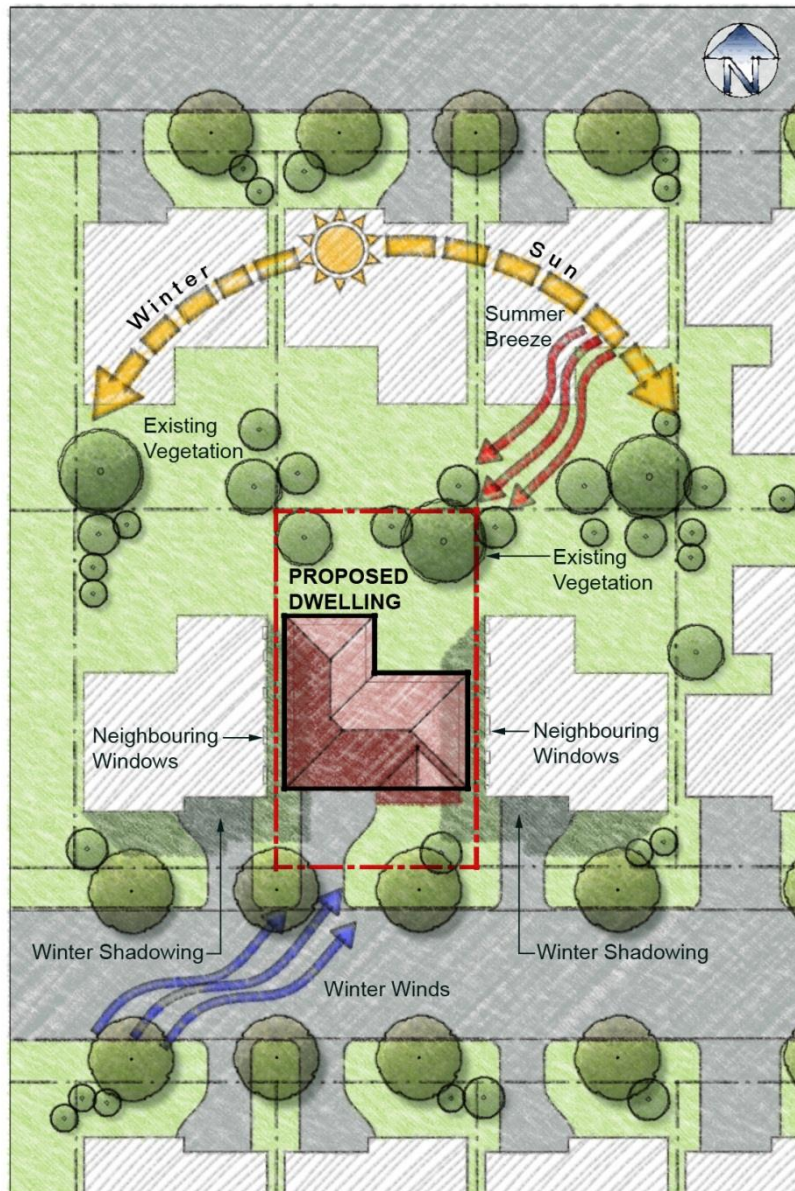


Figure 41: Example of a Site Analysis Plan

5.3 Setbacks

Setbacks

Objectives

- To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- To set dwellings back from each other to provide visual and acoustic privacy.
- To create a streetscape that provides a desirable and safe environment.
- To establish a streetscape of a scale and sense of enclosure appropriate to the locality.

- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front Setbacks

1. Buildings shall be setback in accordance with Table 7.

Table 7: Setbacks within the 14 dw/ha area

Front Setback	Secondary Setback
4.5m	2.5m

2. The secondary setback is along the longest length boundary.
3. Garages shall be setback 5.5m from any frontage, or 1.0m from a secondary boundary when consistent with a typology shown in Figure 20.
4. Articulation features such as verandahs, eaves and other sun control devices may encroach on the front and secondary setback by up to 1m.
5. Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wraparound verandah, bay window, corner entry or roof feature..

Side and Rear Setbacks

Buildings shall be setback from the side and rear boundaries in accordance with the Table 8.

Table 8: Side and rear setbacks within the 14 dw/ha area

Item	Side Setback	Rear Setback
1 storey	0.9m	4m
2 storey	1.2m	8m

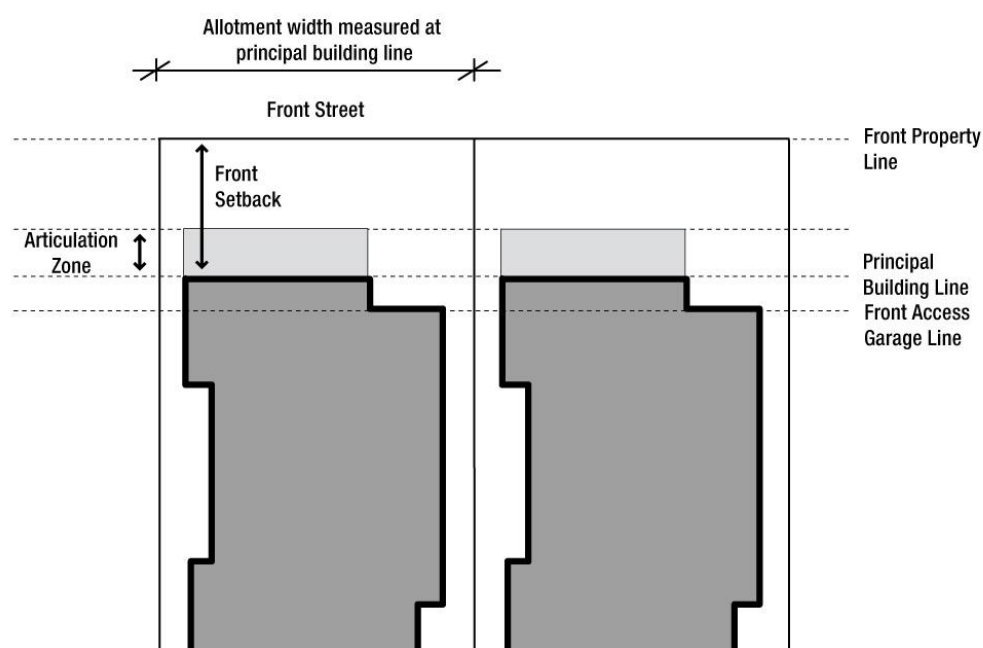


Figure 42: Front Setback

Zero Lot Lines

Objectives

- a) To allow flexibility in the distribution of side setbacks in residential areas in order to achieve varying dwelling types and to maximise solar access.
- b) To create attractive and cohesive streetscapes and the efficient use of land.
- c) To maintain appropriate amenity between dwellings.

Controls

1. Zero lot line dwellings are not permitted on an ad-hoc basis. They must form part of a subdivision plan for at least one complete block/street frontage so that a consistent streetscape is achieved and that the privacy and solar access of adjoining dwellings are not adversely impacted upon.
2. Zero lot line dwellings are to provide a side setback on the non zero lot line side that equals to at least twice the minimum side setback requirement in Table 8 Side Setbacks.
3. Zero lot line development is to follow the lot orientation principles as shown in Figure 36 to maximise solar access.
4. Zero lot line development is not permitted on lots that are 15m wide or greater.
5. An easement for maintenance of the zero lot line walls (and any services along the side of the dwelling) is to be provided on the adjoining property. No overhanging eaves or services will be permitted within the easement. The S88b instrument supporting the maintenance easement is to be worded so that Council is removed from any dispute resolution process.

5.4 Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Landscaped Area (deep soil area)

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To assist with management of the water table.
- c) To assist with management of water quality.
- d) To enhance the existing streetscape and soften the visual appearance of the buildings.

Controls

1. A minimum of 20% of the site area shall be landscaped area.
2. Optimise the provision of consolidated landscaped area within a site by:
 - The use of side and rear setbacks.
 - Optimise the extent of landscaped area beyond the site boundaries by locating them contiguous with the landscaped area of adjacent properties.
3. Promote landscape health by supporting for a rich variety of vegetation type and size.
4. Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials.

Open Space

Open space includes Landscaped Areas and hard paved areas such as footpaths and barbeque areas. It does not include driveways, drying areas or waste storage areas.

Objectives

- a) To provide residents with passive and active recreational opportunities.
- b) To provide an area on site that enables soft landscaping and deep soil planting.
- c) To ensure that communal open space is consolidated, configured and designed to be useable and attractive.
- d) To provide a pleasant outlook.

Controls

1. Provide communal open space, which is appropriate and relevant to the context and the building's setting.
2. Where communal open space is provided, facilitate its use for the desired range of activities by:
 - Locating it in relation to buildings to optimise solar access to dwellings.
 - Consolidating open space on the site into recognisable areas with reasonable space, facilities and landscape.
 - Designing its size and dimensions to allow for the range of uses it will contain.
 - Minimising overshadowing.
 - Carefully locating ventilation duct outlets from basement car parking.
3. Locate open space to increase the potential for residential amenity.

Private Open Space

Objective

- a) To ensure that private open space is clearly defined, usable and meets user requirements for privacy, solar access, outdoor activities, accessibility and landscaping.
- b) To provide all dwellings with private open space.

Controls

1. Private open space shall be provided for in accordance with Table 9 for Multi Dwelling Housing, Attached dwellings, Semi detached dwellings and Dwelling houses.

Table 9: Private open space in the 14 dw / ha area

Dwelling Size	Private Open Space Area	Minimum Width
Less than 65m ²	30sqm	3m
Between 65 and 100m ²	40sqm	3m
Between 101 and 150m ²	50sqm	4m
Between 151 and 200m ²	60sqm	4m
Greater than 200m ²	70sqm	4.5m

2. Private open space may be provided as a courtyard for ground floor dwellings or as balconies for dwellings above the ground floor.

3. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
4. Private open space should be clearly defined for private use.

For balconies refer to Building Design, Streetscape and Layout for controls on their design.

Drying areas

Objective

To provide adequate clothes drying area for residents.

Controls

1. Clothes drying facilities must be provided. Clothes drying areas should not be visible from a public place.

5.5 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.
5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.

- A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
- Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

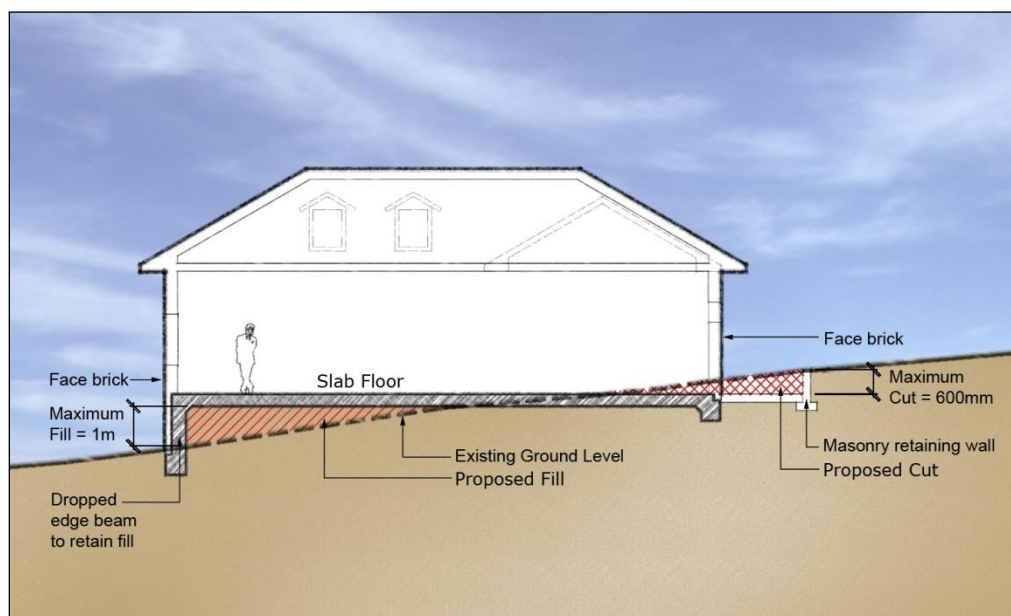


Figure 43: An example of Cut and Fill

Building Envelopes

Background

The orientation and site cover of a building has significant implications for residential amenity. Building envelopes determine the orientation and footprint of a dwelling, as well as the total volume of the dwelling.

Objectives

- To facilitate the efficient use of the site area.
- To maximise private amenity within the building.
- To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.

Controls

1. The building footprint for detached dwelling houses is not to occupy more than 55% of the site and the total impervious area is not to exceed 70% of the total site area. A minimum of 30% of the site area must be pervious surfaces.
2. The building footprint for denser development is not to occupy more than 60% of the site and the total impervious area is not to exceed 80% of the total site area. A minimum of 20% of the total site area must be pervious surfaces.

Building Height

Objectives

- a) To ensure that development minimises the impact on neighbouring properties in terms of building bulk, overshadowing and privacy.
- b) To maintain a scale of development, which is compatible with the existing or likely future character of the locality.

Controls

1. A Dwelling House, Attached dwelling or Semi detached dwelling may have a maximum of two storeys plus an attic.
2. Attics do not constitute a storey if they are included in a roof space and having a roof slope not greater than 36 degrees pitched from the ceiling level of the uppermost floor; provided that:
 - All windows face the street.
 - Access to the attic must be via permanent stairs.
 - Attics are to be provided with skylights, or a dormer window. A dormer window shall be a maximum of 1.5m wide and must maintain the privacy of the adjoining residents.
3. For sloping sites the height of a dwelling house must follow the slope of the land.

Building Depth

Objectives

To ensure working and living environments have good internal amenity that minimises the need for artificial heating, cooling and lighting.

Controls

1. Maximum building depths for houses are 16m, unless internal courtyards are provided.

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

1. All dwelling houses, Attached dwellings and Semi detached dwellings are to be orientated to the street (See Figure 44).
2. The front pedestrian entrance must be visible from the street.

3. The front Building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
4. For two storey or greater height developments, the side walls shall be articulated if the wall has a continuous length of over 10m.
5. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
6. Dwelling houses, Attached dwellings or Semi detached dwellings that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
7. Balconies facing the street on two or more storey dwellings are encouraged.

Two storey detached or attached dwellings

To break up the bulk of two or more storey dwellings balconies, built above garages are encouraged (See Figure 44).

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 45% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports may be built in front of the garage only if the carport:
 - Is no larger than 5.5 x 6m.
 - Is built of a similar colour and materials of the house.
 - Is setback 2m from the front property boundary.
 - Is compatible with the local streetscape.
6. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.



Figure 44: Example of Building Appearance

Internal Design

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide natural surveillance from a room addressing the street.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling provides a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. Townhouses and villa's located on street boundaries shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects where possible.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side and the rear of the development.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Roof Design

Objectives

- a) To provide quality roof designs, which contribute to the overall design and performance of the dwelling(s);
- b) To integrate the design of the roof into the overall facade, building composition and desired contextual response;
- c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
 - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.
 - Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
 - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
 - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.
4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
5. Where habitable space is provided within the roof, optimise residential amenity in the form of attics or penthouse dwellings

Storage Areas

Objective

To provide for the need of residents to be able to store personal items adjacent to the car parking area.

Controls

1. A secure storage space is to be provided for each dwelling with a minimum volume 8m³ (minimum dimension 1sqm). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

5.6 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street parking from new dwellings.

Controls

1. Two car parking spaces shall be provided for each dwelling.
2. At least one car parking must be provided behind the front setback.
3. A parking space is to be a minimum of 2.5 x 5.5m.
4. A single garage is to be a minimum of 3m wide internally and unobstructed.
5. Kerbs shall be provided along the edge of all internal driveways.

5.7 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

1. The front and rear setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within the front and rear setback areas.
2. At least one tree shall be planted in the landscaped areas. The tree must reach a mature height of over 8m.
3. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. The front fence may be built to a maximum height of 1.5m if the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
4. The front fence must be 30% transparent.
5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
6. The front fence may be built to a maximum of 1.8m only if:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and has landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (See Figure 45).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (See Figure 45). The secondary setback is the longest length boundary.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.
2. Internal boundary fences shall be lapped and capped timber, masonry or metal sheeting.



Figure 45: Fence treatments on secondary frontage

5.8 Amenity and Environmental Impact

Overshadowing

Objectives

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:
 - One living, rumpus room or the like; and
 - 50 % of the private open space.

Privacy and Amenity Privacy

Objective

To site and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.

Controls

1. Building siting, window location and balconies should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
2. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
3. Windows of habitable rooms facing side boundaries are to be offset by at least 1m from any adjoining facing window.
4. Except where they face a street or public open space, habitable room windows to the side are to avoid unreasonable overlooking by having a minimum sill height of 1.5m.

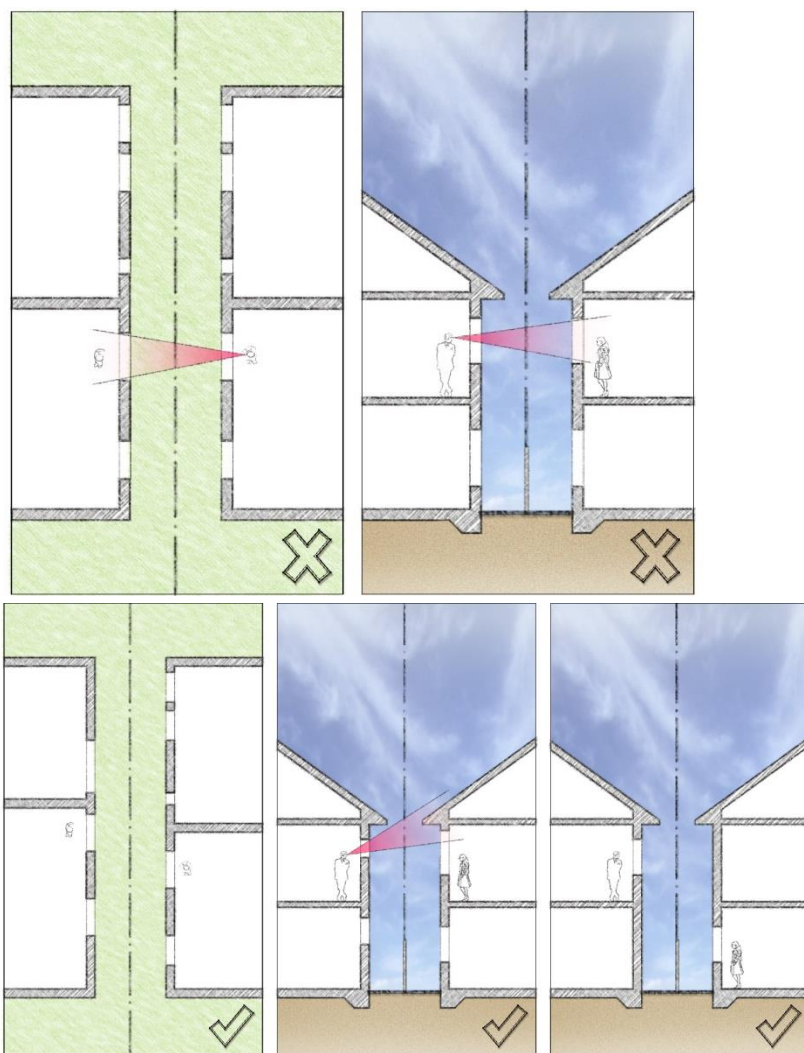


Figure 46: Privacy and Amenity Privacy

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the Building Code of Australia.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

5.9 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

5.10 Studio Dwellings

Studio dwelling means a small self-contained dwelling that is erected above a garage facing a rear lane or a secondary road.

For the purpose of definition under the Liverpool Local Environmental Plan 2008, a Type 1 studio dwelling is a secondary dwelling.

For the purpose of definition under the Liverpool Local Environmental Plan 2008, a Type 2 studio dwelling is a dual occupancy or multi-dwelling housing.

Objectives

- a) To provide an alternate form of housing in master planned neighbourhoods that include community facilities.
- b) To provide for a variety of housing types to cater for varied socio-demographic households.
- c) To provide for passive surveillance to laneways and private accessways.

Controls

Type 1 Studio

Type 1 Studios are a room or rooms constructed above a detached garage associated with the main dwelling on the lot. The studio is primarily designed to be used by the occupants of the main dwelling. The studio shall comply with the following:

1. The studio shall be located on corner blocks or addressing secondary streets and on laneway entries and bends to improve surveillance.
2. Located on lots with a minimum size of 300sqm.
3. Must be detached from other studios.
4. Maximum gross floor area: 45sqm.
5. No additional car parking space is required.
6. The studio shall be located above the garage, carport or like structure for the principal dwelling on the land.
7. There may be no subdivision of the studio from the principal dwelling on the land.
8. Windows are not permitted on elevations which directly face the adjoining lots private open space.
9. Garages with studios above are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
10. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
11. Studios shall not reduce the minimum required amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 5.4 of this Part.

Type 2 Studio

Type 2 Studios are a room or rooms constructed above a detached garage that is intended to be separately strata titled to allow for independent living from the principal dwelling on the lot. The studio shall comply with the following:

1. The studio shall be located on corner blocks with laneway vehicle access.
2. Located on lots with a minimum size of 350sqm.
3. Maximum gross floor area: 75sqm.
4. Studio to be located above the garage, carport or like structure for the principal dwelling on the land and are to be detached from other studios.
5. One additional dedicated on-site car parking space is required to be associated with the Type 2 studio.

6. Car parking space is not to be located in front building setback of the principal dwelling.
7. Car parking space is not to be in a stacked configuration.
8. The studio must include provision of a balcony accessed directly off living space having minimum size of 6sqm, plus a minimum 10sqm ground level service yard with space for clothes drying facilities. The balcony shall not protrude over any property boundary.
9. Type 2 studios may be strata subdivided from the principal dwelling, or dwellings on the land.
10. Garages with studios are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
11. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
12. Pedestrian access to studios is to be from the street frontage and not the laneway.
13. Provision for separate services and an on-site garbage storage area e.g. separate letter box.
14. Studios shall not reduce the minimum amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.
15. Windows are not permitted on elevations which directly face the adjoining lots private open space. Windows may be permitted on the elevation facing the principal dwelling on the lot where they have a minimum sill height of 1.7m.
16. Screened access ways (e.g. staircases) for studios to prevent viewing into adjoining private open space areas.

6. Controls on Land in the R3 Zone “The Village Centres”

6.1 Preliminary

Applies to

This section applies to land in the R3 zone.

Background

The creation of a vibrant centre is essential for the sustainability of the community. The neighbourhood centre shall be a key social focal point and public transport node within the locality. It serves local retail demand without detracting from large nearby centres. The neighbourhood centre incorporates other community facilities such as a primary school, community centre and family and children centre.

The incorporation of appropriate residential uses in commercial/retail developments is desirable.

Objectives

- a) To create a lively focal point for the community, which is economically and socially viable.
- b) To encourage a mix of uses – residential, retail, commercial and community.
- c) To encourage architectural features that creates a distinctive identity and sense of place for the locality.
- d) To create an area that by its scale, street relationship, built form, detailed design and materials, contrasts with the surrounding residential area to create an urban focus.
- e) To encourage upper floor uses in the form of commercial offices, suites and shop-top apartments.
- f) To ensure a uniform approach to signage and street furniture throughout the neighbourhood centre.
- g) To encourage the development of active street frontages to provide a pedestrian friendly environment.

6.2 Subdivision, Frontage and Allotment Size

Background

Development in the village centres may also incorporate shop top housing. A site will need to be wide enough to provide for window space for the occupants of the dwellings. The site will also need to be sufficient size to provide an adequate internal layout and private open space for the dwellings.

Objectives

- a) To ensure that land in village centres can accommodate the use including the car parking and loading provisions.
- b) To ensure that there is sufficient frontage and area for any dwellings in conjunction with the business use.

Controls

Sites must have a minimum street frontage of 20m.

6.3 Site Planning

Objectives

- a) To ensure that the development is compatible with amenity to nearby residential areas and open space.
- b) To ensure that the development is compatible with the adjoining business development.
- c) To ensure that the development reflects the character of the locality and environment.
- d) To ensure that the development contributes to the public domain and attractiveness of the centre for its users.

Controls

The siting of buildings and the development should:

- 1. Provide safe pedestrian, cycle and vehicle access to and from the public street.
- 2. Be compatible with nearby residential development in terms of appearance, overshadowing, privacy, views, setbacks and height.
- 3. Address the street and consider its presentation to the public domain.
- 4. Consider the impact on existing and potential pedestrian links.
- 5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Refer to Water Cycle Management in Part 1.

6.4 Setbacks

Objectives

- a) To ensure the height and scale of a development complements neighbouring development, and/or the desired character of a commercial centre.
- b) To ensure a development does not detrimentally affect the amenity of adjoining residential development.

Controls

Street Frontage

Buildings should be built to the front boundary.

Rear Setbacks

- 1. Where the site has rear lane access the building may be built to the rear boundary, at ground and first floor level. Any floors above the first floor shall be setback equal to the height of the additional floors.
- 2. Where there is no rear lane access and the site adjoins land that is in a residential zone, the building shall be setback from the rear boundary as follows:
 - 5m for non-residential component of building up to 10m high.
 - 8m otherwise for components of building up to 15m high.

Side Setbacks

- 1. Where the site adjoins land that is also in a village centres there is no setback requirement.

2. Where the side boundary of the site adjoins land that is in a residential zone, the building may be required to be setback from the side boundary or limited to one storey near the boundary. Any floors above the ground floor shall be setback equal to the height of the additional floors.

6.5 Landscaped Areas and Pedestrian Areas

Background

Active street and building frontages provide safety and security to a street or shopping centre by enabling casual surveillance. Having access from the street or public areas to as many uses as possible provides active and lively streets and public areas.

Pedestrian areas within the Neighbourhood Centre can provide an attractive meeting place for residents and shoppers. It also has the potential to generate additional business for retailers by providing areas for outdoor eating, display of retailers merchandise and a place for local community group promotions. Public footpaths can also provide a place for outdoor eating.

Objectives

- a) To ensure active street frontages on public streets.
- b) To encourage provision of attractive pedestrian areas.
- c) To encourage linkages between centres and any adjacent public areas such as open space.

Controls

1. Pedestrian areas should minimise any changes in levels and allow wheelchair access to the shops from the car parking area and public footpaths.
2. Pedestrian areas should be separate from loading areas.
3. Sufficient area shall be provided to permit landscaping and tree planting within pedestrian areas and car parking areas.
4. Outdoor Eating Areas may be permitted in public footpath areas. Refer to the section on Outdoor Eating Areas.

6.6 Building Form, Streetscape and Layout

Objectives

- a) To ensure the height and scale of a development complements neighbouring development, and/or the desired character of a village centre.
- b) To provide adequate amenity to the occupants and residents of a development in terms of solar access, visual and acoustic privacy, and natural ventilation.
- c) To ensure a development does not detrimentally affect the amenity of nearby residential development.
- d) To ensure a development is integrated with the public domain and contribute to an active pedestrian-orientated environment.
- e) To maximise natural surveillance so that people feel safe at all times.
- f) To ensure pedestrian entrances and exits are clearly visible from the street.
- g) To promote high quality architectural design.
- h) To ensure corner sites are developed as visually significant elements in order to promote a strong and legible character.
- i) To ensure weather protection to pedestrians.

- j) To ensure roof forms contribute to the proposed character of the centre and residential areas.
- k) To ensure working and living environments have good internal amenity that minimises the need for artificial heating, cooling and lighting.

Controls

Layout of Village Centres

1. Streets are to be public, and organised and designed in order of descending priority for people, bikes and cars.
2. Streets are to be located on the ground and not above car parking.
3. Streets are to be a suitable width for traffic and pedestrians and are to have pavements of sufficient width for awnings and street tree planting.
4. The street network is to:
 - Form a regular grid with dimension related to the proposed densities and building typologies.
 - Be organised to form a street and block pattern that creates:
 - Regular orthogonal patterns for lots and/or building sites (where the existing street pattern allows).
 - Street blocks, lots and/or building sites that relate to the selected building typologies.
 - Be connected and provide a choice of movement for people and cars.
 - Reveal the topography, have clear sight lines and aid legibility.
 - Connect to the existing street pattern in a seamless transition.
 - Provide views and view corridors where possible to open space, special places and/or significant trees.
 - Provide a street frontage for every building and unobtrusive parking for cars, service vehicles, bikes and scooters.
5. The street network is to be designed so as to enable buildings to be located and sited so that:
 - Positive spaces are created with adjacent and neighbouring buildings.
 - Fronts of buildings can face fronts of buildings (usually across a street).
 - Backs of buildings can face backs of buildings (usually at the rear of a street block).
 - Buildings address open spaces and streets both within the site and adjoining the site.
 - Buildings align with the streets.
6. Any variations should be fully justified and will be assessed on merit against the objectives of the precinct.

Building Appearance and Streetscape

1. Buildings shall be modulated to create a vertical rhythm to the street facade. Modules of around 6m are expected which allow for typical construction techniques. No long, unbroken facades will be permitted.
2. Development adjoining open space shall address the open space and avoid blank walls.

3. All buildings to be designed and built to have upper floors. Buildings shall be a minimum of two storeys in height. Single storey buildings are not permitted.
4. Floor to ceiling heights of the ground floor shall be a minimum of 3.5m to allow for adaptive re-use.
5. All residential and mixed use developments shall be at least two storeys with the lowest habitable floor level at least 500mm above the crown of the road. Alternatively, the ground floor shall be above undercroft parking or garages with rear lane or car court access.
6. Shop top housing and Residential Flat Buildings shall comply with State Environmental Planning Policy No 65 [Design Quality of Residential Apartment Development](#) and the Apartment Design Guide (ADG) or equivalent..
7. Building facades shall be articulated and roof form is to be varied to provide visual variety.
8. The pedestrian entrance to shop top housing shall be from the front of the site.
9. Driveway walls adjacent to the entrance of a basement car park are to be treated so that their appearance is consistent with the basement or podium walls.
10. A master antenna shall be provided for any development of more than three dwellings and be located so that it is not visible from the street or any public open space.
11. Consider the relationship between the whole building form and the facade and / or building elements. The number and distribution of elements across a façade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns.
12. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. This may include but are not limited to:
 - Defining a base, middle and top related to the overall proportion of the building.
 - Expressing key datum lines in the context using cornices, a change in materials or building set back.
 - Expressing the internal layout of the building, for example, vertical bays or its structure, such as party wall-divisions.
 - Expressing the variation in floor-to-floor height, particularly at the lower levels.
 - Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.
 - Selecting balcony types which respond to the street context, building orientation and residential amenity.
 - Cantilevered, partially recessed, wholly recessed, or Juliet balconies will all create different facade profiles.
 - Detailing balustrades to reflect the type and location of the balcony and its relationship to the façade detail and materials.
13. Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation.
14. Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height.

15. Co-ordinate and integrate building services, such as drainage pipes, with overall facade and balcony design.
16. Co-ordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design.

Entrances

1. Orientate entrances to buildings towards the public street and provide clear lines of sight between entrances, foyers and the street.
2. The common lobby to shop top housing should face the street.
3. Where the ground floor of a business development, mixed-use development, and shop-top housing faces the street, the ground floor must incorporate shopfront style windows with clear glazing so that pedestrians can see into the premises and vice versa.
4. Provide as direct a physical and visual connection as possible between the street and the entry.
5. Achieve clear lines of transition between the public street, the shared private circulation spaces and the dwelling unit.

Street Frontage

1. All developments must address the street and provide a quality street frontage. Retail and commercial developments must have active street frontages and entries fronting the street.
2. Ground floor uses are to be at the same general level as the footpath and be accessible directly from the street.
3. Provide predominately glazed shop fronts to all ground floor retail areas.
4. Developments on corner sites shall address the corner and the secondary street frontage.
5. Avoid blank or solid walls and the use of dark or obscured glass on street frontages.
6. Roller shutters that obscure windows are not permitted.
7. Provide opportunities for table seating along shop frontages.
8. Any Automatic Teller Machine (ATM) must be located at a highly visible location at street level, and must be well lit at night and incorporate mirrors or reflective materials so that users can observe people behind them.
9. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Awnings

1. Provide continuous street frontage awnings to all new developments.
2. Wrap awnings around corners on street corner buildings.
3. Awnings must be complementary to each other.
4. Canvas blinds along the street edge are permitted.

Roof Forms

1. Minimise the bulk and mass of roofs and the potential for overshadowing from roofs.
2. Provide eaves with a minimum length of 400mm in dwellings with pitched roofs.

3. Where flat roofs are proposed, lift overruns and rooftop plant and machinery are to be obscured from view by parapets or designed to be incorporated within rooftop activities/features.
4. Incorporate lift overruns and service plant etc into the design of the roof.
5. Wherever possible provide landscaped and shaded areas on roofs to serve as communal private open space for residents of the building.

Building Material and Finishes

1. Avoid expanses of any single material.
2. Utilise high quality and durable materials and finishes, such as face brick with / without coloured render; and plain glass windows.
3. Avoid large wall tiles, rough textured render, polished metal and curtain walls or reflective glass.
4. Highly reflective finishes are not permitted above the ground floor.
5. Colour & materials of the buildings shall be consistent with the existing adjoining development.

Balconies

1. A minimum of 12sqm of open space in the form of a balcony shall be provided for each dwelling. Primary balconies for all dwellings shall have a minimum depth of 2m.
2. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
3. Balustrades must be compatible with the façade of the building.
4. Ensure balconies are not so deep that they prevent sunlight entering the dwelling below.
5. Design balustrades to allow views and casual surveillance of the street.
6. Balustrades on balconies at lower levels shall be of solid construction.
7. Balconies should where possible be located above ground level to maximise privacy for occupants, particularly from the street.
8. Solid or semi solid louvres are permitted.
9. Primary balconies should be:
 - Located adjacent to the main living areas, such as living room, dining room or kitchen to extend the dwelling living space.
 - Sufficiently large and well-proportioned to be functional and promote indoor/outdoor living. A dining table and two chairs (smaller dwelling) and four chairs (larger dwelling) should fit on the majority of balconies in any development.
10. Consider secondary balconies, including Juliet balconies or operable walls with balustrades, for additional amenity and choice in larger dwellings, adjacent to bedrooms or for clothes drying, site balconies off laundries or bathrooms.
11. Design and detail balconies in response to the local climate and context thereby increasing the usefulness of balconies. This may be achieved by:
 - Locating balconies facing predominantly north, east or west to provide solar access.
 - Utilising sunscreens, pergolas, shutters and operable walls to control sunlight and wind.

12. Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Design considerations may include:
 - Detailing balustrades using a proportion of solid to transparent materials to address sight lines from the street, public domain or adjacent development. Full glass balustrades do not provide privacy for the balcony or the dwelling's interior, especially at night.
 - Detailing balustrades and providing screening from the public, for example, for a person seated looking at a view, clothes drying areas, bicycle storage or air conditioning units.
13. Operable screens increase the usefulness of balconies by providing weather protection, daylight control and privacy screening.

Daylight Access

1. Plan the site so that new shop top housing is oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
3. Optimise the number of dwellings receiving daylight access to habitable rooms and principal windows.
4. Ensure daylight access to habitable rooms and private open space, particularly in winter use skylights, clerestory windows and fanlights to supplement daylight access.
5. Avoid south facing dwellings.
6. Design for shading and glare control, particularly in summer, by:
 - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
 - Optimising the number of north-facing living spaces.
 - Providing external horizontal shading to north-facing windows.
 - Providing vertical shading to east or west windows.
7. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
8. On west facing windows, vertical louvre panels or sliding screens protect from glare and low afternoon sun.
9. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
10. Use high performance glass but minimise external glare off windows, by:
 - Avoiding reflective films.
 - Using a glass reflectance below 20%.
 - Considering reduced tint glass.
11. Limit the use of lightwells as a source of daylight by prohibiting their use as the primary source of daylight in habitable rooms. Where they are used:
 - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6m.
 - Conceal building services and provide appropriate detail and materials to visible walls.
 - Ensure that light wells are fully open to the sky.

- A combination of louvres provides shading for different times of the day.

Internal design

1. All staircases should be internal.
2. Minimise the length of common walls between dwellings.
3. Basement car parking shall be located beneath the building footprint.
4. Where possible natural ventilation shall be provided to basement car parking.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings.
6. Minimise the location of noise sensitive rooms such as bedrooms adjoining noisier rooms such as bathrooms or kitchens or common corridors and stairwells.
7. Where common walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the Building Code of Australia.
8. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Ground Floor Dwellings

1. Design front gardens or terraces, which contribute to the spatial and visual structure of the street while maintaining adequate privacy for dwelling occupants. This can be achieved by animating the street edge, for example, by promoting individual entries for ground floor dwellings.
2. Create more pedestrian activity along the street and articulate the street edge by:
 - Balancing privacy requirements and pedestrian accessibility.
 - Providing appropriate fencing, lighting and/ or landscaping to meet privacy and safety requirements of occupants while contributing to a pleasant streetscape.
 - Utilising a change in level from the street to the private garden or terrace to minimise site lines from the streets into the dwellings.
 - Increasing street surveillance with doors and windows facing onto the street.

Security

1. Entrances to buildings should be orientated towards the front of the site and facing the street.
2. The main entrance to dwellings or other premises should not be from rear lanes and should be designed with clear directions and signage.
3. Reinforce the development boundary to strengthen the distinction between public and private space by:
 - Employing a level change at the site and/or building threshold (subject to accessibility requirements).
 - Signage.
 - Entry awnings.
 - Fences, walls and gates.
 - Change of material in paving between the street and the development.
4. Improve the opportunities for casual surveillance by:
 - Orienting living areas with views over public or communal open spaces, where possible.
 - Using bay windows and balconies, which protrude beyond the main facade and enable a wider angle of vision to the street.

- Using corner windows, which provide oblique views of the street.
 - Providing casual views of common internal areas, such as lobbies and foyers, hallways, recreation areas and car parks.
5. Minimise opportunities for concealment by:
 - Avoiding blind or dark alcoves near lifts and stairwells, at the entrance and within indoor car parks, along corridors and walkways.
 - Providing well-lit routes throughout the development.
 - Providing appropriate levels of illumination for all common areas.
 - Providing graded illumination to car parks and illuminating entrances higher than the minimum acceptable standard.
 6. Control access to the development by:
 - Making dwellings inaccessible from the balconies, roofs and windows of neighbouring buildings.
 - Separating the residential component of a development's car parking from any other building use and controlling car park access from public and common areas.
 - Providing direct access from car parks to dwelling lobbies for residents.

Natural Ventilation

1. Utilise the building layout and section to increase the potential for natural ventilation. Design solutions may include:
 - Facilitating cross ventilation by designing narrow building depths and providing dual aspect dwellings, for example, cross through dwellings and corner dwellings.
 - Facilitating convective currents by designing units, which draw cool air in at lower levels and allow warm air to escape at higher levels, for example, maisonette dwellings and two-storey dwellings.
2. Select doors and windows (that open) to maximise natural ventilation opportunities established by the dwelling layout.
3. Provide narrow building depths to support cross ventilation.
4. Avoid single-aspect dwellings with a southerly aspect.
5. Design the internal dwelling layout to promote natural ventilation by:
 - Minimising interruptions in air flow through a dwelling.
 - Grouping rooms with similar usage together, for example, keeping living spaces together and sleeping spaces together. This allows the dwelling to be compartmentalised for efficient summer cooling or winter heating.
 - Selecting doors and openable windows to maximise natural ventilation opportunities established by the dwelling layout.

Building Depth

1. Maximum building depths for ground floor uses is 20m in the neighbourhood centres. Speciality retail shops should not exceed 15m in depth from the street frontage.
2. All points on an office floor should be no more than 12.5m from a source of daylight (e.g. window, atria or light wells).
3. Maximum building depths for houses are 16m, unless internal courtyards are provided.

4. For apartment development, see Apartment Design Guide (ADG) or equivalent for building depth guidance.

Storage Areas

1. A secure storage space is to be provided for each dwelling with a minimum volume 8m³ (minimum dimension 1sqm). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

Adjoining Residential Areas

1. Development should minimise impact of the privacy of adjoining and nearby dwellings.
2. Development should be compatible with any adjoining and nearby dwellings.

6.7 Landscaping and Fencing

Objectives

- a) To ensure appropriate landscaping in village centres.
- b) To ensure the protection of existing trees on neighbouring residential zoned land.
- c) To ensure the visual impact of development is minimised and integrated into the streetscape.
- d) To improve the amenity of commercial centres.

Controls

1. Where trees are planted around high use facilities such as car park areas, children's play areas and walkways, they should have clean trunks to height of 1.8m.
2. Landscaping on any podium level or planter box shall be appropriately designed and irrigated.
3. Where landscaping is to be provided a detailed landscape plan shall accompany a development application. A suitably qualified Landscape architect must prepare all Landscape Plans submitted with the development application. Refer to Part 1 for requirements for Detailed Landscape Plans.
4. Landscaped areas within the Village Centres shall generally involve the provision of trees and shrubs in mulched garden beds around car parking areas and where pedestrian areas are provided. In particular the landscaping shall involve the following:
 - Mulched garden beds shall incorporate ground covers that will cover the ground area.
 - Large shrubs shall be used as screen planting where there is a need to screen certain areas such as outside storage.
 - Shrubs shall only be planted in mulched garden beds.

6.8 Car Parking and Access

Objectives

- a) To ensure the provision of appropriate off-street parking for village centres.

- b) To ensure car parking and loading facilities are in the most appropriate location given the urban design needs for the centre.
- c) To ensure that car parking areas are attractive and don't dominate the streetscape.
- d) To locate loading in appropriate locations.
- e) To provide convenient, accessible and safe on-site car parking for residents and visitors.
- f) To minimise driveway crossings to maximise on street parking and landscaped nature strips.
- g) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.
- h) To integrate the location and design of car parking with the design of the site and the building.

Controls

- 1. Car parking and loading areas shall be located at the rear of buildings or in laneways.
- 2. Visitor car parking shall be clearly identified and may not be stacked or tandem car parking.
- 3. Visitor car parking shall be located between any roller shutter door and the front boundary.
- 4. Pedestrian ways and driveways shall be separated.
- 5. Driveways shall be designed to accommodate removalist vehicles.
- 6. Give preference to underground parking, whenever possible by:
 - Facilitating natural ventilation to basement and sub-basement car parking areas, where possible.
 - Integrating ventilation grills or screening devices of car park openings into the facade design and landscape design.
 - Providing safe and secure access for building users, including direct access to residential dwellings, where possible.
- 7. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and street amenity by:
 - Avoiding exposed parking on the street frontage.
 - Hiding car parking behind the building facade. Where wall openings (windows, fenestrations) occur, ensure they are integrated into the overall facade scale, proportions and detail.

6.9 Amenity and Environmental Impact

Objectives

- a) To provide adequate amenity to the occupants of buildings and to neighbouring residential development in terms of solar access, and visual and acoustic privacy.
- b) To ensure buildings and businesses provide safe and easy access for people.

Controls

Lighting

External lighting to a development must give consideration to the impact of glare on the amenity of adjoining and nearby residents.

Safety

1. Where the hours of operation are after sunset, the car parking areas and any other public areas shall be provided with lighting to provide a safe environment for users of the premises after hours.
2. A Noise Impact Assessment Statement prepared by a qualified Acoustics Engineer may be required to be submitted with the application depending on the scale and location of the proposed use to show that the use can operate satisfactorily in the neighbourhood centre.

6.10 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes and House Numbering

1. A common letterbox structure must be located close to the main pedestrian entrance of a building.
2. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Frontage works and damage to Council assets

1. All verges within the neighbourhood centre shall be paved by the developer for the full verge width.

Electricity Sub Station

In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public street to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

Waste management

1. Development involving dwellings shall provide at least two waste storage areas to separately cater for the dwellings and non-residential uses on an allotment.
2. A development must provide a waste storage area inside every food premises, and inside any shop that is capable of accommodating a food premises.
3. A development must locate a waste storage area inside the building, or adjacent to a lane where it is convenient and safe for residents, tenants, and waste collection trucks to access the waste storage area and the location and floor level are to the satisfaction of Council.

7. Controls for Land in the B6 Zone – Enterprise Corridor

7.1 Site Planning

Applies to

This section applies to land in the B6 zone.

Objectives

- a) To ensure that the development is compatible with amenity to nearby residential areas and open space.
- b) To ensure that the development is compatible with the adjoining business development.
- c) To ensure that the development reflects the character of the locality and environment.
- d) To ensure that the development contributes to the public domain and attractiveness of the centre for its users.

Controls

The siting of buildings and the development should:

1. Provide safe pedestrian, cycle and vehicle access to and from the public street.
2. Be compatible with nearby residential development in terms of appearance, overshadowing, privacy, views, setbacks and height.
3. Address the street and consider its presentation to the public domain.
4. Consider the impact on existing and potential pedestrian links.
5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Refer to Water Cycle Management in Part 1.
6. Be compatible with existing business development in terms of scale, bulk, setbacks, materials and visual amenity.
7. Address the street and consider its presentation to the Classified road environment

7.2 Setbacks

Objectives

- a) To ensure the height and scale of a development complements neighbouring development, and/or the desired character of a commercial centre.
- b) To ensure a development does not detrimentally affect the amenity of adjoining residential development.

Controls

Rear Setbacks

1. Where the site has rear lane access the building may be built to the rear boundary, at ground and first floor level. Any floors above the first floor shall be setback equal to the height of the additional floors.

2. Where there is no rear lane access and the site adjoins land that is in a residential zone, the building may be required to be setback from the rear boundary or limited to one storey near the boundary. Any floors above the ground floor shall be setback equal to the height of the additional floors.

Side Setbacks

1. Where the site adjoins land that is also in a business zone there is no setback requirement.
2. Where the side boundary of the site adjoins land that is in a residential zone, the building may be required to be setback from the side boundary or limited to one storey near the boundary. Any floors above the ground floor shall be setback equal to the height of the additional floors.

Front Setbacks

1. The minimum setback from the front boundary is 10m for the ground floor and 7.5m for the first floor.
2. Any floors above the ground floor shall be setback equal to the height of the additional floors.

7.3 Landscaped Areas and Pedestrian Areas

Objectives

- a) To ensure active street frontages on public streets.
- b) To encourage provision of attractive pedestrian areas.
- c) To encourage linkages between centres and any adjacent public areas such as open space.

Controls

1. Pedestrian areas should minimise any changes in levels and allow wheelchair access to the shops from the car parking area and public footpaths.
2. Pedestrian areas should link all major activity areas of the centre.
3. Pedestrian areas should be separate from loading areas.
4. Separate pedestrian access should be provided to adjoining public footpaths, community facilities and open space.
5. Sufficient area shall be provided to permit landscaping and tree planting within pedestrian areas and car parking areas.

7.4 Building Form, Streetscape and Layout

Achieving a high amenity of urban design is greatly dependent on the design and appearance of individual buildings. Well-designed new buildings not only enhance character and appearance, but also contribute to the coherence of the public domain. In particular:

- Building corners are important both in terms of “way finding” and “place making”. They are often used as markers or signs that contribute to place making and or marking an important intersection.
- The relative consistency in roof height and form assists in defining streets. A range of roof forms and parapets contribute to the skyline.
- The palette of materials contributes to the perceived image of the built environment and assists in creating a unified and memorable streetscape.

Objectives

- a) To ensure that new buildings contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes.
- b) To address the streetscape by providing a consistent and appropriate street frontage in the town and neighbourhood centres.
- c) To ensure corner sites are developed as visually significant elements in order to promote a strong and legible character.
- d) To ensure working and living environments have good internal amenity that minimises the need for artificial heating, cooling and lighting.

Controls

1. External walls are to be constructed of high quality and durable materials and finishes, with low maintenance costs.
2. Articulate facades so that they address and add visual interest. Buildings four storeys and above are to be articulated to differentiate between base, middle and top in design.
3. Buildings on corner sites are to be designed to address the two adjacent streets in a similar way.
4. Limit opaque or blank walls for ground floor uses to 20% of the street frontage.
5. Highly reflective finishes and curtain wall glazing are not permitted above the ground floor.
6. Incorporate changes in level within retail development and civic facilities such that they are accessible to the people with disabilities.
7. Maximise glazing for retail uses, but break glazing into sections to avoid large expanses of glass.

Roof Forms

1. Minimise the bulk and mass of roofs and the potential for overshadowing from roofs.
2. Roof top structures, such as air conditioning, lift motor rooms and the like are to be incorporated into the architectural design of the building and to be screened from public view.
3. Communication towers, such as mobile phone towers and the like, are not to be located on buildings with a residential component.

Material and Finishes

1. Avoid expanses of any single material.
2. Utilise high quality and durable materials and finishes.
3. The following materials are preferred:
 - Face brick with / without coloured render; and
 - Plain glass windows.
4. The following materials must be avoided:
 - Large wall tiles,
 - Rough textured render,
 - Polished metal and curtain walls, and
 - Reflective glass.

Building Depth

1. Maximum building depths for ground floor uses are 40m for Enterprise Corridor. Speciality retail shops should not exceed 15m in depth from the street frontage.
2. All points on an office floor should be no more than 12.5m from a source of daylight (e.g. window, atria or light wells).

7.5 Landscaping and Fencing

Objectives

- a) To ensure appropriate landscaping in commercial centres; and
- b) To ensure the protection of existing trees on neighbouring residential zoned land.
- c) To ensure the visual impact of development is minimised and integrated into the streetscape.
- d) To improve the amenity of commercial centres.

Controls

1. Where trees are planted around high use facilities such as car park areas, children's play areas and walkways, they should have clean trunks to height of 1.8m.
2. Landscaping on any podium level or planter box shall be appropriately designed and irrigated.
3. Where landscaping is to be provided a detailed landscape plan shall accompany a development application. A suitably qualified Landscape architect must prepare all Landscape Plans submitted with the development application. Refer to Part 1 for requirements for Detailed Landscape Plans.
4. Landscaped areas within Business Development shall generally involve the provision of trees and shrubs in mulched garden beds. In particular the landscaping shall involve the following:
 - The trees shall provide a canopy for the streetscape and soften the appearance of the Enterprise Corridor environment, without unduly concealing approved site signage.
 - Mulched garden beds shall incorporate ground covers that will cover the ground area.
 - Shrubs shall be used to soften appearance of the area but still allow viewing between the street and the development.
 - Large shrubs shall be used as screen planting where there is a need to screen certain areas such as outside storage.
 - Shrubs shall only be planted in mulched garden beds.
 - Grassed areas may be considered in limited areas in conjunction with mulched garden beds.
 - Trees shall only be planted in grass where there is a border around the tree separating it from the grassed area.
 - Figure 47 illustrates these requirements.



Figure 47: Landscaping around a Local Centre

7.6 Car Parking and Access

Background

Car parking and safe access provision is fundamental for all sites in the business areas. The layout of car parking areas may in the case of Local Centres may reflect the street environment. Refer to Part 1 for additional information about car parking and access requirements.

Objectives

- a) To ensure the provision of appropriate off-street parking for business areas.
- b) To ensure car parking and loading facilities are in the most appropriate location given the urban design needs for the centre.
- c) To ensure that car parking areas that are attractive and don't dominate the streetscape.
- d) To locate loading in appropriate locations.

Controls

- 1. Car parking shall generally be located toward the front of the site.
- 2. Car Parking must meet the requirements of Part 1 of this DCP.

7.7 Amenity and Environmental Impact

Background

Business Areas are centres of activity for residents, workers and visitors. The level of activity varies depending on size, location and land uses in the centre. This activity may take for long periods of the day each day of the week. They are also increasingly the location of residential development. While this presents opportunities to add to activity it also presents some potential amenity issues and impacts on transport.

Objectives

- a) To provide adequate amenity to the occupants of buildings and to neighbouring residential development in terms of solar access, and visual and acoustic privacy.
- b) To ensure buildings and businesses provide safe and easy access for people.
- c) To provide useable private open space for dwellings.

Controls

Privacy

Development shall be designed to minimise overlooking of adjoining and nearby residential development.

Access to sunlight

Dwellings above shops shall be designed to maximise solar access.

Acoustic privacy

- 1. Where an allotment adjoins a Classified Road, dwellings must comply with the requirements of the SEPP (Infrastructure).
- 2. Dwellings should be located to minimise the impact of noise from car parking and loading areas.

Lighting

External lighting to a development must give consideration to the impact of glare on the amenity of adjoining and nearby residents

7.8 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes and House Numbering

1. A common letterbox structure must be located close to the main pedestrian entrance of a building.
2. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder, new or enlarged access driveway or is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

Electricity Sub Station

1. In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public street to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

Waste management

1. Development involving dwellings shall provide at least two waste storage areas to separately cater for the dwellings and non-residential uses on an allotment.
2. A development must provide a waste storage area inside every food premises, and inside any shop that is capable of accommodating a food premises.
3. A development must locate a waste storage area inside the building, or adjacent to a lane where it is convenient and safe for residents, tenants, and waste collection trucks to access the waste storage area and the location and floor level are to the satisfaction of Council and Part 1.

Storage Facilities

1. A multi-unit development must provide a minimum storage area of 8m³ to each dwelling. The storage area may be attached to the car parking space or spaces to each dwelling.

8. Controls for Certain Sites

8.1 North of Maxwell's Creek urban park

Background

Two gateway style buildings are proposed to the northern edge of Maxwell's Creek Urban Park along Bernera Road. Due to the sensitive and highly visible location, special design guidelines are to apply to any buildings proposed on these sites in addition to the applicable objectives and controls already contained in this Plan. It is envisaged that two apartment buildings are proposed, one on each site flanking Bernera Road. A small corner café or other active use will be encouraged on the corner of the parkland and Bernera Road.

Objectives

- a) To provide surveillance over Maxwell's Creek Urban Park and to increase the perception of safety and security in the area.
- b) To shorten the walking distance and increase connections between the Urban and Town Centre Character Areas.
- c) To provide a built form and architectural quality that reflects the special gateway location and parkland setting.

Controls

1. Buildings are to address the Bernera Avenue section of the Bus Priority Corridor, Maxwell's Creek Urban Park and the street running to the north of the site. Site servicing and vehicular access is to be provided from:
 - The western or north-western edge of the site for the western building, or
 - The eastern or north-eastern edge of the site for the eastern building. Refer to Figure 48.
2. The gateway buildings are to provide a strong contemporary urban form and be of architectural merit.
3. Minimum street wall heights are 4 storeys. Additional storeys may be set back behind the primary building line up to a maximum height of 6 storeys.
4. Car-parking and servicing is to be predominantly located underground or in semi-basements. Any surface parking areas are to be well integrated into the landscape treatment and be made of semi-pervious paving materials.
5. Sub-basement parking areas are not permitted to be raised greater than 750mm above existing ground level to maximise opportunities for ground floor interface between the public and the private domain and to minimise the negative visual impact of exposed parking and ventilation structures.
6. Landscape features such as terraced planter beds, wall and fence treatments up to 1.2m high are to be used to define the public and private domain.
7. Additional communal open space will be encouraged on the roof top.

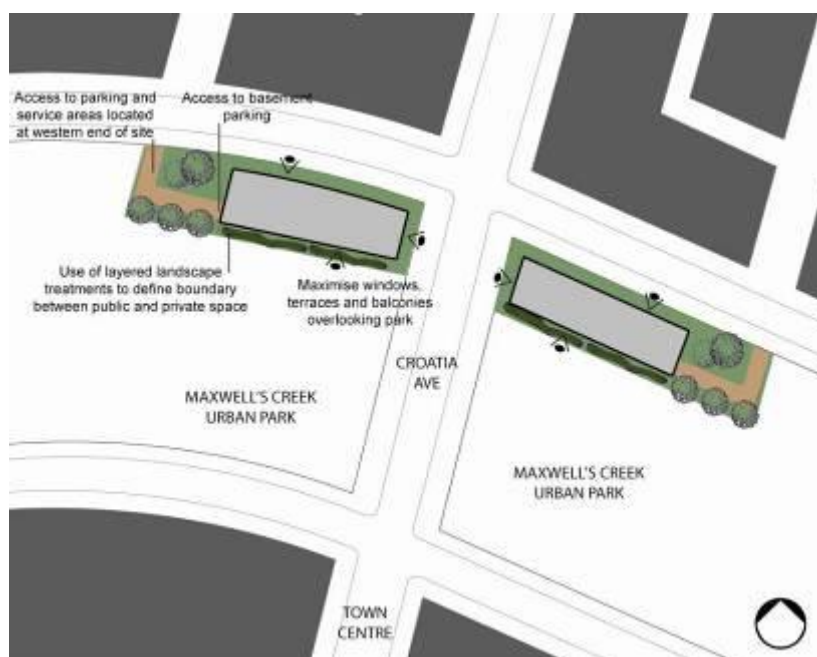


Figure 48: Design guidelines for development to the north of Maxwell's Creek Urban Park

8.2 Lots backing onto Camden Valley Way and the Rail Corridor

Background

As a number of properties will back onto Camden Valley Way and the South West Rail Link (SWRL) corridor, the presentation of the back of the lot to the public domain and the travelling public, as well as the amenity of the lot resident, is important to the overall quality of the precinct.

As part of the detailed design for the SWRL, and in accordance with the Conditions of Consent, the Transport Infrastructure Development Corporation (TIC) has investigated all reasonable and feasible noise mitigation options for existing and planned future receivers.

Objectives

- a) To ensure that a high quality, low maintenance, solid and consistent rear boundary treatment to lots backing onto Camden Valley Way and the rail corridor.
- b) To minimise the noise impacts to lots backing onto Camden Valley Way and the rail corridor.
- c) To provide security and privacy to the rear of lots backing onto Camden Valley Way and the rail corridor.
- d) To encourage a high quality architectural treatment to the rear façade of the property as visible to the public domain and travelling public.

Controls

1. Lots are to have a minimum depth of 30m.
2. An 8m minimum setback is required from the back of the lot to the rear, or side, façade of the dwelling.

3. Architecturally the rear façade of the building (and side façade if visible from the public domain) are to be articulated and modulated to reduce the bulk of the dwelling and to add visual interest.
4. Internal dwelling layouts should be designed to minimise noise in living and sleeping areas.
5. Double glazed windows are to be used on the rear façade of the dwelling to minimise noise impacts.
6. Where naturally ventilated (windows open) conditions cannot be achieved, due to noise levels, mechanical ventilation or air-conditioning systems are to be provided compliant with AS1668 and the National Construction Code.

Lots backing onto Camden Valley Way only

1. All allotments with a boundary to Camden Valley Way are to provide a wall to limit noise along that boundary. Walls are to be 2m high, of solid masonry construction, and provided along the length of all lots backing or siding onto Camden Valley Way.
2. Rear walls are to be vertically modulated at least every 5m on the side facing Camden Valley Way.
3. A coping is to be provided along the rear wall with a drip edge on the Camden Valley Way side (10 degree slope to coping).
4. The walls and footings are to be constructed on the boundary or entirely within the lot boundary.

**LIVERPOOL
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Liverpool Development Control Plan 2008
Part 2.13
Land Subdivision in
Pleasure Point

19 February 2014

Part 2.13 must be read in conjunction with Part 1
Refer to Part 3.8 for non residential development in residential zones

Liverpool Development Control Plan 2008

Part 2.13 Pleasure Point

Table of Contents

1. Preliminary	4
2. Controls for Public Domain	6
2.1 Street Network	6
2.2 Pedestrian and Cyclist Paths	12
2.3 Streetscape and Street Trees	12
2.4 Open Space	12
2.5 Views and View Sharing	14
2.6 Bushfire Protection	12
2.7 Creek Corridors	17
2.8 Stormwater Quantity and Quality Management	17

Table of Figures

Figure 1 Land to which this part applies	4
Figure 2 Street Network	7
Figure 3 Collector Street	9
Figure 4 Local Street	10
Figure 5 Asset Protection Road	11
Figure 6 Tree Protection	13
Figure 7 View Sharing	14
Figure 8 Land to which a 25 metre setback applies	16
Figure 9 Bushfire Trail	16

1. Preliminary

Applies to

1. This Part applies to land identified on Figure 1.
2. Part 1 also applies to the land identified in Figure 1.
3. The controls in this part relate to the subdivision of land in Figure 1.
4. Controls on development in Residential Zones in this locality are in Parts 3.1, 3.2, 3.3, 3.4 and 3.8.

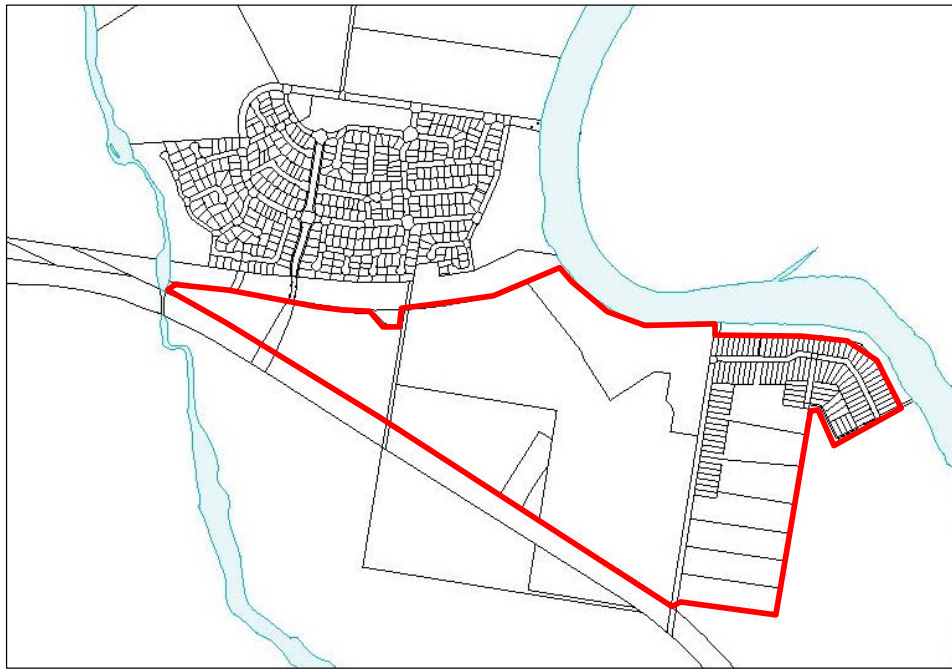


Figure 1 Land to which this part applies

Background

The Pleasure Point area currently consists of a small amount of residential development east of Pleasure Point Road and is adjacent to the residential area of Voyager Point. The development of the land between these two areas will provide a contiguous residential area. Road access to the combined residential area will remain using The Avenue and Pleasure Point Road. It is appropriate to link these two areas to minimise the need to use Heathcote Road to travel between the two areas. It will also facilitate pedestrian access to East Hills Station. A through road linking The Avenue and Pleasure Point Road will also provide a more efficient bus route through the locality.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.

- b) Guaranteeing a movement system that relates accessibility demand to location of development type.
- c) Ensuring that servicing is able to be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and give priority to pedestrians and children.
- e) Guaranteeing adequate accessibility for emergency vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising the existing street layout.
- g) Providing safe access during flooding events.

Social Benefits

To establish affordable and accessible facilities and resources that allow people to maintain wellbeing, live and recreate by ensuring that development creates a 'people place' by giving priority to people and human relationships through housing mix and safety.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage management that, contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water and air pollution management and water quality.
- e) Maintaining and enhancing the quality of the natural environment.
- f) Connecting and enhancing vegetation corridors and providing links between the Georges River and Holsworthy.
- g) Promoting the development of place and a quality built environment with people and human relationships as a central consideration.

Economic Benefits

- a) To ensure appropriate accessibility to employment.
- b) To ensure infrastructure is sufficient to meet current and predicted need.

2. Controls for Public Domain

2.1 Street Network

The development of the locality will involve new residential development south of the East Hills railway line, which will provide a contiguous residential area. Road access to the combined residential area will remain using The Avenue and Pleasure Point Road. It is appropriate to link these 2 areas to minimise the need to use Heathcote Road to travel between the 2 areas or for development at Pleasure Point to have pedestrian access to East Hills Railway Station.

This link should be capable of carrying public transport.

In addition to these links there will be a local street network. Detailed street sections are provided in Section 2.2.

Internal Link road

Objectives

- a) To provide an internal link, which joins the various residential precincts.
- b) To minimise the need to use Heathcote Road to travel between the 2 areas or for development at Pleasure Point to have pedestrian access to East Hills Railway Station.
- c) To provide a for a more efficient bus route through the locality.
- d) To provide safe, legible and efficient access within the locality.
- e) To promote a movement system that, where appropriate, gives priority to walking, cycling and public transport.

Controls

The internal road link shall be provided in accordance with Figure 2.

Local Street Network

Objectives

- a) To encourage a low-speed traffic environment.
- b) To develop a comprehensive street network that links the site to the surrounding residential, commercial and employment areas.
- c) To provide a comprehensive pedestrian and cycle network linking residential areas with parks, recreation areas.
- d) To create a high quality safe environment for walking and cycling.

Controls

- 1. Subdivision plans are required to comply with the fixed streets identified in Figure 2.
- 2. Provide a grid-like street network pattern to facilitate walking and cycling and enable direct local vehicle trips within the neighbourhood. Cul-de-sacs will only be supported other than where alternative street patterns are not achievable.
- 3. Design safe pedestrian crossing points.
- 4. All intersections are to be designed in accordance with the RTA Austroads standards.
- 5. Street sections are to comply with Figures 3, 4 and 5.

6. The internal link road shall have a minimum travel-way width of 7m to accommodate a bus route.
7. Local streets shall front open space and avoid back fences to open space and other public areas.
8. All streets are to be legibly signposted with streets names and property numbers
9. 1.5m footpaths are to be provided on both sides of all streets.
10. All Development Applications for subdivision are to detail the proposed kerb type.
11. Barrier kerbs are to be used:
 - On any street frontage to open space.
 - At all intersections (between the potential driveway location on one frontage to the potential driveway location on the alternative street frontage). Driveways are not to be located within 6m of the tangent point of any intersection.
12. Roll kerbs may be used in other locations to the above.

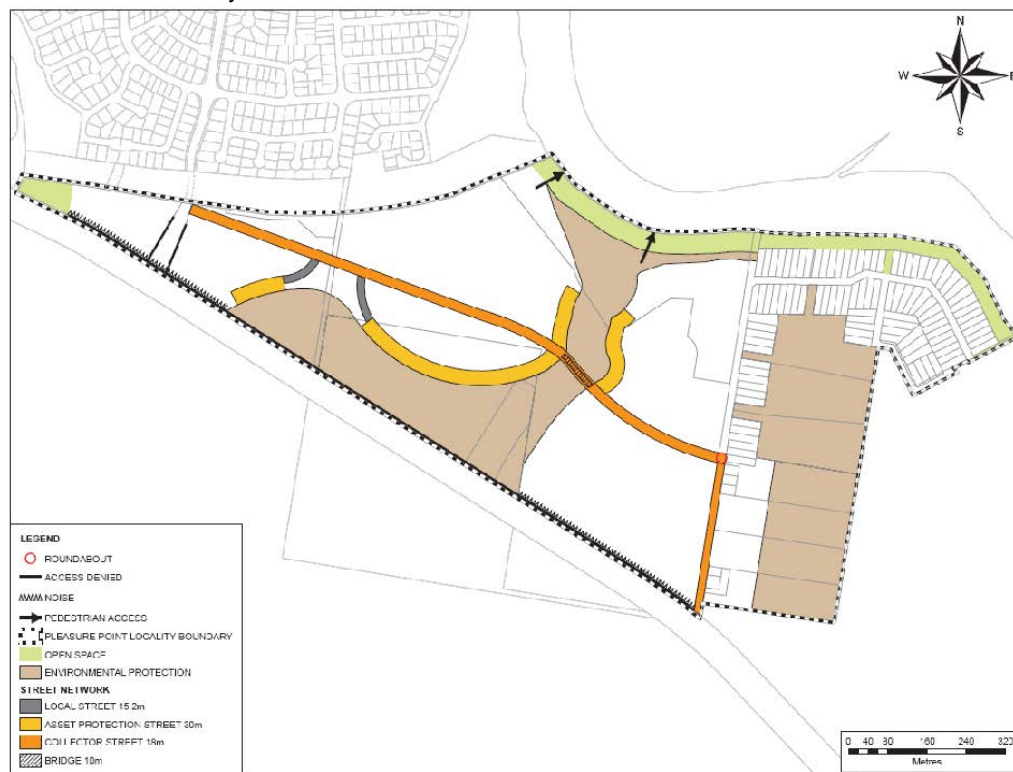


Figure 2 Street Network

Street Types

The following types of streets are provided:

Collector (Internal Link Road)

This street provides a connection from The Avenue to Pleasure Point Road. It will also be the public transport route. Refer to Figure 3.

Local Streets

These streets are designed for slow residential traffic. The road reserve is 15m wide. Refer to Figure 4.

Asset Protection Road:

This road is situated between the proposed urban areas and adjoining conservation areas that may be prone to bush fires. Pedestrian and cycle paths will encourage recreational use in what will be a scenic environment. Appropriate night lighting is important on this road to allow for incidental surveillance along the bushland fringe. Asset protection roads will have a road reserve of 30m, 20m of which is taken by the carriageway, road verges and a dedicated cycleway. The remaining 10m is proposed to be grassland and scattered trees and may serve a passive recreation purpose. Refer to Figure 5.

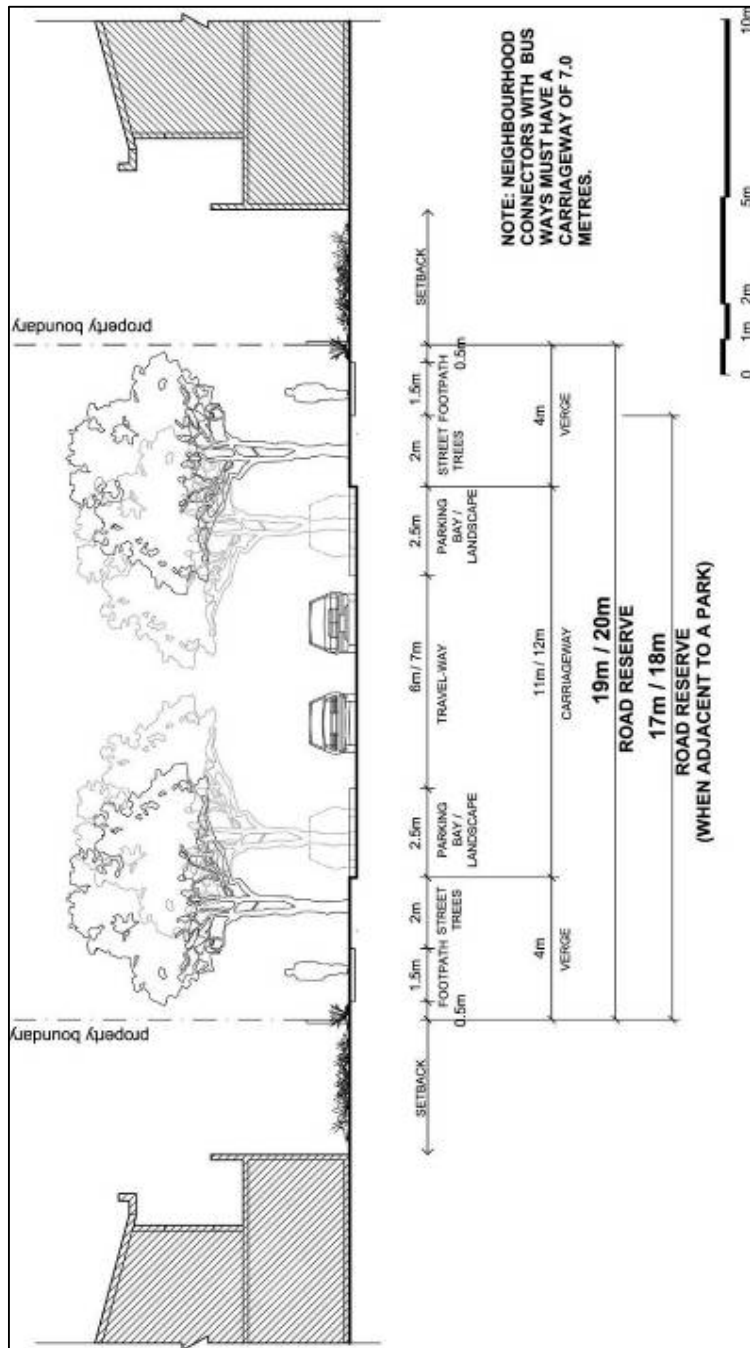


Figure 3 Collector Street

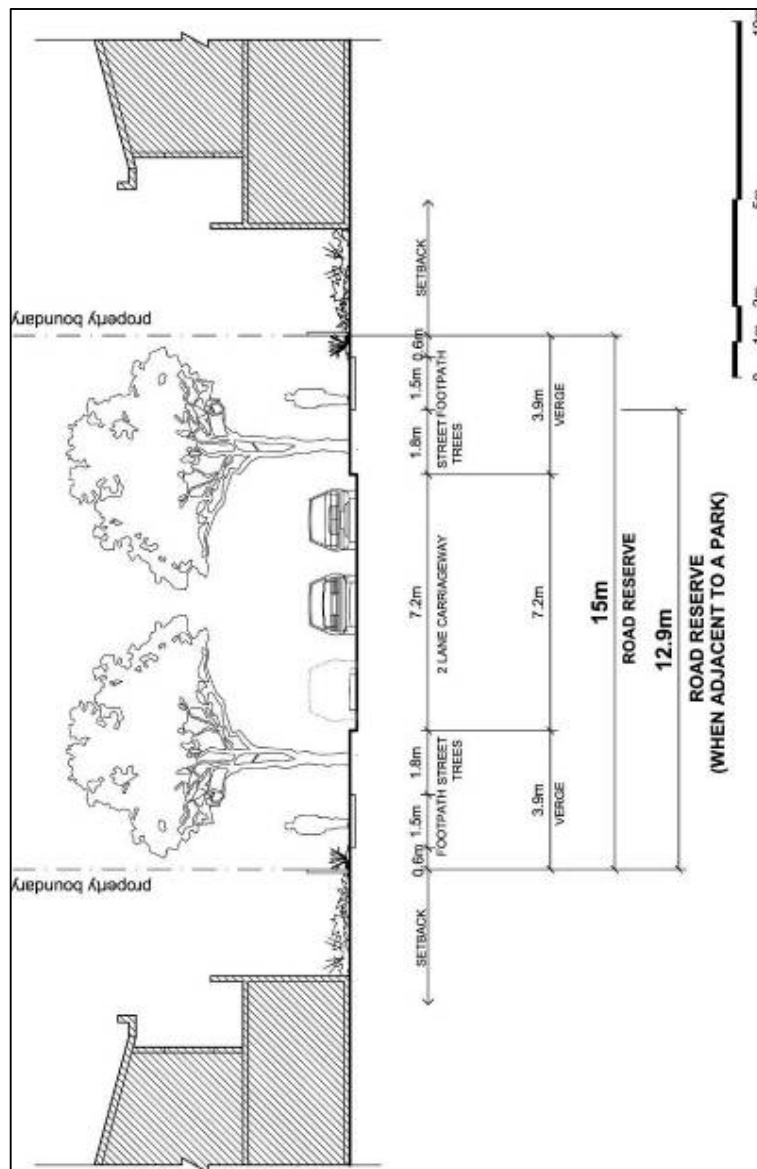


Figure 4 Local Street

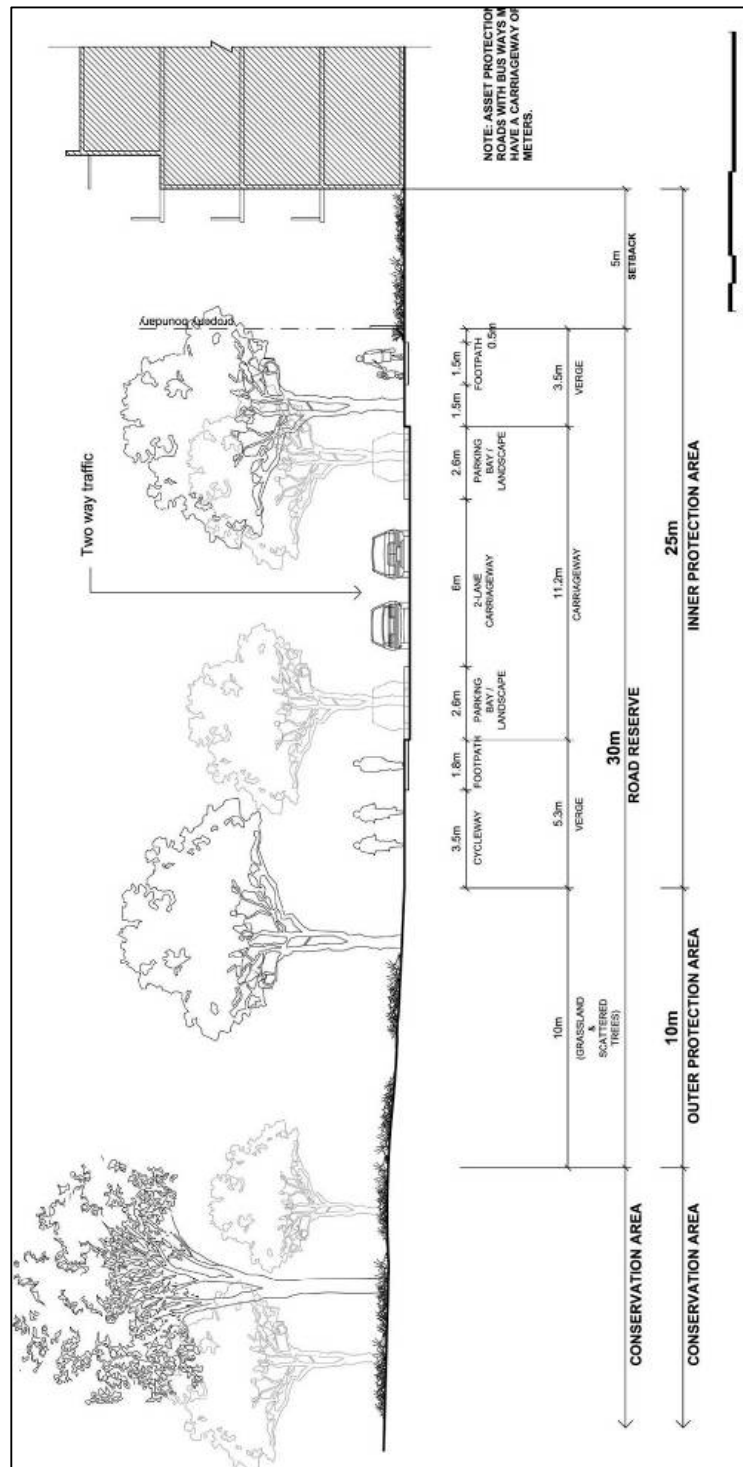


Figure 5 Asset Protection Road

2.2 Pedestrian and Cyclist Paths

Background

Pedestrian and cycle facilities in public spaces provide linkages to social and cultural activities and educational facilities, and should be characterised by excellence of design appropriate to the area.

Objectives

- a) To encourage walking and cycling for local trips.
- b) To provide a permeable and interconnected network of streets and pathways that gives safe, convenient and legible access to areas of attraction both within and beyond the suburb.

Controls

1. Pedestrian and cycle paths shall be provided in conjunction with the subdivision of land, creation of streets and development of open space in accordance with Figure 6.
2. Shared pedestrian/cycle links, cycle ways, public streets and lanes shall be clearly and frequently signposted to indicate their shared status.
3. Designated cycle lanes on streets shall be clearly indicated by line-markings on the road surface and/or by signs beside the road.
4. Shared pedestrian and cycle paths shall be a minimum 2.5m wide.
5. Designated pedestrian-only paths shall be a minimum of 1.5m wide and located in accordance with Figures 3 - 4.

2.3 Streetscape and Street Trees

Background

Street furniture should maximise pedestrian comfort, convenience and amenity, create visual harmony and be used to define spaces, streets, paths and gateways. Opportunities for public art in significant public domain locations should be explored as part of the development process.

Objectives

- a) To create a sense of identity for the area.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To facilitate cultural identity through art and design in public places.
- d) To create quality streetscapes that is visually attractive and integrates with surrounding street layout.

Controls

1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street or the extension of an existing street.
2. One street tree shall be planted in the verge space outside of each allotment created.
3. The street trees shall be planted prior to the release of the subdivision certificate.
4. The trees shall be provided with protection to ensure their survival during the construction of buildings in the street. Refer to Figure 6 for details.
5. Trees and shrubs on individual streets must be of a uniform species. On streets adjacent to bushland, species indigenous to the area must be planted.

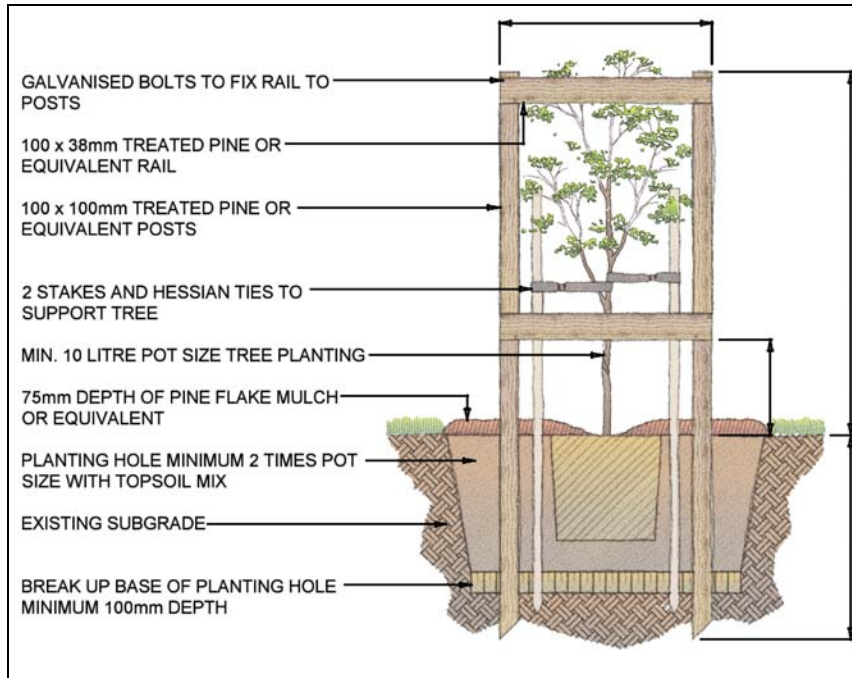


Figure 6 Tree Protection

2.4 Open Space

Background

Pleasure Point has remnants of extensive woodland that has unfortunately been degraded over time. It is intended to preserve the remaining remnant woodland portions. Given the high ecological and amenity value of these remnant portions of canopy trees should be retained. It is also intended to build public spaces that provide for vibrant social interaction and civic pride within the locality.

Objectives

- a) To provide for a high quality environment
- b) To provide for a high amenity subdivision by retaining as many mature trees as is possible.
- c) To create a series of linked public spaces which are attractive and memorable.
- d) To preserve mature trees, saplings and natural bushland.
- e) To provide public access to the Georges River Foreshore for residents.

Controls

1. Land identified for open space under *Liverpool LEP 2008* shall be dedicated to Council in conjunction with the subdivision of adjoining residential land.
2. Direct vehicle and pedestrian connection shall be provided between the land identified as RE1 along the Foreshore and with future residential subdivision of the adjoining land via a public road.
3. The street network should be designed to avoid removal of large stands of existing trees.
4. The street network should be designed to preserve mature trees within the verge of the road reservation.
5. Public roads should be located between private allotments and open space areas.
6. Open Space is to be designed in accordance with Planning for Bushfire Protection 2006 to minimise potential impacts of bushfire on life and property.
7. To create visually interesting streetscapes through the use of native plantings and street plantings.

2.5 Views and View Sharing

Background

Pleasure Point has several view points, and potential views to natural bushland and to the Georges River or Williams Creek. It is important to ensure that there are equitable opportunities for lots with potential views.

Objectives

- a) To provide for equitable view sharing.
- b) To provide for a subdivision pattern that maximises view points.
- c) That view points should be located prior to subdivision.

Controls

1. Lots should be designed as per Figure 7 to maximise view sharing.
2. Higher density lots should be located at potential view point areas.

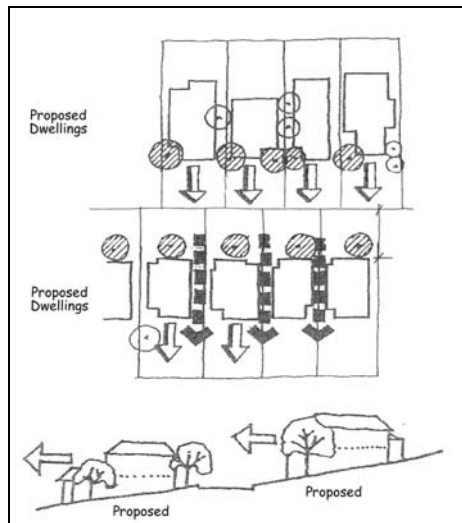


Figure 7 View Sharing

2.6 Bushfire Protection

Background

Pleasure Point is adjacent to a significant bushland area (eastern portions of Pleasure Point) and any development adjacent to the bushland will require bushfire management measures.

Objectives

- a) To reduce the potential for loss of life or property in the event of a bushfire and provide a safer environment.
- b) To ensure that development in bushfire prone areas is accessible by emergency services at all times.
- c) To ensure that development in bushfire prone areas is designed to enhance the survivability of the building and is prepared for its defence in the event of a bushfire.
- d) Implement an ongoing maintenance regime to manage surrounding vegetation and asset protection zones to reduce possible bushfire fronts and protect the development.

Controls

- 1. A 25 metre setback applies to the rear boundary of all lots adjacent to DP 239468 (see Figure 8)
 - a. Within the 25 metre rear setback area:
 - i. Any above ground structures are to be limited to a 15 square metre footprint and constructed of non-combustible material.
 - ii. Landscaping is to include fire resistant species.
 - iii. Fixed water systems are to be installed.
 - b. For properties directly adjoining DP 239468 the rear fence shall be:
 - i. 1.8m high
 - ii. Consist of see through construction e.g. cyclone wire
- 2. A fire trail parallel to Pleasure Point Road shall be provided as part of any development of lots 4 - 7 DP 239468. The trail shall link to Pleasure Point Road through lots 4 - 7 and meet the requirements of section 4.3.3 of *Planning for Bushfire Protection 2006*.
- 3. This track is to be located as shown on Figure 9. Gates must be provided in side boundary fences to allow passage of fire trucks and equipment along the trail in the event of fire.
- 4. Any area west of the bushfire trail is to be treated as a fuel reduced zone.



Figure 8 Land to which a 25 metre setback applies

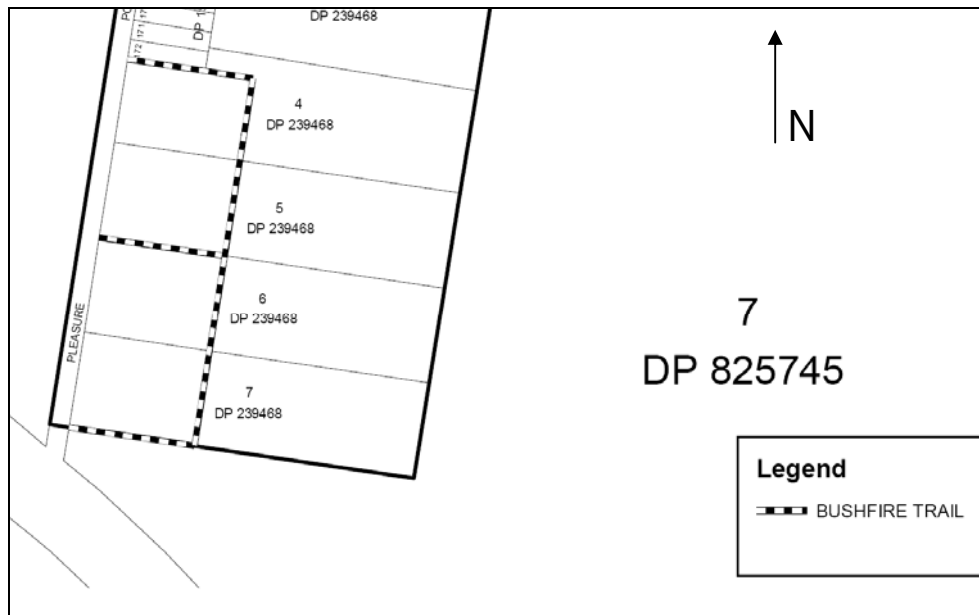


Figure 9 Bushfire Trail

2.7 Creek Corridors

Objectives

- a) To protect and enhance native vegetation.
- b) To protect and enhance archaeological and cultural values.
- c) To protect and enhance aquatic habitats.

Controls

- 1. Provide for the protection of the creek environment, including water quality, soil stability and creek bed habitat.
- 2. Bush fire asset protection zones are to be incorporated into boundary road design and outside the conservation areas and creek zones.
- 3. Avoid the removal of existing trees in the following zones:
 - RE1 - Recreation - Public
 - W1 – Natural Waterways
 - E3 – Environmental Management
- 4. Service utilities can only be provided within Creek Corridors if no other practical or feasible opportunity exists to cross the corridor at designated crossing points, such as streets and pedestrian crossings.

2.8 Stormwater Quantity and Quality Management

The site drains partly to Williams Creek and partly to a gully that drains to the Georges River.

Stormwater quantity and quality management are intended to reduce the impact of rapid stormwater conveyance on streams and wetlands, remove pollutants to improve water quality, retain habitats, conserve water, integrate landscape and recreational opportunities and protect downstream development from inundation.

Water quality detention / bio-retention basins will be an integral part of stormwater management.

Objectives

- a) To provide an urban water management system for both stormwater quantity and quality
- b) To minimise hydrological impacts on the environment.
- c) To protect and enhance the natural water systems and water quality.
- d) To manage floods, attenuate flows and maximise integration of Water Sensitive Urban Design strategies where appropriate.
- e) To ensure no net increase in peak discharges exiting the site.
- f) To mitigate flood damage to the built environment, inundation of dwellings and stormwater damage to properties.
- g) To provide an urban water management system that will be economically maintained and to ensure that arrangements are in place for on-going maintenance.

Controls

1. Part of the site drains to a gully west of Pleasure Point Road and is zoned E3 Environmental Management. It is not intended that this be transferred to public ownership but rather kept in private ownership in conjunction with residential purposes in the adjoining R2 zone. Development for residential development in the R2 zone shall ensure that the peak discharge of stormwater does not exceed the pre-development flows and that water quality is not degraded.
2. A Stream and Riparian Management Plan (SRMP) is to be prepared as part of the Water Cycle Management Plan and submitted with the subdivision Development Application for the full extent of each creek corridor within the subdivision being developed. These SRMPs are to be prepared in consultation with Council and Department of Water and Energy and require the approval of Council.
3. The SRMPs are to include the following:
 - Plans showing, in detail, the existing creek channels, creek vegetation (including remnant native vegetation), geomorphic features and aquatic habitats (reed beds, snags etc).
 - Detailed plans of any channel modification and stabilisation works.
 - A longitudinal stream survey section (if stream works are proposed) of the existing and proposed creek channel bed in sufficient detail to identify changes in bed level and hydraulic features (i.e. pools and riffles).
 - Details on the staging and sequencing of any works within the creek zone.
 - Recommendations on how to address the modified drainage system and reaches.
 - A vegetation management plan is to be incorporated into the SRMP for the establishment of creek corridors. It must use natural and assisted regeneration and planting of locally native vegetation (trees, shrubs and groundcover species).
4. The proposed Internal Link Road crossing of the creek must be designed to facilitate the movement of aquatic and terrestrial species, and are to incorporate features that allow for light penetration beneath the structure.
5. The design of any structures crossing the creek in the E3 zone are to ensure the following:
 - 1% AEP flood conveyance.
 - Flora and fauna connectivity.
 - Scour protection.
6. Provide off line water quality control bio-retention systems to trap pollutants and fine sediment.
7. Provide structural water quality management devices, including, gross pollutant and sediment traps and litter management devices.
8. Where any construction adjacent to a creek, natural watercourse, drainage depression, or an enclosed drainage system is proposed, the DA should be consistent with the SRMP and is to be accompanied by a full hydrologic and hydraulic assessment. The assessment is to include:
 - External and internal catchment hydrology for rainfall events including the 1.5, 5, 20 and 100 year ARI design event.
 - An estimation of the capacity of the existing drainage system.
 - Predicted extents of flood inundation, depths, and velocities of predicted flood flows to allow effective hazard categorisation.

9. Where drainage routes pass through a property, adequate provision must be made for the passage of stormwater runoff with adequate freeboard to building floor levels. In the event of Council being requested to approve the location of a piece of infrastructure on its land, it will require:
 - Documentation that such an activity will not prejudice the use of the land for the purpose for which it exists.
 - Possible preparation or amendment to the Plan of Management for the land, and if this action is necessary a fee may be required.



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Liverpool Development Control Plan 2008
Part 2.14
Land Subdivision and Development in
Elizabeth Hills
(South Cecil Hills)

3 September 2014

Part 2.14 must be read in conjunction with Part 1

Refer to Part 3.8 for Non Residential Development in Residential Zones

Liverpool Development Control Plan 2008

Part 2.14 Elizabeth Hills

Table of Contents

1. Preliminary	4
2. Controls for Public Domain.....	7
2.1 Street Network	7
2.2 Pedestrian and Cyclist Paths	15
2.3 Streetscape and Street Trees	17
2.4 Open Space.....	19
2.5 Stormwater and Environmental Management	19
3. Controls for the Private Domain	23
3.1 Frontage and Lot Size.....	23
3.2 Site Planning.....	25
3.3 Setbacks.....	26
3.4 Dwelling Typology.....	30
3.5 Landscaped Area and Private Open Space	32
3.6 Cut and Fill, Building Design, Streetscape and Layout.....	33
3.7 Landscaping and Fencing.....	37
3.8 Car Parking and Access.....	39
3.9 Amenity and Environmental Impact.....	41

Tables of Figures

Figure 1: Land to which this Part applies	4
Figure 2: Street Design and Treatment.....	9
Figure 3: Street Sections.....	10
Figure 4: Street Sections.....	11
Figure 5: Street Sections.....	12
Figure 6: Street Sections.....	13
Figure 7: Bus Routes and Bus Stops	14
Figure 8: Cycle Paths	16
Figure 9: Street Trees	18
Figure 10: Lot Orientation	23

Figure 11: Lot Orientation	24
Figure 12: Private Open Space Considerations on an east-west lot	24
Figure 13: Example of a Site Analysis Plan	26
Figure 14: Example of Ground Floor & Second Storey Minimum Setbacks	28
Figure 15: Zero Lot Lines	29
Figure 16: An Example of Landscaped Area & Private Open Space	33
Figure 17: Cut & Fill Requirements	34
Figure 18: An Example of Building Appearance	36
Figure 19: Maximum Total First Floor Wall Length of a Two Storey Dwelling	36
Figure 20: Fence Treatments on Secondary Frontage	39
Figure 21: Private Driveways	41
Figure 22: Privacy and Amenity	42
Figure 23: Single Storey Dwellings to Achieve Internal Acoustic Environment of Less than 50dB(a)	44
Figure 24: Double Storey Dwellings to Achieve Internal Acoustic Environment of Less than 50dB(a)	45

Tables

Table 1: Front and Secondary Setbacks	25
Table 2: Front and Secondary Setbacks	27
Table 3: Side and Rear Setbacks	27

1. Preliminary

Applies to

1. Part 2.14 applies to the land, shown in Figure 1.
2. Part 1 also applies to the land shown and Figure 1.
3. Part 3.8 applies for non residential development on the land.
4. Parts 3.1 - 3.7 do not apply to the land.

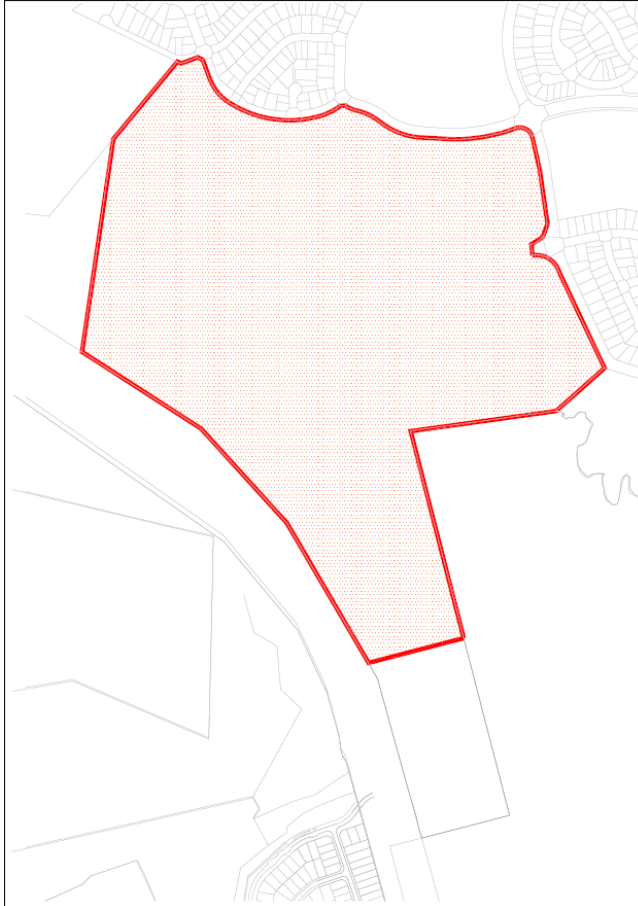


Figure 1: Land to which this Part applies

Background

The suburb of South Cecil Hills was rezoned on (DAY / MONTH) 2010.

Planning Principles

South Cecil Hills will evolve as a place that optimises the public transport network and facilitates access between home and work, a place that is safe and attractive and is characterised by quality urban design and architecture.

Development will be environmentally sustainable - cycling and walking will be attractive alternatives to the private car, the neighbourhood will be highly accessible and the physical features of the area will be retained and enhanced. A distinctive feature of South Cecil Hills will be its connections and proximity to the Western Sydney Parklands and the incorporation, retention and enhancement of Cumberland Plain Woodland into the urban fabric providing a continuous biodiversity link.

The provision of the access and public infrastructure on site are to be by way of a Voluntary Planning Agreement. The timing and scope of the provision of public infrastructure is specified in the Voluntary Planning Agreement.

Places will be distinctive and memorable with higher density living located around areas of highest amenity.

This Part supports this by articulating the following principles:

1. Encourage community and stakeholder collaboration in development decisions.
2. Take advantage of compact building design that is also sensitive to the environment.
3. Ensure that land use is appropriate and that any development uses the development site to its best advantage.
4. Relate the density of development to access to transport and services.
5. Create a range of housing opportunities and choices.
6. Foster distinctive, vibrant communities with a strong sense of place.
7. Preserve and enhance open space, natural features and critical environmental areas.
8. Strengthen existing communities – consider issues such as safety and recreational facilities for the wider community.
9. Provide a variety of transportation choices – accessibility is the key.
10. Make development decisions predictable, fair and cost-effective.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to: walking, cycling, public transport, and private vehicles.
- b) Relating accessibility demand to location of development type.
- c) Ensuring that servicing is able to be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and provide a safe environment for pedestrians.
- e) Guaranteeing adequate accessibility for emergency vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising the existing street hierarchy and planned future hierarchy in conjunction with the Western

Sydney Parklands, Cecil Hills, the former Hoxton Park Airport Site and shared footpath / cycleway systems.

Social Benefits

To establish a community and accessible open space/recreational facilities that allows people to maintain wellbeing by:

- a) Making appropriate provision for social and community needs.
- b) Providing for a range of housing types.
- c) Establishing accessible recreation facilities and parks/reserves.
- d) Ensuring that development creates a „people place“ by giving priority to people and human relationships through housing mix and safety.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage and floodplain management that contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water management of water quality.
- e) Maintaining and enhancing the quality of the natural environment.
- f) Connecting and enhancing vegetation corridors and providing links between the Western Sydney Parklands and the Hinchinbrook Creek Corridor.
- g) Promoting the conservation of flora and fauna, including the retention of Cumberland Plain Woodland within the open space network.

Economic Benefits

To establish economic capital that is accessible and meets the needs of the community by:

- a) Ensuring the area's need is identified in a local context through provision of local facilities and services.
- b) Ensuring infrastructure is sufficient to meet current and predicted need.

2. Controls for Public Domain

2.1 Street Network

Street Network

Background

South Cecil Hills will be a neighbourhood characterised by an attractive and safe streetscape. As the core fabric of the public realm, the streetscape will be designed to foster a pedestrian friendly environment and create an identifiable character for the area.

The street network will be based around a defined hierarchy of routes to ensure legibility, effective linkages, and safe circulation of traffic without vehicle dominance. It will create a permeable environment which connects with its surroundings and facilitates easy access to local amenities. Based upon an effective movement network, the streetscape will ensure an interconnected, vibrant and mobile community.

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- d) To provide for efficient movement of local bus services and direct pedestrian access for all members of the community including those with disabilities.
- e) To provide alternatives to private car usage.
- f) To guarantee adequate accessibility for emergency and maintenance vehicles.

Controls

- 1. Where appropriate vehicle pinch points shall be created in the carriageway to slow vehicle speeds.
- 2. Provide a grid-like street network pattern to facilitate walking and cycling and enable direct local vehicle trips within the neighbourhood. Cul-de-sacs and/or dead ends will not be supported other than where alternative street patterns are not achievable.
- 3. The palette of materials will be attractive, robust, and locally sourced where possible e.g. local sandstone used in construction detailing where appropriate.
- 4. The subdivision of land, design and layout of streets shall be generally in accordance with Figure 2 and shall link into the fixed road connection points in the former Hoxton Airport Park Site.
- 5. All streets shall be designed and constructed generally in accordance with Figures 2, 3, 4, 5 and 6.
- 6. All intersections shall be designed in accordance with the RTA Austroads Road Design Guide.
- 7. Barrier Kerb shall be used adjacent to Primary Collector (Boulevard) and Collector streets and any other streets adjacent to public open space. Roll kerb shall be used on all other streets.
- 8. Adequate measures will be used to restrict access to park areas and provide safety.
- 9. Tree planting shall be located within the road verge.

10. Laneways are to be accessed by two streets at either end.
11. Laneways are not to incorporate acute angle bends.
12. Buildings on opposite sides of a laneway must have a minimum separation of 8 metres.
13. A perimeter road (public) is to be provided between the proposed development and the Western Sydney Parklands.

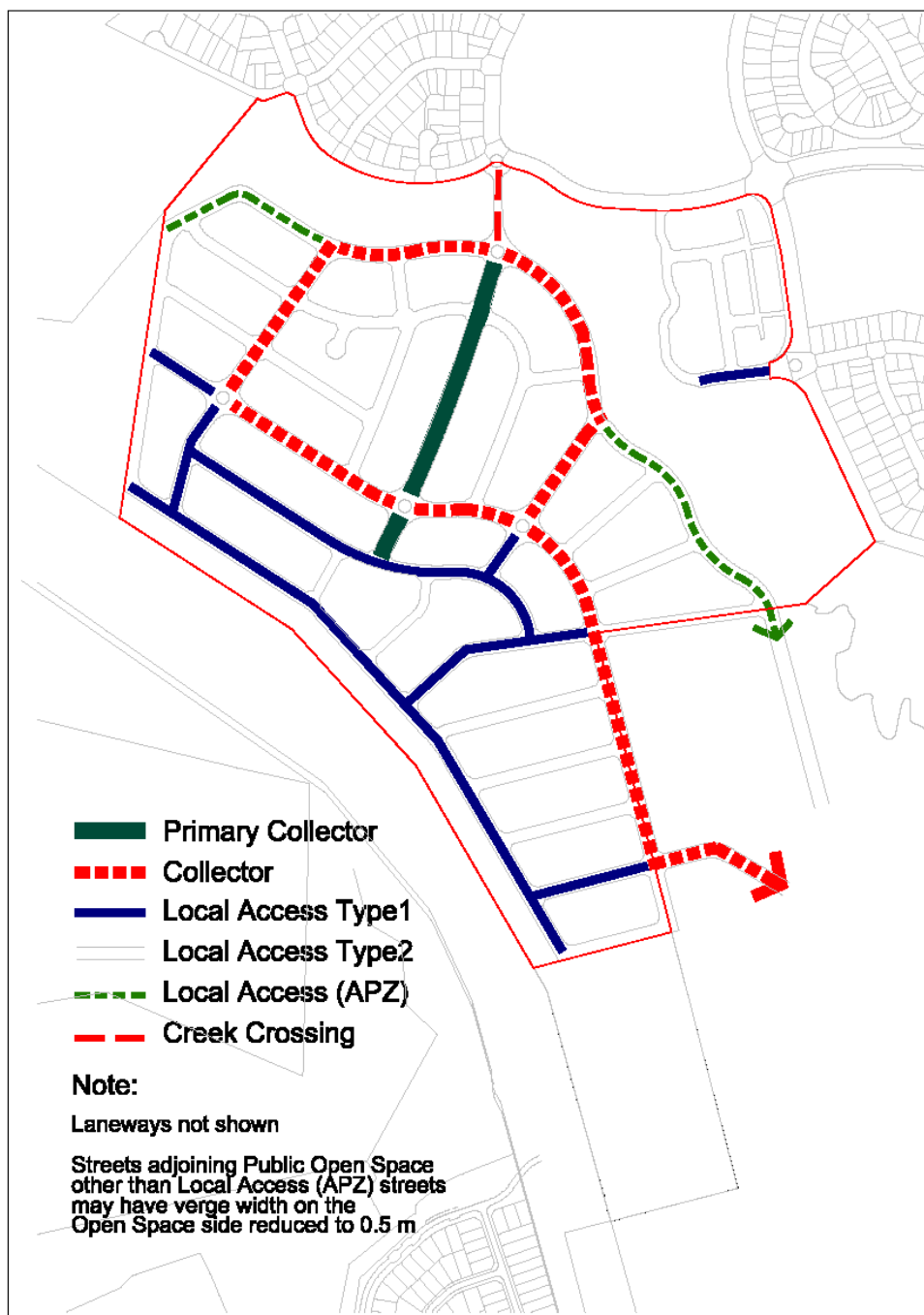


Figure 2: Street Design and Treatment

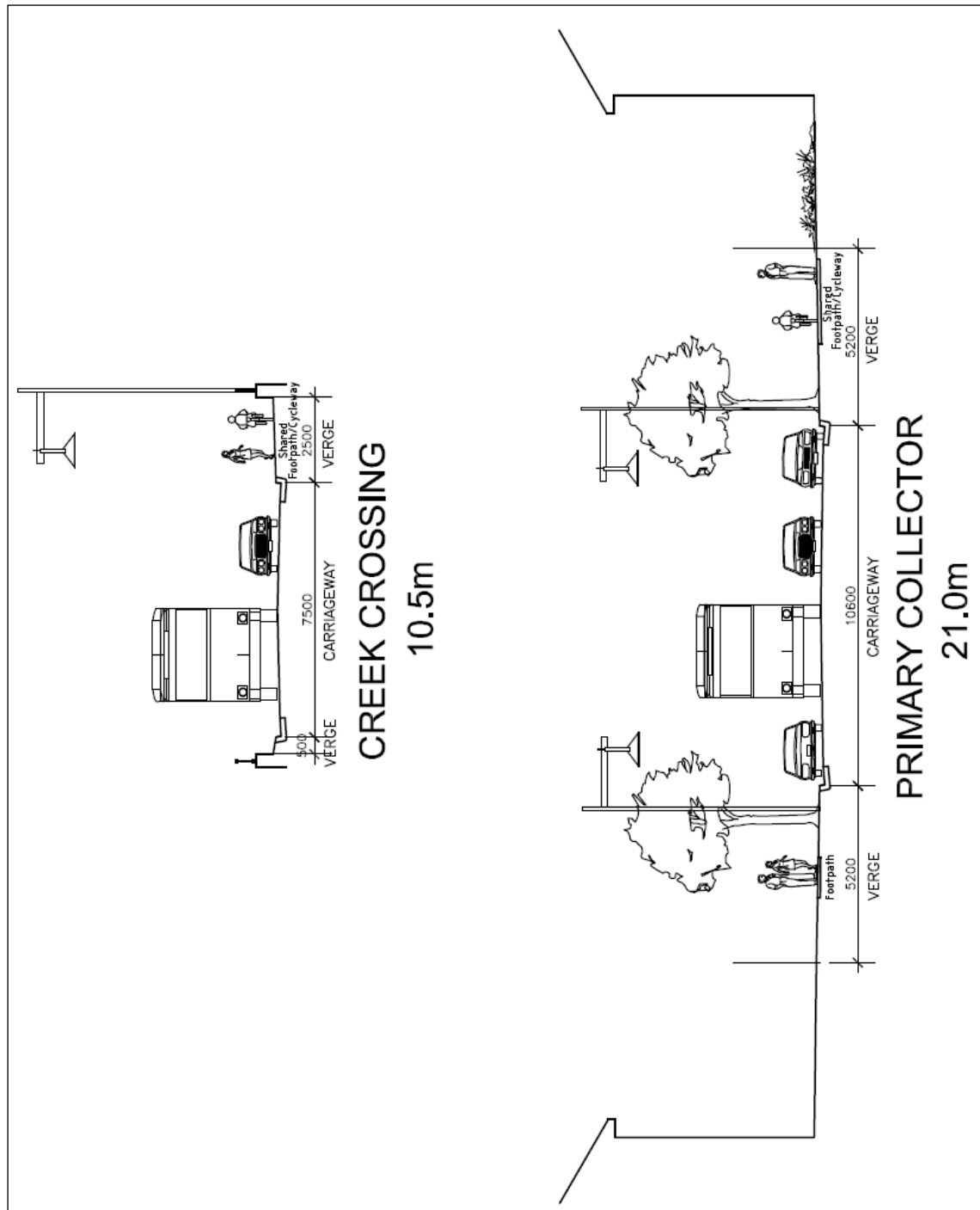


Figure 3: Street Sections

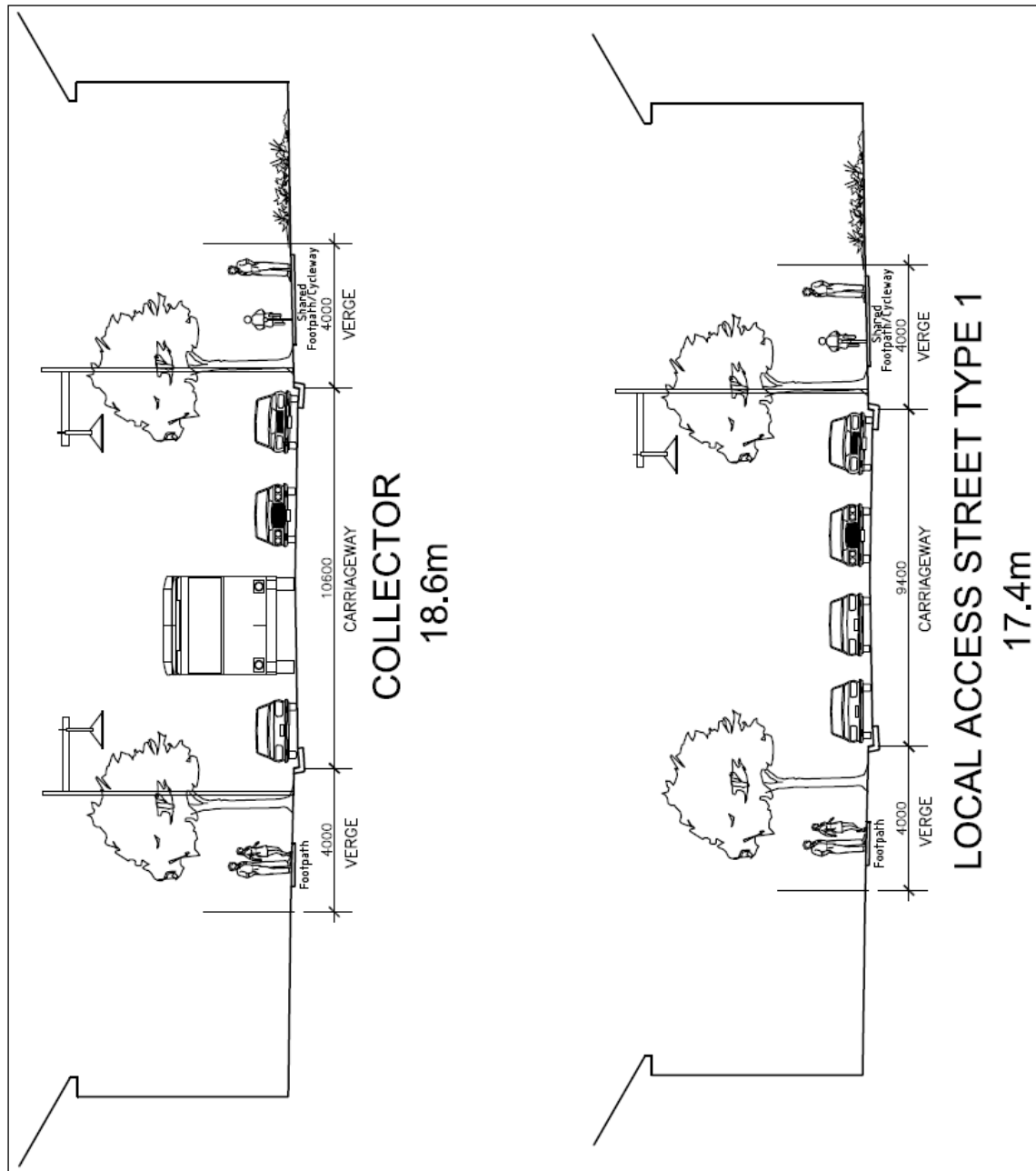


Figure 4: Street Sections

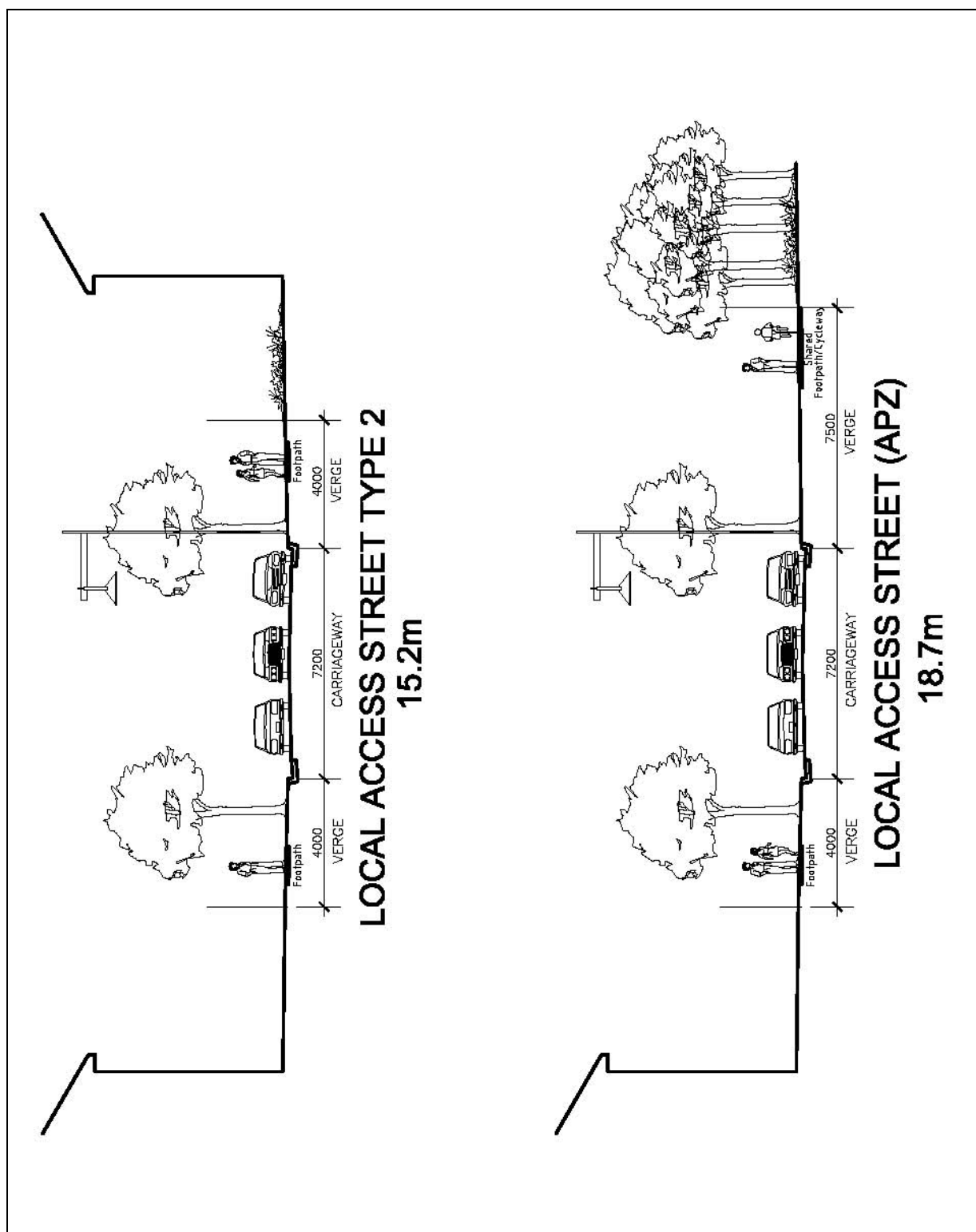


Figure 5: Street Section

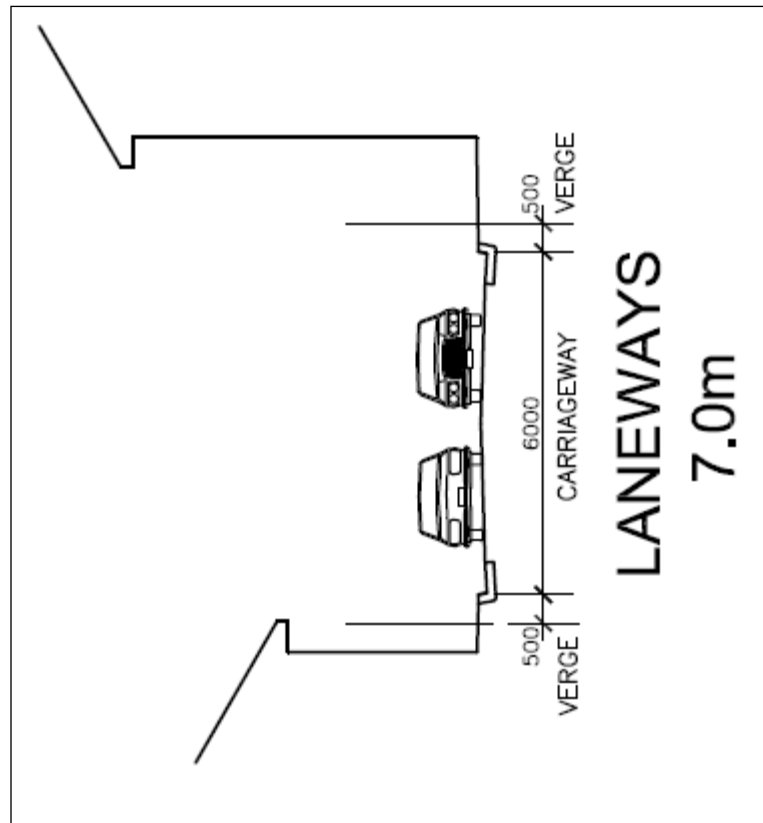


Figure 6: Street Sections

- **Note:** Buildings on opposite sides of a laneway must have a minimum separation of 8 metres.

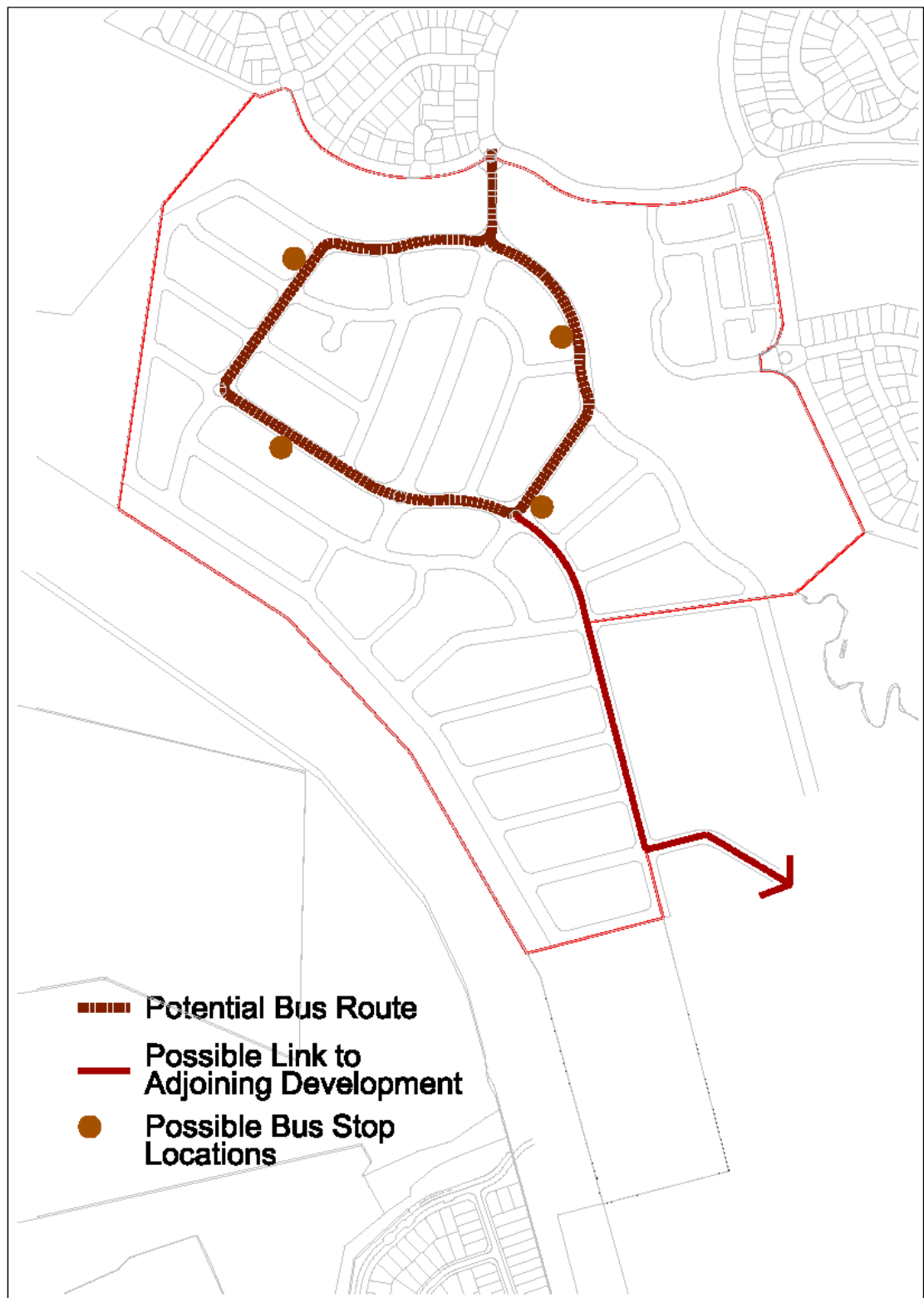


Figure 7: Bus Routes and Bus Stops

2.2 Pedestrian and Cyclist Paths

Background

Pedestrian and cycle paths will link the community with key open space, bus routes and local amenities, and connect into the wider network of the Western Sydney Parklands (WSP), and the Westlink Cycleway and Walking Footpath (WCWF). These important routes will be designed to provide safe and attractive access, integrating with local area pedestrian and cycle paths. Signage will play an important role in their usability, safety and legibility.

Objectives

- a) To encourage walking and cycling for local trips to help reduce vehicle reliance.
- b) To create an accessible network of routes which connect the development with the wider network of routes including the WSP trails and the WCWF.

Controls

- 1. Pedestrian and cycle paths shall be provided in conjunction with the subdivision of land, creation of streets and development of open space in accordance with Figure 6.
- 2. Shared pedestrian/cycle links, cycle ways, public streets and lanes shall be clearly signposted to indicate their shared status.
- 3. Shared pedestrian and cycle paths shall be a minimum 2.5m wide.
- 4. Designated pedestrian-only paths shall be to Council's standard and located in accordance with Figures 3, 4, 5 and 6.
- 5. Provide for safe recreational pursuits.

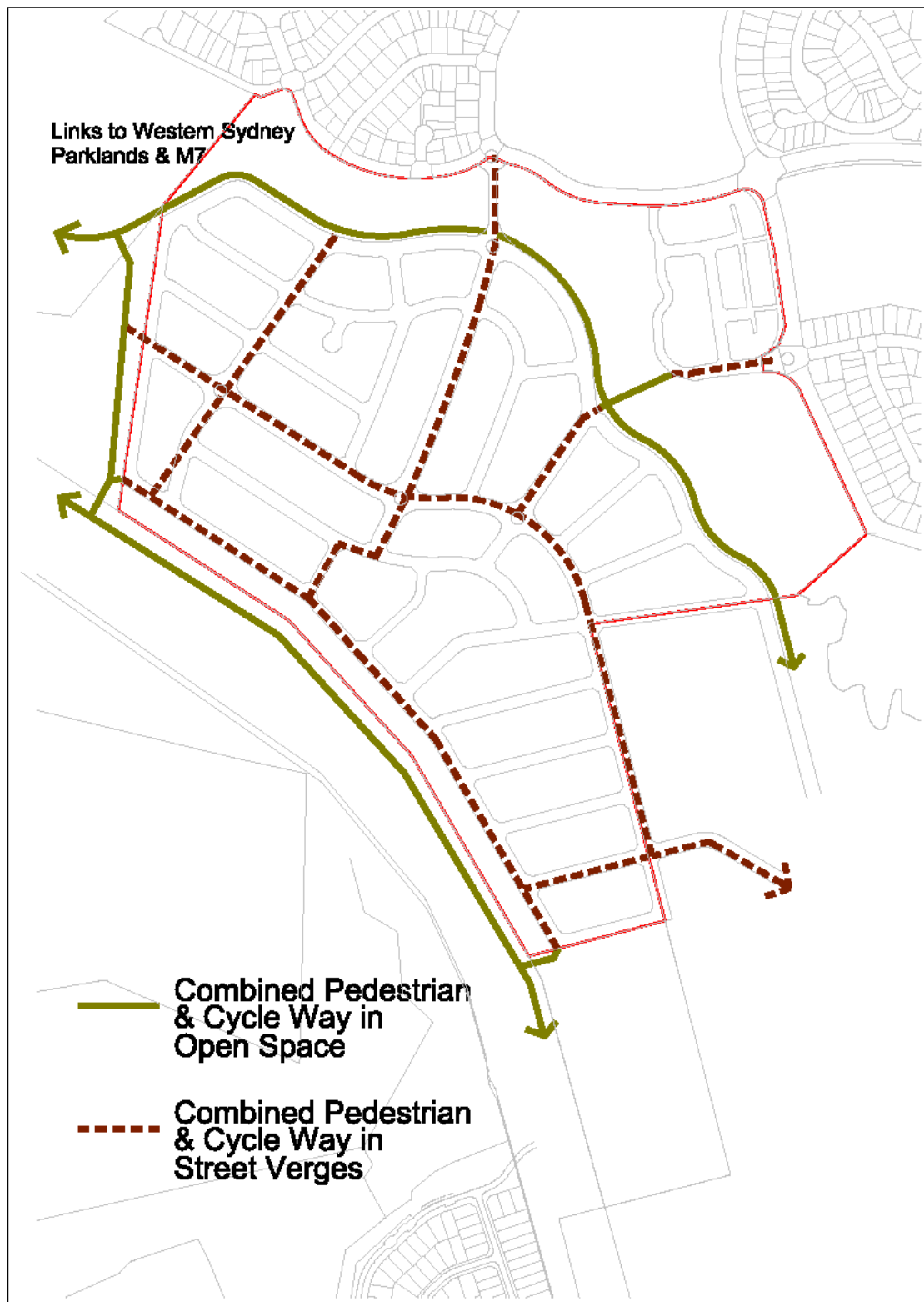


Figure 8: Cycle Paths

2.3 Streetscape and Street Trees

Background

Street trees will create a landscape character for the area and strengthen the street hierarchy.

The biodiversity and ecological value of the area will be preserved and enhanced. The well vegetated Hinchinbrook Creek will have managed points of access to conserve its biodiversity value, and its western tributary will be revegetated to create a continual ecological corridor through the site.

Bushfire risk will be managed through appropriate Asset Protection Zones (APZ) which will be integrated into the design of the streetscape and edge treatment of the creek corridor.

Objectives

- a) To use planting to promote a unique landscape character and sense of identity for the community.
- b) To preserve and enhance the biodiversity value of the area.
- c) To create attractive streetscapes which enhance the quality of the public realm, strengthen the streetscape hierarchy and aid legibility.
- d) To create a safe environment with an appropriate APZ where necessary.

Controls

1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

1. Street trees shall be required to be planted in conjunction with the creation of a new street.
2. The street trees shall be planted prior to the release of the subdivision certificate.
3. The street trees shall be protected during construction.
4. Tree species planted along streets are to be in accordance with Figure 9.
5. A minimum of one street tree shall be provided for every 15m of street frontage.
6. Details regarding street tree planting are to be submitted with development applications for subdivision (other than residue lot subdivisions).

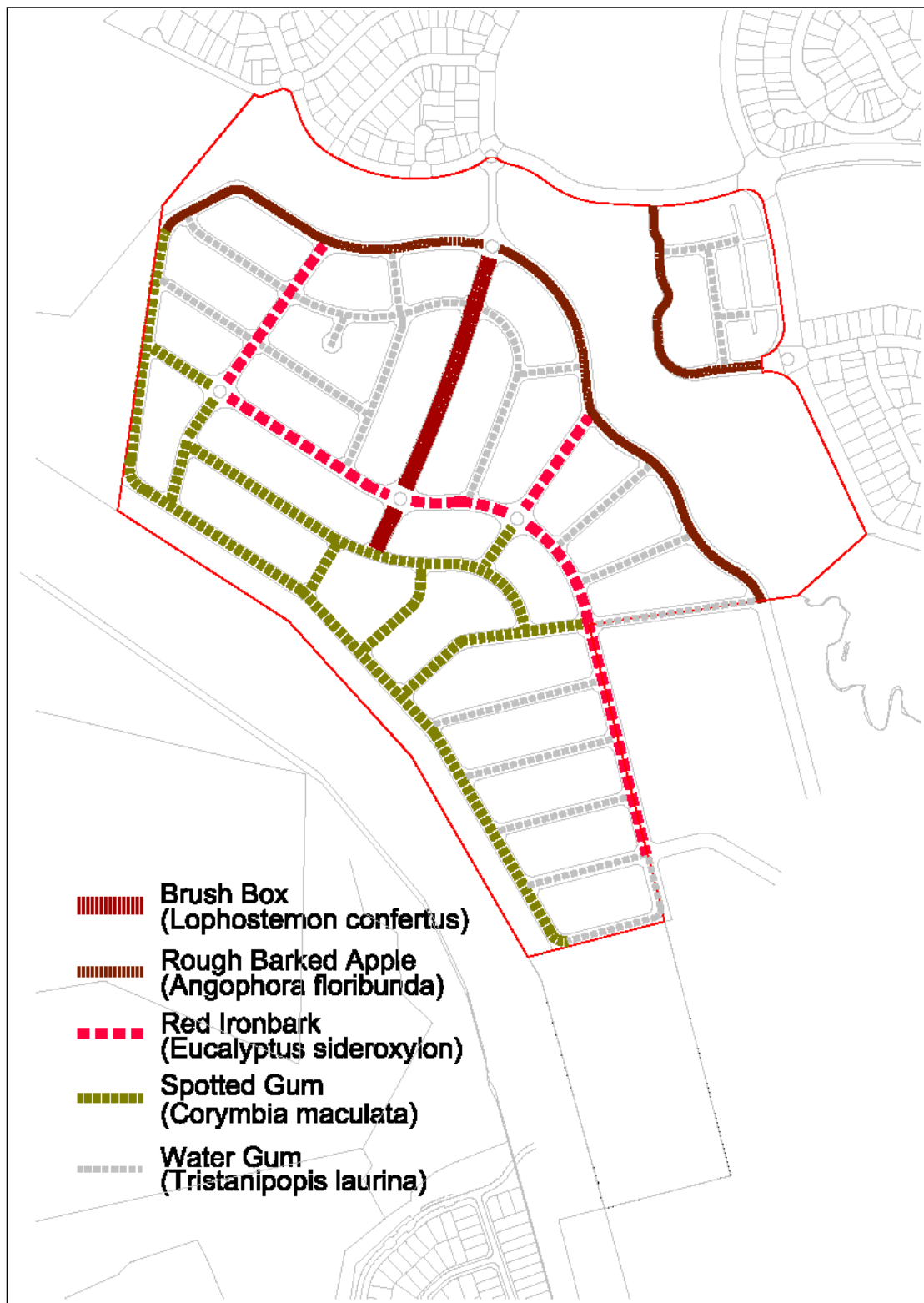


Figure 9: Street Trees

2.4 Open Space

Background

Public open space is at the heart of community life, and should be designed to create a sense of civic pride, ownership and belonging. It is the space for social interaction, play, recreation, and relaxation. Open space plays a central role in defining a character for an area, and should respect its wider context whilst defining its own unique qualities.

A park will be designed as a public park, with informal play features and park facilities (e.g. barbeque), and natural areas which preserve and respect the ecological and heritage value of the Cumberland Plain Woodland. The creek corridor is an important ecological corridor through the area and shall be preserved and managed accordingly.

A key strength of South Cecil Hills is its location directly adjacent to the WSP. Strong connections will be created to link the community to the WSP and fully utilise this extensive open space asset.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To retain and integrate existing landscape elements, where practical, such as vegetation and topographic features, in the design of new development.
- c) To create a variety of linked public spaces that fulfils functional requirements as well as creates attractive and memorable places.
- d) To encourage the use of native species of flora and low maintenance landscaping.

Controls

1. Public open spaces shall be designed and landscaped to consider maintenance requirements. This shall be achieved through the use of appropriate native species. Where public open space is to be provided in conjunction with development, a Landscape Plan shall be submitted with the application showing how the proposed landscaping will minimise maintenance.
2. Existing trees, tree stands and vegetation within open space areas shall be retained where possible.
3. Pedestrian and cycle paths are to be generally in accordance with the plan shown in Figure 8.
4. The materials palette will coordinate with the wider public realm, e.g. use of local sandstone in hard detailing, fencing, etc.
5. Public streets are to align the boundaries of all public open space.

2.5 Stormwater and Environmental Management

Water Management

Background

Water cycle management is seen holistically rather than just the conveyance of stormwater. This includes provision of drainage in natural or recreated watercourses. In order to assist applicants to achieve the design objectives, reference shall be made to the relevant extracts from *„Surface Water Management by Cardno Willing (NSW) Pty Ltd, October 2009’*.

Objectives

- a) To encourage a holistic approach to water cycle management, implementing total catchment management principles.
- b) To integrate water management measures with innovative urban design.
- c) To minimise the impact of urbanisation on stormwater quality within the catchment so that stream flows mimic natural pre-development flows by encouraging natural water quality filtering principles and water sensitive urban design practices.
- d) To ensure that there are no adverse impact on existing flood regimes in the surrounding areas, as a result of the proposed development.
- e) To minimise the stormwater run-off through the provision of pervious areas and vegetation, and manage the impacts of salinity through the use of salt tolerant species where appropriate.

Controls

- 1. Where any construction occurs within flood liable land, adjacent to a watercourse, a drainage depression or an enclosed drainage system is proposed, the DA shall be accompanied by a full hydrologic and hydraulic assessment to allow a determination of the risk and impact by, and on, the development proposal by flooding. The assessment shall include:
 - i. Analysis of the impact of the development on flood storage capacity, flood conveyance, flood levels, and flow velocities.
 - ii. Identification of the flood risk to both people and property as a result of the development.
 - iii. External and internal catchment hydrology for rainfall events up to the probable maximum flood (PMF), including the 1% Annual Exceedence Probability (AEP) design storm.
 - iv. Predicted extents of flood inundation.
 - v. Depths and velocities of predicted flood flows to allow effective hazard categorisation.
- 2. The development shall have no adverse impact on the existing flood regime in the surrounding areas and shall demonstrate the operation of any proposed flood mitigation measures.
- 3. The trunk drainage system shall be designed to convey the 1% AEP flood event, with a freeboard of 300 mm. Streets adjacent to trunk drains shall be designed to carry flows in excess of the drainage system. The crown of the road shall be at least 300mm above the 1% AEP flood level. Buildings adjacent to these streets shall have habitable floor levels 300 mm above the crown of the road.
- 5. Where drainage depressions pass through a property, adequate provisions must be made for the passage of stormwater runoff with adequate freeboard to building floor levels.
- 6. In the event of Council being requested to approve the location of a piece of infrastructure on its land, it will require:
 - i. Documentation that such an activity will not prejudice the use of the land for the purpose for which it exists.
 - ii. The possible preparation or amendment to the Plan of Management for the land, and if this action is necessary a fee may be required.

Creek Zone Management

Background

The existing water courses provide an opportunity the provision of environmentally sustainable vegetated creek corridors.

Where a proposed creek line is located on part of the development site, bulk earthworks are to be carried out to create a channel for the creek as per the „*Surface Water Management by Cardno Willing (NSW) Pty Ltd, October 2009*“. Works are to include temporary stabilisation of all associated disturbed areas of the creek.

Objectives

- a) To maximise opportunities for stream/creek restoration and enhancement through sensitive recreation areas.
- b) To conserve, protect and enhance creek corridors and biological connectivity through the provision of sensitive recreation zones along either side of the creeks.
- c) To link the creek corridors to other remnant areas of vegetation and providing supplementary plantings.

Controls

1. Applications to Council must include the following detail:
 - i. Plans showing in detail the existing creek channels, vegetation (including remnant native vegetation) and geomorphic features.
 - ii. Detailed plans of any channel modification and stabilisation works.
 - iii. A longitudinal stream survey section (if stream works are proposed) of the existing and proposed creek channel bed in sufficient detail to identify changes in bed level and hydraulic features (i.e. pools and riffles).
 - iv. Details on the staging and sequencing of any works within the creek zone.
 - v. Recommendations on how to address the modified drainage system and reaches.
2. Where subdivision works are to occur prior to the completion of all downstream drainage works, on site facilities may need to be provided in order to limit drainage volume and velocity to that experienced prior to development.
3. Where streets are proposed to cross the creek alignment the structures must be designed to facilitate the movement of aquatic and terrestrial species.
4. Weir structures will not be permitted on any creeks.
5. Remnant vegetation along the creeks should be protected and enhanced.
6. Any bank stabilisation measures shall use soft engineering techniques that promote an ethos of sustainability and naturalness.
7. Any assessment of flood impacts and flood modelling must take into account the establishment of a fully structured vegetated creek corridor along the creeks. The Manning's "n" roughness coefficients shall be such that they represent a diverse and fully structured creek corridor (trees, shrubs and groundcover) for discharge determinations.
8. Any hydraulic assessment should consider not only the initial vegetation density but also the final growth, with due allowance for debris build up before and during flooding.

Biodiversity

Background

The proposed development has the potential to affect bushland adjacent to the M7 Corridor, and within the Hinchinbrook Creek corridor. The protection of natural assets within Elizabeth Hills contributes to the total catchment health and preservation of biodiversity.

Objectives

- a. To minimise the disruption of biodiversity in the area caused by the removal of vegetation.
- b. To promote the vegetation of appropriate species in key locations aimed at enhancement of ecological corridors with regional connectivity.
- c. Promote connectivity to Western Sydney Parklands along Hinchinbrook Creek and associated tributaries
- d. To minimise the „edge to area” ratio for retained vegetation
- e. Establish a management framework that demonstrated long term protection and management of retained vegetation.

Controls

1. Carry out the remediation, revegetation and maintenance obligations stipulated in the Voluntary Planning Agreement developed for the site.
2. Incorporate Asset Protection Zones into the lot layout, building setbacks, roads and road verges.

Note: these controls are in addition to those provided in DCP Part 1 4 *Bushland and Fauna Habitat Protection*

Aboriginal Archaeology

Background

Land subject to this Development Control Plan may have been occupied by Aboriginal people prior to European settlement. Previous studies have revealed that the land is deemed to contain artefacts and areas of high archaeological potential.

Objectives

- a. To identify and where possible preserve artefacts related the occupation of land by Aboriginal communities.
- b. To ensure legislative requirements relating to Aboriginal Archaeology are fulfilled prior to the development of the land.

Controls

1. Give consideration to minimising disturbance to landscapes with high archaeological potential as identified in the *Assessment of Aboriginal Heritage September 2009*, by Jo McDonald Cultural Heritage Management Pty Ltd.
2. Where it is deemed that development is to impact upon land identified as possessing artefacts, or exhibiting high archaeological potential; apply to the Department of Environment and Climate Change for a whole of development *Section 90 Aboriginal Heritage Impact Permit*.

3. Controls for the Private Domain

3.1 Frontage and Lot Size

Background

The *Liverpool LEP 2008* Density Map establishes the primary control over density for the South Cecil Hills site. Similarly, the *Liverpool LEP 2008* Lot Size Map identifies minimum subdivision lot size for lots. The aim is to provide the opportunity for areas of greater density to occur in areas of higher amenity across the site. Highest amenity means proximity to the public transport stops, open space and environmentally sensitive land.

The main objective is to provide choice through a mix of housing types and high quality open space.

Lots will be orientated to be designed to maximise solar access to reduce household energy consumption and to make best use of the land available.

Objectives

- To provide a range and mix of lot sizes to suit a variety of dwellings types distributed throughout the area.
- To locate higher density development in places of greatest amenity, such as near parks and other open spaces and along bus routes.
- To ensure lots are oriented to optimise solar access to reduce energy consumption.
- To ensure all dwellings address the street and provide passive surveillance of open space where possible.
- To ensure that lot size and dimensions take into consideration the physical characteristics of the land, in a way which promotes retention of existing vegetation and responds to the sites topography.
- To ensure passive surveillance of public space through the effective and functional layout designs of new developments.

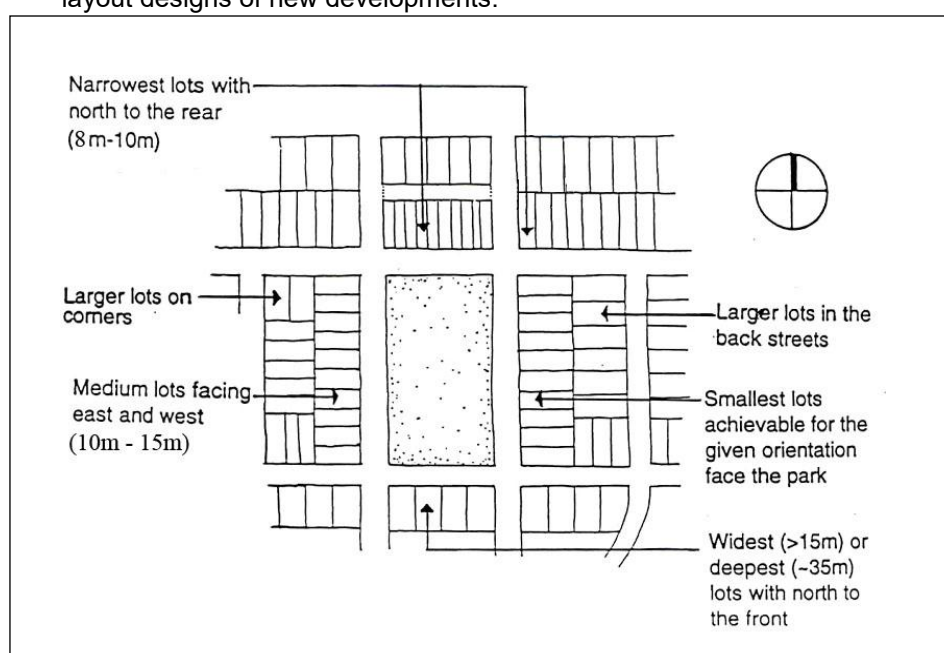


Figure 10: Lot Orientation

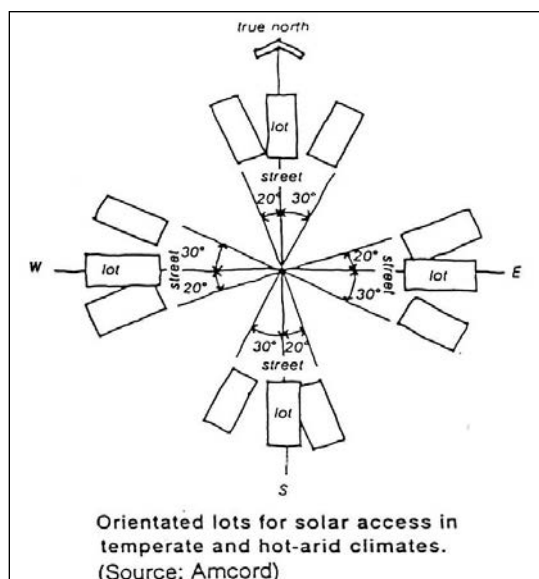


Figure 11: Lot Orientation

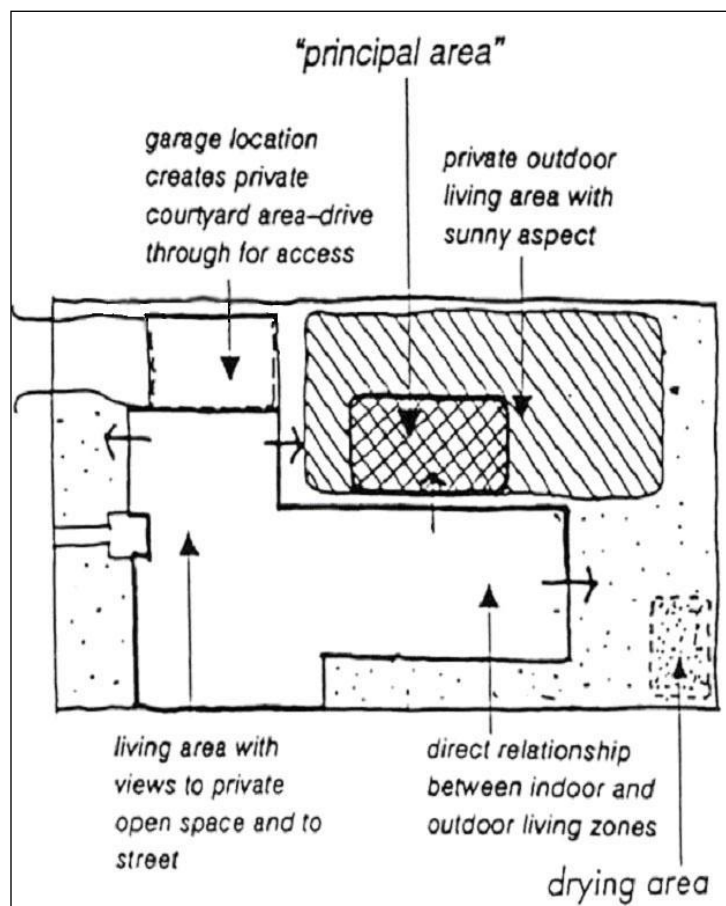


Figure 12: Private Open Space Considerations on an east-west lot

Controls

1. Subdivision and lot sizes orientation shall comply with Figures 10, 11 and 12.
2. The majority of lots shall be approximately 30m deep.
3. Lot sizes and dimensions shall take into account the slope of the land to minimise cut and fill and the retention of existing trees.
4. Subdivision of land involving the creation of lots less than 300sqm or less than 10m lot width shall include the dwelling house as part of the development application.
5. The subdivision plan will not be released until the dwelling which was approved in conjunction with the subdivision is completed to above ground floor level.
6. Any proposal that creates a residual lot must demonstrate that the required density can be achieved across the residual lot.

Table 1: Minimum Lot Widths

Zone	Lot Size (as per LLEP 2008 Lot Size Map)	Minimum Lot Width
R1	300SQM	9m
R1	300SQM (Area 3)	9m*

*A lot width of 8m may be considered if the average width of the lots within the specific Area 3 precinct is at least 9m.

3.2 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access (See Figure 13).
2. There must be a direct link from at least one living area to the principal private open space.
3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.

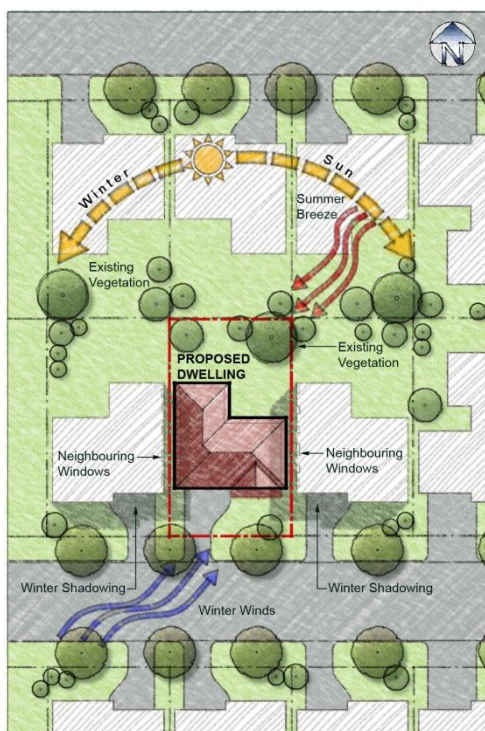


Figure 13: Example of a Site Analysis Plan

3.3 Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access;
- b) To set dwellings back from each other to provide visual and acoustic privacy;
- c) To create a streetscape that provides a desirable and safe environment;
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality;
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.
- f) To discourage vehicular parking across street verges and footpaths

Controls

Front and Secondary Setbacks

1. Dwelling houses, semi detached dwellings, attached dwellings and Multi Dwelling Housing shall be setback in accordance with Table 2.

Table 2: Front and Secondary Setbacks

Height	Front Setback	Secondary Setback	Secondary Setback
		Lots under 450m ²	Lots 450m ² and over
Ground floor	4.5m*	2.0m**	2.5m
Second storey	4.5m*	2.0m**	2.5m

* The dwelling setback may be reduced to 3m for lots fronting RE1 Public Recreation.

** The dwelling setback may be reduced to 1m for a maximum length of 4m.

- For dwellings fronting RE1 Public Recreation the front setback may be reduced to 3m. A front verandah, porch or patio may be built to within 1.8m of the front setback. The garage setback is to be maintained at a minimum of 5.5m.
- Verandahs, balconies, eaves and other sun control devices may encroach a maximum of 2.5m forward of the front setback. On the secondary setback encroachments must not be constructed within 1m from the property boundary.
- Garages must be set back a minimum of 1m behind the main face of the dwelling. The main face is the first wall of a habitable room.
- The secondary street frontage setback is the longest length boundary and does not include laneway frontage.
- Garages that address the secondary frontage must be setback 1m or 5.5m and greater. Garages are not permitted to be setback between 1m - 5.5m.
- Corner sites shall provide a frontage to both streets and should articulate their corner location with an architectural feature such as a wrap around verandah, bay window, corner entry or roof feature.

Side and Rear Setbacks

- Buildings shall be setback from the side and rear boundaries in accordance with Table 3.

Table 3: Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9 m	4.0 m*
Second storey component of dwelling houses	1.2 m	6.0 m
Living room doors (including family rooms and rumpus rooms)	4.0 m	4.0 m

* Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

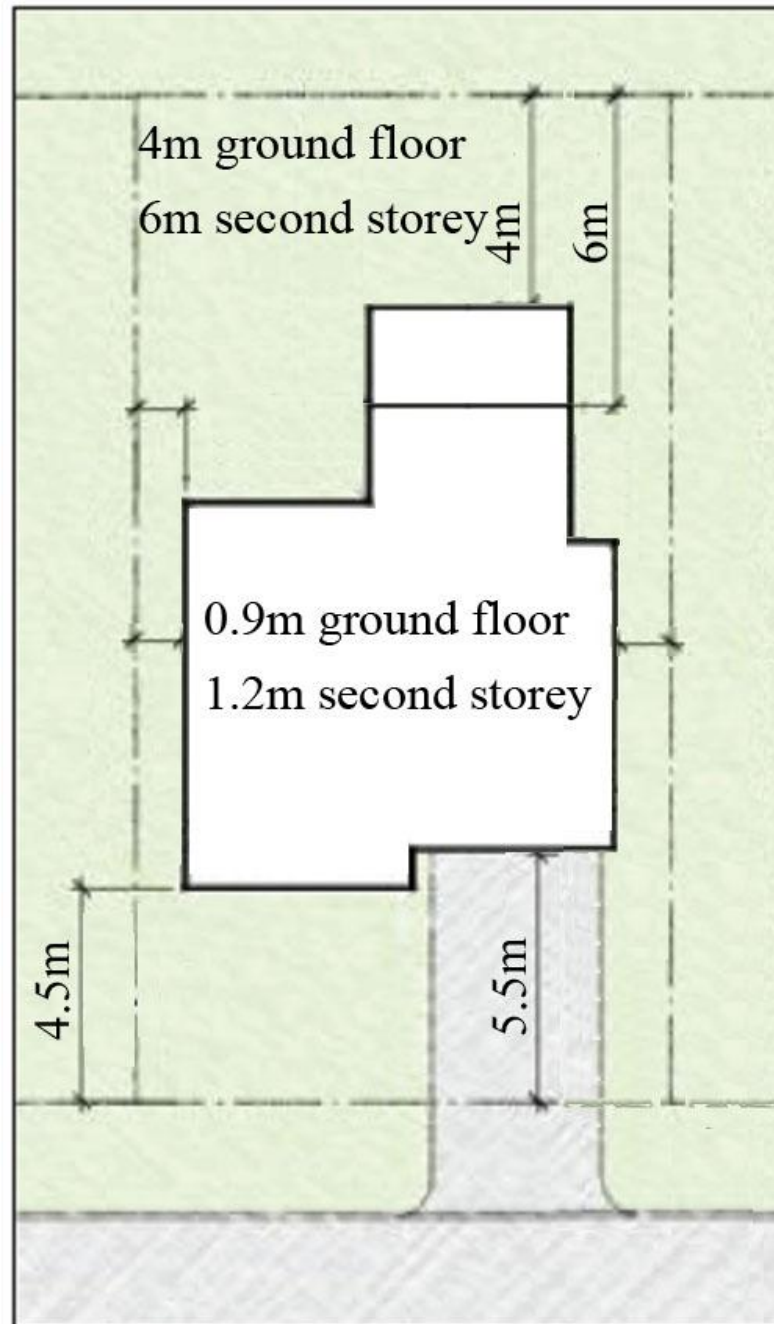


Figure 14: Example of Ground Floor & Second Storey Minimum Setbacks

Zero lot lines

1. Walls are generally to be 150mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the adjacent side boundary length. The maximum length of a second storey zero lot line wall is 12 metres.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 900mm shall be provided on the adjoining boundary. Refer to figure 15.

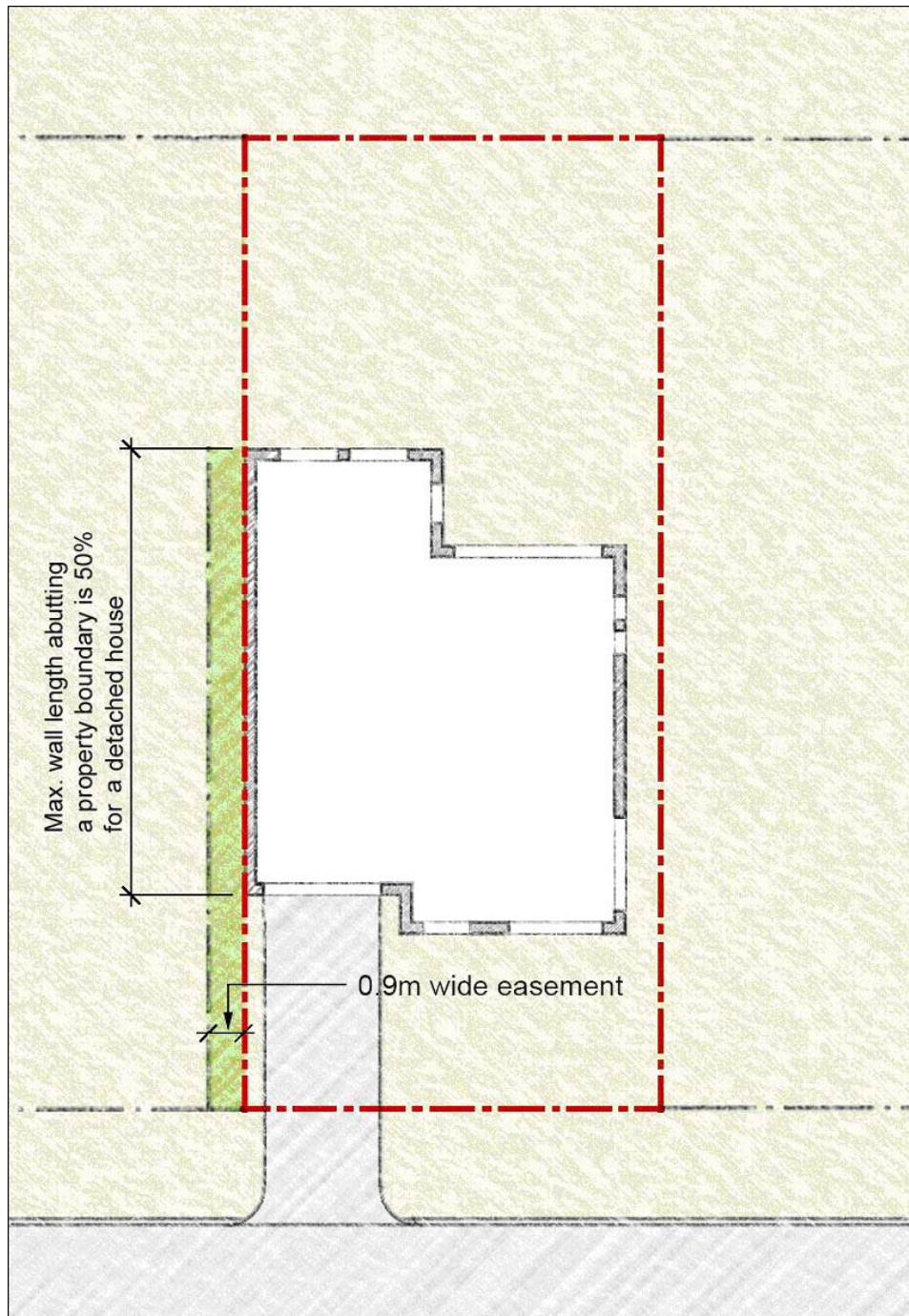


Figure 15: Zero Lot Lines

3.4 Dwelling Typology

Objectives

- a) To provide for certainty as to the location of dwelling types.
- b) To provide for the orderly development of South Cecil Hills.
- c) To provide for areas of higher density near areas of high amenity such as parks and creeks.

Controls

In order to establish dwelling density and certain character through built form, the below list identifies building types proposed within the residential zoning.

Multi Dwelling Housing and Attached Dwellings

Opportunities are provided for row housing in small groups, duplexes, triplexes or Terraces. They are located in areas of higher amenity and may contain home businesses. These need rear lanes for parking and servicing.

Dwelling house

These locations are suitable for free standing traditional one and two storey houses often in prime or feature locations (corner site, wider streets). The larger lots provide the opportunity for large traditional family homes. These are often free standing but can have a zero lot line on one boundary.

Secondary dwellings (Studios)

Objectives

- a) To provide an alternate form of housing in master planned residential release areas.
- b) To provide for a variety of housing types.
- c) To provide for passive surveillance to laneways and private accessways.

Controls

Type 1 Studio

Type 1 Studios are a room or rooms constructed above a detached garage associated with the main dwelling on the lot. The studio is primarily designed to be used by the occupants of the main dwelling. The studio shall comply with the following:

- 1. The studio shall be located on corner blocks or addressing secondary streets and on laneway entries and bends to improve surveillance.
- 2. Located on lots with a minimum size of 300sqm.
- 3. Must be detached from other studios.
- 4. Maximum gross floor area: 45sqm.
- 5. No additional car parking space is required.
- 6. The studio shall be located above the garage, carport or like structure for the principal dwelling on the land.
- 7. There may be no subdivision of the studio from the principal dwelling on the land.
- 8. Windows are not permitted on elevations which directly face the adjoining lots private open space.
- 9. Garages with studios above are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.

10. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
11. Studios shall not reduce the minimum required amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.

Type 2 Studio

Type 2 Studios are a room or rooms constructed above a detached garage that is intended to be separately strata titled to allow for independent living from the principal dwelling on the lot. The studio shall comply with the following:

1. The studio shall be located on corner blocks with laneway vehicle access.
2. Located on lots with a minimum size of 350sqm.
3. Maximum gross floor area: 75sqm.
4. Studio to be located above the garage, carport or like structure for the principal dwelling on the land and are to be detached from other studios.
5. One additional dedicated on-site car parking space is required to be associated with the Type 2 studio.
6. Car parking space is not to be located in front building setback of the principal dwelling.
7. Car parking space is not to be in a stacked configuration.
8. The studio must include provision of a balcony accessed directly off living space having minimum size of 6sqm, plus a minimum 10sqm ground level service yard with space for clothes drying facilities. The balcony shall not protrude over any property boundary.
9. Type 2 studios may be strata subdivided from the principal dwelling, or dwellings on the land.
10. Garages with studios are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
11. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
12. Pedestrian access to studios is to be from the street frontage and not the laneway.
13. Provision for separate services and an on-site garbage storage area e.g. separate letter box.
14. Studios shall not reduce the minimum amount of solar access to any dwelling's (adjoining or on the principal dwelling) private open space as stipulated in Section 3.5 of this Part.
15. Windows are not permitted on elevations which directly face the adjoining lots private open space. Windows may be permitted on the elevation facing the principal dwelling on the lot where they have a minimum sill height of 1.7m.
16. Screened access ways (e.g. staircases) for studios to prevent viewing into adjoining private open space areas.

3.5 Landscaped Area and Private Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum unincumbered area of 4m x 6m shall be provided to accommodate deep rooted trees.
3. A minimum of 50% of the front setback area shall be Landscaped Area.
4. A minimum unincumbered area of 3m x 3m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum of 50sqm of Private Open Space.
2. Areas less than 2.5m in width do not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the Principal Private Open Space of 25sqm, which is directly accessible from the main living area and has a minimum dimension of 4m.
6. The Principal Private Open Space must receive 2 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.

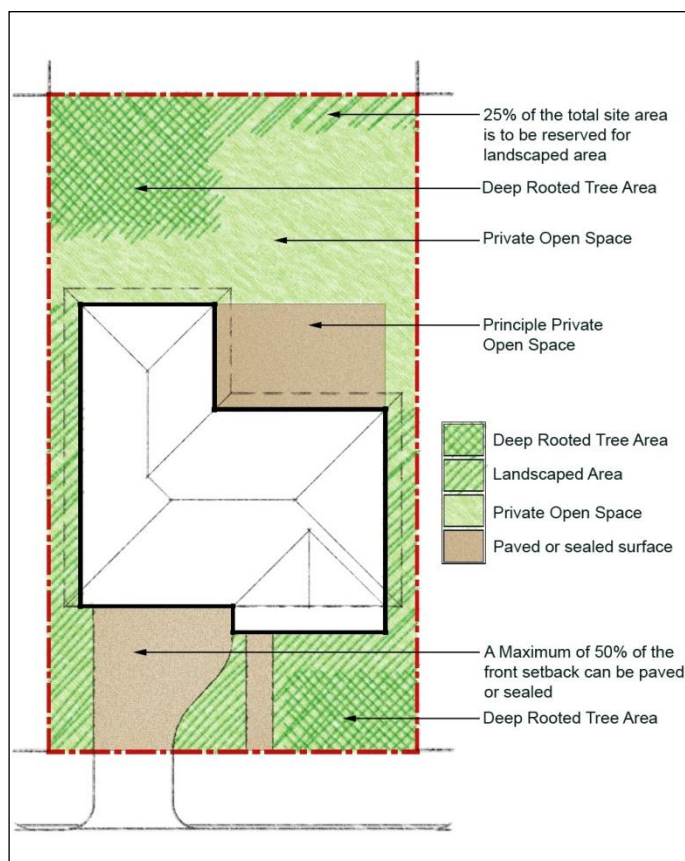


Figure 16: An Example of Landscaped Area & Private Open Space

3.6 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site should not exceed 1m.
2. All retaining wall structures shall be masonry construction where visible from the street and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the

confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint. Refer to Figure 17.

4. Contaminated fill is not permitted.
5. In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.
6. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - i. A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - ii. A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - iii. Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

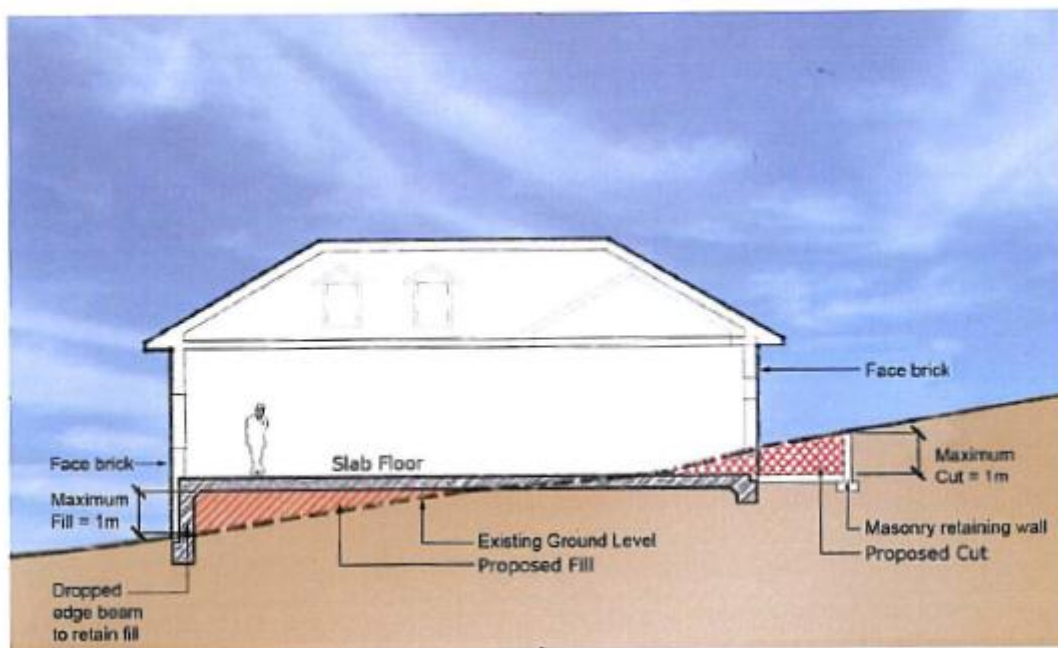


Figure 17: Cut & Fill Requirements

Building Envelopes

Background

The orientation and site cover of a building has significant implications for residential amenity. Building envelopes determine the orientation and footprint of a dwelling, as well as the total volume of the dwelling.

Objectives

- a) To facilitate the efficient use of the site area.
- b) To maximise private amenity within the building.
- c) To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.

- d) To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.
- e) To provide an acceptable scale of development.

Controls

1. The building footprint for single detached dwellings is not to occupy more than 55% of the site and the total impervious area is not to exceed 75% of the total site area.
2. The building footprint for denser development (i.e. attached/zero lot housing, terrace, townhouse or villa development) is not to occupy more than 60% of the site and the total impervious area is not to exceed 75% of the total site area.

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

1. All dwelling houses are to be orientated to the street.
2. The front pedestrian entrance must be visible from the street.
3. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
5. Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
6. "Mirror – imaging" of facades on Semi-detached dwellings and Attached dwellings are not permitted.

Two storey dwellings

1. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 18)
2. The maximum total length of the side walls of the first floor component of a dwelling shall be a maximum of 33m as measured from any point within 3m of that side wall (for example 14m + 19m = 33m) (See Figure 19).



Figure 18: An Example of Building Appearance (Indicative Only – Not to Scale)

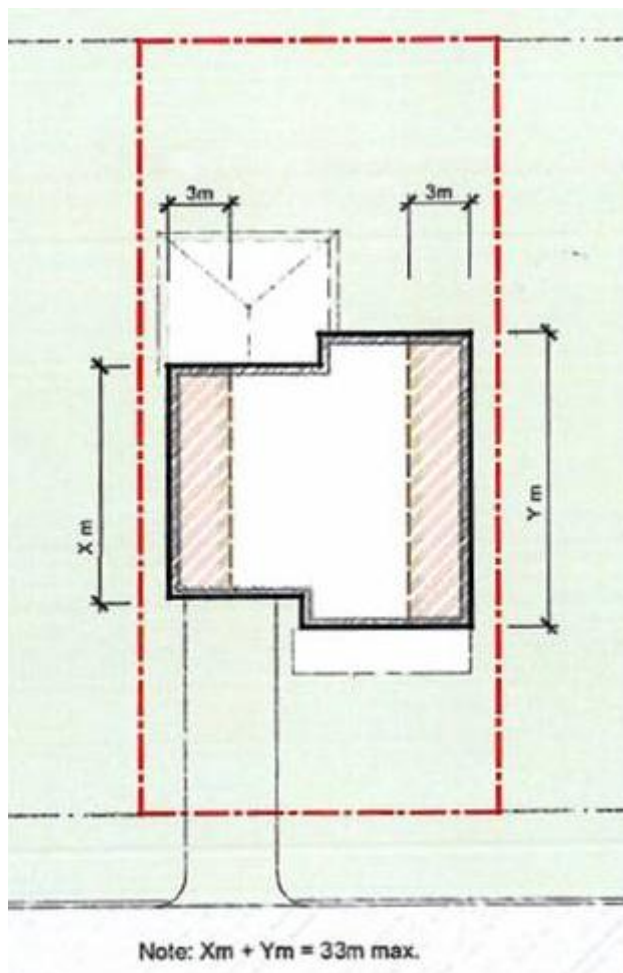


Figure 19: Maximum Total First Floor Wall Length of a Two Storey Dwelling

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.

4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports shall not be built in front of the building line and shall be:
 - i. No larger than 5.5 x 6m.
 - ii. Built of a similar colour and materials of the house.
 - iii. Compatible with the local streetscape.
6. The conversion of garages to living space may only be permitted if:
 - i. At least one car parking space is provided behind the front setback.
 - ii. The additional living area does not result in the building exceeding the maximum permitted floor space ratio.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- c) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- d) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects where possible.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
8. Dwelling entries must be oriented to the street.

3.7 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.

- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
2. Trees planted on the northern side of private open space and habitable rooms are encouraged to be of a deciduous species.
3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided.
4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
5. A landscape plan must be lodged with all new dwellings and is to provide the following details:
 - i. The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - ii. The location of any trees on adjoining properties that is likely to be damaged as a result of excavations of other site works.
 - iii. The position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

Fencing

Objectives

- b) To provide a clear transition between public and private areas.
- c) To provide a visual element within the streetscape.
- d) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
3. Front fences shall be constructed in masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (see Figure 20).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure 20). The secondary setback is the longest length boundary.

3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.



Figure 20: Fence Treatments on Secondary Frontage

3.8 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on-street car parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling, except for lots under 300sqm which must provide a minimum of 1 car parking space.
- 2. At least one car parking space must be provided behind the front setback.
- 3. A car parking space is to have a minimum dimension of 2.5m x 5.5m.
- 4. A single garage is to be a minimum of 3m wide internally and provide unobstructed access.
- 5. All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

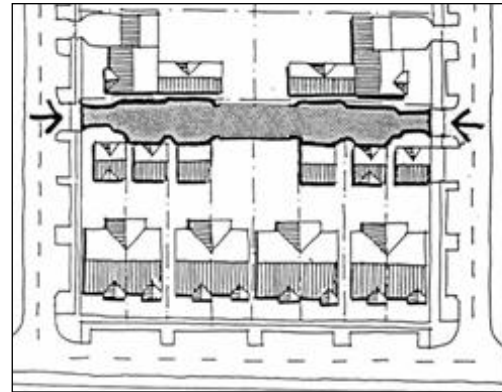
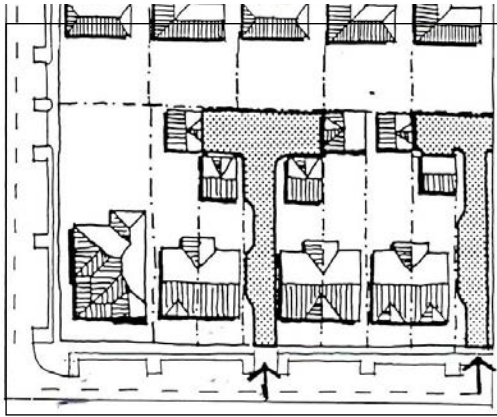
Private Driveways

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To clearly define public and private spaces, such that driveways are for the sole use of residents.

Controls

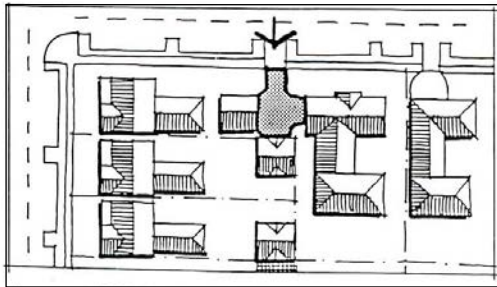
- 1. Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
- 2. A lot on which an off-street car parking space is provided must have a driveway to a public road.
- 3. A driveway on a lot must be constructed in accordance with Australian Standard AS 2890.1 - 1993, Parking facilities - Off-street car parking.
- 4. Development on corner lots on collector streets shall have access from the street perpendicular to the collector street.



T-Shaped

- ☐ Driveway should be from the frontage road of the narrow lot dwellings
- ☐ Use where block geometry or available road frontage precludes „close“

Where driveways are to serve several lots they should connect through to public roads.



Common Apron

- Maximum 3 dwellings

Figure 21: Private Driveways

3.9 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- i. One living room, rumpus room or the like.
- ii. 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 22).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (See Figure 22).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

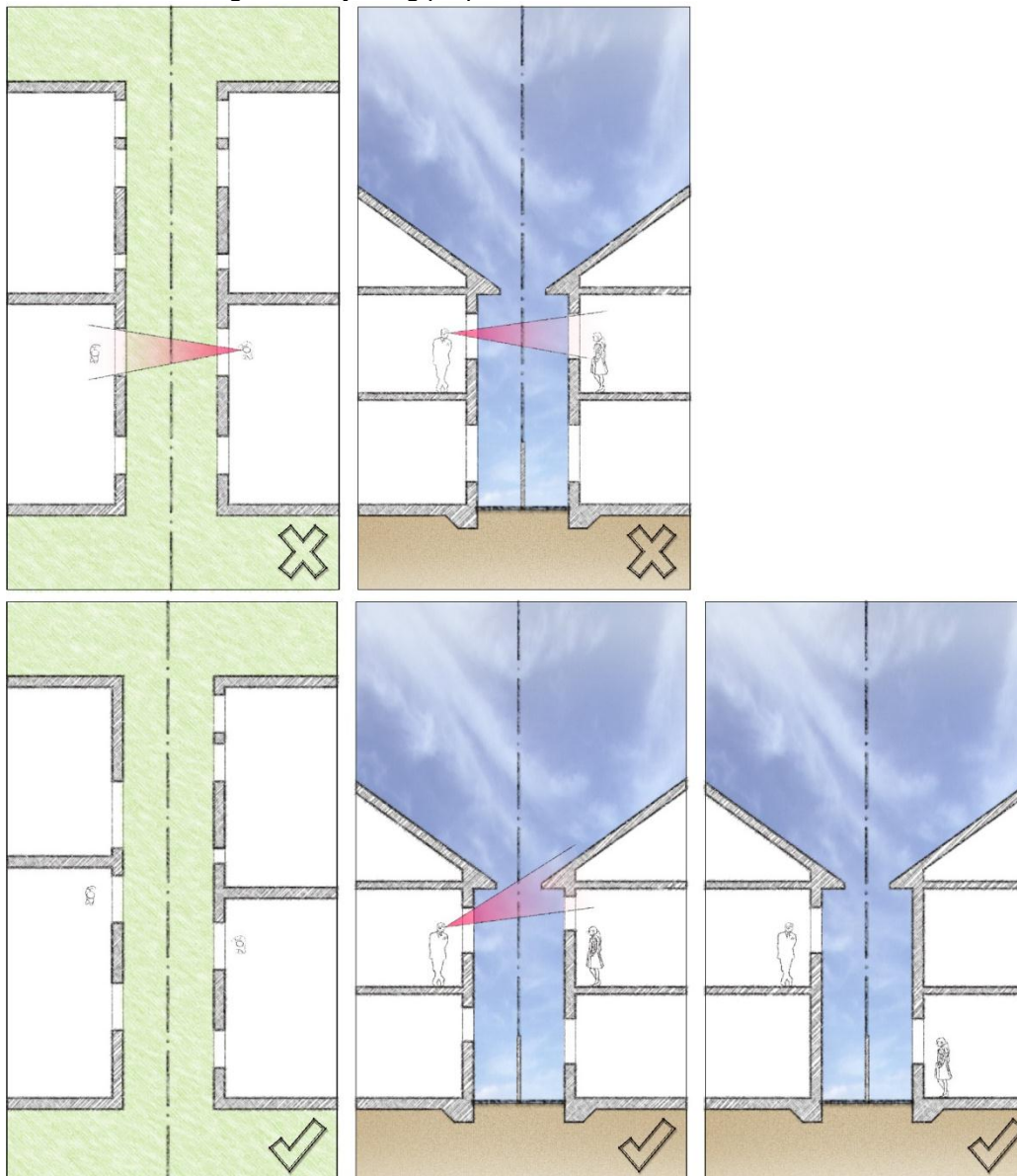


Figure 22: Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Dwellings affected by noise from the M7 Motorway should be designed to incorporate acoustic treatment to affected internal areas. Development Applications for dwellings within the affected areas shown in Figures 23 and 24 are to be accompanied by an acoustic design statement certifying that the internal acoustic environment achieves less than 50dB(a).
2. Design of acoustic treatment should be in accordance to relevant standards and policies including, but not limited to:
 - i. NSW “Environmental Criteria for Road Traffic Noise” (ECRTN)
 - ii. Australian Standard AS2017:2000 “Acoustics – Recommended design sound levels and reverberation times for building interiors”
3. The appearance of the proposed acoustic wall shall generally be consistent with the acoustic wall adjacent to the M7 Motorway at Middleton Grange. The acoustic wall shall be constructed in the location illustrated in Figure 23 and 24 and wholly within the development site.

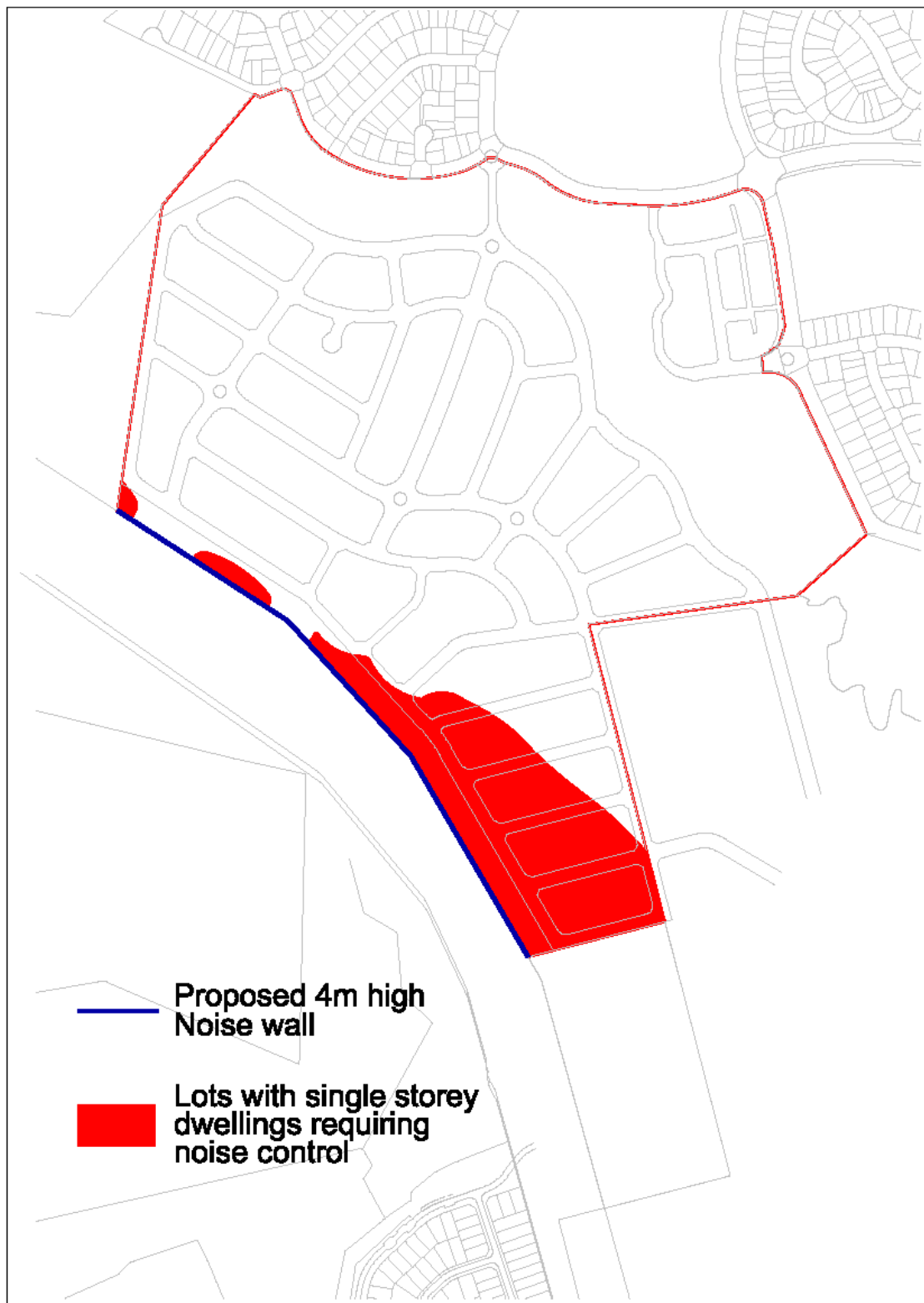


Figure 23: Single Storey Dwellings to Achieve Internal Acoustic Environment of Less than 50dB(a)

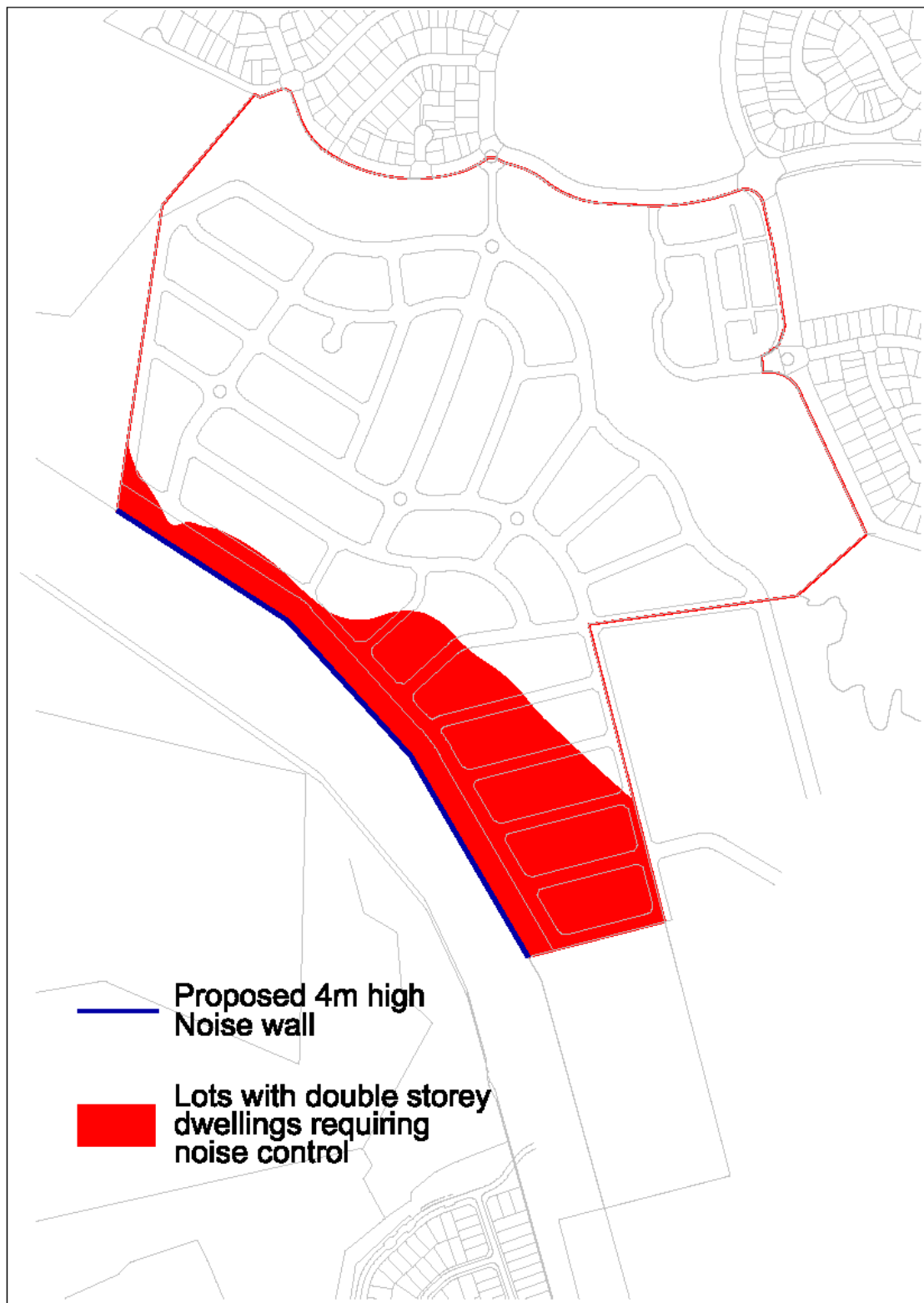


Figure 24: Double Storey Dwellings to Achieve Internal Acoustic Environment of Less than 50dB(a)



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Liverpool Development Control Plan 2008
Part 2.15
Land Subdivision and Development in
New Brighton Golf Course
Release Area
(Moorebank)

19 February 2014

Part 2.15 must be read in conjunction with Part 1
Refer to Part 3.8 for Non Residential Development in Residential Zones

Liverpool Development Control Plan 2008

Part 2.15 New Brighton Golf Course Release Area

Table of Contents

1. Preliminary	5
2. Controls for Public Domain	8
2.1 Street Network.....	8
2.2 Pedestrian and Cyclist Paths	13
2.3 Streetscape and Street Trees	14
2.4 Open Space	16
2.5 Stormwater and Environmental Management	16
2.6 Aboriginal Archaeology	18
3. Controls for the Private Domain	20
3.1 Frontage and Lot Size	20
3.2 Site Planning	22
3.3 Setbacks.....	23
3.4 Dwelling Typology	27
3.5 Landscaped Area and Private Open Space	29
3.6 Cut and Fill, Building Design, Streetscape and Layout	31
3.7 Landscaping and Fencing	35
3.8 Car Parking and Access.....	38
3.9 Amenity and Environmental Impact.....	39
4. Golf Course Design	42
4.1 Golf Course Layout	42
4.2 Vegetation Offsetting.....	42
4.3 Safety (Golf Holes near Public / Private areas).....	42
4.4 Maintenance Areas	43
4.5 Clubhouse Design and Parking Areas	43

Table of Figures

Figure 1: Land to which this Part applies	5
Figure 2: Street Design and Treatment.....	9
Figure 3: Street Sections.....	10
Figure 4: Street Sections.....	11
Figure 5: Bus Routes and Bus Stops	12
Figure 6: Cycle Paths.....	13
Figure 7: Street Trees	15
Figure 8: Potential Archaeology Sensitive Sites.....	19
Figure 9: Lot Orientation	20
Figure 10: Lot Orientation	21
Figure 11: Private Open Space Considerations on an east west lot.....	21
Figure 12: Example of a Site Analysis Plan	25
Figure 13: Example of Ground Floor and Second Storey Minimum Setbacks.....	25
Figure 14: Zero Lot Lines	26
Figure 15: An example of Landscaped Area and Private Open Space	30
Figure 16: Cut and Fill Requirements	32
Figure 17: An example of Building Appearance.....	33
Figure 18: Maximum Total First Floor Wall Length of a Two Storey Dwelling Side and Rear Setbacks	34
Figure 19: Fence Treatments on Secondary Frontage	37
Figure 20: Private Driveways	39
Figure 21: Privacy and Amenity	40

List of Tables

Table 1: Minimum Lot Widths.....	22
Table 2: Front and Secondary Setbacks.....	24
Table 3: Side and Rear Setbacks	25

1. Preliminary

Applies to

1. This Part applies to the land, shown in Figure 1 being land known as the New Brighton Golf Course Moorebank and the Former Greenwood Golf Course Hammondville.
2. This Part applies for the subdivision and development of residential land and future use and alteration of the land for private recreation.
3. Parts 1 and 3.8 also apply to the land.
4. Parts 3.1 - 3.7 do not apply to the land.

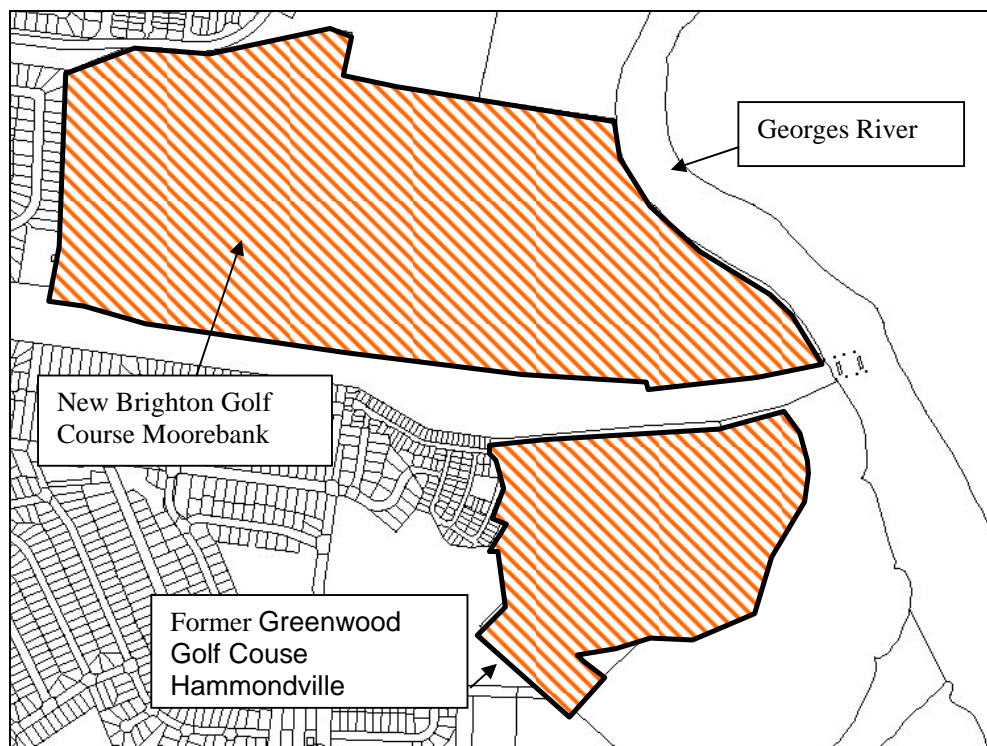


Figure 1: Land to which this Part applies

Background

The New Brighton Golf Course Release Area was rezoned by gazettal of Liverpool Local Environmental Plan 2008 Amendment No 25 on 19 April 2013.

Planning Principles

The New Brighton Golf Course Release Area will allow development of a predominantly residential catchment that optimises the public transport network and facilitates access between home and work, a place that is safe and attractive and is characterised by quality urban design and architecture.

The neighbourhood will be highly accessible and the physical features of the area will be retained and enhanced. A distinctive feature of The New Brighton Golf Course Release Area will be the dedication of land to Council along the Georges River enabling public access via shared walking/cycling paths including a formal connection and legal access under the M5 Motorway, consistent with proposal in the Draft South West Regional Strategy (Parks, Public Places and Culture).

The development will aim to protect and regenerate areas of habitat for ecological communities.

The provision of public infrastructure is to be by way of a Voluntary Planning Agreement. The timing and scope of the provision of public infrastructure is specified in the Voluntary Planning Agreement.

Places will be distinctive and memorable with higher density living generally located around areas of highest amenity.

This Part supports this by articulating the following principles:

1. Take advantage of compact building design that is also sensitive to the environment.
2. Ensure that land use is appropriate and that any development uses the development site to its best advantage.
3. Relate the density of development to access to transport and services.
4. Create a range of housing opportunities and choices.
5. Foster distinctive, vibrant communities with a strong sense of place.
6. Preserve and enhance open space, natural features and critical environmental areas.
7. Strengthen existing communities – consider issues such as safety and recreational facilities for the community.
8. Provide good accessibility through a variety of transportation choices.

Objectives

Accessibility

To ensure a clear relationship between accessibility and land use by:

- a) Promoting a movement system that gives appropriate priority to walking, cycling, public transport, and acknowledges the need for private vehicles.
- b) Relating accessibility demand to location of development type.
- c) Ensuring that servicing is able to be carried out appropriately.
- d) Ensuring movement priorities, traffic speeds and street and road designs are appropriate to the location and provide a safe environment for pedestrians.
- e) Guaranteeing adequate accessibility for emergency and service vehicles.
- f) Building upon existing movement patterns and infrastructure by utilising existing street layout.
- g) Creating pedestrian and cycleway access from within the residential estate to foreshore land that will enable public interaction with council's natural assets.

Social Benefits

To establish a community and accessible open space/recreational facilities that allows people to maintain wellbeing by:

- a) Making appropriate provision for social and community needs.
- b) Providing for a range of housing types with appropriate levels of amenity.
- c) Establishing accessible recreation facilities and parks/reserves.
- d) Ensuring that development creates a 'people place' by giving priority to people and human relationships through housing mix and safety.

Environmental Benefits

To ensure a clean, safe and healthy environment that builds on existing resources and produces quality built and natural assets by:

- a) Establishing appropriate drainage and floodplain management that contributes positively to the area.
- b) Developing solutions to manage environmental issues on-site.
- c) Ensuring that waste disposal is effective and efficient and that recycling is utilised at every opportunity.
- d) Ensuring a high standard of water management of water quality.
- e) Maintaining and enhancing the quality of the natural environment.
- f) Connecting and enhancing foreshore corridors and providing a link to other existing public areas.
- g) Promoting the conservation of flora and fauna, including the protection and regeneration of areas of habitat for ecological communities within the open space network.
- h) Promote highest density residential development in areas with best access to transport and services.

Economic Benefits

To establish economic capital that is accessible and meets the needs of the community by:

- a) Ensuring the area's need is identified in a local context through provision of local facilities and services.
- b) Ensuring infrastructure is sufficient to meet current and predicted need.

2. Controls for Public Domain

2.1 Street Network

Street Network

Background

The New Brighton Golf Course Release Area will be a predominantly residential neighbourhood characterised by an attractive and safe streetscape. As the core fabric of the public realm, the streetscape will be designed to foster a pedestrian friendly environment and residential character for the area.

The street network will be based around a defined hierarchy of routes to ensure legibility, effective linkages, and safe circulation of traffic without vehicle dominance. It will create a permeable environment which connects with its surroundings and facilitates easy access to local amenities. Based upon an effective movement network, the streetscape will ensure an interconnected, vibrant and mobile community.

Objectives

- a) To provide an attractive residential street environment.
- b) To provide for the safe and efficient circulation of traffic.
- c) To provide for the safe and efficient circulation of cyclists.
- d) To provide for the safe and efficient movement of pedestrians with particular regard to the provision of clear and safe access routes for people who have a disability.
- e) To provide for efficient access to bus services.
- f) To guarantee adequate accessibility for emergency and service vehicles.

Controls

- 1. The developer is to modify (at their cost) the roundabout at the Brickmakers Drive/Christiansen Boulevard intersection to a four way roundabout.
- 2. Where appropriate vehicle pinch points shall be created in the carriageway to slow vehicle speeds, and establish road hierarchy.
- 3. Provide a street network pattern to facilitate walking and cycling and enable direct local vehicle trips within the neighbourhood.
- 4. The subdivision of land, design and layout of streets shall be generally in accordance with Figure 2 and shall link into the proposed Brickmakers Drive road carriageway to the north of the site via a roundabout.
- 5. All streets shall be designed and constructed generally in accordance with Figures 2, 3 and 4.
- 6. All intersections shall be designed in accordance with the RMS' Austroads Road Design Guide.
- 7. Barrier Kerb shall be used adjacent to Collector roads and any other streets adjacent to public open space. Roll kerb shall be used on all other streets.
- 8. Adequate measures will be used to restrict access to park areas and provide safety.
- 9. Laneways are to be accessed by streets at either end.
- 10. Laneways are to be straight, minor bends may be acceptable dependant on topography.

11. Buildings on opposite sides of a laneway must have a minimum separation of 8 metres.
12. A pair of bus stops (east and west bound) which includes the bus shelter and concrete pad must be provided to service the development along the Brickmakers Drive frontage of the land. Footpaths must link from the bus stop to the footpaths within the development.

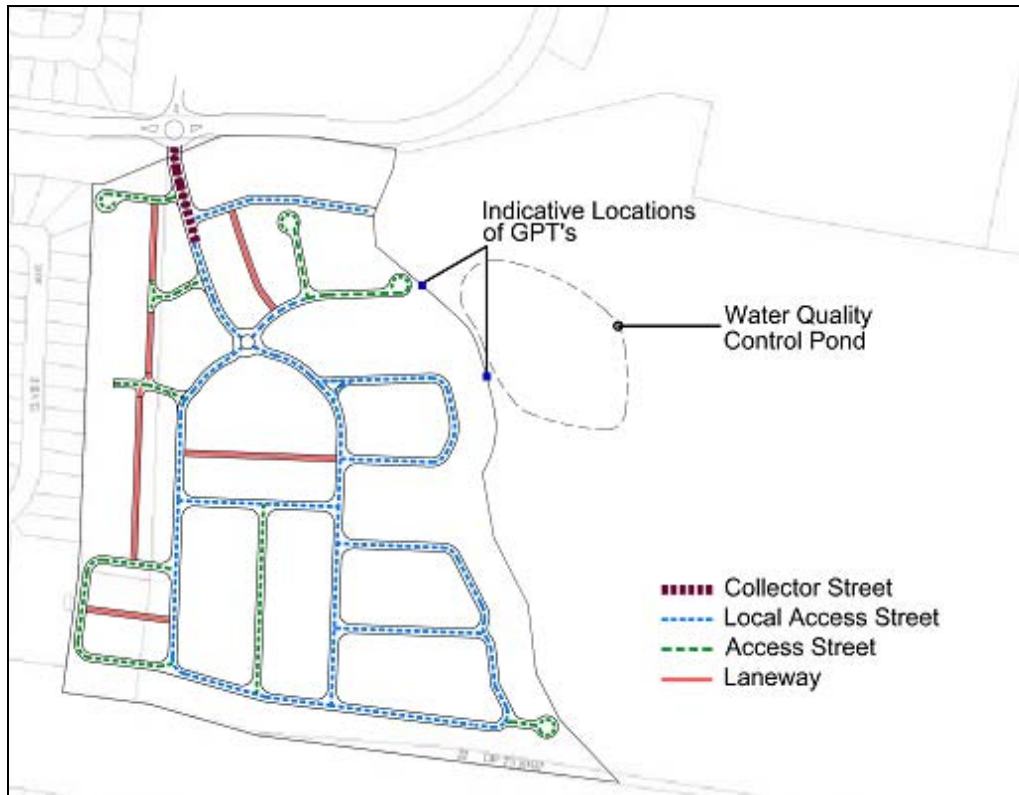


Figure 2: Street Design and Treatment

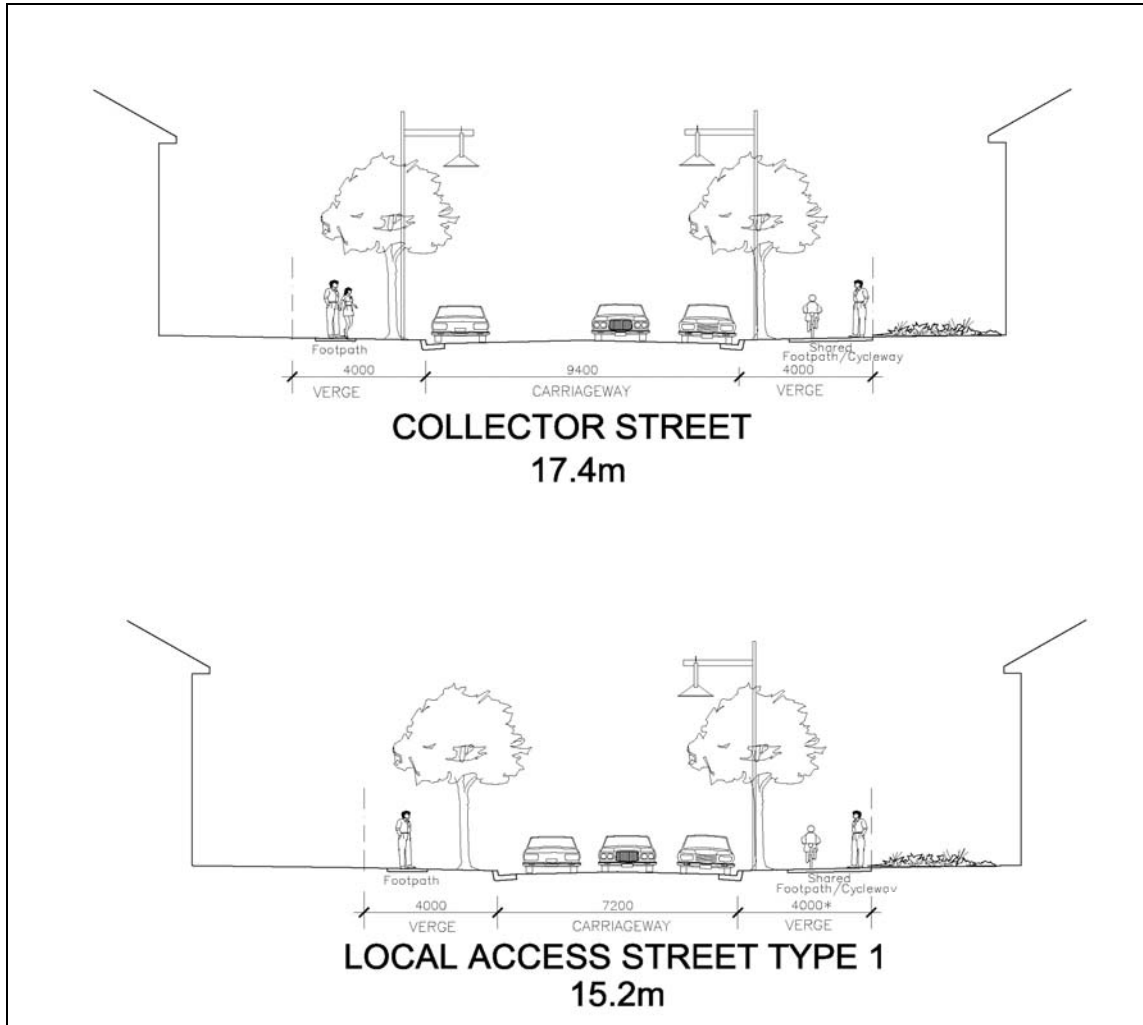


Figure 3: Street Sections

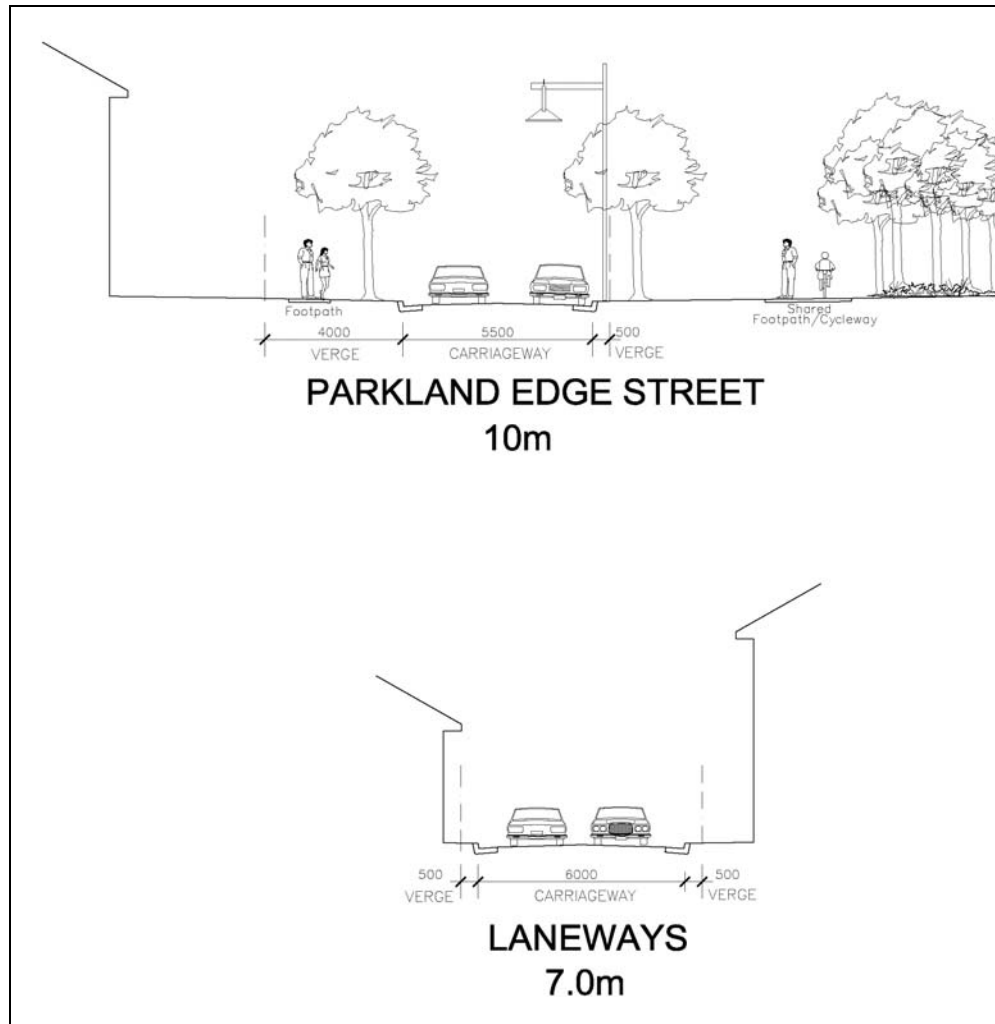


Figure 4: Street Sections

Note: Buildings on opposite sides of a laneway must have a minimum separation of 8 metres.

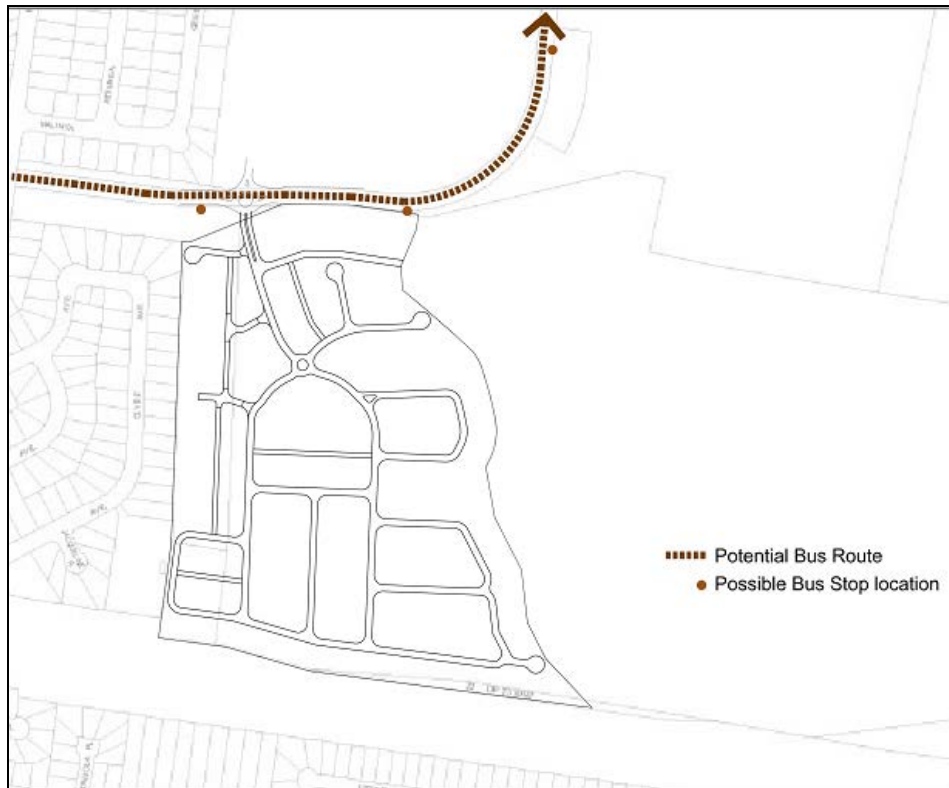


Figure 5: Potential Bus Route and Bus Stops

2.2 Pedestrian and Cyclist Paths

Background

Pedestrian and cycle paths in public spaces provide linkages to social and cultural activities, and should be characterised by excellence in design appropriate to the area.

Objectives

- a) To encourage walking and cycling for local trips to help reduce vehicle reliance.
- b) To create a permeable and interconnected network of streets and pathways that gives safe, convenient and legible access to areas of attraction both within and beyond the suburb.
- c) To provide for safe recreational pursuits.

Controls

1. Cycle paths shall be provided in conjunction with the subdivision of land, creation of streets and development of open space in accordance with Figure 6.
2. Shared pedestrian/cycle links, cycle ways, public streets and lanes shall be clearly signposted to indicate their shared status.
3. Shared pedestrian and cycle paths shall be a minimum 2.5m wide.
4. Designated pedestrian-only paths shall be a minimum of 1.5m wide and located in accordance with Figures 3 and 4.

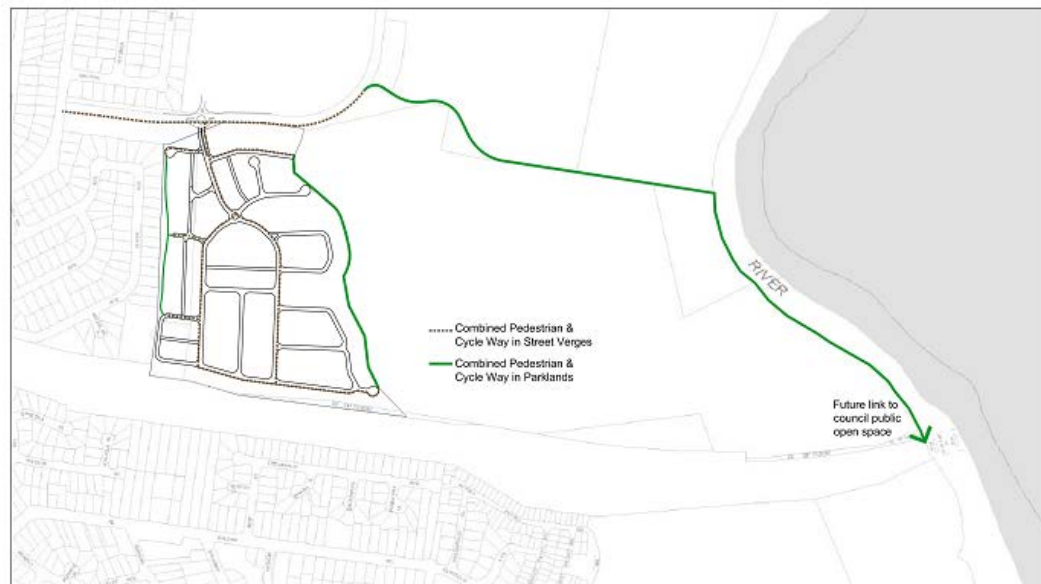


Figure 6: Cycle Paths

2.3 Streetscape and Street Trees

Background

Street trees will create a landscape character for the area and strengthen the street hierarchy.

The biodiversity and ecological value of the area will be preserved and enhanced. The well vegetated New Brighton Golf Course will be integrated into the design of the streetscape via the creation of vistas between open space areas and the golf course land.

Objectives

- a) To use planting to promote a unique landscape character and sense of identity for the community.
- b) To preserve and enhance the biodiversity value of the area.
- c) To create attractive streetscapes which enhance the quality of the public realm, strengthen the streetscape hierarchy and aid legibility.
- d) To integrate streetscapes with surrounding street layout.

Controls

- 1. Street furniture is to be incorporated into the design of all public spaces and should be consistent in design and style.
- 2. Street furniture is to be located so as not to impede mobility, generally in accordance with AS 1428:1 - 4.
- 3. The location and detailing of all proposed street furniture is to be indicated on the Landscape Plan, to be submitted with the DA.

Street Tree Planting

- 1. Street trees shall be required to be planted in conjunction with the creation of a new street.
- 2. The street trees shall be planted prior to the release of the subdivision certificate.
- 3. The street trees shall be protected during construction.
- 4. Tree species planted along streets are to be in accordance with Figure 7.

A minimum of one street **tree** shall be provided for every 10m of street frontage.

Details regarding street tree planting are to be submitted with development applications for subdivision (other than residue lot / super lot subdivisions).



Figure 7: Street Trees

2.4 Open Space

Background

This site has proximity to the Georges River which provides aesthetic, environmental and recreational benefits to the area. Public open space is at the heart of community life, and should be designed to create a sense of civic pride, ownership and belonging. It is the space for social interaction, play, recreation, and relaxation. Open space plays a central role in defining a character for an area, and should respect its wider context whilst defining its own unique qualities.

A public open space corridor is to be created along the Georges River foreshore with linkages to the immediate and wider community.

Objectives

- a) To ensure adequate provision and distribution of public open space to meet the needs of the residents.
- b) To retain and integrate existing landscape elements, where practical, such as vegetation and topographic features, in the design of new development.
- c) To create a variety of linked public spaces that fulfils functional requirements as well as creates attractive and memorable places.
- d) To encourage the use of native species of flora and low maintenance landscaping.

Controls

- 1. Public open spaces shall be designed and landscaped to consider maintenance requirements. This shall be achieved through the use of appropriate native species. Where public open space is to be provided in conjunction with development, a Landscape Plan shall be submitted with the application showing how the proposed landscaping will minimise maintenance and be drought tolerant.
- 2. Existing trees, tree stands and vegetation within open space areas shall be retained where possible.
- 3. A common open space for the residents will be created within the residential site. This common open space area is to retain existing vegetation where possible.
- 4. A landscape buffer of at least 20 metres is to be provided between the existing residential area and the proposed development. The retention and protection of existing vegetation should be optimised. Additional landscaping such as designated garden bed should be included, utilising drought tolerant species.
- 5. Pedestrian and cycle paths are to be generally in accordance with the plan shown in Figure 6, and provide linkages between residential and open space assets.

2.5 Stormwater and Environmental Management

Water Management

Background

Water cycle management is seen holistically rather than just the conveyance of stormwater. This includes provision of drainage in natural or re-created watercourses.

Objectives

- a) To encourage a holistic approach to water cycle management, implementing total catchment management principles.
- b) To integrate water management measures with innovative urban design.

- c) To minimise the impact of urbanisation on stormwater quality within the catchment so that stream flows mimic natural pre-development flows by encouraging natural water quality filtering principles and water sensitive urban design practices.
- d) To ensure that there are no adverse impacts on existing flood regimes in the surrounding areas, as a result of the proposed development.
- e) To minimise the stormwater run-off through the provision of pervious areas and vegetation, and
- f) To manage the impacts of salinity through the use of salt tolerant species where appropriate.

Controls

1. Where any construction within flood liable land, adjacent to a watercourse, a drainage depression or an enclosed drainage system is proposed, the DA shall be accompanied by a full hydrologic and hydraulic assessment to allow a determination of the risk and impact by, and on, the development proposal by flooding. The assessment shall include:
 - i. Analysis of the impact of the development on flood storage capacity, flood conveyance, flood levels, and flow velocities.
 - ii. Identification of the flood risk to both people and property as a result of the development.
 - iii. External and internal catchment hydrology for rainfall events up to the probable maximum flood (PMF), including the 1% Annual Exceedence Probability (AEP) design storm.
 - iv. Predicted extents of flood inundation.
 - v. Depths and velocities of predicted flood flows to allow effective hazard categorisation.
2. The development shall have no adverse impact on the existing flood regime in the surrounding areas and shall demonstrate the operation of any proposed flood mitigation measures.
3. The trunk drainage system shall be designed to convey the 1% AEP flood event, with a freeboard of 500 mm. Streets adjacent to trunk drains shall be designed to carry flows in excess of the drainage system. The crown of the road shall be at least 500mm above the 1%AEP flood level. Buildings adjacent to these streets shall have habitable floor levels 300 mm above the crown of the road.
5. Where drainage depressions pass through a property, adequate provisions must be made for the passage of stormwater runoff with adequate freeboard to building floor levels. There is to be no construction within areas affected by overland flow paths.
6. In the event of Council being requested to approve the location of a piece of infrastructure on its land, it will require:
 - i. Documentation that such an activity will not prejudice the use of the land for the purpose for which it exists.
 - ii. The possible preparation or amendment to the Plan of Management for the land, and if this action is necessary a fee will be required.

Biodiversity

Background

The proposed development has the potential to affect vegetation to the north and along the Georges River foreshore. The protection of natural assets within the New Brighton Golf course contributes to the total catchment health and preservation of biodiversity.

Objectives

- a. To minimise the disruption of biodiversity in the area caused by the removal of vegetation.
- b. To promote the vegetation of appropriate species in key locations aimed at enhancement of ecological corridors with regional connectivity.
- c. Promote connectivity along the Georges River Foreshore.
- d. Establish a management framework that secures long term protection and management of retained vegetation with minimal maintenance required.

Controls

1. Carry out the remediation, revegetation and maintenance obligations stipulated in the Voluntary Planning Agreement developed for the site and landscape and vegetation management plans lodged at DA stage.

2.6 Aboriginal Archaeology

Background

Prior to the development of land within Sensitive Areas 1, 2 and 3 the potential impacts on Aboriginal artefacts needs to be determined.

Objective

- a. To manage Aboriginal heritage values to ensure enduring conservation outcomes.
- b. To ensure areas identified as archaeological or culturally significant are assessed and if required managed appropriately.

Control

1. Development applications must identify any areas of Aboriginal heritage value that are within or adjoining the area of the proposed development, including any areas within the development site that are to be retained and protected (and identify the management protocols for these).
2. Developments or other activities that will impact on Aboriginal heritage may require consent from the Office of Environment and Heritage (OEH) under the National Parks and Wildlife Act 1974 and consultation with the relevant Aboriginal communities.
3. Any development application that applies to land within or adjacent to land that contains a potential Aboriginal cultural heritage site, as indicated by blue shading on the Aboriginal Potential Site (Figure 8), must consider and comply with the requirements of the National Parks and Wildlife Act, 1974.



Figure 8: Potential Aboriginal Archaeologically Sensitive Sites

3. Controls for the Private Domain

3.1 Frontage and Lot Size

Background

The *Liverpool LEP 2008* Dwelling Density Map establishes the primary control over density for the New Brighton site. Similarly the *Liverpool LEP 2008* Lot Size Map identifies minimum subdivision lot size for lots being created. The aim is to provide the opportunity for areas of greater density to occur in areas of higher amenity across the site. Highest amenity means proximity to the public transport stops, open space and environmentally sensitive land.

The main objective is to provide choice through a mix of housing types and high quality open space.

Lots will be orientated and be designed to maximise solar access to reduce household energy consumption and to make best use of the land available.

Objectives

- To provide a range and mix of lot sizes to suit a variety of dwellings types distributed throughout the area.
- To locate higher density development in places of greatest amenity, such as near parks and other open spaces, along bus routes and environmentally/acoustic sensitive land.
- To ensure lots are oriented to optimise solar access to reduce energy consumption.
- To ensure all dwellings address the street and provide passive surveillance of open space where possible.
- To ensure that lot size and dimensions take into consideration the physical characteristics of the land, in a way which promotes retention of existing vegetation and responds to the sites topography.
- To ensure passive surveillance of public space through the effective and functional layout designs of new developments.

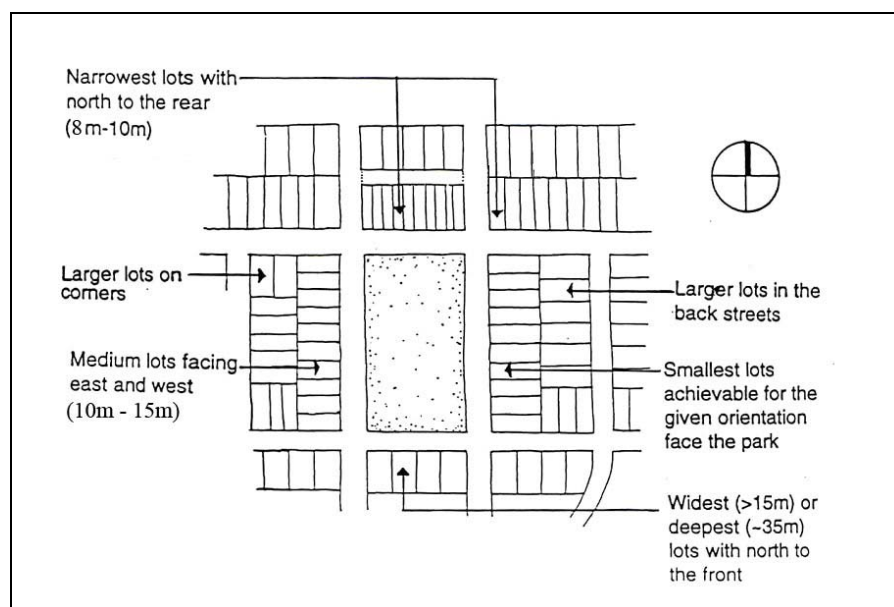


Figure 9: Lot Orientation

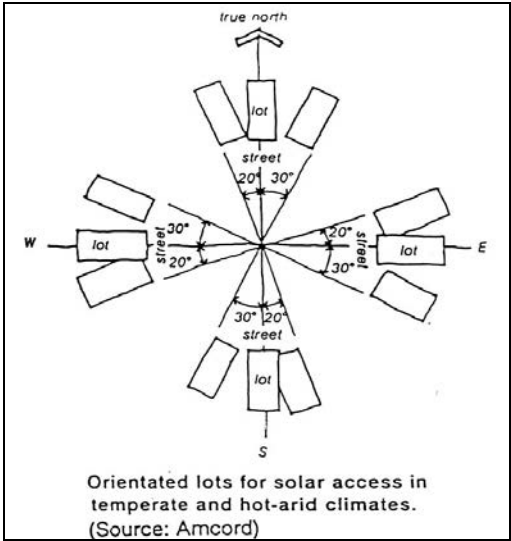


Figure 10: Lot Orientation

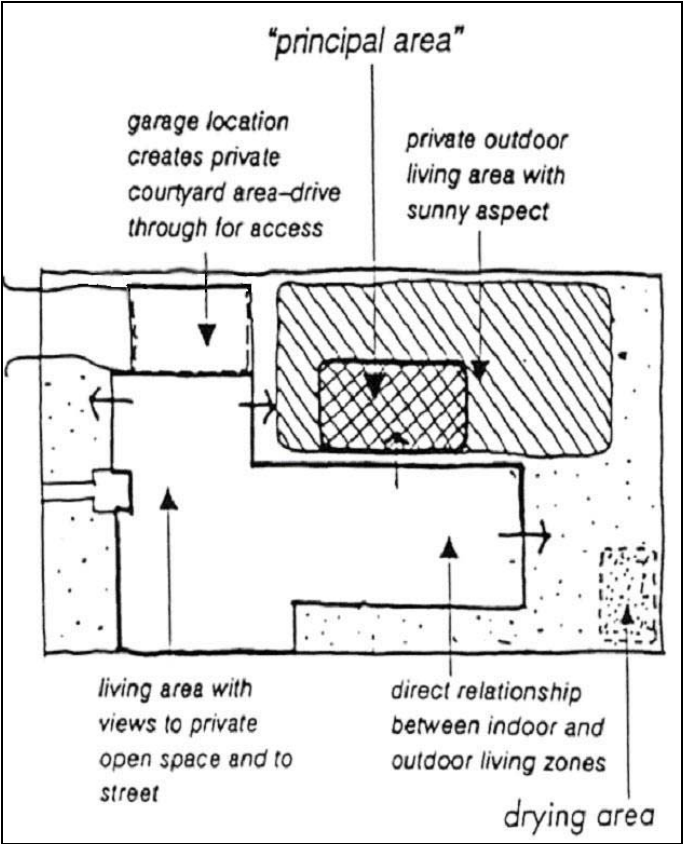


Figure 11: Private Open Space Considerations on an east-west lot

Controls

1. Subdivision and lot sizes, lot orientation and dwelling designs shall comply with Figures 9, 10 and 11.
2. Lot sizes and dimensions shall take into account the slope of the land to minimise cut and fill and to facilitate the retention of existing trees.
3. Applications for subdivision of land involving the creation of lots less than 300sqm or less than 10m lot width shall include details of the dwelling house as part of the development application.
4. The subdivision plan will not be released until the dwelling which was approved in conjunction with the subdivision is completed to above ground floor slab level.
5. Any proposal that creates a residual lot must demonstrate that the required density can be achieved across the residual lot.
6. Lots created are to have a minimum width as set out in Table 1.

Table 1: Minimum Lot Widths

Zone	Minimum Lot Size (as per LLEP 2008 Lot Size Map)	Minimum Lot Width
R1	300SQM(Area 2)	8m
R1	300SQM (Area 1)	7m

3.2 Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant cultural and built heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability, noise attenuation and/or solar access. A site analysis plan is to be lodged with the application (See Figure 12).
2. There must be a direct link from at least one living area to the principal private open space.
3. The siting, and design of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.

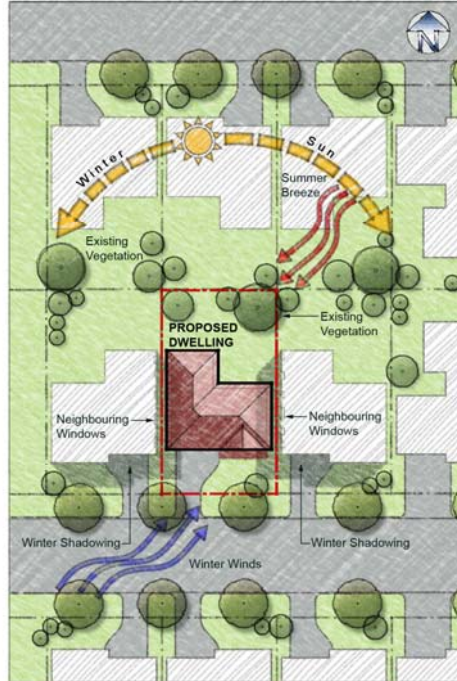


Figure 12 Example of a Site Analysis Plan

3.3 Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access;
- b) To set dwellings back from each other to provide visual and acoustic privacy;
- c) To create a streetscape that provides desirable residential amenity and a safe environment;
- d) To establish a streetscape of a scale and with a sense of enclosure appropriate to the locality;
- e) To provide an appropriate area on each lot capable of allowing the growth of trees and shrubs;
- f) To discourage vehicular parking across street verges and footpaths.

Controls

Front and Secondary Setbacks

1. Dwelling houses, semi detached dwellings, attached dwellings and multi dwelling housing shall be setback in accordance with Table 2 (see also Figure 13).

Table 2: Front and Secondary Setbacks

Component of building	Front Setback	Secondary Setback	Secondary Setback
	(primary street)	(secondary street) Lots under 450m ²	(secondary street) Lots 450m ² and over
Ground floor	4.5m*	2.0m**	2.5m
Second storey	4.5m*	2.0m**	2.5m

* The dwelling front setback may be reduced to 3m for lots where the dwelling will front directly onto RE1 Public Recreation, RE2 Private Recreation land (golf course land), and common private open space parcels that provide a sense of amenity (including play courts, swimming pools and playgrounds).

** The secondary setback may be reduced to 1m for a maximum length of 4m. The setback to the southern boundary cannot be varied under this control.

2. For dwellings fronting RE1 Public Recreation, RE2 Private Recreation land (golf course land), and common private open space parcels that provide a sense of amenity (including play courts, swimming pools and playgrounds) the front setback may be reduced to 3m. On these lots a front verandah, porch or patio may be built to within 1.8m of the front boundary. The garage setback is to be maintained at a minimum of 5.5m from the front boundary.
3. Verandahs, balconies, eaves and other sun control devices may encroach a maximum of 1.5m forward of the front setback. On the secondary setback encroachments must not be constructed within 1m from the property boundary.
4. Garages must be set back a minimum of 1m behind the main face of the dwelling. The main face is the first wall of a habitable room.
5. On corner lots the primary street frontage is the street to which the lot has the lesser frontage. The secondary street frontage is street to which the lot has the longest length boundary and does not include laneway frontage.
6. Garages that address the secondary frontage must be setback 1m or 5.5m and greater. Garages are not permitted to be setback between 1m - 5.5m.
7. Corner sites shall provide articulation of the building to both streets and should articulate their corner location with architectural features such as a wrap around verandah, bay window, corner entry or roof feature.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table 3.

Table 3: Side and Rear Setbacks

Component of building	Side Setback (minimum)	Rear Setback (minimum)
External walls on single storey dwelling houses	0.9 m	4.0 m*
External walls on second storey component of dwelling houses	1.2 m	6.0 m
Living room doors (including family rooms and rumpus rooms)	4.0 m	4.0 m

* Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access, noise attenuation (i.e. lots adjacent to the M5 where lots may have Private open space contained to the front of the dwelling) and the internal layout of the dwelling. The dwellings living areas must open out to open space. Building encroachment will only be supported if the minimum area of private open space, and solar access to private open space is achieved.

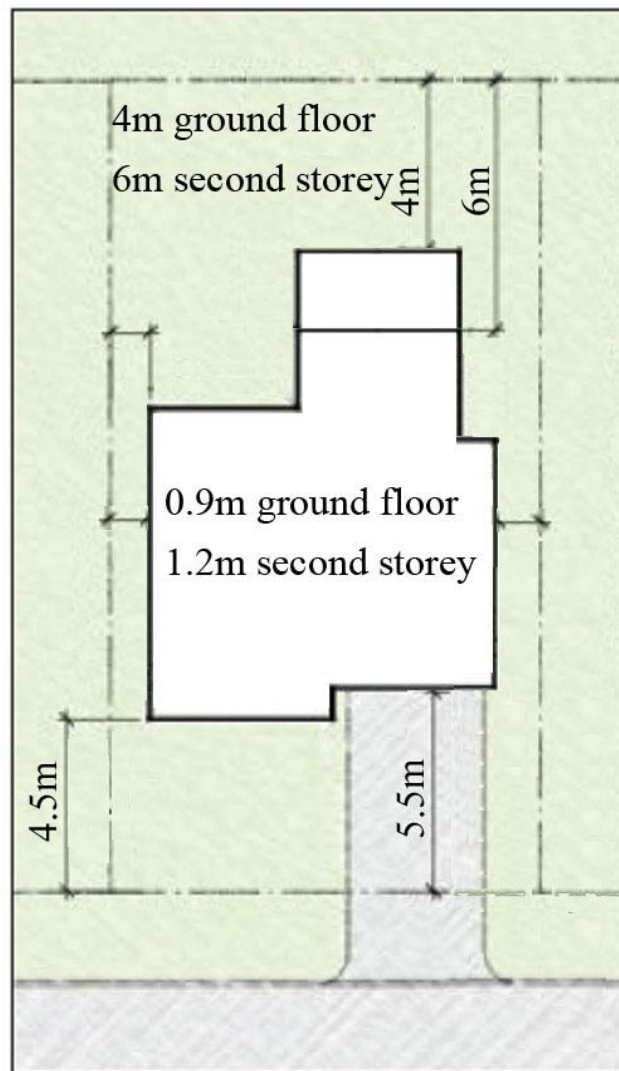


Figure 13: Example of Ground Floor & Second Storey Minimum Setbacks

Zero lot lines

1. Walls are to be 150mm clear of the side boundary to allow for gutter and eaves overhang.
2. The length of a zero lot line wall is limited to 50% of the adjacent side boundary length. The maximum length of a second storey zero lot line wall is 12 metres.
3. No windows are permitted in a zero lot line wall.
4. A maintenance easement of at least 900mm shall be provided on the adjoining property. Refer to figure 14.

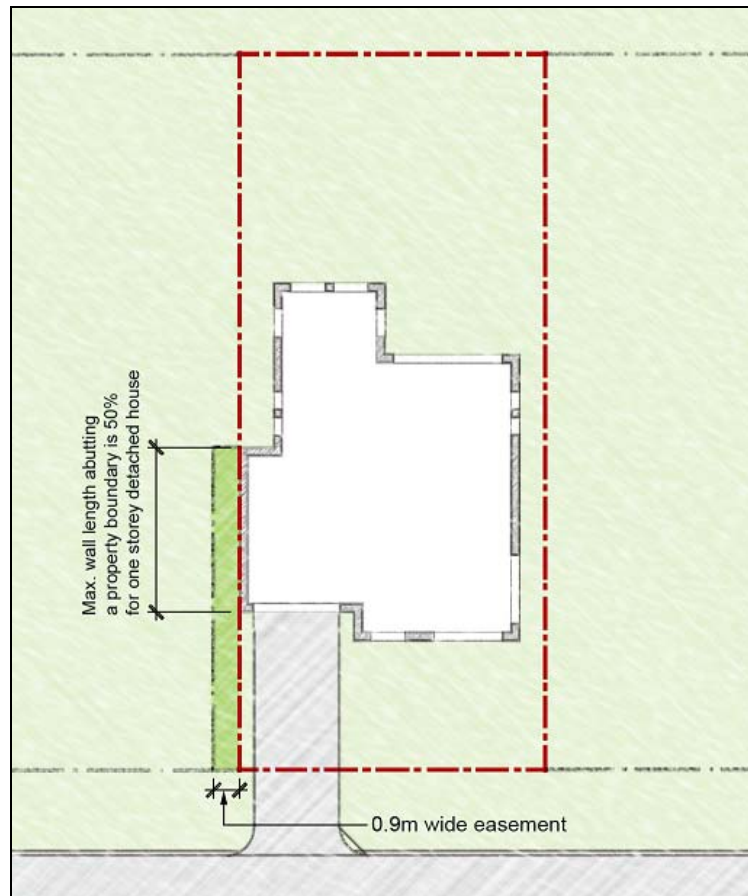


Figure 14: Zero Lot Lines

3.4 Dwelling Typology

Objectives

- a) To provide for certainty as to the location of dwelling types.
- b) To provide for the orderly development of New Brighton Golf Course release area.
- c) To provide for areas of higher density near areas of high amenity such as parks and open space areas.

Controls

In order to establish dwelling density and certain character through built form, the below list identifies building types proposed within the residential zoning.

Multi Dwelling Housing and Residential Flat Buildings

There are a number of opportunities where some larger allotments may be further subdivided to create multi dwelling units. This type of multi dwelling housing can comprise of two detached dwellings and a 'subdividable studio'. This type of multi dwelling housing developments must have a minimum lot size of 600sqm, be located on a corner allotment with a laneway access at the rear and not result in the creation of more than three dwellings.

Attached Dwellings

Opportunities are provided for row housing in small groups, duplexes, triplexes or Terraces. They are to be located in areas of higher amenity. Typically these need rear lanes for parking and servicing. Alternative locations may be considered where justified i.e. along M5 for acoustic attenuation purposes.

Dwelling houses

The larger lots provide the opportunity for free standing traditional one and two storey houses. These are often free standing but can have a zero lot line on one boundary.

Studio and Subdividable Studios

Objectives

- a) To provide an alternate form of housing in master planned neighbourhoods that include community facilities.
- b) To provide for a variety of housing types to cater for varied socio-demographic households.
- c) To provide for passive surveillance to laneways and private access ways.

Studio Controls

Studios are a room or rooms constructed above a detached garage that is associated with the principal dwelling on the lot. The studio is primarily designed to be used by the occupants of the principal dwelling. The studio shall comply with the following:

1. The studio shall be located on corner blocks or addressing secondary streets and on laneway entries and bends to improve surveillance.
2. Located on lots with a minimum size of 300sqm.
3. Must be detached from other studios.
4. Maximum gross floor area 45sqm.
5. No additional car parking space is required.
6. The studio shall be located above the garage, carport or like structure for the principal dwelling on the land.
7. There may be no subdivision of the studio from the principal dwelling on the land.

8. Windows are not permitted on elevations which directly face the adjoining lots' private open space.
9. Garages with studios above are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
10. A studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
11. Studios shall not reduce the minimum required amount of solar access to any dwelling's (adjoining or the principal dwelling) private open space as stipulated in Section 3.5 of this Part.

Subdividable Studio Controls

A Subdividable Studio consists of a room or rooms constructed above a detached garage that is associated with the principal dwelling/s on the lot. The subdividable studio is intended to be separately strata titled to allow for independent living from the principal dwelling on the lot. The studio shall comply with the following:

1. The subdividable studio shall be located on corner blocks with laneway vehicle access.
2. The subdividable studio shall be located on lots with a minimum size of 350sqm.
3. The subdividable studio shall have a maximum gross floor area of 75sqm.
4. The subdividable studio is to be located above the garage, carport or like structure for the principal dwelling on the land and is to be detached from other studios.
5. One additional dedicated on-site car parking space is required to be associated with the subdividable studio.
6. The car parking space is not to be located in front building setback of the principal dwelling and is not to be in a stacked configuration.
7. The subdividable studio must include provision of a balcony accessed directly off the living space having minimum size of 6sqm, plus a minimum 10sqm ground level service yard with space for clothes drying facilities. The balcony shall not protrude over any property boundary.
8. Subdividable studios may be strata subdivided from the principal dwelling, or dwellings on the land.
9. Garages with studios are to be constructed 1.5m from the rear boundary and may have a zero lot setback to one side boundary.
10. A subdividable studio must have a minimum separation of 4m from the first floor of the principal dwelling on the lot.
11. Pedestrian access to subdividable studios is to be from the street frontage and not the laneway.
12. Subdividable studios must be provided with separate services and an on-site garbage storage area e.g. separate letter box.
13. Subdividable studios shall not reduce the minimum amount of solar access to any dwelling's (adjoining or the principal dwelling) private open space as stipulated in Section 3.5 of this Part.
14. Windows are not permitted on elevations which directly face the adjoining lots' private open space. Windows may be permitted on the elevation facing the principal dwelling on the lot where they have a minimum sill height of 1.7m.
15. Screening is to be provided to access ways (e.g. staircases) for studios to prevent viewing into adjoining private open space areas.

3.5 Landscaped Area and Private Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Private open space is an area within the site that is set aside for outdoor activities. Clotheslines, BBQ areas, pergolas (unroofed structure), patios, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas (see Figure 15).
2. A minimum unincumbered area of 4m x 6m shall be provided to accommodate deep rooted trees.
3. A minimum of 50% of the front setback area shall be Landscaped Area.
4. A minimum unincumbered area of 3m x 3m shall be provided in front setback to accommodate deep rooted trees. Where the proposal is to incorporate the private open space to the front of the dwelling, this area may be included in this space.
5. Landscaping within the front setback it to include atleast one substantial tree.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must be provided a minimum of 50sqm of Private Open Space. Refer
2. Areas less than 2.5m in width do not qualify as Private Open Space (see Figure 15).
3. Other than lots located adjacent to the M5, Private Open Space areas are not permitted within the primary street setbacks.
4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the Principal Private Open Space of 25sqm, which is directly accessible from the main living area and has a minimum dimension of 4m.

6. The Principal Private Open Space must receive 2 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.

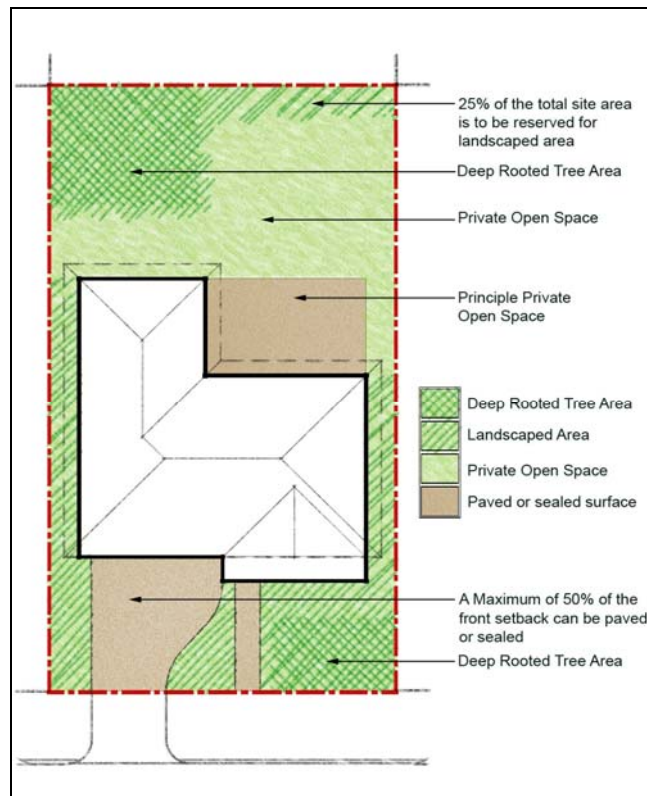


Figure 15: An example of Landscaped Area & Private Open Space

3.6 Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

- 1. The maximum cut on a site should not exceed 1m (see Figure 16).
- 2. All retaining wall structures shall be masonry construction where visible from the street and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
- 3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.
- 4. Contaminated fill is not permitted.
- 5. In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.
- 6. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - i. A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - ii. A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - iii. Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

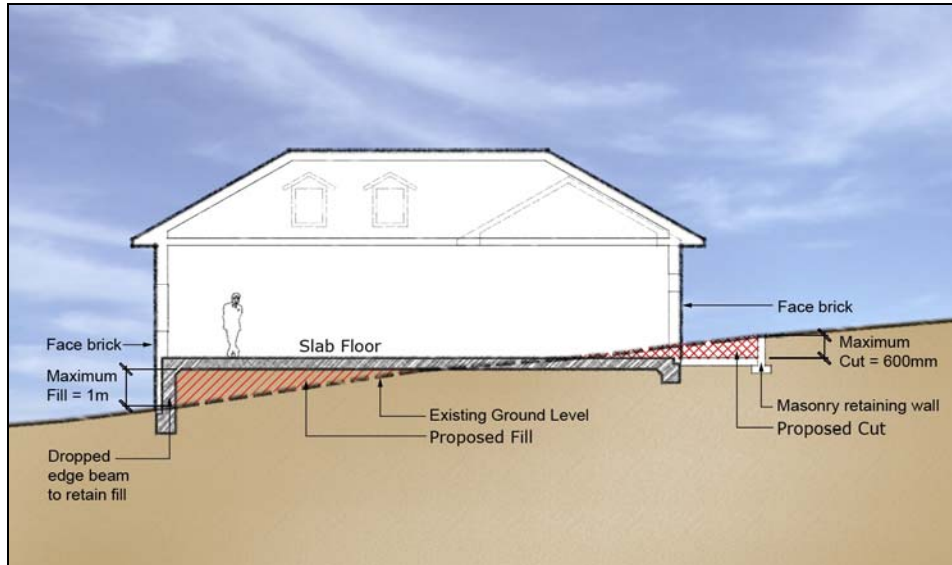


Figure 16: Cut & Fill Requirements

Building Envelopes

Background

The orientation and site cover of a building has significant implications for residential amenity. Building envelopes determine the orientation and footprint of a dwelling, as well as the total volume of the dwelling.

Objectives

- a) To facilitate the efficient use of the site area.
- b) To maximise private amenity within the building.
- c) To minimise the impacts of development on neighbouring properties in regard to views, privacy and overshadowing.
- d) To ensure that buildings are sited so as to provide for solar access and both visual and acoustic privacy.
- e) To provide an acceptable scale of development.

Controls

1. The building footprint for single detached dwellings is not to occupy more than 55% of the site and the total impervious area is not to exceed 75% of the total site area.
2. The building footprint for denser development (i.e. attached/zero lot housing, terrace, townhouse or villa development) is not to occupy more than 60% of the site and the total impervious area is not to exceed 75% of the total site area.

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.

- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

- 1. All dwelling houses are to be orientated to the street.
- 2. The front pedestrian entrance must be visible from the street.
- 3. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
- 4. Dwellings are to include an eave overhang to provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
- 5. Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating or architectural elements.
- 6. "Mirror – imaging" of facades on Semi-detached dwellings and Attached dwellings is not permitted.

Two storey dwellings

- 1. To break up the bulk of two storey dwellings, balconies built above garages are encouraged (See Figure 17)
- 2. The maximum total length of the side walls of the first floor component of a dwelling shall be a maximum of 33m as measured from any point within 3m of that side wall (for example 14m + 19m = 33m) (See Figure 18).



Figure 17: An Example of Building Appearance

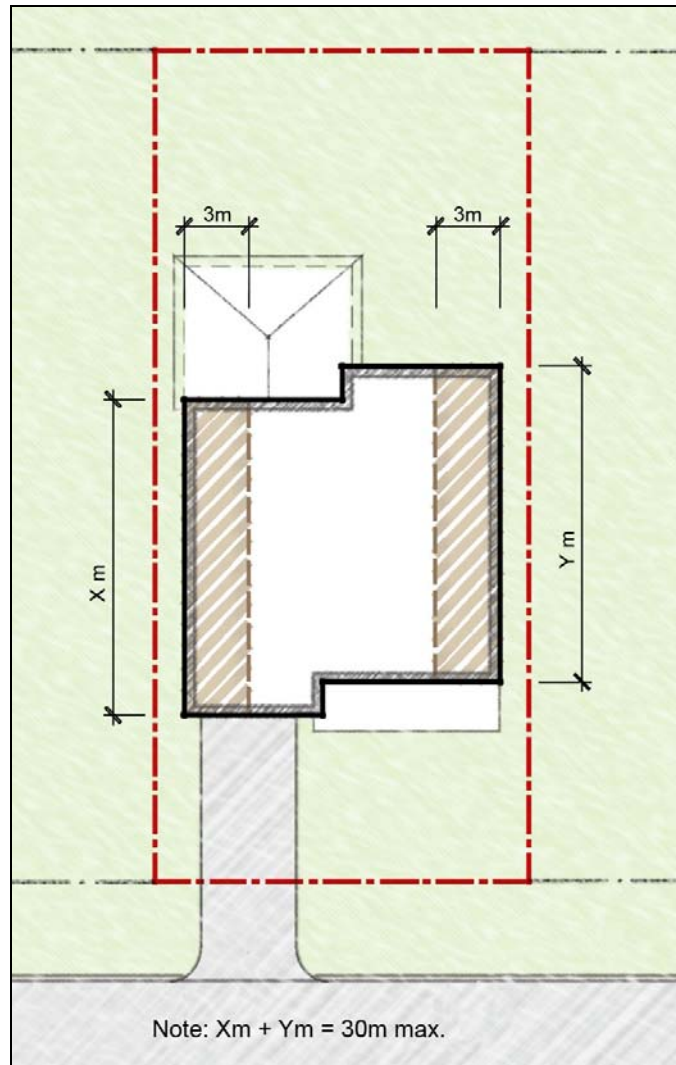


Figure 18: Maximum Total First Floor Wall Length of a Two Storey Dwelling

Garages and Carports

1. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
2. Garages and carports must be designed to be the minor element of the façade.
3. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
4. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
5. Carports shall not be built in front of the building line and shall be:
 - i. No larger than 5.5 x 6m.
 - ii. Built of a similar colour and materials of the house.
 - iii. Compatible with the local streetscape.

6. The conversion of garages to living space may only be permitted if:
 - i. At least one car parking space is provided behind the front setback.
 - ii. The additional living area does not result in the building exceeding the maximum permitted floor space ratio.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To encourage the internal design of the dwelling to take advantage of cross ventilation,
- c) To encourage considered location of utility rooms and storage areas.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects where possible.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).
8. Dwelling entries must be oriented to the street.

3.7 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To minimise the visual impact of development and encourage creation of a quality residential streetscape.

Controls

1. A minimum of one tree is to be provided within the front setback area of every residential dwelling. This may include existing trees that are to be retained within the front setback area. Newly planted trees are to have a minimum pot size of five litres.
2. Trees planted on the northern side of private open space and habitable rooms are encouraged to be of a deciduous species.
3. Planting of vegetation at the front of higher density development must consider the need for passive surveillance. Excessively dense vegetation that creates a visual barrier must be avoided. Exceptions to this may be considered where the private open space is located at the front of the dwelling.
4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
5. A landscape plan must be lodged with all new dwellings and is to provide the following details:
 - i. The location of any existing trees on the property, specifying those to be retained and those to be removed.
 - ii. The location of any trees on adjoining properties that is likely to be damaged as a result of excavations or other site works.
 - iii. The position, species and mature height of each shrub and tree proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element enhances the streetscape.
- c) To provide a reasonable level of privacy to lots with private open space located at the front of the dwelling.

Controls

1. Wall/fence finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. The maximum height of a front fence is 1.2m. (Unless otherwise stipulated in point 4).
2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas. (Unless otherwise stipulated in point 4).
3. Front fences shall be constructed of masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.
4. A 1.8m high fence may be permitted where the private open space is located at the front of the dwelling. Where visible from public areas, this fence must be constructed from masonry and/or a decorative timber batten fence and should incorporate relief in the form of articulation and/or planting.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (see Figure 19).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (see Figure 19). The secondary setback is the longest length boundary.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.

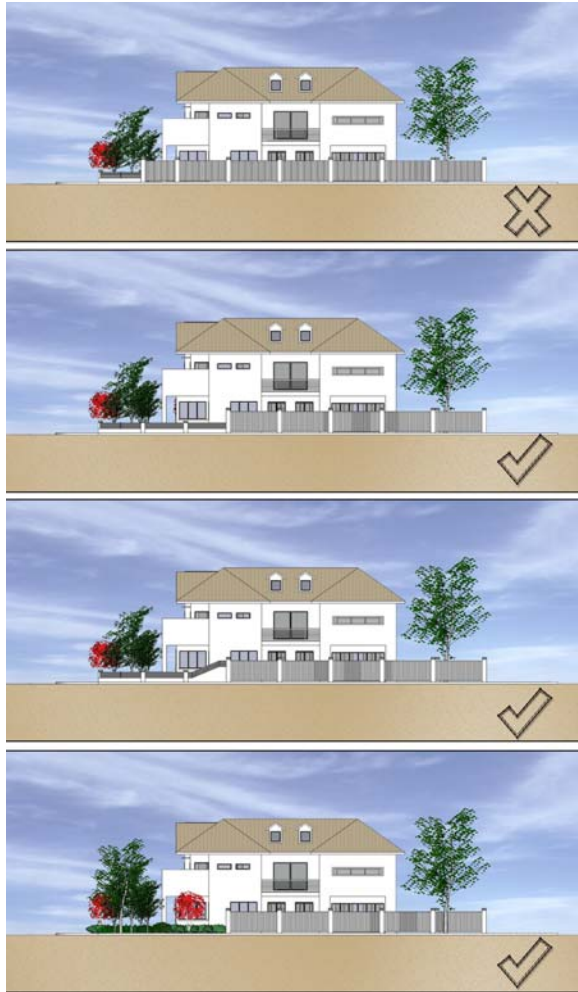


Figure 19: Fence Treatments on Secondary Frontage

3.8 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicle manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need generated for on-street car parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling, except for lots under 300sqm which must provide a minimum of 1 car parking space.
- 2. A car parking space is to have a minimum dimension of 2.5m x 5.5m.
- 3. A single garage is to be a minimum of 3m wide internally.
- 4. All parking spaces for adaptable housing units shall comply with AS 2890:1 for disabled car parking.

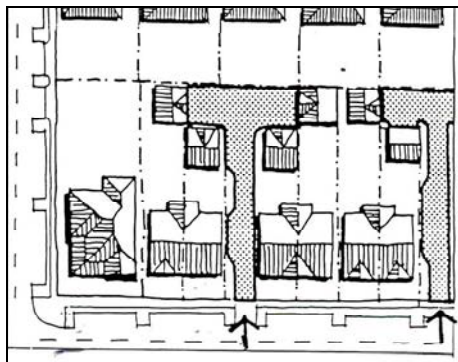
Private Driveways

Objectives

- a) To provide safe and convenient access to garages, carports and parking areas.
- b) To clearly define public and private spaces, such that driveways are for the sole use of residents.

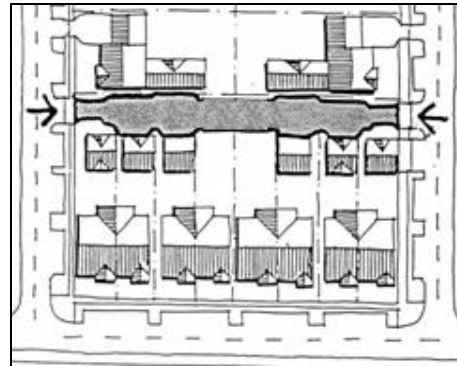
Controls

- 1. Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
- 2. A lot on which an off-street car parking space is provided must have a driveway to a public road.
- 3. A driveway on a lot must be constructed in accordance with Australian Standard AS 2890.1 - 1993, Parking facilities - Off-street car parking.
- 4. Development on corner lots on collector streets shall have access from the street perpendicular to the collector street.

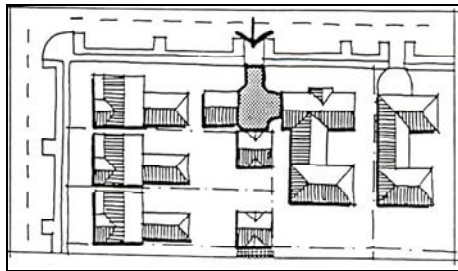


T-Shaped

- Driveway should be from the frontage road of the narrow lot dwellings
- Use where block geometry or available road frontage precludes 'close'



Where driveways are to serve several lots they should connect through to public roads.



Common Apron

- Maximum 3 dwellings

Figure 20: Private Driveways

3.9 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- i. One living room, rumpus room or the like.
- ii. 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 21).
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (See Figure 21).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of onsite and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

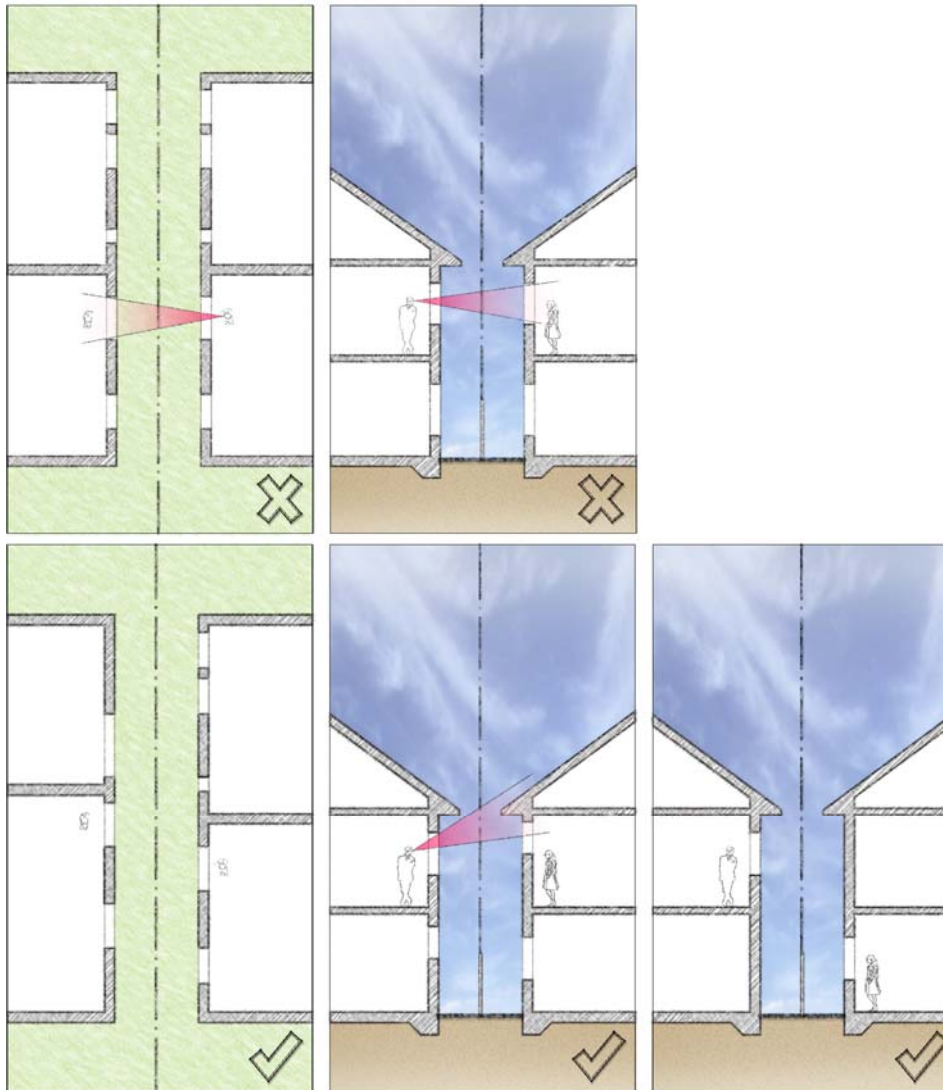


Figure 21: Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into residential development.

Controls

1. A noise report is to be lodged with subdivision applications to create any lots within 300m of the M5 in accordance with the provisions of the Department of Planning Development near Rail Corridors and Busy Roads – Interim Guideline. This report is to establish the level of noise attenuation to be provided to dwellings to be created on these lots.
2. Dwellings affected by noise from the M5 Motorway should be designed to incorporate acoustic treatment to affected internal areas.
3. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
4. Design of acoustic treatment should be in accordance to relevant standards and policies including, but not limited to:
 - i. NSW “Environmental Criteria for Road Traffic Noise” (ECRTN)
 - ii. Australian Standard AS2017:2000 “Acoustics – Recommended design sound levels and reverberation times for building interiors”

4. Golf Course Design

4.1 Golf Course Layout

Objective

- a) To ensure that any proposed golf course layout limits the amount of vegetation removed.
- b) To ensure the protection of the Green and Golden Bell Frog and their habitats on the subject site.

Control

1. Any proposed golf course layout should as far as practical limit the amount of vegetation lost through the re-design of golf holes on the southern side of the M5 Motorway.
2. Any proposed golf holes on land south of the M5 should as far as practical utilise the previous fairways from the former Greenwood Golf Course.
3. Any reconfiguration of the golf course shall be referred to the Office of Environment and Heritage.
4. In accordance with Ambrose Ecological Services Pty Ltd (25 April 2011) Ecological Assessment, a Green and Golden Bell Frog Management Plan is to be prepared aimed at protecting sub-populations of this species and their habitats that occur on the subject site and in adjoining areas.

4.2 Vegetation Offsetting

Objective

To ensure that any proposed vegetation offsetting requirements are in accordance with Council's Biodiversity Strategy.

Control

1. Any proposed vegetation offsetting shall be in accordance with Council's Biodiversity Strategy.
2. Any vegetation offsetting that is required as a result of new golf hole locations shall be referred to the Office of Environment and Heritage.

4.3 Safety (Golf Holes near Public / Private areas)

Objective

To reduce the incidence of escaping golf balls by appropriate protection measures.

Control

1. Where a golf hole is located in close proximity to public roads, public areas or private property appropriate mitigation measures are to be implemented to reduce the event of damage / harm caused by escaping golf balls. This could include high fencing or the design of holes to reduce the incidence of escaping golf balls.
2. Notwithstanding the above any fencing should not impede flood flows

Note: Escaping golf balls means a golf ball that is hit from the golf course to either public or private property that could cause damage or harm to persons or property,

4.4 Maintenance Areas

Objective

To ensure that maintenance areas and sheds are designed to reduce the visual and acoustic impacts to residential areas.

Control

Maintenance areas of the golf course (maintenance sheds), greenkeepers sheds, yards and storage areas are to be screened and designed to reduce the impact to residential areas. Appropriate screening may include a combination of landscaping, fencing or earth mounding.

4.5 Clubhouse Design and Parking Areas

Clubhouse Design

Objective

To ensure that the visual impact of the Clubhouse building(s) is sympathetic to the surrounding residential development areas.

Control

1. The clubhouse design and surrounds must be designed to reduce the visual and acoustic impacts to residential areas. Appropriate screening may include a combination of landscaping, fencing or earth mounding.
2. The Clubhouse must be Architectural designed and provide a community focal point.

Parking Areas and Access

Objective

- a) To ensure that adequate car parking space and service facilities are conveniently located on site to satisfy the reasonable demand created by the golf course.
- b) To ensure there is adequate and safe pedestrian access to the golf course.
- c) To ensure that adequate landscaping/tree planting is provided to improve amenity and reduce visual impact of car parking and loading areas.

Note: The following controls are in addition to Car Parking and Access controls with Part 1 Liverpool Development Control Plan 2008.

Control

1. All parking associated with the golf course is to be located within the Clubhouse area.
2. The golf course complex must ensure there is adequate and safe pedestrian access to the site or provided a dedicated pedestrian shared path to the site.
3. An outdoor car park with 20 or more car parking spaces must include at least 1 tree per 10 car parking spaces to the following specifications:
 - A tree must be a single trunk species to allow a minimum visibility clearance of 1.5m measured above natural ground level; and
 - A tree must be planted in an island bed that is a minimum 2m in width and 4m in length.



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Liverpool Development Control Plan 2008

Part 3.1

Dwelling Houses in the R5 zone

3 September 2014

Part 3.1 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.1 Residential Development in the R5 zone

Table of Contents

1. Preliminary	5
2. Site Planning	8
3. Setbacks.....	10
4. Landscaped Area and Private Open Space	11
5. Cut and Fill, Building Design, Streetscape and Layout.....	12
6. Landscaping and Fencing.....	15
7. Car Parking and Access	17
8. Amenity and Environmental Impact	18
9. Site Services	19
10. Additional Requirements.....	20

Table of Figures

Figure 1 Lots in Pleasure Point subject to merit assessment.....	6
Figure 2 Example of a site analysis plan	9
Figure 3 Front, Side and Rear setbacks	10
Figure 4 An example of Cut and Fill	13
Figure 5 Driveway design and car parking.....	17

1. Preliminary

Applies to

1. This section applies to the design of dwelling houses on lots in the R5 zone.
2. Part 1 of the DCP also applies to the land.
3. Requirements for Setbacks and Landscaped Area and Private Open Space must be assessed on their merits in relation to the following lots in Pleasure Point, which are also illustrated in Figure 1 below:

Lot 83 DP 1134481

Lot 84 DP 1134481

Lot 85 DP 1134481

Lot 79 CS 09/63

Lot 80 CS 09/63

Lot 81 CS 09/63

Lot 75 DP 1134478

Lot 76 DP 1134478

Lot 77 DP 1134478

Lot 71 DP 1134477

Lot 72 DP 1134477

Lot 73 DP 1134477



Figure 1: Lots in Pleasure Point subject to merit assessment of Setbacks, Landscaping and Private Open Space (subject lots highlighted)

Background

Land for rural residential subdivision at Denham Court was identified in the late 1980's. That portion which is in the valley is within the R5 zone. In the early 2000's land was identified at Wallacia for rural residential subdivision. Subsequently land was also identified adjacent to Luddenham for a similar subdivision.

Objectives

- a) To provide controls for Large Lot Residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.
- c) Additional objectives are listed in the detailed controls for the various land uses.

2. Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

- 1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access.
- 2. There must be a direct link from at least one living area to the principal private open space.
- 3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the private open space of neighbouring properties.
- 4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.
- 5. The Site analysis Plan must show the development area, and any areas of remnant or otherwise bushland on site. The site analysis plan must also show whether any bushland is to be removed as part of the development, and show the justification for this.

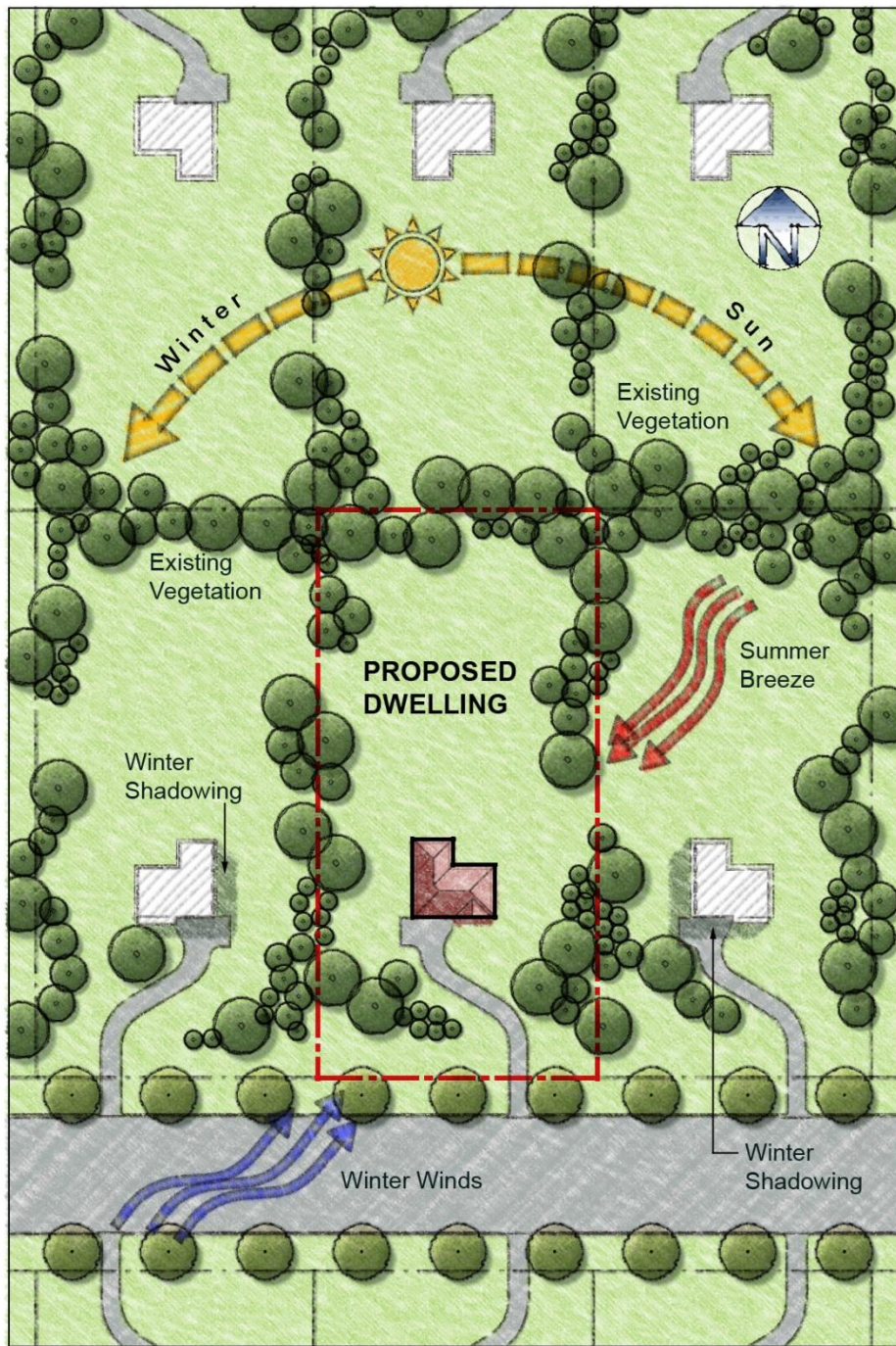


Figure 2 Example of a site analysis plan

3. Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set dwellings back from each other to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

1. Dwelling houses and any other buildings shall be setback between 12 and 25m from all streets for the front and secondary setback.
2. Garages must be set back a minimum of 1m behind the main face of the dwelling house (see Figure 2). (The main face is the first wall of a habitable room)
3. Verandahs, balconies, eaves and other sun control devices may encroach on the minimum front and secondary setback by up to 1m.
4. The secondary setback is the longest length boundary.

Side and Rear Setbacks

5. Dwelling houses and any other buildings shall be setback a minimum of 5m from the side boundaries and a minimum of 12m from the rear boundary.

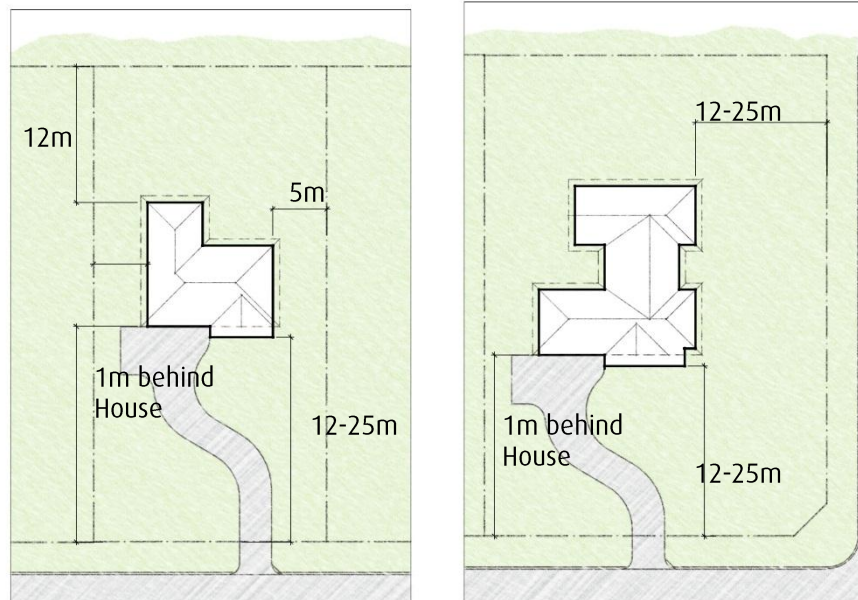


Figure 3 Front, Side and Rear setbacks

4. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private Open Space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private Open Space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

- 1. A minimum of 75% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
- 2. A minimum of 75% of the front setback area shall be Landscaped Area.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) to ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

- 1. Each dwelling must provide a minimum of 100sqm of Private Open Space Areas less than 2.5 m in width does not qualify as Private Open Space.
- 2. Private open space areas are not permitted within the primary street setbacks.
- 3. The Private Open Space shall include a Principal Private Open Space area, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6m.

5. Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

- 1. The maximum cut on a site must not exceed 600mm.
- 2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacture of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
- 3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.
- 4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

- 5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - i. A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites;
 - ii. A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites; and
 - iii. Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

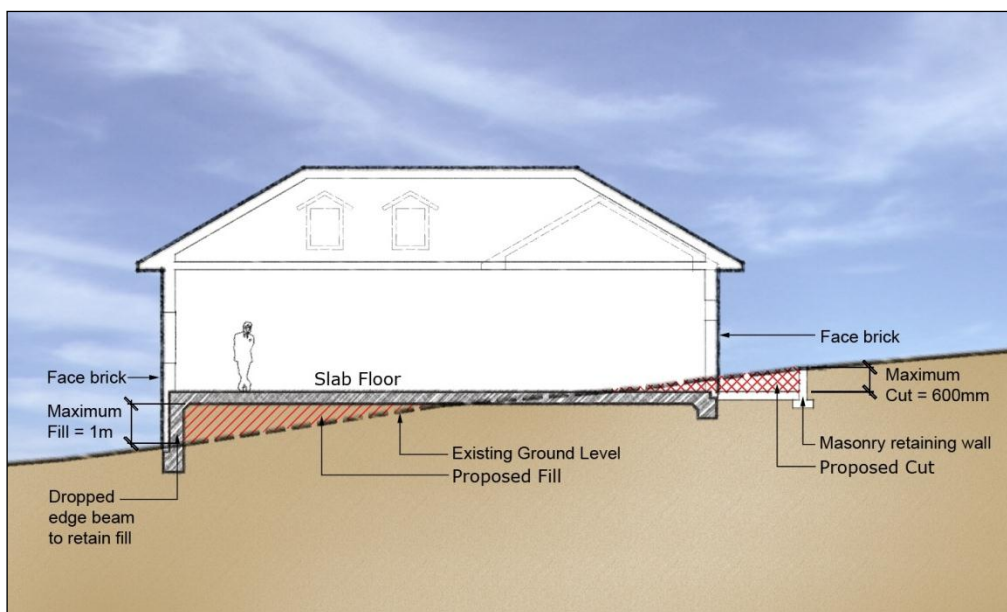


Figure 4 An example of Cut and Fill

Building Design and Appearance

Objectives

- To encourage designs that will enhance the character of the neighbourhood.
- To promote variation of building facade and design.
- To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- To ensure buildings address all street frontages appropriate.
- To discourage garages and in particular garage doors, from visually dominating the streetscape.
- To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- To ensure habitable rooms address the street.
- To encourage balconies over garages on two storey dwellings.

Controls

- All dwelling houses are to be orientated to the street.
- The front pedestrian entrance must be visible from the street.
- The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, windows, changes in finishes, balconies and/or verandahs.
- Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
- Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
- The side walls shall be articulated if the wall has a continuous length of over 14 m.

Garages and Carports

1. Garages and carports must be designed to be the minor element of the façade
2. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
3. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

6. Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8 m height at maturity within the front and rear setback areas.
- 2. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 3. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
- 4. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from habitable areas of dwellings or elsewhere as appropriate for gardener access in other forms of development.
- 5. The development must be designed around significant vegetation on the site.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

- 6. At least one tree shall be planted in the landscaped areas. The tree must reach a mature height of over 8 m.
- 7. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
- 8. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary and Secondary Frontage

1. The maximum height of a front fence is 1.5m.
2. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
3. The front fence must be 30% transparent.
4. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
5. The front fence may exceed 1.5m (to a maximum of 1.8m) *only if*:
 - The fence is 50% transparent; and
 - The fence is articulated by 1m and has landscaping in front of the fence; and
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.5m.

7. Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.
- c) To minimise the impact of driveways and parking areas on existing landscaping, landform and streetscape.
- d) To ensure pavement or driveway materials are sympathetic to the streetscape and surrounding landscape character.

Controls

Car Parking

1. Two car parking spaces shall be provided for each dwelling.
2. At least one car parking space must be provided behind the front setback.
3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
4. A single garage is to be a minimum of 3m wide internally and unobstructed.

Access

1. The location of access driveways should consider the natural features, topography and existing vegetation of the site. Access driveways should follow the topography and landscaping onsite (See Figure 4).
2. Access driveways should be located where they are easily visible on the street. Avoid placing driveways at bends or where the road creates visibility problems for access points.
3. Development on sites located on Classified roads may be required to provide a deceleration lane to ensure that the flow of traffic is not impeded.



Figure 5 Driveway design and car parking

8. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 3pm on 21 June to at least:
 - One living room, rumpus room or the like.
 - 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling .
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space.
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the Building Code of Australia.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

9. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Frontage works and damage to Council infrastructure

- 1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

10. Additional Requirements

The following are additional controls for Dual Occupancies in the R5 Zone. As per the provisions of LLEP 2008, dual occupancies can be attached or detached.

Objectives

- a) To ensure that Dual Occupancies are compatible with the large lot residential environment.
- b) Ensure that external finishes have a minimal detrimental impact on the visual amenity of the area.
- c) Encourage consideration of all components of Dual Occupancy developments such as fencing, driveways and landscaping in the design process.
- d) To ensure slope and views are considered appropriately.

Controls

The following controls are in addition to those in Sections 1 – 9 of this DCP chapter.

Building Appearance, Streetscape and Layout

1. An extension or alteration, which creates attached dual occupancy housing, is to ensure that design features complement the existing dwelling house.
2. An attached dual occupancy shall be compatible with the design features of the existing dwelling in terms of cladding, colour, building materials, windows, verandahs, roof form and pitch.
3. The front building line of the second dwelling is to be located behind the building line of the existing dwelling house. In the event two dwellings are constructed at the same time, one dwelling shall be sited to present as the principal dwelling with the second dwelling to be subservient in scale.
4. Mirror reversed or replica dwelling design dual occupancies are not supported.
5. Attached Dual Occupancy development shall be physically attached under the same roofline and have the general appearance of a large single dwelling house when viewed from the primary street frontage. Structures such as carports, skillion roofs, pergolas, covered awnings and the like are not acceptable as a mode of attachment.
6. In the case of Detached Dual Occupancy, both dwellings shall possess compatible architectural treatments and building materials.
7. Dwellings must be located to minimise the removal of any existing vegetation.
8. Buildings should complement the characteristics of the landform. Cut and Fill must be kept to a minimum.
9. The roofline of all buildings should reflect the land profile within the vicinity of the development.

Car Parking and Access

Car parking areas, internal driveways and access driveways shall be constructed of hard standing, all weather material.



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Liverpool Development Control Plan 2008
Part 3.2
Dwelling Houses on Lots greater than 400sqm
in the R2, R3 and R4 zones

19 February 2014

Part 3.2 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.2 Dwelling Houses on lots greater than 400m² in the R2, R3 and R4 zones

Table of Contents

1. Preliminary	5
2. Site Planning	7
3. Setbacks	9
4. Landscaped Area and Private Open Space	11
5. Cut and Fill, Building Design, Streetscape and Layout	13
6. Landscaping and Fencing	17
7. Car Parking and Access.....	20
8. Amenity and Environmental Impact.....	21
9. Site Services	25
10. Secondary dwellings (Granny Flats)	26

Table of Figures

Figure 1 Example of a site analysis plan.....	8
Figure 2 Front, Side and rear Setbacks	10
Figure 3 An example of Landscaped Area and Private Open Space.....	12
Figure 4 An example of Cut and Fill.....	14
Figure 5 Example of Building Appearance.....	15
Figure 6 Fence treatments on secondary frontage	19
Figure 7 Privacy and Amenity	22
Figure 8 Land to which a 25 metre setback applies.....	24

List of Tables

Table 1	9
Table 2	9
Table 3	12

1. Preliminary

Applies to

1. Part 3.2 applies to Dwelling Houses on lots greater than 400m² in the R2 – Low Density Residential, R3 – Medium Density Residential and R4 – High Density Residential, except as provided below.
2. Part 1 of the DCP also applies to the land.
3. The following Parts also apply to development in certain areas, these Parts only provide controls for the Public Domain, in particular the proposed street layout.
 - Part 2.1 Casula Green Valley.
 - Part 2.2 Hoxton Park, Carnes Hill and Prestons.
 - Part 2.13 Pleasure Point
4. Part 3.2 does not apply to residential development on land in the residential zones in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
 - Georges Fair Moorebank. (Refer to Part 2.3 for all controls on residential development).
 - Middleton Grange. (Refer to Part 2.5 for all controls on residential development).
 - Greenway Views. (Refer to Part 2.7 for all controls on residential development).
 - Voyager Point (Refer to Part 2.8 for all controls on residential development).
 - Edmondson Park (Refer to Part 2.11 for all controls on residential development).

Background

Developments in Liverpool have been traditionally single dwellings on single lots. The aim of this section of the DCP is to provide development controls for the variety of dwelling types permitted in residential areas in Liverpool LGA while maintaining a pleasant streetscape and providing privacy for existing and future residents.

Residential development in Liverpool prior to the 1950's was concentrated around the current Liverpool City Centre and in the portion of Moorebank near Moorebank Avenue and consisted generally of single detached dwelling houses. In the 1960's development larger took place in the Housing Commission area around Miller and on land at Moorebank. There was also development at Casula and Lurnea. Again it largely consisted of dwelling houses. There was some limited home unit re-development near Liverpool City Centre.

The *Sydney Region Outline Plan*, released in 1968 identified areas on the fringe of Sydney for urban development. The bulk of the land to the west of Liverpool identified in the plan now forms Hoxton Park Release Area, Stages 1 & 2.

In the 1970's development took place in Chipping Norton and Moorebank and to a lesser extent at Green Valley and Casula. There was also some home unit urban re-development adjacent to the Liverpool CBD.

Development in the 1980's commenced in the area known as the Hoxton Park Stage 1 Release Area including Green Valley, Hinchinbrook and Casula. These areas consisted largely of dwelling houses, although dual occupancy housing and multiple dwellings were also permitted in these areas.

In the 1990's the rate of residential development increased substantially. It commenced in Wattle Grove, Cecil Hills, Hoxton Park, Carnes Hill and Prestons. Again it consisted largely of dwelling houses although dual occupancy housing and multiple dwellings were also permitted in these areas.

In the early 2000's more redevelopment began to take place in the established areas of Liverpool in the form of dual occupancy and multiple dwellings in suburban areas as well as substantial home unit re-development around Liverpool City Centre.

During these periods non-residential developments took place in the residential areas including schools and churches.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.

2. Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

- 1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, land capability and / or solar access (See Figure 1).
- 2. There must be a direct link from at least one living area to the principal private open space.
- 3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the private open space of neighbouring properties.
- 4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

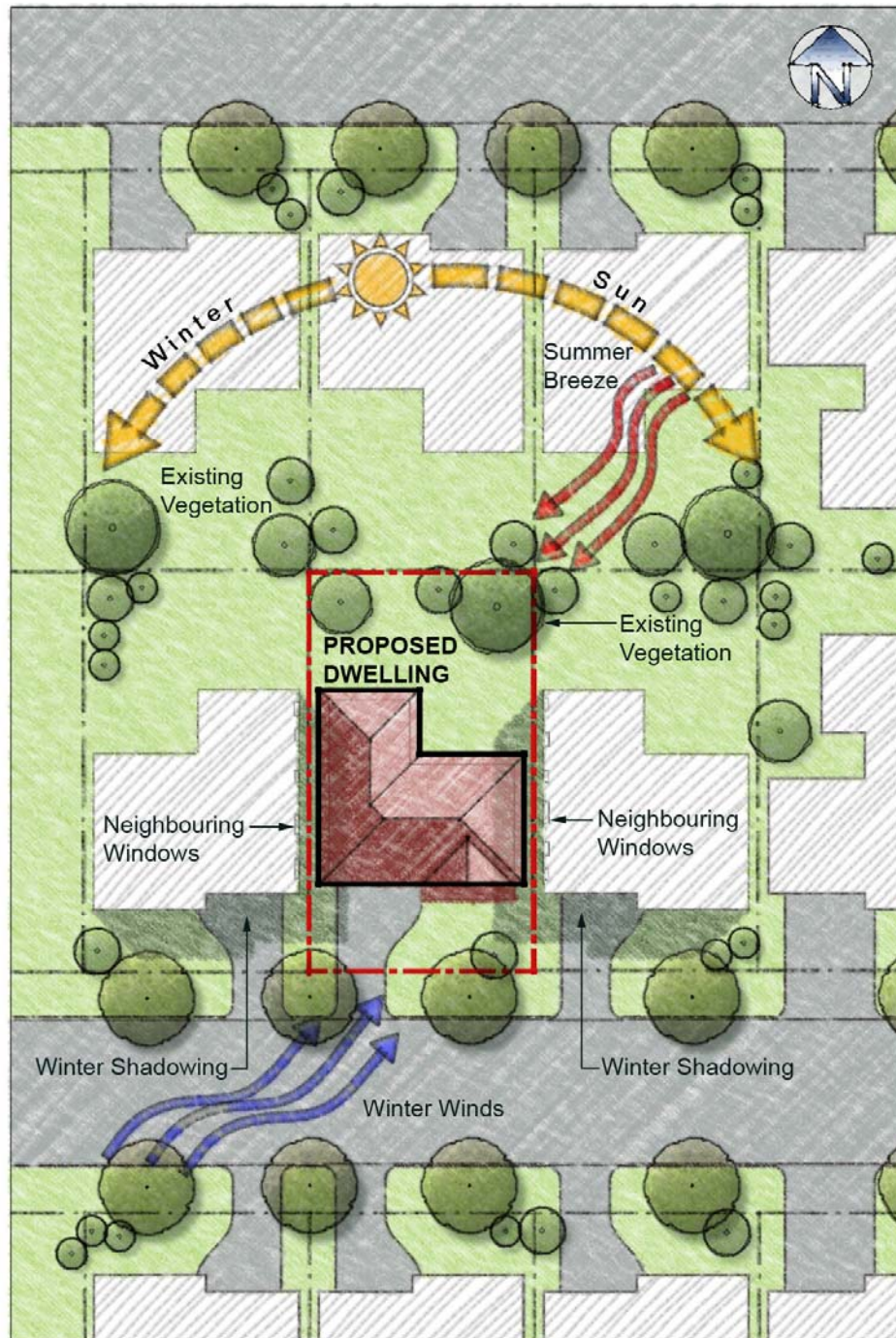


Figure 1 Example of a site analysis plan

3. Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set dwellings back from each other to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

1. Dwelling houses shall be setback in accordance with Table 1.

Table 1

Street	Front Setback	Secondary Setback
Classified Roads	7.0m	7.0m
Other Streets (ground floor)	4.5m	2.5m
Other Streets (first floor)	5.5m	2.5m

2. Garages must be set back a minimum of 1m behind the main face of the dwelling (see Figure 2). (The main face is the first wall of a habitable room)
3. Verandahs, balconies, eaves and other sun control devices may only encroach on the minimum secondary setback by up to 1m.
4. The secondary setback is the longest length boundary (See Figure 2).
5. Garages that address the secondary frontage must have minimum setback of 5.5m.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9m	4.0m
Second storey component of dwelling houses	1.2m	7.0m
Living room doors (such as family, dining or rumpus rooms)	4.0m	4.0m

Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

Refer to Section 8 - Amenity and Environmental Impact for Setbacks for Bushfire Hazard in Pleasure Point

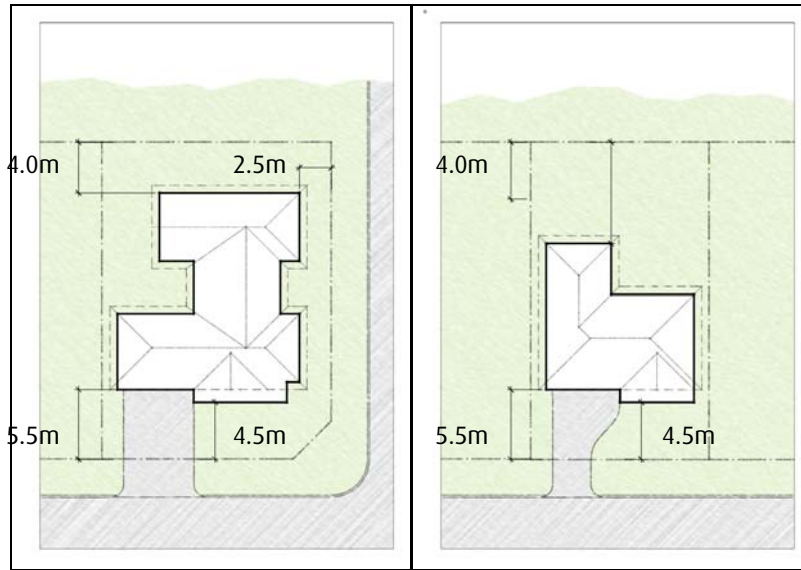


Figure 2 Front, Side and rear Setbacks

4. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private Open Space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private Open Space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Controls

- 1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas (See Figure 3).
- 2. A minimum unincumbered area of 4 x 6m shall be provided in rear setback to accommodate deep rooted trees.
- 3. A minimum of 50% of the front setback area shall be Landscaped Area.
- 4. A minimum unincumbered area of 3 x 5m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities and Principal Private Open Space areas are located adjacent to internal living areas.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling must provide a minimum amount of Private Open Space in accordance with Table 3.

Table 3

Lot size	Minimum area of Private Open Space
400m ² and 599m ²	70m ²
600m ² and over	80m ²

2. Areas less than 2.5 m in width does not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. The Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include the principal private open space, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6 m
6. The Principal Private Open Space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Open has a predominately northern aspect Clause 6 (above) does not apply.

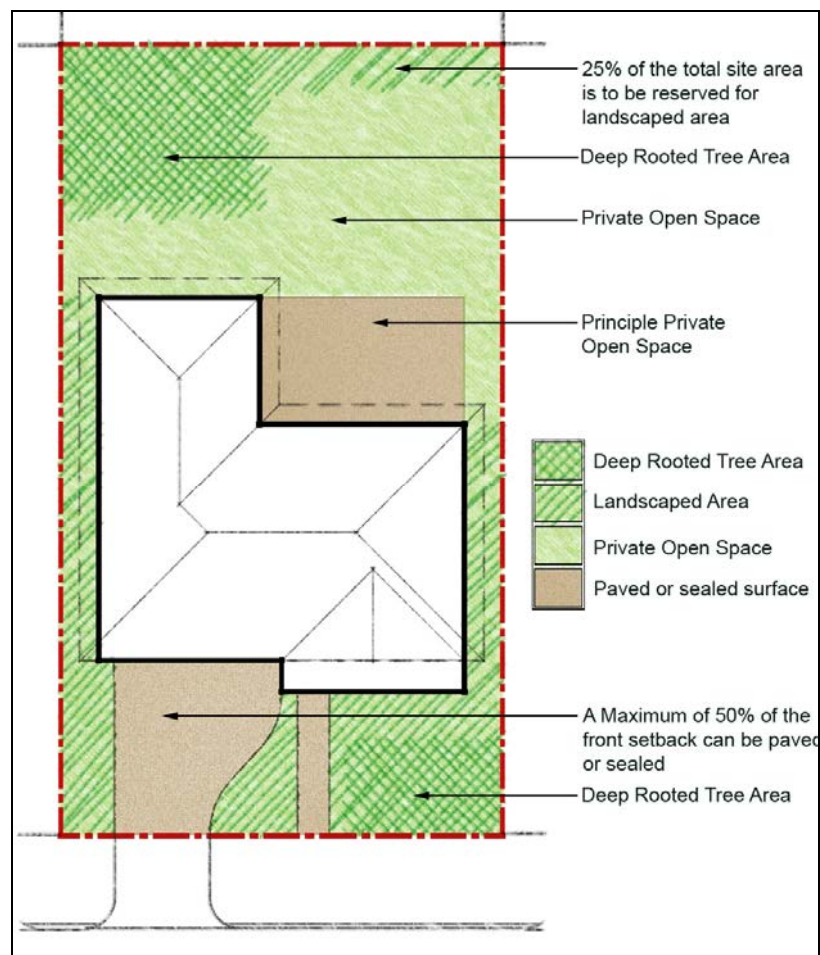


Figure 3 An example of Landscaped Area and Private Open Space.

5. Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacturer of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites.
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites.
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

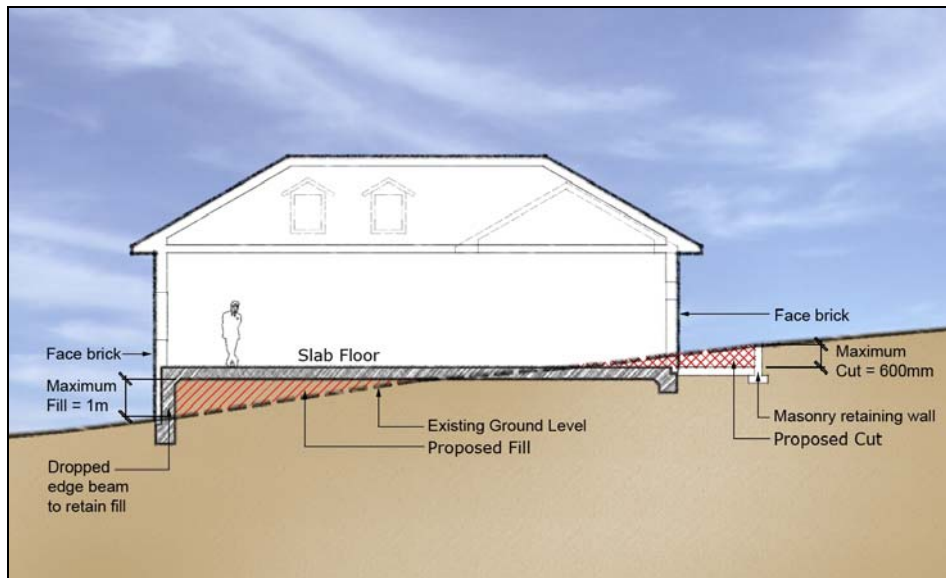


Figure 4 An example of Cut and Fill

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages appropriately.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

1. All dwelling houses are to be orientated to the street.
2. The front pedestrian entrance must be visible from the street.
3. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, windows, changes in finishes, balconies and/or verandahs.
4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
5. Dwelling houses that face two street frontages or a street and public space shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
6. The side walls shall be articulated if the wall has a continuous length of over 14m.

Two storey dwellings

7. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 5).
8. Balconies are not permitted on the first floor of the side and/or rear portion of the dwelling. Balconies may be considered if they address public open space/utilities.

Garages and Carports

9. The maximum width of garage doors or carports must be no greater than 45% of the building frontage width.
10. Garages and carports must be designed to be the minor element of the façade
11. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
12. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
13. Carports may be built in front of the garage only if the carport:
 - Is no larger than 5.5 x 6m.
 - Is built of a similar colour and materials of the house.
 - Is setback 2m from the front property boundary.
 - Is compatible with the local streetscape.
14. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.



Figure 5 Example of Building Appearance (Indicative Only – Not to Scale)

Internal Design of Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- 1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
- 2. Living rooms should take advantage of northern aspects.
- 3. Access to private open space must be from at least one living room.
- 4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
- 5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
- 6. Each dwelling must provide a minimum storage area of 8m³.
- 7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

6. Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. The front and rear setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within the front and rear setback areas.
- 2. At least one tree shall be planted in the landscaped areas. The tree must reach a mature height of over 8m.
- 3. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

- 1. Wall finishes must have low reflectivity.
- 2. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

- 1. The maximum height of a front fence is 1.2m.
- 2. The front fence may be built to a maximum height of 1.5m *if* the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.

3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
4. The front fence must be 30% transparent.
5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
6. The front fence may be built to a maximum of 1.8m *only if*:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and has landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (See Figure 6).
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m (See Figure 6). The secondary setback is the longest length boundary.
3. Side fencing facing a public street or open space must not be constructed of sheet metal.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.
2. Internal boundary fences shall be lapped and capped timber, masonry or metal sheeting.



Figure 6 Fence treatments on secondary frontage

7. Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling.
- 2. At least one car parking space must be provided behind the front setback.
- 3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
- 4. A single garage is to be a minimum of 3 m wide internally and unobstructed.

8. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:
 - One living room, rumpus room or the like.
 - 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (See Figure 7)
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (See Figure 7).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

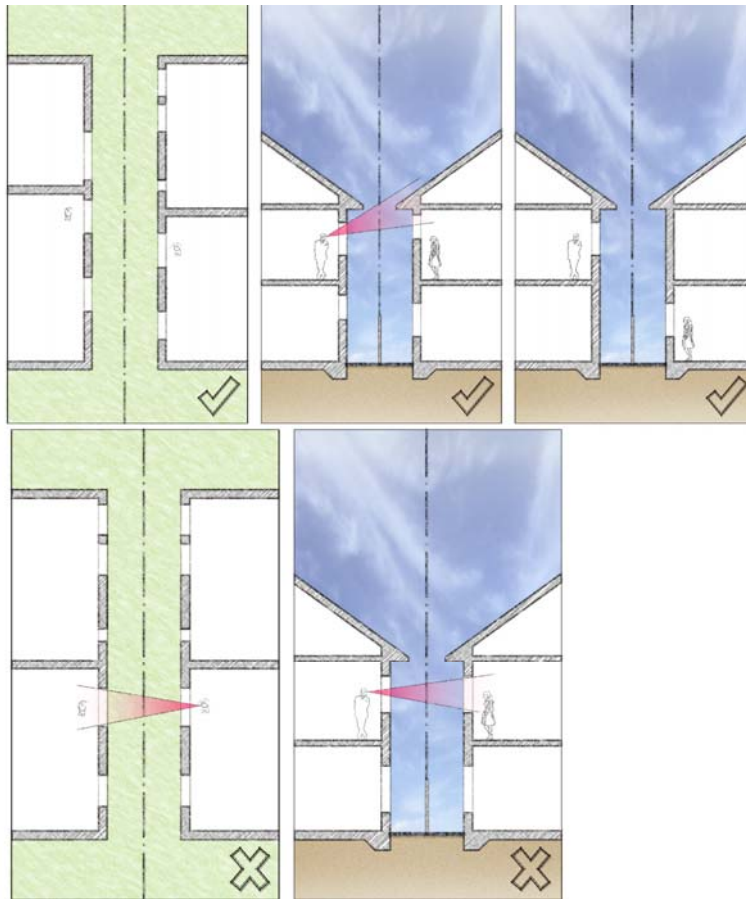


Figure 7 Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

Bushfire Controls for Pleasure Point

Objectives

- a) To preserve mature trees, saplings and natural bushland.
- b) To reinforce existing vegetation character of the area.
- c) To minimise the risk of bushfire through hazard reduction.
- d) To reduce the bushfire threat.

Controls

- 1. Established vegetation character should be reinforced by replanting with predominantly Australian indigenous trees, shrubs and ground cover.
- 2. Refer to Appendix 2 in Part 1 for the list of preferred species that should be considered when replanting. Invasive plant species that should not be planted, in order to help ensure that weed invasion in the adjoining bushland is effectively managed is in Appendix 1. Plants that have been declared noxious are listed in Appendix 2 in Part1.
- 3. Developers are advised to refer to *Australian Standard AS 3959-1991 - Construction of Buildings in bushfire-prone Areas*.
- 4. Buildings shall be setback 25m from the rear boundary of all lots adjacent to DP 239468 (see figure 8).
 - a) Within the 25 metre rear setback area:
 - 1. Any above ground structures are to be limited to a 15 square metre footprint and constructed of non-combustible material.
 - 2. Landscaping is to include fire resistant species.
 - 3. Fixed water systems are to be installed.
 - b) For properties directly adjoining DP 239468 the rear fence shall be:
 - 1. 1.8m high
 - 2. Consist of see through construction e.g. cyclone wire



Figure 8 Land to which a 25 metre setback applies

9. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Frontage works and damage to Council infrastructure

- 1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

10. Secondary dwellings (Granny Flats)

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A Secondary dwelling can be a maximum of one storey high, unless the granny flat is above the garage facing a rear laneway, where the granny flat must be one storey high above the garage.
2. A Secondary dwelling should be attached to the main dwelling, as provided by Part 2 of the DCP. However, Council may consider applications for detached granny flats on a merit base.
3. A Secondary dwelling should compliment the main dwelling design by using the same style of construction and a similar colour.

Note: Secondary dwellings are included in the overall floor space ratio of a property, and only one Secondary dwelling is permitted per lot.



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Liverpool Development Control Plan 2008
Part 3.3
Dwelling Houses on Hatchet Shaped Lots
in the R2, R3 and R4 zones

19 February 2014

Part 3.3 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.3 Dwelling Houses on Hatchet Shaped Lots

Table of Contents

1. Preliminary	5
2. Site Planning	7
3. Density and Setbacks	9
4. Landscaped Area and Private Open Space	11
5. Cut and Fill, Building Design, Streetscape and Layout	13
6. Landscaping and Fencing	16
7. Car Parking and Access.....	18
8. Amenity and Environmental Impact.....	19
9. Site Services	21
10. Secondary dwellings (Granny Flats)	22

Table of Figures

Figure 1 Example of a Hatchet Shaped Lot6

Figure 2 Hatchet Shaped Block8

Figure 3 Driveway Layout and access9

Figure 4 Hatchet block setbacks10

Figure 6 Cut and Fill.....14

Figure 7 Garage Design.....18

Figure 8 Plan views of windows being offset19

List of Tables

Table 1 Side and Rear Setbacks10

Table 2 Private Open Space12

1. Preliminary

Applies to

1. Part 3.3 applies to Dwelling houses on all hatched shaped blocks in the R2 – Low Density Residential and R3 - Medium Density Residential except as provided below.
2. Part 1 of the DCP also applies to the land.
3. The following Parts also apply to development as these Parts only provide controls for the Public Domain, in particular the proposed street layout.
 - Part 2.1 Casula Green Valley.
 - Part 2.2 Hoxton Park, Carnes Hill and Prestons.
 - Part 2.13 Pleasure Point.
4. Part 3.3 does not apply to residential development on land in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
 - Georges Fair Moorebank. (Refer to Part 2.3 for all controls on residential development).
 - Middleton Grange. (Refer to Part 2.5 for all controls on residential development).
 - Greenway Views. (Refer to Part 2.7 for all controls on residential development).
 - Voyager Point (Refer to Part 2.8 for all controls on residential development).
 - Edmondson Park (Refer to Part 2.11 for all controls on residential development).

Background

Due to an existing subdivision pattern or a particular landform there may be an opportunity to create a residential lot, which only has a frontage to a street from an access handle (refer to minimum lot widths within Liverpool Local Environmental Plan 2008). Dwelling houses on hatchet shaped lots have some different impacts from dwelling houses on lots that face the street. There is a need to be more sensitive to neighbouring properties in terms of privacy, over shadowing and built form.



Figure 1 Example of a Hatchet Shaped Lot

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.
- c) Additional objectives are listed in the detailed controls for the various land uses.

2. Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as privacy, over shadowing, built form, natural landform, existing vegetation, views, land capability and, if relevant, heritage items.
- b) To ensure that the site layout enables the area of private open space to be maximised and provides a good level of solar access to all private open spaces (including neighbouring properties).
- c) To ensure privacy for residents and neighbours.
- d) That the access handle enhances and compliments the appearance of the development.
- e) That the access handle can cater for traffic movements associated with additional re development.

Controls

- 1. The dwelling layout must be designed around the site attributes such as slope, existing vegetation, existing dwellings, land capability, private open space and/or solar access.
- 2. There must be a direct link from at least one living area to the principal private open space.
- 3. A maximum of two hatchet shaped lots may share one access handle.
- 4. An access driveway shall be a minimum of 5m wide. The access driveway shall be a maximum of 3m wide and be landscaped on either side.
- 5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

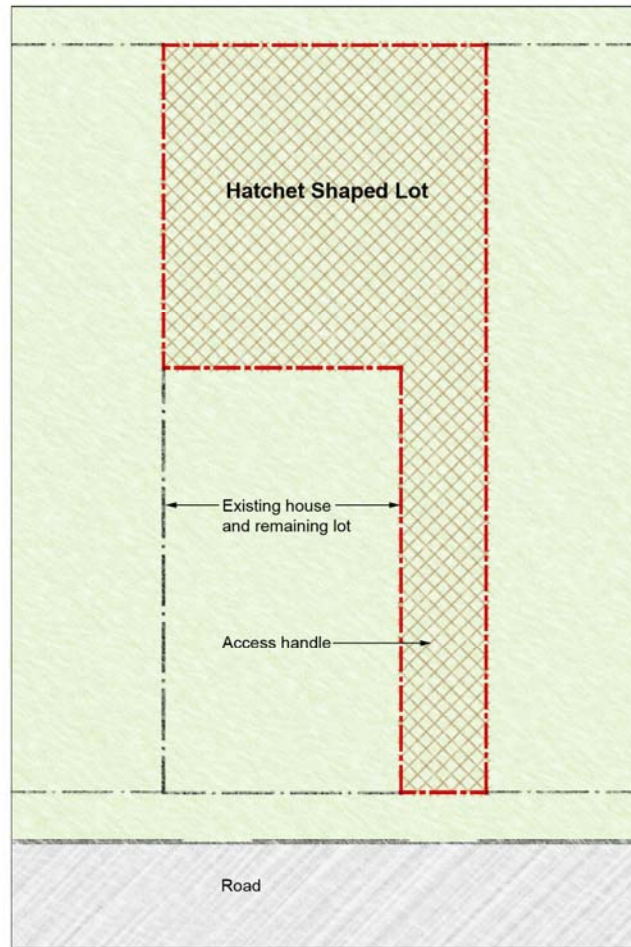


Figure 2 Hatchet Shaped Block

3. Density and Setbacks

Density

Objective

- a) To maintain a low density residential development.
- b) To permit dwelling houses that does not adversely impact on the surrounding areas.

Controls

1. Detached dwellings are only permitted on hatchet shaped lots (Attached dwellings and Semi-detached dwellings are not permitted on hatchet shaped blocks).

Setbacks

Objectives

- a) To setback the dwelling from neighbouring properties.
- b) To set dwellings back from each other to provide visual and acoustic privacy.
- c) To provide for reasonable space for landscaping, private open space, privacy and solar access.
- d) To provide an area within the site for vehicular manoeuvrability, in order for vehicles to leave the property in a forward direction.
- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front setback

1. The setback from the boundary to the site adjoining the access driveway is 1.2m (see Figure 3).

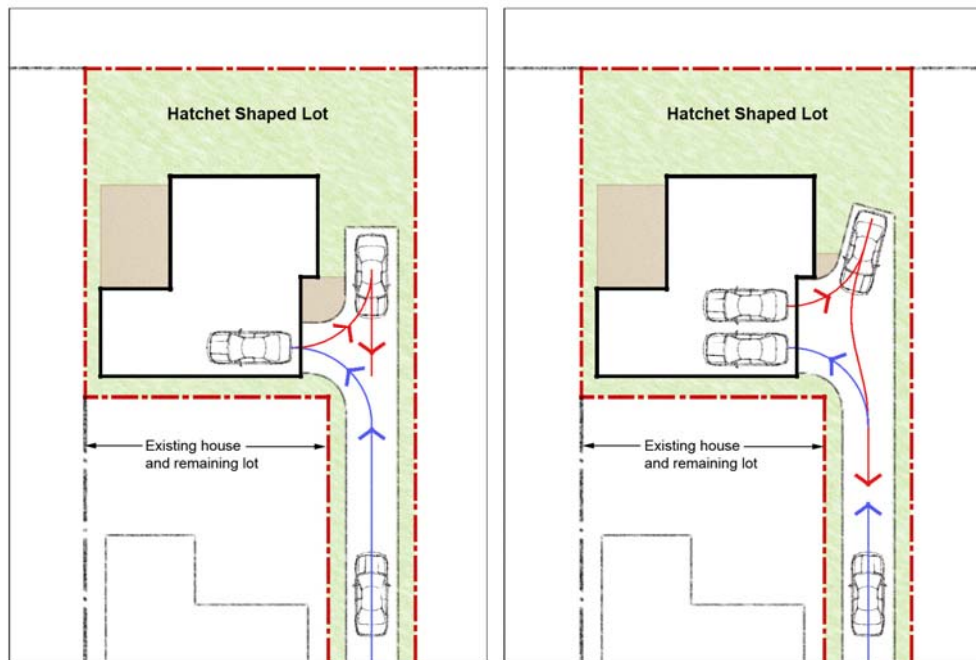


Figure 3 Driveway Layout and access

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table 1.

Table 1 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9m	4.0m
Height above 3m from the existing ground level	5.0m	7.0m
Living room doors (such as family, dining or rumpus rooms)	4.0m	7.0m

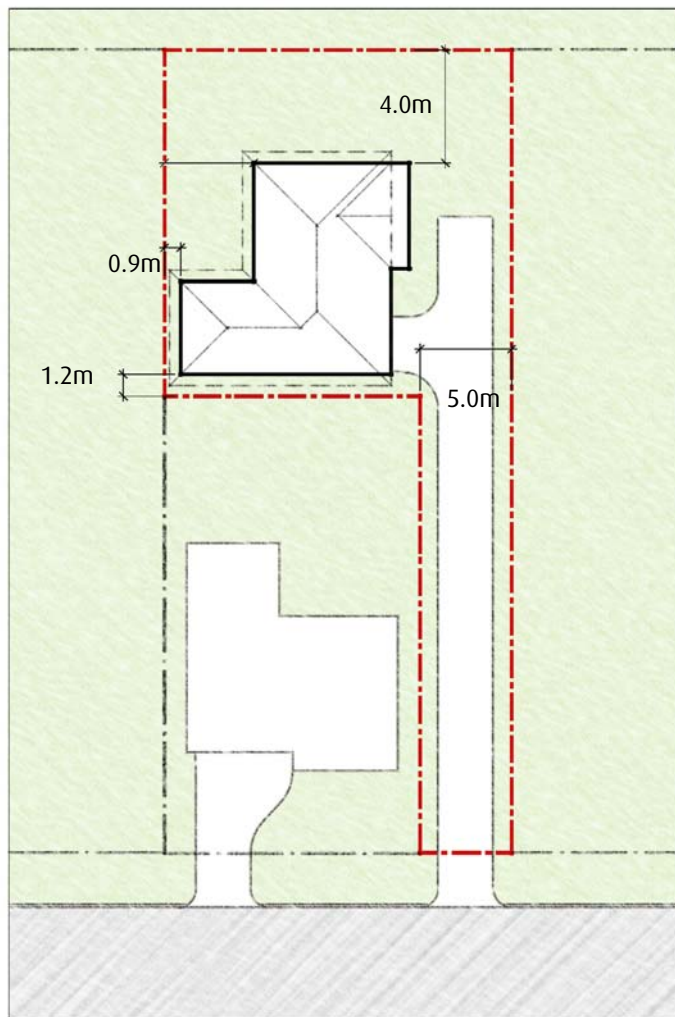


Figure 4 Hatchet block setbacks

Note: Generally the side boundary runs perpendicular to the street and the rear boundary runs parallel to the street.

2. Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.
3. Zero lot building line on hatchet shaped lots is not permitted.

4. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private Open Space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private Open Space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Controls

- 1. A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas (See Figure 5).
- 2. A minimum unincumbered area of 4 x 6m shall be provided in rear setback to accommodate deep rooted trees.
- 3. A minimum of 50% of the front setback area shall be Landscaped Area.
- 4. A minimum unincumbered area of 3 x 5m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities and Principal Private Open Space areas are located adjacent to internal living areas.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

- 1. Each dwelling must provide a minimum amount of Private Open Space in accordance with Table 3.

Table 2 Private Open Space

Lot size	Minimum area of Private Open Space
400m ² and 599m ²	70m ²
600m ² and over	80m ²

2. Areas less than 2.5 m in width does not qualify as Private Open Space.
3. Private Open Space areas are not permitted within the primary street setbacks.
4. The Private Open Space must have an area for clothes drying with at least 3 hours of full sun between 9.00am and 5.00pm at 21 June.
5. The Private Open Space shall include a Principal Private Open Space area, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6m.
6. The Principal Private Open Space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Open has a predominately northern aspect Clause 6 (above) does not apply.

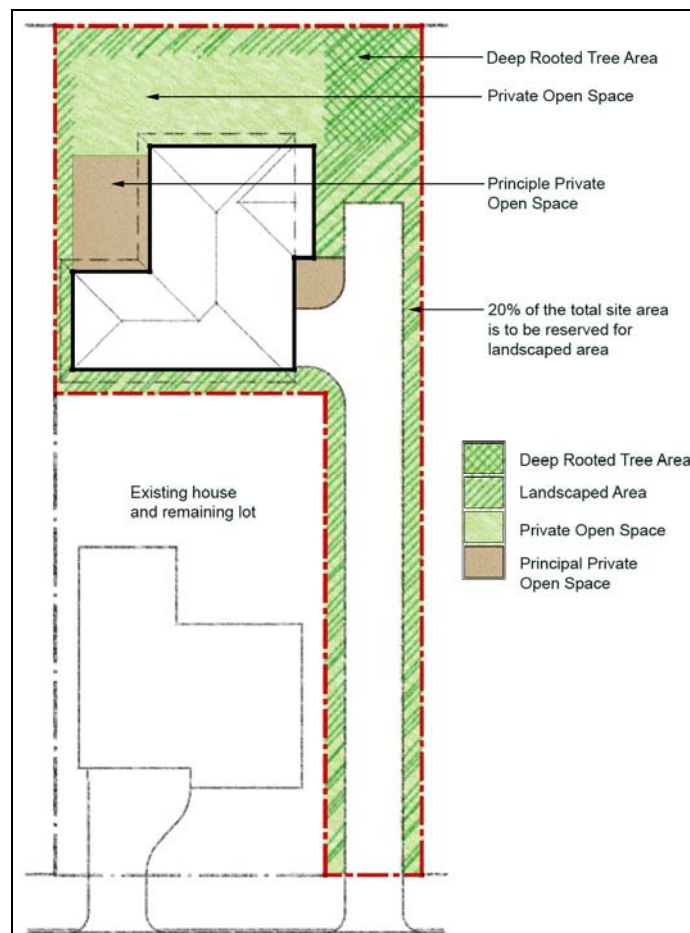


Figure 5 An example of Landscaped Area and Private Open Space.

5. Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

- 1. The maximum cut on a site must not exceed 600mm.
- 2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacture of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
- 3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.

- 4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

- 5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:

- A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites;
- A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites; and
- Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

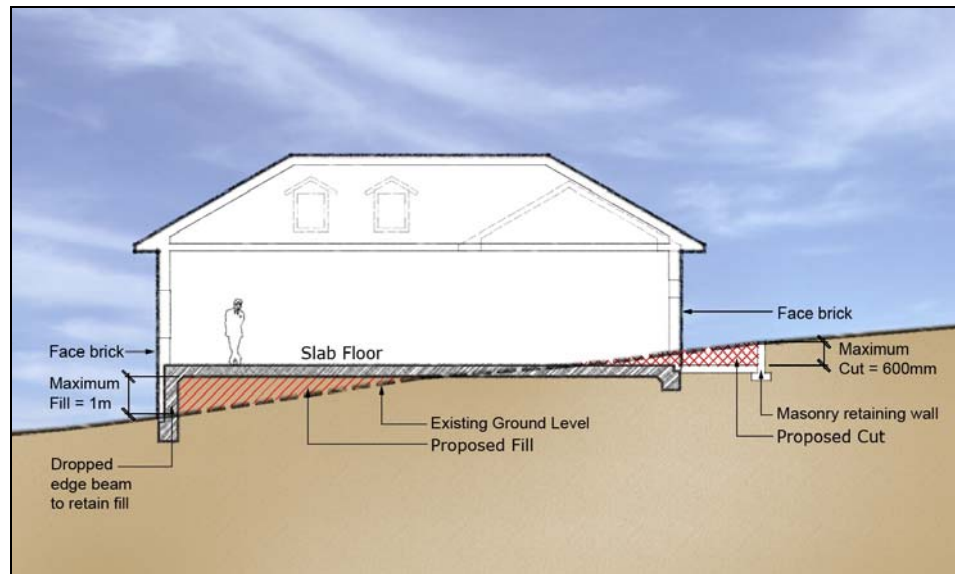


Figure 6 Cut and Fill

Building Design and Appearance

Objectives

- To encourage designs that will enhance the character of the neighbourhood.
- To encourage buildings of a low scale that do not overshadow neighbouring properties windows, buildings and private open space.

Controls

- Building facades shall be articulated and roof form is to be varied to provide visual variety.
- Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
- The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
- Garages and carports must be designed to be the minor element of the façade.

Internal Design of Dwellings

Objectives

- The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- To provide passive surveillance where the site adjoins public open space.
- To encourage the internal design of the dwelling to take advantage of cross ventilation.
- To locate amenity rooms (such as laundries, bathrooms, toilets) to the side or rear of the development.
- To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance.
- Living rooms should take advantage of northern aspects where possible.

3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side and the rear of the dwelling.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Where a dwelling has frontage to public open space, the dwelling shall be oriented to address the public open space.
8. Balconies may be permitted addressing public open space.

6. Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. The front and rear setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within the front and rear setback areas.
- 2. At least one tree shall be planted in the landscaped areas. The tree must reach a mature height of over 8m.
- 3. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 4. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
- 5. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To ensure fencing enhances the streetscape.

Controls

1. Wall finishes must have low reflectivity.
2. Front fences are to be light coloured and low in height or open form.
3. Fences should not prevent surveillance by the building's occupants of the main open or communal areas within the property or the street frontage.

Primary Frontage

1. The front of the access driveway is not permitted to be gated at the property boundary for hatchet blocks.
2. Front fencing along the accessway shall be no greater than 1.2m high within the front setback area.

Frontage to Open Space

1. The maximum height of a fence is 1.2m.
2. Fences should not prevent surveillance by the dwelling's occupants of the open space.
3. The fence must be 30% transparent.
4. Fences shall be constructed in masonry, timber and/or vegetation and must be compatible with the proposed design of the dwelling.

Boundary Fences

1. The maximum height of side boundary fencing within the setback to the street is 1.2m.
2. Internal boundary fences shall be lapped and capped timber, masonry or metal sheeting.

7. Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability.
- b) All vehicles must be able to enter and exit the driveway in a forward direction.
- c) To minimise the need for on street car parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling.
- 2. All dwellings on hatchet shaped lots must provide a turning area to allow cars to enter and exit in a forward direction (See Figure 7).
- 3. A car parking space is to have a minimum dimension of 2.5 x 5.5m.
- 4. A single garage is to be a minimum of 3 m wide internally and unobstructed.

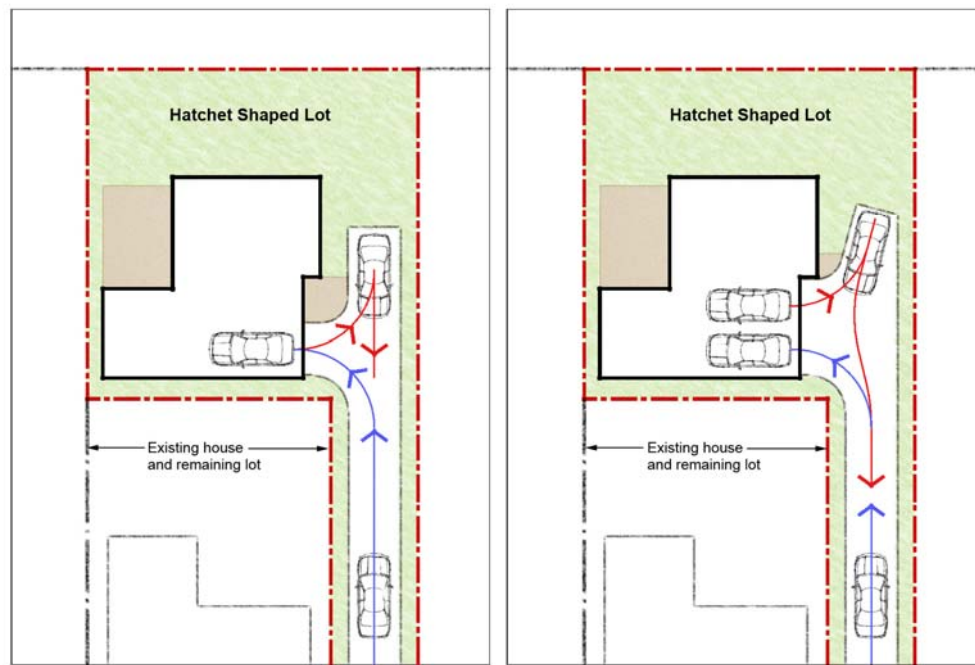


Figure 7 Garage Design

8. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least

- One living room, rumpus room or the like; and
- 50 percent of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual and acoustic privacy of nearby dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling (see Figure 9).
2. Habitable room windows to the side and rear are to avoid unreasonable overlooking (see Figure 9) dwellings and their private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

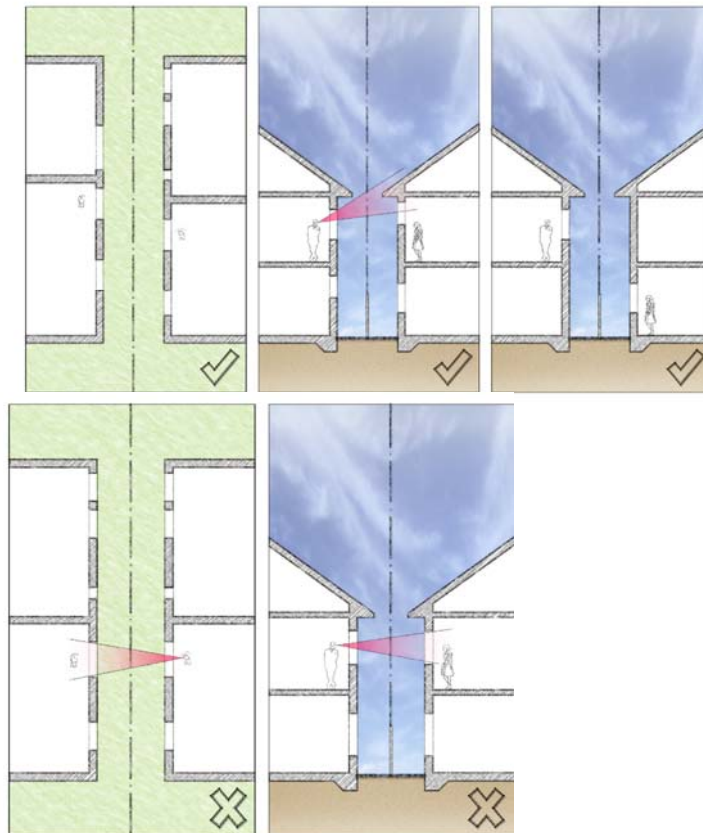


Figure 8 Plan views of windows being offset

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

9. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Frontage works and damage to Council infrastructure

- 1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

10. Secondary dwellings (Granny Flats)

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A Secondary dwelling can be a maximum of one storey high, unless the granny flat is above the garage facing a rear laneway, where the granny flat must be one storey high above the garage.
2. A Secondary dwelling should be attached to the main dwelling, as provided by Part 2 of the DCP. However, Council may consider applications for detached granny flats on a merit base.
3. A Secondary dwelling should compliment the main dwelling design by using the same style of construction and a similar colour.

Note: Secondary dwellings are included in the overall floor space ratio of a property, and only one Secondary dwelling is permitted per lot.



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Liverpool Development Control Plan 2008
Part 3.4
Semi-Detached and Attached Dwellings
(Duplexes and Terraces) in the R2, R3 and R4* zones

19 February 2014

Part 3.4 must be read in conjunction with Part 1

Check if any Locality Parts also apply

*R4 permits Attached Dwellings

Liverpool Development Control Plan 2008

Part 3.4 Semi-detached and attached dwelling in the R2 and R3 zones

Table of Contents

1. Preliminary	5
2. Site Planning	7
3. Setbacks	9
4. Landscaped Area and Private Open Space	11
5. Cut and Fill, Building Design, Streetscape and Layout	13
6. Landscaping and Fencing	18
7. Car Parking and Access	21
8. Amenity and Environmental Impact	22
9. Site Services	24
10. Secondary dwellings (Granny Flats)	25

Table of Figures

Figure 1 Site planning for Semi-detached and attached dwelling	8
Figure 2 Front, Rear and Secondary Setbacks.....	10
Figure 3 Diagram of private open space and principal private open space	12
Figure 4 Cut and fill	14
Figure 5 staggered building line for an attached semi-detached dwelling	15
Figure 6 Typical building line and style for an attached dwelling	15
Figure 7 example of Semi-Detached Dwellings	17
Figure 8 example of Attached Dwellings.....	17
Figure 9 Fence treatment on secondary frontage	20
Figure 10 Privacy and Amenity	23

List of Tables

Table 1	9
Table 2	9

1. Preliminary

Applies to

1. Part 3.4 applies to Semi Detached and Attached Dwellings on land in the R2 – Low Density Residential, R3 - Medium Density Residential, under the *Liverpool LEP 2008* except as provided below.
2. Part 3.4 also applies to Attached Dwellings on land in the R4 – High Density Residential zone, under the *Liverpool LEP 2008*.
3. Part 1 also applies to the land.
4. The following Parts also apply to development in certain areas these Parts only provide controls for the Public Domain, in particular the proposed street layout.
 - Part 2.1 Casula Green Valley.
 - Part 2.2 Hoxton Park, Carnes Hill and Prestons.
5. Part 3.4 does not apply to residential development on land in the residential zones in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
 - Georges Fair Moorebank. (Refer to Part 2.3 for all controls on residential development).
 - Middleton Grange. (Refer to Part 2.5 for all controls on residential development).
 - Greenway Views. (Refer to Part 2.7 for all controls on residential development).
 - Voyager Point (Refer to Part 2.8 for all controls on residential development).
 - Moorebank East (Refer to Part 2.10 for all controls on residential development).
 - Edmondson Park (Refer to Part 2.11 for all controls on residential development).
6. This section applies to development involving the erection of 2 dwellings either on 2 existing lots or on a single lot, which could be subdivided, so that each dwelling is on a separate lot, either strata or Torrens Title subdivision in the R2 & R3 zones.

Background

Semi-detached and attached dwelling housing is a form of small dwellings. They can be built on vacant lots in certain release areas or on existing sites in established areas.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.

2. Site Planning

Objectives

- a) To ensure that Semi-detached dwellings and Attached dwellings are designed around the site attributes, such as streetscape character, natural landform, existing vegetation, land capability slope, solar access and, if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

- 1. The layout of the Semi-detached dwellings and Attached dwellings must be designed around the sites attributes such as slope, existing vegetation, land capability and/or solar access.
- 2. There must be a direct link from at least one living area to the principal private open space area.
- 3. The siting of windows of habitable rooms on the first floor must not overlook neighbouring properties.
- 4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

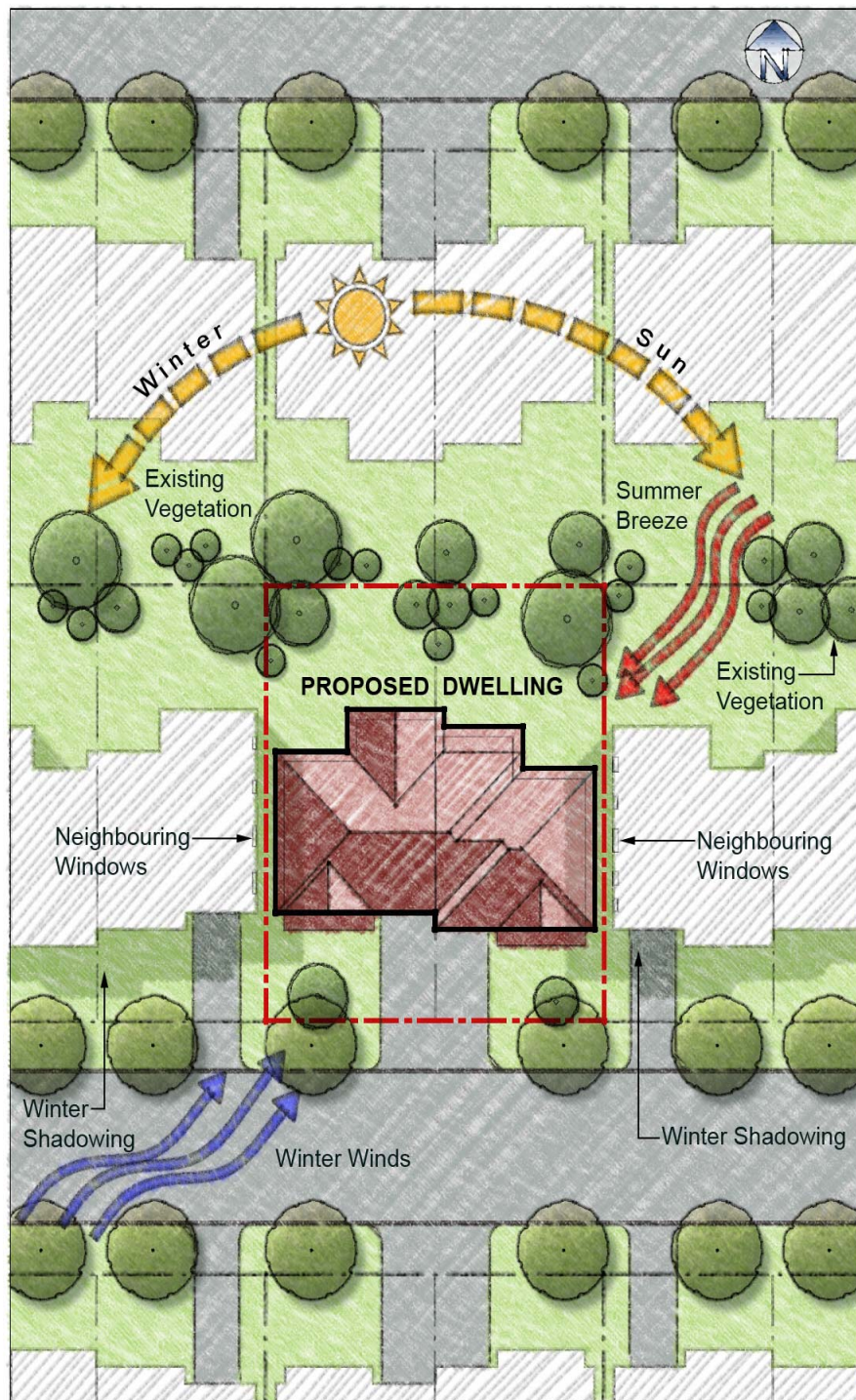


Figure 1 Site planning for **Semi-detached dwellings and Attached dwellings**

3. Setbacks

Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set dwellings back from each other to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To provide an appropriate area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

1. Semi-detached dwellings and Attached dwellings shall be setback in accordance with Table 1.

Table 1

Road	Front Setback	Secondary Setback
Classified Roads	7.0m	7.0m
Other Streets (ground floor)	4.5m	2.5m
Other Streets (first floor)	5.5m	2.5m

2. Garages must be set back a minimum of 1m behind the main face of the dwelling (see Figure 2). (The main face is the first wall of a habitable room)
3. Verandahs, balconies, eaves and other sun control devices may only encroach on the minimum secondary setback by up to 1m.
4. The secondary setback is the longest length boundary (See Figure 2).
5. Garages that address the secondary frontage must have minimum setback of 5.5m.

Side and Rear Setbacks

6. Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2

Item	Side Setback	Rear Setback
Single storey buildings	0.9m	4.0m
Second storey component of buildings	1.2m	7.0m
Living room doors (such as family, dining or rumpus rooms)	4.0m	4.0m

Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

Note: In a terrace style attached dwelling development the side setbacks do not apply to the middle terraces, only the end two terraces.

7. Garages that address the secondary frontage must have minimum setback of 5.5m.

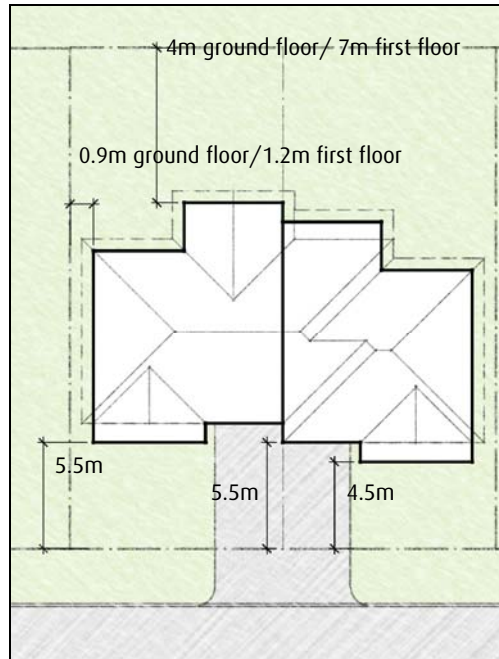


Figure 2 Front and Rear Setbacks

8. Garages may only be built to the zero lot line if:

- An easement for access and maintenance of no less than 900mm wide must be created adjacent to the proposed zero lot on the adjoining property. Written consent from the adjoining owner(s) for the creation of any easements must be submitted as part of the development application.
- The lot has a cross slope not exceeding 5%.
- The zero lot line is situated on the down slope (filled) side of the lot and not on the up-slope (excavated) side.
- Construction meets the Fire Resistance level requirements of the Building Code of Australia, with no windows along the zero lot line.
- Piers to a minimum depth of 500mm are to be provided beneath the wall structure on the zero lot line.
- Zero lot line construction is permissible only on one side boundary of the lot, with a minimum setback of 1.2m to be observed to the opposite boundary.
- A zero lot line wall shall have select face brickwork, rendered or similar finish.
- Fencing is not to be constructed immediately adjacent to the zero lot line as this may aid the access of termites into the dwelling.
- It can be demonstrated that the zero lot line wall will have a similar impact on the solar access to the adjoining lot to that of a wall setback 900mm from the boundary.
- The zero lot line wall will not have an adverse impact on the streetscape.
- Where a garage is to be situated on the zero lot line, the garage shall have a physical barrier termite treatment (*Note: chemical treatments cannot be used, as this requires perimeter spraying on the adjoining lot*).

4. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private Open Space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private Open Space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the Principal Private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwellings.
- e) To maximise the amount of landscaped area within the front setback of the dwellings.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

- 1. A minimum of 20% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
- 2. A minimum unincumbered area of 4 x 6m shall be provided in rear setback to accommodate deep rooted trees.
- 3. A minimum of 50% of the front setback area shall be Landscaped Area.
- 4. A minimum unincumbered area of 3 x 5m shall be provided in front setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities and Principal Private Open Space areas are located adjacent to internal living areas.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.
- d) To ensure that existing or proposed buildings do not overshadow Private Open Space.

Controls

- 1. The Private Open Space for each dwelling must have a minimum area of 60m².
- 2. Areas less than 2.5 m in width does not qualify as Private Open Space.
- 3. Private Open Space areas are not permitted within the primary street setbacks.
- 4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.

5. The Private Open Space shall include a Principal Private Open Space area, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6m.
6. The principal private open space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Open has a predominately northern aspect Clause 6 (above) does not apply.

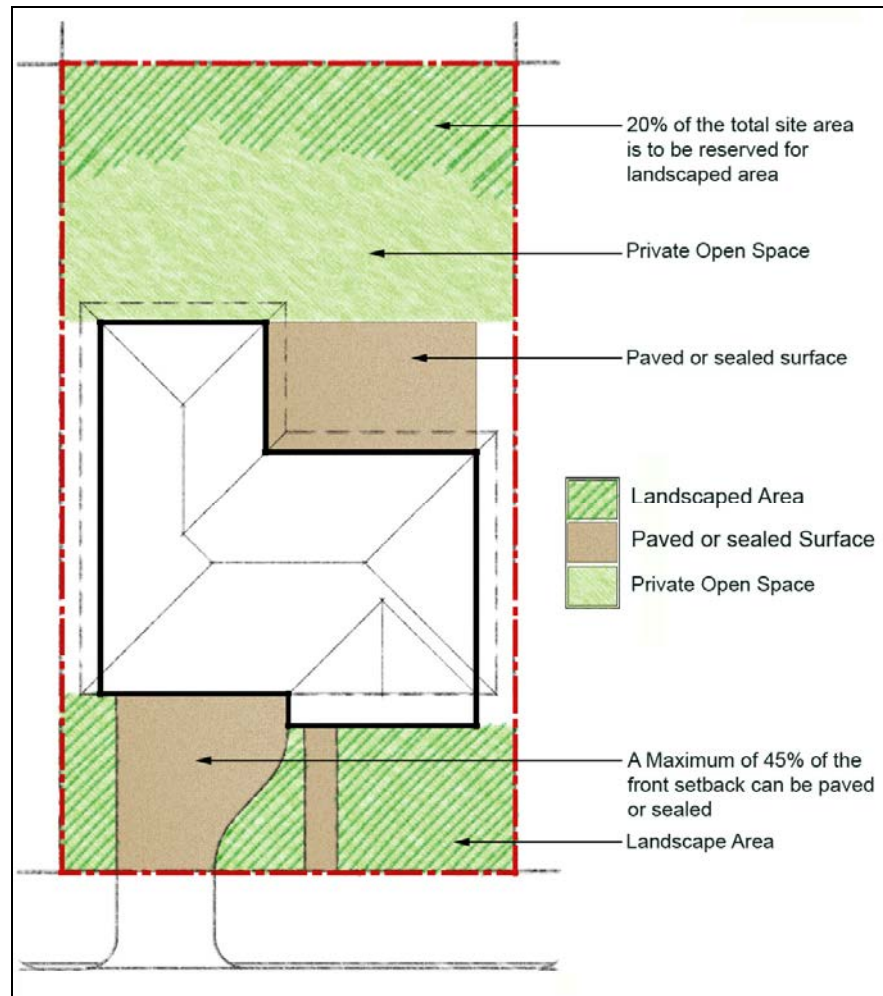


Figure 3 An example of Landscaped Area and Private Open Space.

5. Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacture of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1 m. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites;
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites; and
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

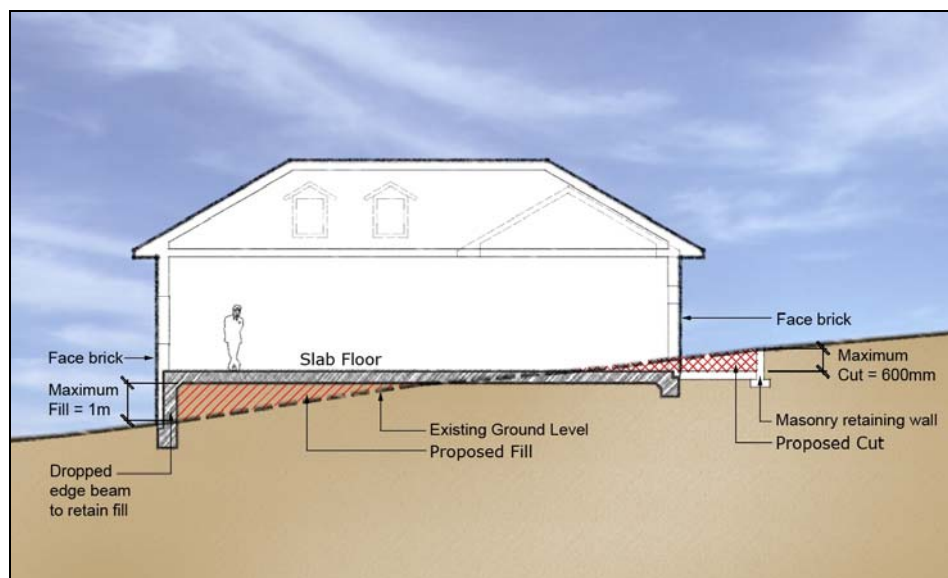


Figure 4 Cut and fill

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure that the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages appropriately.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages on two storey dwellings.

Controls

1. All dwellings are to be orientated to the street.
2. The front pedestrian entrance must be visible from the street.
3. The front building facades shall be articulated. The façade should incorporate front porches, entries, pergolas and verandahs on front facades.
4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
5. Semi-detached dwellings or Attached dwellings proposed on a corner allotment shall address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
6. "Mirror – imaging" of facades on a Semi-detached dwellings and Attached dwellings are not permitted.
7. The front building line of semi-detached dwellings must be staggered by a minimum of 1m. (See Figure 5)

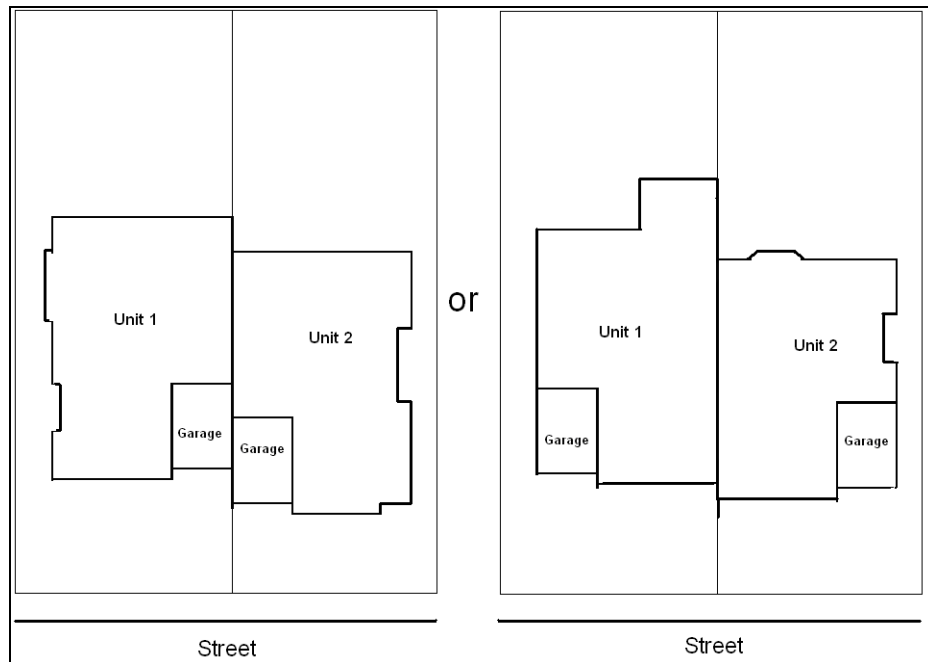


Figure 5 An example of a staggered building line for a semi-detached dwelling

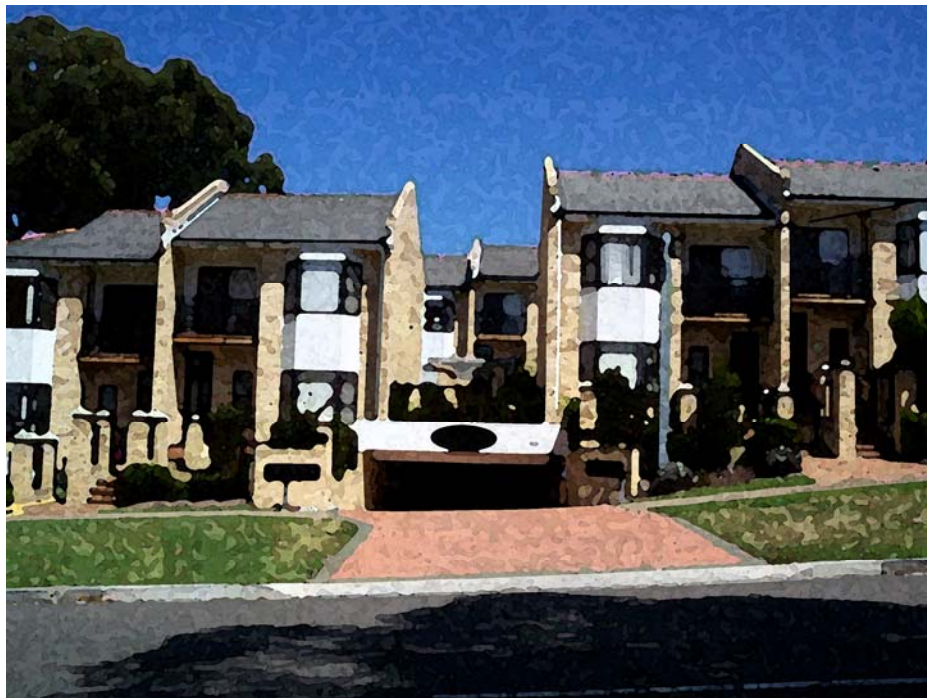


Figure 6 Typical building line and style for an attached dwelling

Two storey dwellings

8. For two storey developments, a side wall must be articulated if the wall has a continuous length of over 10m.
9. On two storey dual occupancies, balconies are encouraged to face the street or built over garages.

10. Balconies are not permitted on the first floor of the side and / or rear portion of the dwelling. Balconies may be considered if they address public open space / utilities.

Garages and Carports

11. Garages and carports must be designed to be the minor element of the façade.
12. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
13. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages should be discouraged, unless actually separated from the dwelling.
14. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
15. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.

Internal Design of Attached Dwellings

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) That each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Where possible, living rooms should take advantage of northern aspects.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.
6. Each dwelling of the semi-detached and attached dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).



Figure 7 Example of Semi-Detached Dwellings



Figure 8 Example of Attached Dwellings

6. Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way, which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Note: All proposed developments require a landscape plan written by a qualified landscape architect is to be submitted with the development application.

Controls

- 1. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8 m height at maturity within the front and rear setback areas.
- 2. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 3. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (600 – 1800mm) especially along paths and close to windows and doors.
- 4. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
- 5. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The minimum height of screening to be provided is 2.5 to 3m at maturity.
- 6. The development must be designed around significant vegetation on the site.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

- 7. At least one tree shall be planted in the landscaped area. The tree must reach a mature height of over 8m.
- 8. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
- 9. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
- 10. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. The front fence may be built to a maximum height of 1.5m *if* the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
4. The front fence must be 30% transparent.
5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
6. The front fence may be built to a maximum of 1.8m *only if*:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and have landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

7. Fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped (See Figure 8).
8. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8 m (see Figure 8). The secondary setback is the longest length boundary.

Boundary Fences

9. The maximum height of side boundary fencing within the setback to the street is 1.2 m.
10. Boundary fences shall be lapped and capped timber or metal sheeting.

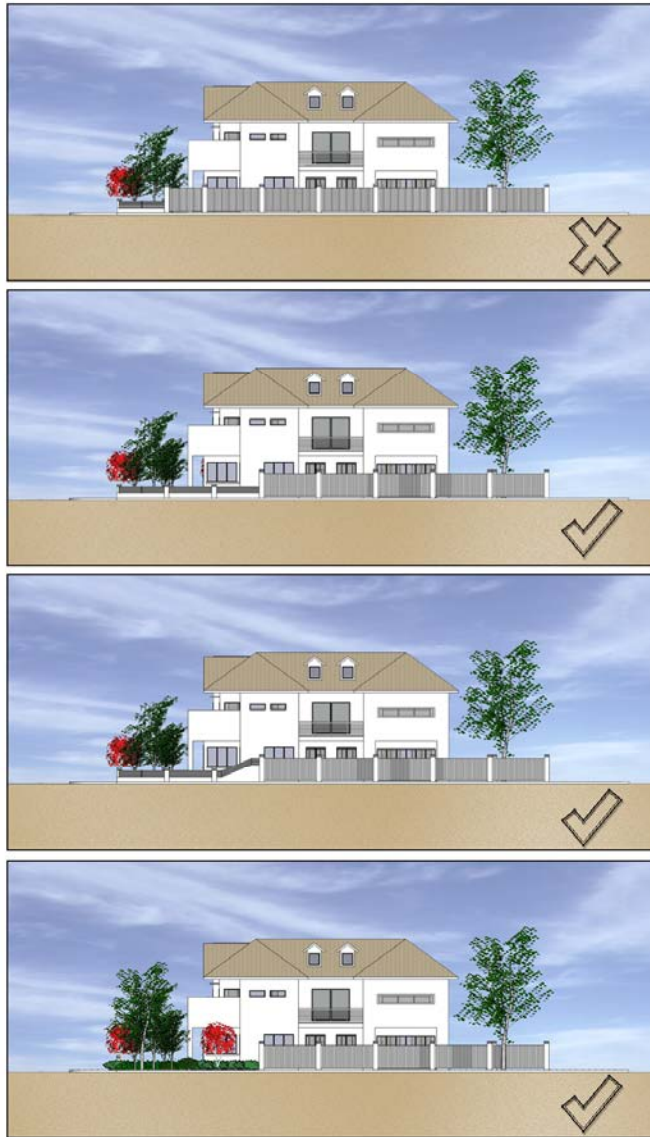


Figure 9 Fence treatment on secondary frontage

7. Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need on street parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling.
- 2. One space per dwelling is permitted in front of the setback from the street frontage.
- 3. A car parking space is to be a minimum dimension of 2.5 x 5.5m.
- 4. A single garage is to be a minimum of 3 m wide internally and unobstructed.
- 5. Kerbs shall be provided along the edge of all internal driveways.

8. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:

- One living, rumpus room or the like.
- 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling.
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space (see Figure 9).
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

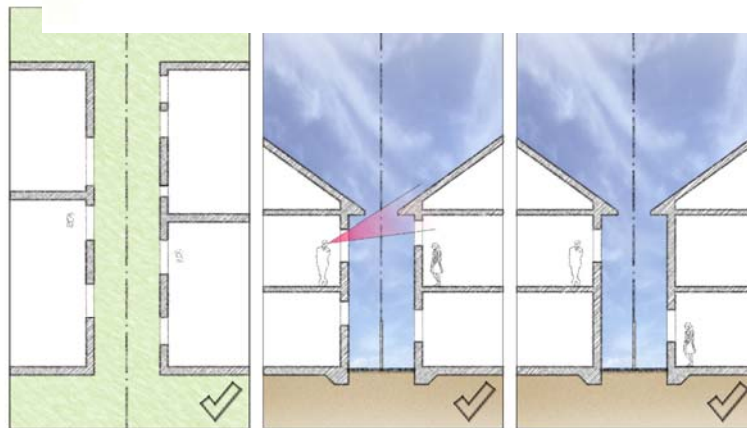
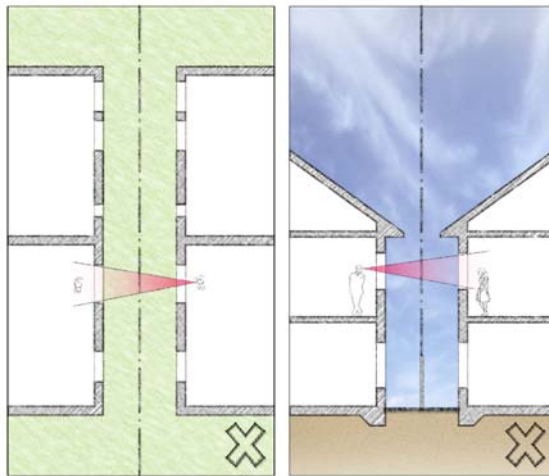


Figure 10 Privacy and Amenity

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance

9. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

- 1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
- 2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
- 3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Frontage works and damage to Council infrastructure

- 4. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 5. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 6. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

10. Secondary dwellings (Granny Flats)

Secondary dwellings are not permitted with Semi-detached dwellings and Attached dwellings.



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Liverpool Development Control Plan 2008
Part 3.5

Dwelling houses on Lots less than 400sqm
in the R2, R3 and R4 Zone

19 February 2014

Part 3.5 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.5 Dwelling Houses on lots less than 400sqm

Table of Contents

1. Preliminary	5
2. Site Planning	6
3. Setbacks	8
4. Landscaped Area and Private Open Space	12
5. Cut and Fill, Building Design, Streetscape and Layout	14
6. Landscaping and Fencing	18
7. Car Parking and Access.....	21
8. Amenity and Environmental Impact.....	22
9. Site Services	24
10. Secondary dwellings (Studio apartments).....	25

Table of Figures

Figure 1 Site Analysis7

Figure 2 Front, Rear and Secondary Setbacks.....9

Figure 3 Zero Lot Lines10

Figure 4 Diagram of private open space and principal private open space13

Figure 5 Cut and Fill.....15

Figure 6 Building Appearance.....16

Figure 7 Fence Types20

Figure 8 Privacy and Amenity Privacy22

List of Tables

Table 1 Front and Secondary Setbacks.....8

Table 2 Side and Rear Setbacks8

1. Preliminary

Applies to

1. Part 3.5 applies to Dwelling Houses on all land less than 400m² in the R2 – Low Density Residential, R3 - Medium Density Residential, R4 – High Density Residential (except within Liverpool City Centre) zones under *Liverpool LEP 2008* except as described in 4.
2. Part 1 of the DCP also applies to the land.
3. The following Parts also apply to development in certain areas these Parts only provide controls for the Public Domain, in particular the proposed street layout.
 - Part 2.1 Casula Green Valley.
 - Part 2.2 Hoxton Park, Carnes Hill and Prestons.
4. Part 3.5 does not apply to residential development on land in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
 - Georges Fair Moorebank. (Refer to Part 2.3 for all controls on residential development).
 - Greenway Views. (Refer to Part 2.7 for all controls on residential development).
 - Voyager Point (Refer to Part 2.8 for all controls on residential development).
 - Moorebank East (Refer to Part 2.10 for all controls on residential development).
 - Edmondson Park (Refer to Part 2.11 for all controls on residential development).

Background

Dwelling houses on lots less than 400sqm are similar to dwelling houses on conventional sized lots but which are on smaller lots. Many front a public street in the same way as a dwelling house. It is intended that this form of housing be compatible with the residential environment.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.

2. Site Planning

Objectives

- a) To ensure that the dwelling house is sensitive to site attributes, such as streetscape character, natural landform, drainage, adjoining private open space, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

- 1. The dwelling layout must be designed around the site attributes, such as slope, existing vegetation, land capability, and/or solar access.
- 2. There must be a direct link from at least one living area to the principal private open space.
- 3. Building siting, window location, balconies and fencing must consider the importance of the privacy on site and adjoining buildings and private open space.
- 4. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the private open space of neighbouring properties.
- 5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Note: You will also need to refer to Water cycle Management in Part 1.

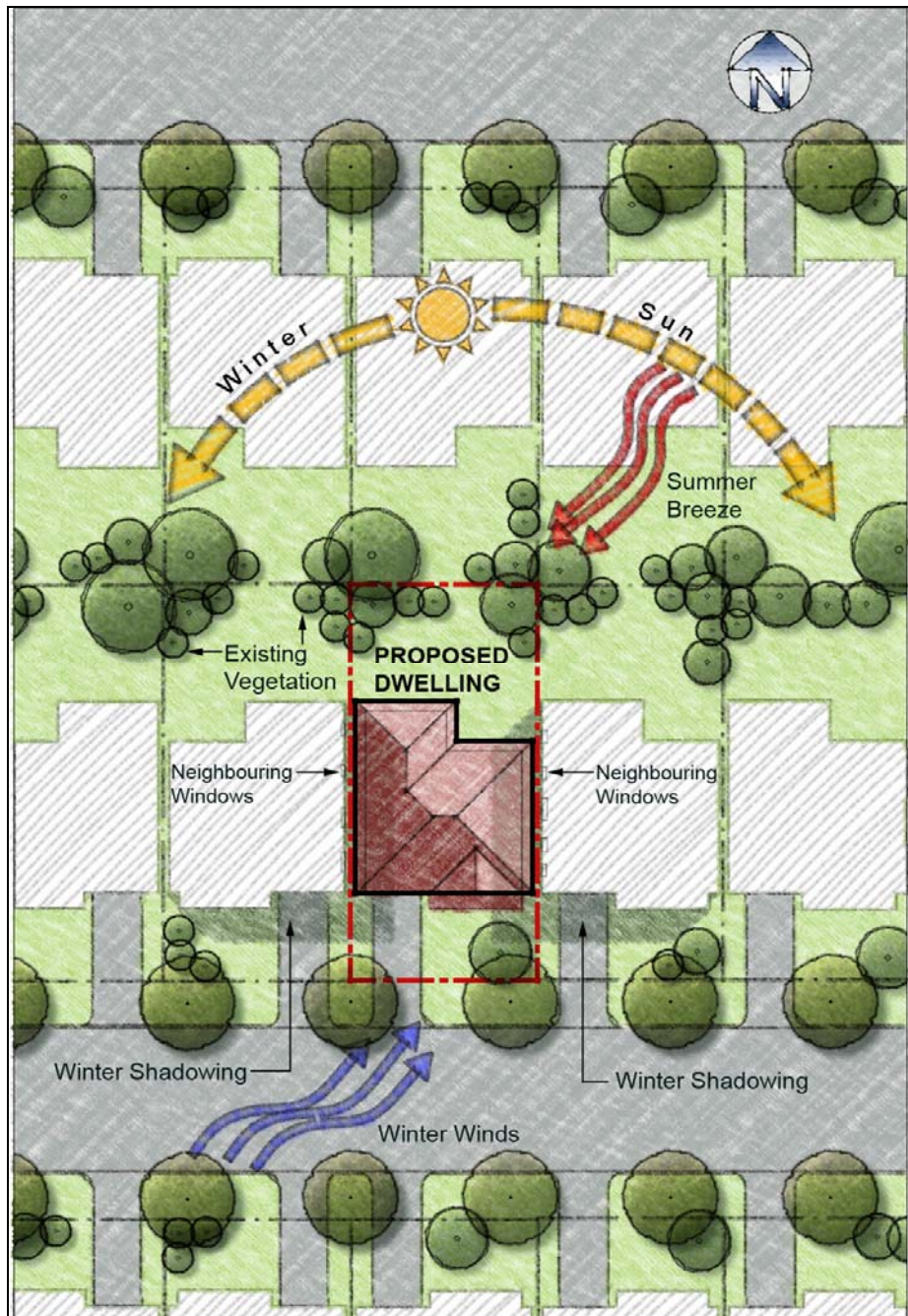


Figure 1 Site Analysis

3. Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set dwellings back from each other to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

1. Dwellings shall be setback in accordance with Table 1.

Table 1 Front and Secondary Setbacks

Street	Front Setback	Secondary Setback
Classified Roads	7.0m	7.0m
Other Streets (ground floor)	4.5m	2.5m
Other Streets (first floor)	5.5m	2.5m

2. Garages must be set back a minimum of 1m behind the main face of the dwelling (see Figure 2). (The main face is the first wall of a habitable room)
3. Verandahs, balconies, eaves and other sun control devices may only encroach on the minimum secondary setback by up to 1m.
4. The secondary setback is the longest length boundary.
5. Garages that address the secondary frontage must have minimum setback of 5.5m.

Side and Rear Setbacks

6. Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey dwelling houses	0.9m	4.0m
Second storey component of dwelling houses	0.9m	7.0m
Setback within an a proposed Internal subdivision	0.9m	4.0m
Living room doors (such as family, dining or rumpus rooms)	4.0m	4.0m

Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.

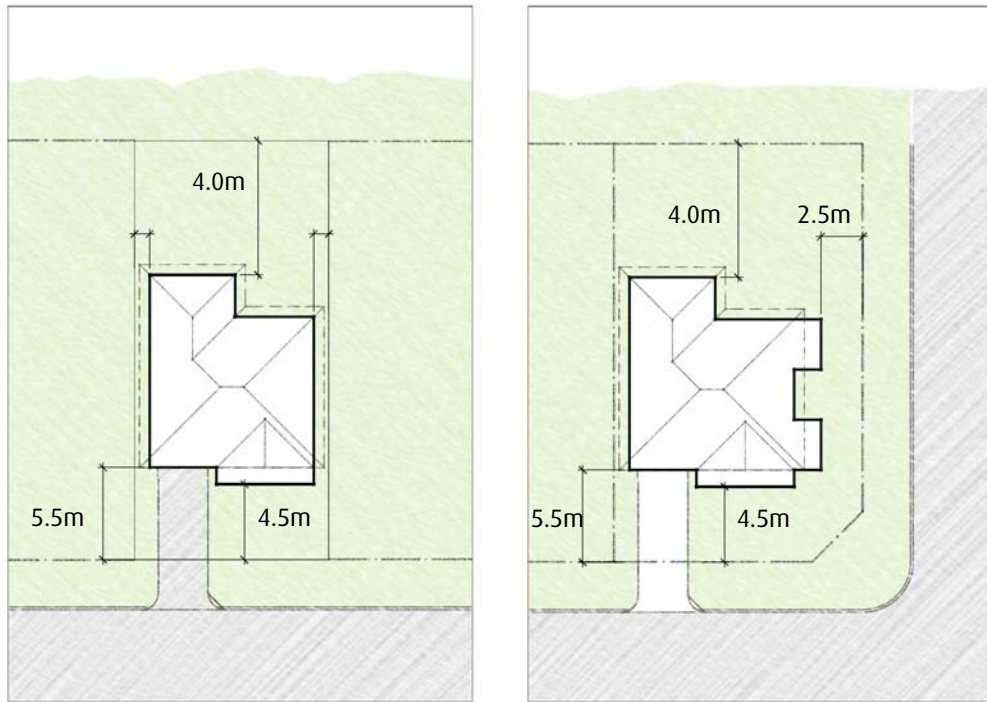


Figure 2 Front, Rear and Secondary Setbacks

Internal / Zero Lot Boundaries

7. Buildings may be built to the common boundary.

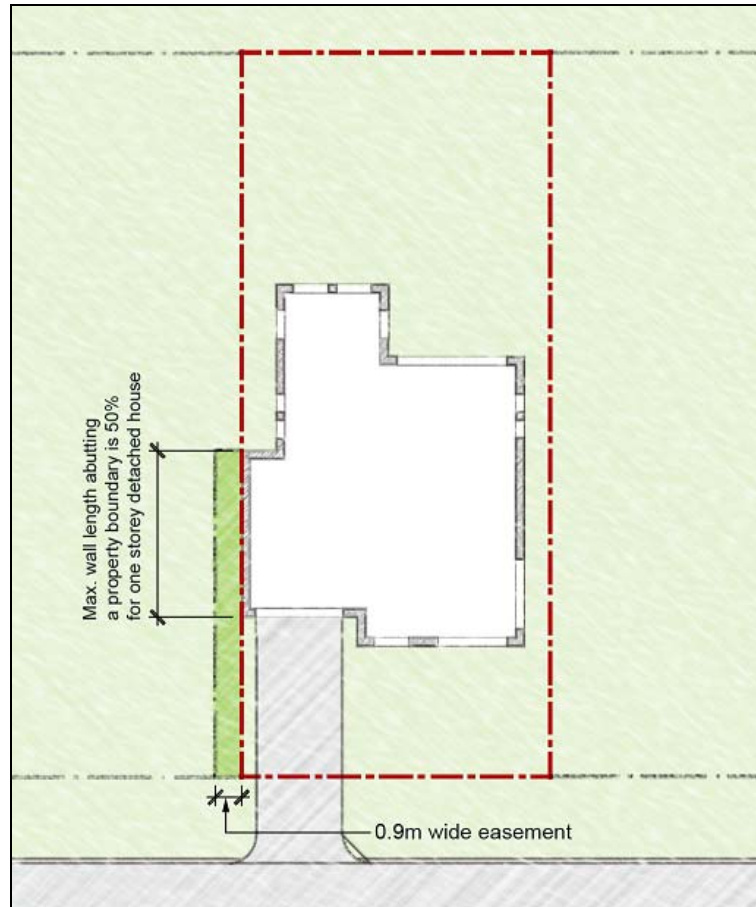


Figure 3 Zero Lot Lines

Zero lot line housing is permissible on approved zero lot subdivisions provided all of the following criteria are met:

8. An easement for access and maintenance of no less than 0.9m wide must be created adjacent to the proposed zero lot on the adjoining property.
9. The lot has a cross slope not exceeding 5%.
10. The zero lot line is situated on the down slope (filled) side of the lot and not on the up-slope (excavated) side. No excavation is permitted to zero lot and any filling is to have a dropped edge beam to natural ground.
11. Construction meets the Fire Resistance level requirements of the Building Code of Australia, with no windows along the zero lot line.
12. Piers to a minimum depth of 500mm are to be provided beneath the wall structure on the zero lot line.
13. Zero lot line construction is permissible only on one side boundary of the lot, with a minimum setback of 1.2 m to be observed to the opposite boundary.
14. A zero lot line wall shall have select face brickwork, rendered or similar finish.
15. Fencing is not to be constructed immediately adjacent to the zero lot line as this may aid the access of termites into the dwelling.

16. It can be demonstrated that the zero lot line wall will have a similar impact on the solar access to the adjoining lot to that of a wall setback 900mm from the boundary.
17. The zero lot line wall will not have an adverse impact on the streetscape.
18. The maximum wall length for a detached house abutting a property boundary is 50% (for one storey) or 30% (for two storeys) of the total depth of the building.
19. Where a dwelling is to be situated on the zero lot line, the dwelling shall have a physical barrier termite treatment (*Note: chemical treatments cannot be used, as this requires perimeter spraying on the adjoining lot*).

4. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private open space is an area within the site (usually at the rear) that is set aside for: outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of dwellings.

Controls

- 1. A minimum of 25% of the site area shall consist of a Landscape Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
- 2. A minimum of 50% of the front setback area shall be Landscaped Area.
- 3. A minimum unincumbered area of 4 x 5m shall be provided in rear setback to accommodate deep rooted trees.
- 4. A minimum unincumbered area of 3 x 3m shall be provided in front setback to accommodate deep rooted trees.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities and Principal Private Open Space areas are located adjacent to internal living areas.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

- 1. Private Open Space must have an area greater than 60sqm.
- 2. Areas less than 2.5 m in width does not qualify as Private Open Space.
- 3. Private Open Space areas are not permitted within the primary street setbacks.
- 4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.

5. The Private Open Space shall include a Principal Private Open Space area, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6m.
6. The Principal Private Open Space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.
7. Where the Principal Private Open Space has a predominately northern aspect Clause 6 (above) does not apply.

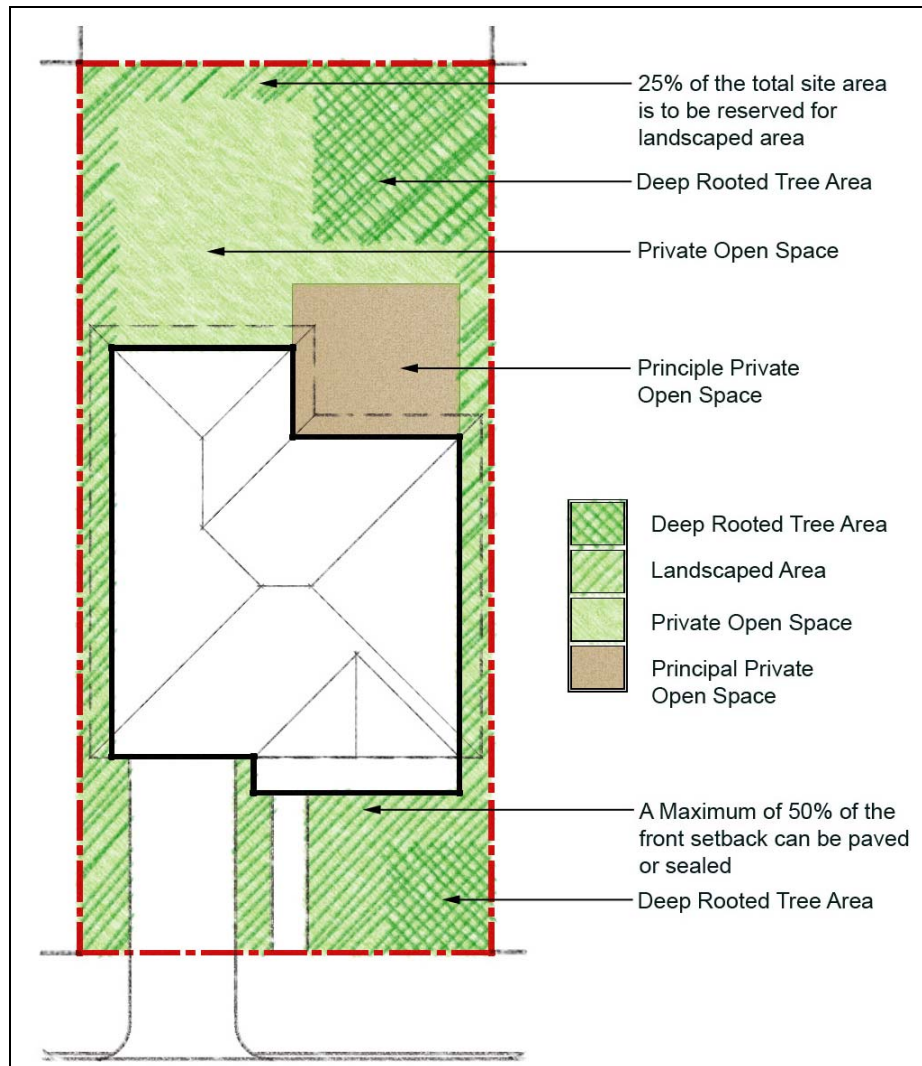


Figure 4 Diagram of private open space and principal private open space.

5. Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 600mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacture of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1m. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - i. A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites;
 - i. A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites; and
 - ii. Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

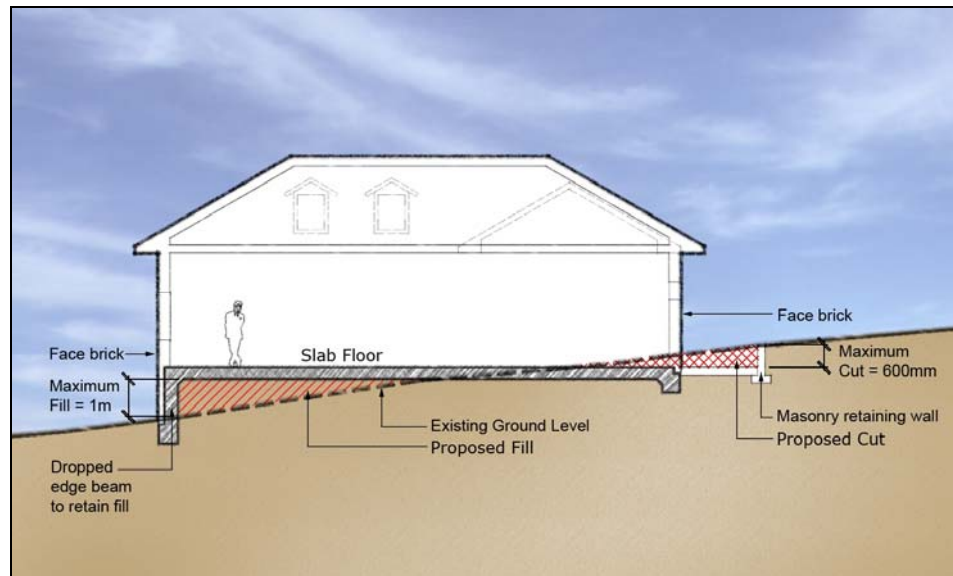


Figure 5 Cut and Fill

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building façade and design.
- c) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages in two storey dwellings.

Controls

1. Small lot housing with a street frontage must orientate the dwelling to that street.
2. The front pedestrian entrance must be visible from the street.
3. The front Building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
4. Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.
5. Developments that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.
6. The sidewalls shall be articulated if the wall has a continuous length of over 14m.

Specific controls for two storey dwellings

7. To break up the bulk of two storey dwellings balconies built above garages are encouraged (See Figure 6).
8. Balconies are not permitted on the first floor of the side and/or rear portion of the dwelling. Balconies may be considered if they address public open space/utilities.

Garages

9. The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.
10. Garages and carports must be designed to be the minor element of the façade.
11. Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages are discouraged, unless actually separated from the dwelling.
12. Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.
13. Carports may be built in front of the garage *only if* the carport:
 - Is no larger than 5.5 x 6m.
 - Is built of a similar colour and materials of the house.
 - Is setback 2m from the front property boundary.
 - Is compatible with the local streetscape.
14. The conversion of garages to living space may only be permitted if:
 - At least one car parking space is provided behind the front setback.
 - The additional living area does not result in the building exceeding the maximum permitted floor space ratio.



Figure 6 Building Appearance (Indicative Only – Not to Scale)

Internal Design

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide passive surveillance from rooms addressing the street or any adjoining open space.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each dwelling shall provide a sufficient amount of storage for elements such as garden and sports equipment.

Controls

- 1. All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
- 2. Living rooms should take advantage of northern aspects.
- 3. Access to private open space must be from at least one living room.
- 4. The internal layout of the dwelling is encouraged to incorporate cross ventilation.
- 5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side and the rear of the dwelling.
- 6. Each dwelling must provide a minimum storage area of 8m³.
- 7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Security

Objectives

- a) To ensure buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.

Controls

- 1. Entrances to buildings should be orientated towards the front of the site facing the street or the communal driveway.
- 2. The main entrance to dwellings or other premises should not be from rear lanes and should be designed with clear directions and signage.
- 3. Blank walls addressing the street frontage and other public places should be avoided.
- 4. Minimise the number of entry points to buildings.
- 5. Communal areas and utilities should be easily seen and well lit.
- 6. Position habitable rooms or active uses to face the main communal areas.

6. Landscaping and Fencing

Objectives

- a) To retain existing mature trees within the site in a way, which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To add value to residents' quality of life within the development in the form of privacy, outlook and outdoor recreation, by providing a landscape setting.
- e) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- f) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. The front and rear setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8 m height at maturity within the front and rear setback areas.
- 2. At least one tree shall be planted in the landscaped areas. The tree must reach a mature height of over 8 m.
- 3. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 4. Any tree with a mature height over 8m should be planted a minimum distance of 3 m from the building or utility services.

Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

Primary Frontage

- 1. The maximum height of a front fence is 1.2m.
- 2. The front fence may be built to a maximum height of 1.5m *if* the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
- 3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
- 4. The front fence must be 30% transparent.
- 5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.

6. The front fence may be built to a maximum of 1.8m *only if*:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and have landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

7. Side fences and walls must be a maximum of 1.8m in height, and constructed or masonry, timber and/or landscaped.
8. For walls or fences along the secondary frontage, a maximum height of 1.2 m is required for the first 9m measured from the front boundary, the remaining fence/wall may then be stepped up to a maximum of 1.8m (see Figure 8).
9. Side fencing addressing a secondary street frontage must not be constructed of sheet metal. However, metal sheet fencing is permitted on the internal boundaries.

Boundary Fences

10. The maximum height of side boundary fencing within the front setback to the street is 1.2m.
11. Internal boundary fences shall be lapped and capped timber or metal sheeting.

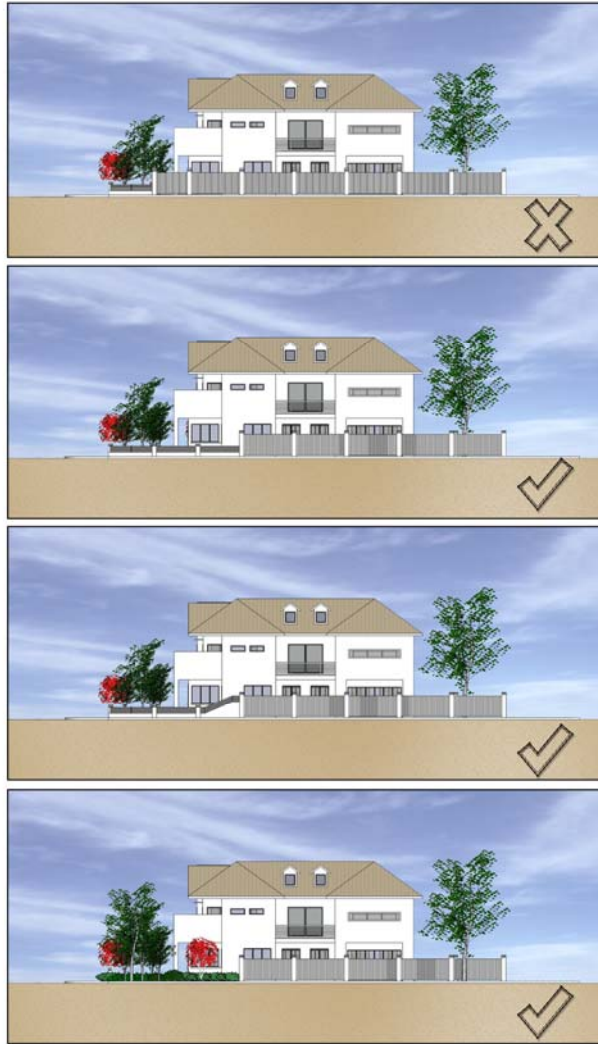


Figure 7 Fence treatment on secondary frontage

7. Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street parking from new dwellings.

Controls

- 1. Two car parking spaces shall be provided for each dwelling.
- 2. At least one car parking must be provided behind the front setback.
- 3. A parking space is to be a minimum of 2.5 x 5.5m.
- 4. A single garage is to be a minimum of 3m wide internally and unobstructed.
- 5. Kerbs shall be provided along the edge of all internal driveways.

8. Amenity and Environmental Impact

Overshadowing

Objectives

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least
 - One living, rumpus room or the like; and
 - 50 % of the private open space.

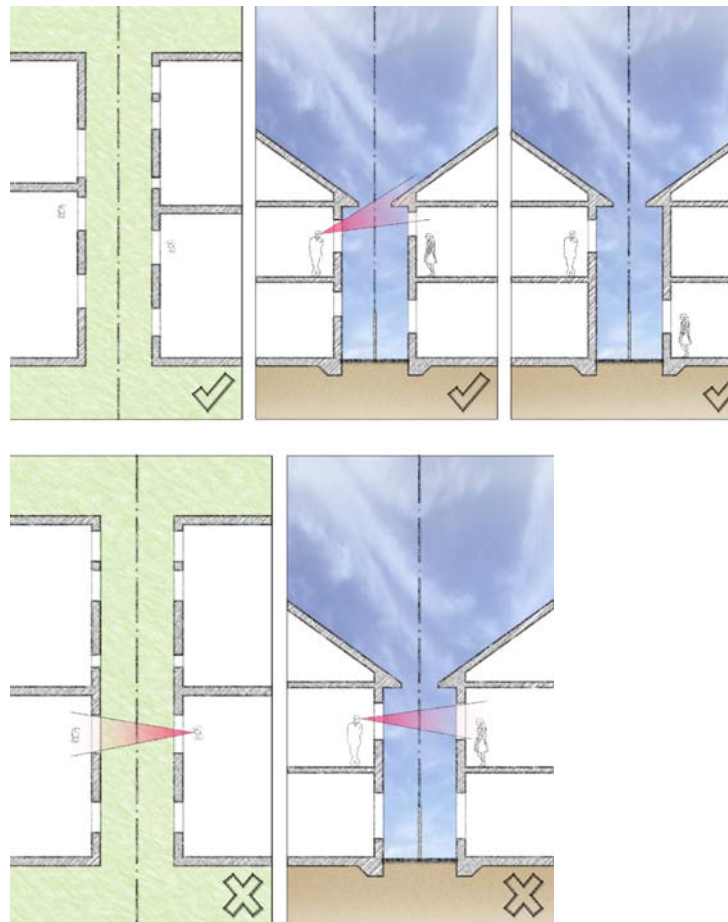


Figure 8 Privacy and Amenity Privacy

Privacy and Amenity Privacy

Objective

To site and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.

Controls

1. Building siting, window location and balconies should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
2. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
3. Windows of habitable rooms facing side boundaries are to be offset by at least 1 m from any adjoining facing window.
4. Except where they face a road or public open space, habitable room windows to the side are to avoid unreasonable overlooking by having a minimum sill height of 1.5m.

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia*.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

9. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

- 1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
- 2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
- 3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Frontage works and damage to Council infrastructure

- 4. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 5. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 6. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

10. Secondary dwellings (Studio apartments)

Studio apartments are not permitted on lots smaller than 400sqm (unless they form part of an Integrated Development which overlook laneways).

Objective

To provide housing choice within a standard residential lot for the use of a separate dwelling within the existing title.

Controls

1. A studio apartment should be attached to the main dwelling. However, Council may consider applications for detached studio apartments on merit base.
2. A studio apartment must be above the garage. The studio apartment is to be a maximum of one storey high above the garage.
3. Studio apartments should compliment the main dwelling by using the same style and colour.

Note: Studio apartments are included in the overall floor space ratio of a property, and only one studio apartment per lot is permitted.



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Liverpool Development Control Plan 2008
Part 3.6
Multi Dwelling Housing (Villas and
Townhouses) In the R3 and R4 zones

19 February 2014

Part 3.6 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.6 Multi Dwelling Housing in the R3 & R4 zone

Table of Contents

1.	Preliminary	5
2.	Subdivision, Frontage and Lot Size.....	6
3.	Site Planning	7
4.	Townhouse and Villa Development on an 18m frontage block	9
5.	Setbacks	10
6.	Landscaped Area and Private Open Space	12
7.	Cut and Fill, Building Design, Streetscape and Layout	14
8.	Car Parking and Access.....	18
9.	Landscaping and Fencing	20
10.	Amenity and Environmental Impact.....	25
11.	Site Services	27

Table of Figures

Figure 1 Site Analysis Plan for Multi Dwelling Housing.....	8
Figure 2 Setbacks for Multi Dwelling Housing.....	11
Figure 3 Landscaping for Multi Dwelling Housing	13
Figure 4 Example of cut and Fill on sloping block.....	15
Figure 5 Curving driveway	16
Figure 6 Terrace style Multi Dwelling Housing on a sloping site.....	17
Figure 7 Garage and Driveway design.....	18
Figure 8 Side and rear plantings for Multi Dwelling Housing	21
Figure 9 Front setback landscaping	21
Figure 10 Landscaping within the front setback, with a low fence	22
Figure 11 Driveway landscaping for privacy	22
Figure 12 Front Landscaping and Fencing	23
Figure 13 Secondary Street landscaping	24
Figure 14 Fencing within Setback	24
Figure 15 Privacy and Amenity	26

List of Tables

Table 1	10
Table 2	10
Table 3	12

1. Preliminary

Applies to

1. Part 3.6 applies to multi dwelling residential development on all land in the R3 - Medium Density Residential and R4 – High Density Residential except as provided below.
2. Part 1 of the DCP also applies to the land.
3. Part 3.6 does not apply to residential development on land in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
 - Georges Fair Moorebank. (Refer to Part 2.3 for all controls on residential development).
 - Middleton Grange. (Refer to Part 2.5 for all controls on residential development).
 - Greenway Views. (Refer to Part 2.7 for all controls on residential development).
 - Liverpool City Centre (Refer to Part 4 or all controls on residential development).
 - Edmondson Park (Refer to Part 2.11 for all controls on residential development).

Background

Multi dwelling Housing (townhouses and villas) are permitted in the R3 zone. As such they will be located in areas that are largely characterised by single dwelling houses along with dual occupancy housing and integrated housing. Accordingly it is reasonable that multiple dwellings (townhouses and villas) should be compatible with the predominant residential development in the zone

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.
- c) Additional objectives are listed in the detailed controls for the various land uses.

2. Subdivision, Frontage and Lot Size

Lot Size and Width

The minimum lot size for multi dwelling housing is 1,000m². Where development pursuant to section 4 is proposed, the minimum lot size shall be 650m².

The minimum lot width for multi dwelling housing is 22m. Where development pursuant to section 4 is proposed, the minimum lot width shall be 18m.

Note: The amalgamation of land parcels into larger development sites is encouraged as this will result in better forms of housing development and design.

Refer to the Liverpool LEP 2008 written statement and maps for the minimum site area and width in the R4 zone.

3. Site Planning

Objectives

- a) To ensure that Multi Dwelling Housing are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.
- c) To achieve a high standard of amenity for future residents and neighbours.
- d) To ensure the development takes advantage of the site's capability, topography, orientation and other positive attributes.
- e) To ensure compatibility with the surrounding development density by requiring acceptable site area requirements.

Controls

- 1. Site layout should consider, and as far as possible minimise overshadowing, acoustic and visual intrusion on neighbouring and on site dwellings.
- 2. There must be a direct link from at least one living area to the principal private open space.
- 3. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
- 4. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.
- 5. The siting of dwellings shall be orientated to maximise solar access to both external courtyards and internal living areas.
- 6. Where possible all existing substantial vegetation on site shall be retained.
- 7. Multi Dwelling Housing is not permitted on cul-de-sac heads or streets with a carriageway width of less than 6.5m.

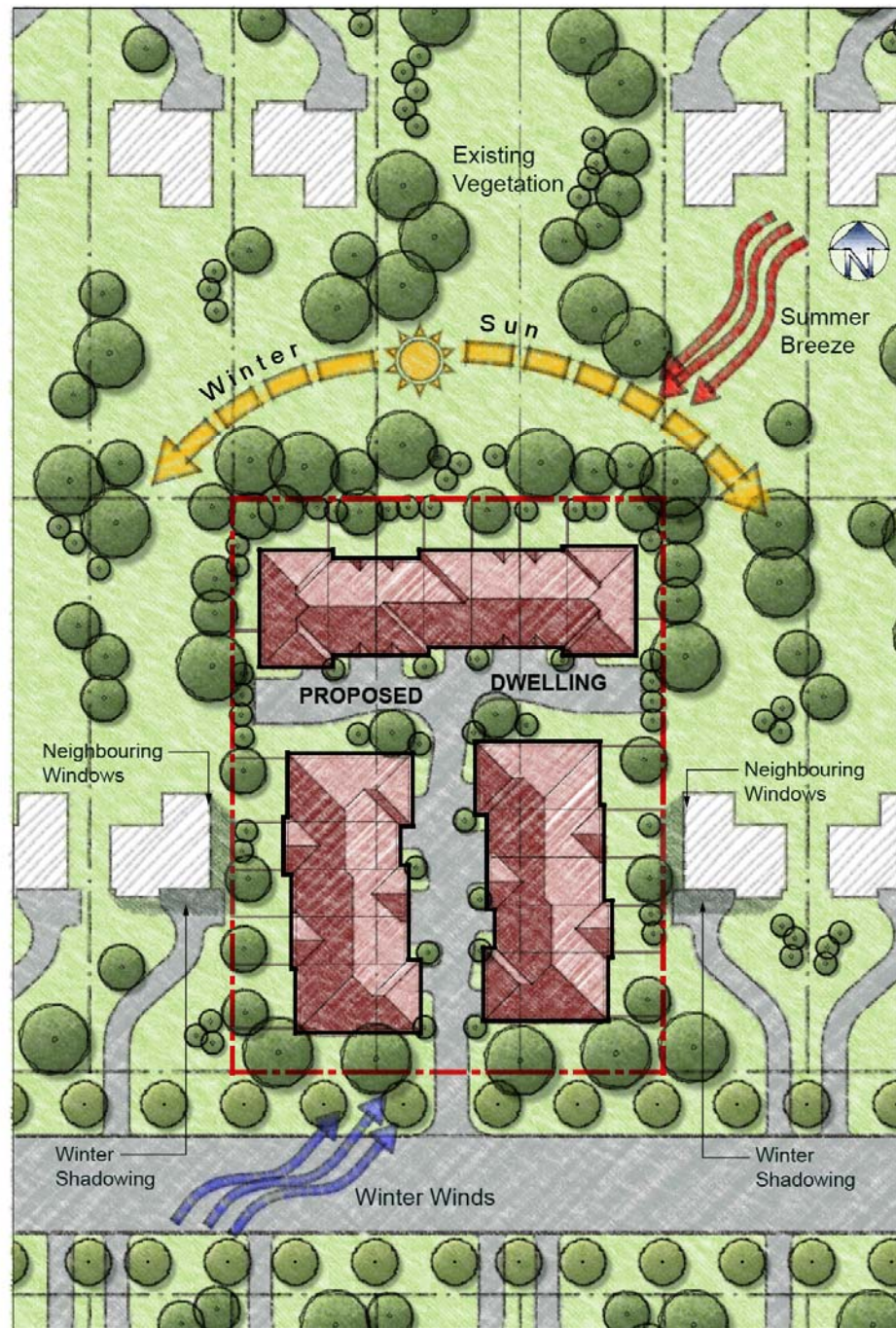


Figure 1 Site Analysis Plan for Multi Dwelling Housing

4. Townhouse and Villa Development on an 18m frontage block

Background

It has been identified within the Liverpool City Council area that there is a shortage of small, affordable townhouse developments. This section is intended to provide controls which will enable townhouse development on lots less than the standard 22 m, providing all controls are followed.

Objectives

- a) To provide for a wide range of medium density dwellings, including two bedroom dwellings.
- b) To ensure compatibility with the surrounding development density by requiring acceptable site area requirements and setbacks.
- c) To provide for accessible dwellings.

Controls

1. At least two dwellings must have a maximum floor space of 80sqm.
 - These dwelling must have a maximum of two bedrooms.
 - These dwellings must have a carport, rather than a garage. This control applies over Section 7 – Car Parking and Access.
2. Dwellings at the rear of the property must not be more than 1 storey high. An attic is permitted.
 - The rear of the property for Section 4 means all land 15m from the rear property boundary.
3. At least one dwelling should face and address the street.
4. All dwellings built must conform to the Controls listed within this Part.

5. Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access
- b) To set back dwellings from one another to provide visual and acoustic privacy.
- c) To provide setbacks that minimise impacts on adjoining neighbours by minimising overshadowing and overlooking.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front Setbacks

1. Buildings shall be setback from the primary and secondary boundaries in accordance with Table 1.

Table 1

Street	Front Setback	Secondary Setback
Classified Roads	7.0m	7.0m
Other Streets (ground floor)	4.5m	2.5m
Other Streets (first floor)	5.5m	2.5m

2. Garages or Carports must be set back a minimum of 1m behind the main face of the dwelling (see Figure 2). (The main face is the first wall of a habitable room)
3. Verandahs, balconies, eaves and other sun control devices may encroach on the minimum front and secondary setback by up to 1m.
4. The secondary setback is the longest length boundary.

Side and Rear Setbacks

5. Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2

Item	Side Setback	Rear Setback
Ground floor without windows to habitable rooms	0.9m	4.0m
Ground floor with windows to habitable rooms	4.0m	4.0m
First floor without windows to habitable rooms	1.2m	4.5m
First floor with windows to habitable rooms and neighbouring private open space	4.0m	6.0m

6. Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas shall open out to open space.

Setbacks across internal driveways

7. Buildings shall be setback a minimum of 8m from other buildings across a driveway.

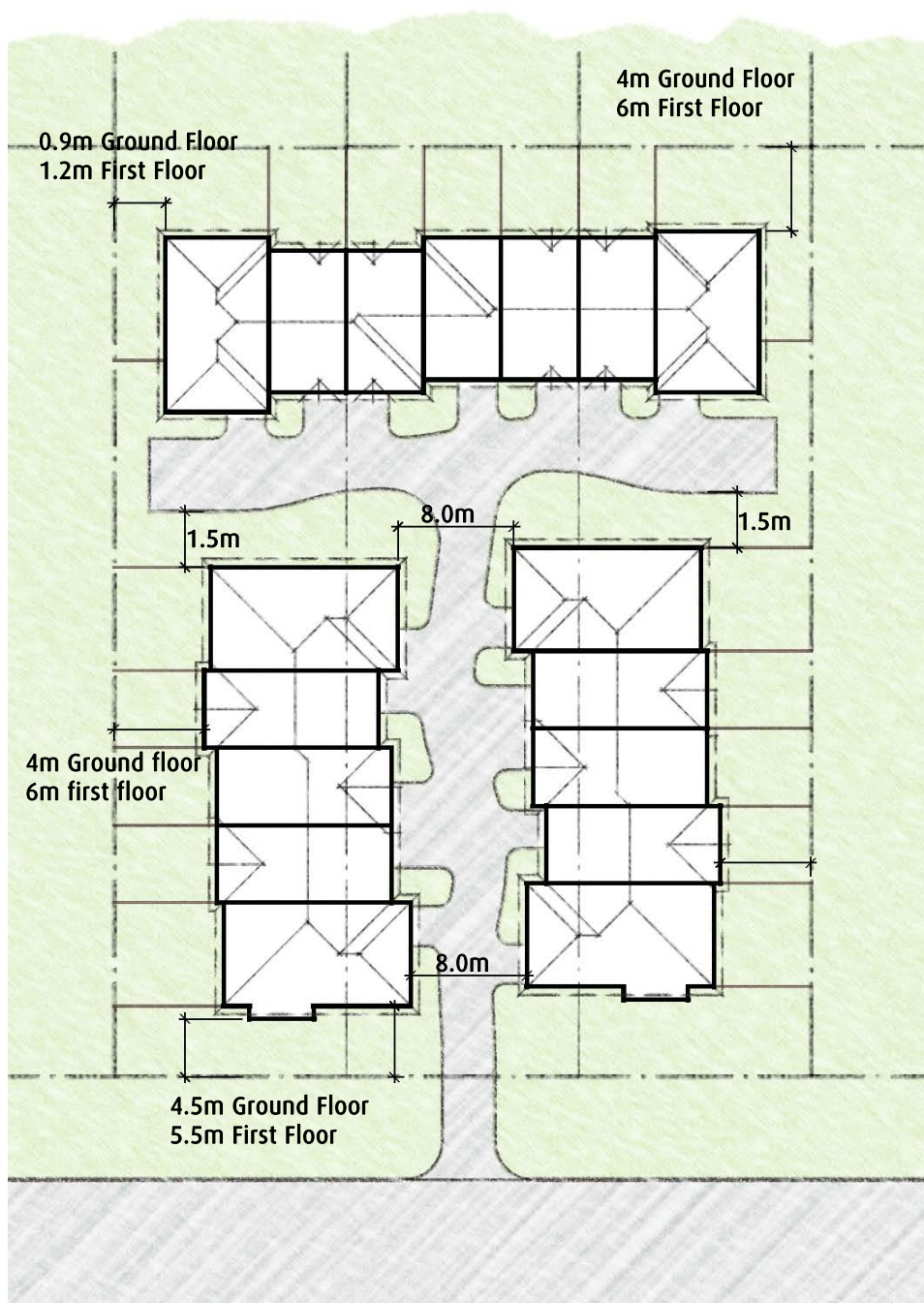


Figure 2 Setbacks for Multi Dwelling Housing

6. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Private open space is an area within the site (usually at the rear) that is set aside for outdoor activities. Clotheslines, BBQ areas, pergola (unroofed structure), patio, garden sheds and pools can be included in the private open space.

Principal Private open space is an area that is directly accessible from at least one living room and is included in the private open space calculations (the principal private open space area may be paved or sealed).

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To minimise impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwellings.
- e) To maximise the amount of landscaped area within the front setback of the dwelling.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

1. A minimum of 20% of the site area shall consist of a Landscape Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
2. A minimum unincumbered area of 4 x 5m shall be provided in rear setback to accommodate deep rooted trees.

Private Open Space

Objectives

- a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities.
- b) To ensure that Private Open Space is clearly defined for private use.
- c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

Controls

1. Each dwelling shall provide a minimum private open space area, which is not covered by a roof in accordance with Table 3.

Table 3

Dwelling Size	Private Open Space
Small <65m ²	30m ²
Medium 65 – 100m ²	40m ²
Large > 100m ²	50m ²

2. Areas less than 1.5 m in width does not qualify as Private Open Space for the purpose of the above table.
3. Private Open Space must be directly accessible from the main living area.
4. A minimum of 50% of the Private Open Space are must received 3 hours of sunlight between 9:00am and 5:00pm on 21 June.

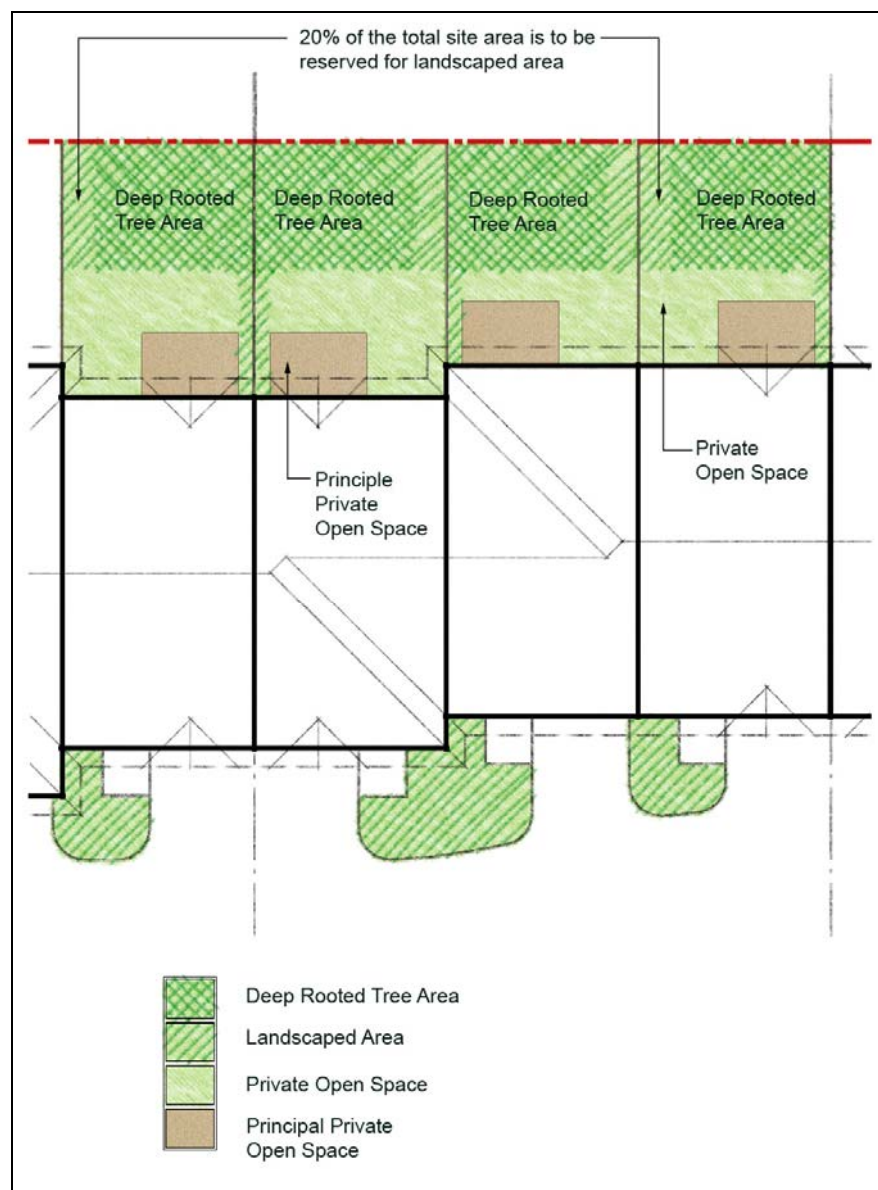


Figure 3 Landscaping for Multi Dwelling Housing

7. Cut and Fill, Building Design, Streetscape and Layout

Cut and Fill of Land

Objectives

- a) To reduce the incidence of change in natural ground levels.
- b) To encourage the architectural designs of dwellings which suit the contours of the land.
- c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.
- d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.
- e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.
- f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.

Controls

1. The maximum cut on a site must not exceed 500mm.
2. All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacture of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.
3. All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 750mm. All fill must be contained within the dwelling footprint.
4. Contaminated fill, either imported or found on site is not permitted.

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s) PRIOR TO the release of the occupation certificate.

5. Where an applicant considers that an allotment has characteristics which warrant exemption from this policy, an application for exemption may be made by the submission of a development application to Council for consideration. In addition to normal requirements the submission should include:
 - A plan showing existing contours (at 0.5m intervals) of the subject site and all adjoining sites;
 - A plan showing future contours (after proposed cut and fill) of the subject site and all adjoining sites; and
 - Full details of any proposed retaining wall(s).

Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut and fill, Council will require the completion of such retaining wall(s) PRIOR TO the commencement of any building works.

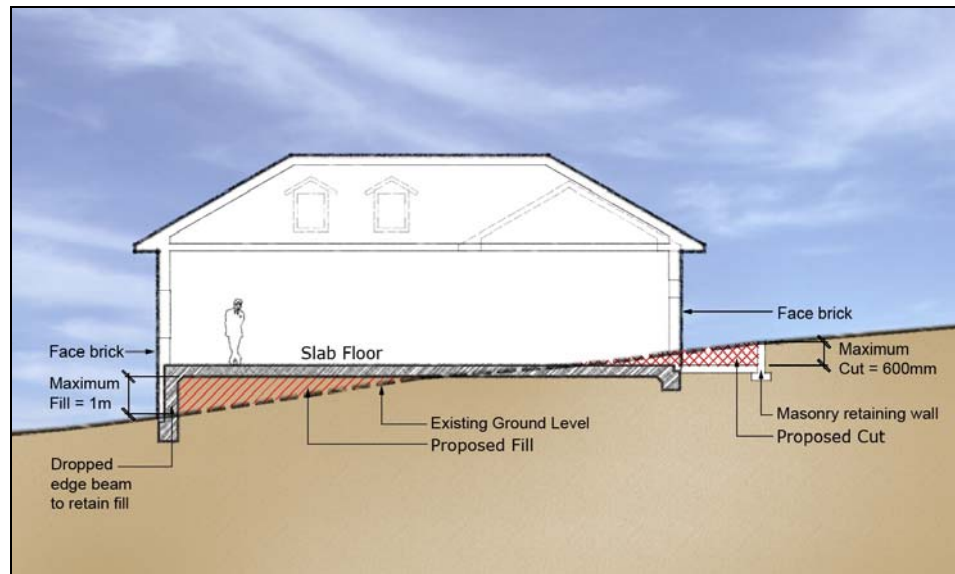


Figure 4 Example of cut and Fill on sloping block

Building Design and Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) That the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.
- g) To ensure habitable rooms address the street.
- h) To encourage balconies over garages in two storey dwellings.
- i) To encourage steep or sloping site to build split level or stepped development.

Controls

1. Unit/s with a street frontage shall orientate the main entrance and where possible at least one living area towards the street.
2. Entry points shall be enhanced/emphasised to all dwellings especially those facing the street.
3. The first floor of the townhouse developments must be no greater than two thirds of the ground floor area.
4. Building facades shall be articulated and roof form is to be varied to provide visual variety.
5. Walls shall be a mix of masonry, rendered and or bagged, and painted, lightweight clad and painted and/or flush face brick. Justification will be required for 100% face brick facades or 100% rendered and painted brick and will be assessed on merit.
6. Facades can be articulated by:
 - The use of different materials and detailing and / or

- The inclusion of balconies, varandahs, pergolas and landscaped beds.
- 7. A sidewall must be articulated if the wall has a continuous length of over 10 m.
- 8. The entrance of each dwelling shall be emphasised.
- 9. Units built at the rear of the allotment must take into consideration privacy of neighbouring properties. The use of windows with high sill heights should be used to avoid potential privacy issues.
- 10. Driveways should avoid a 'gun barrel' effect by curving and siting of buildings, which create a driveway form with the divided carriageway separated by soft landscaping.
- 11. Attic floor space may be used when it is contained wholly within the roof pitch and will not be counted as a storey provided that the attic space is part of the dwelling unit.
- 12. Space used for car parking shall be included as a storey if the ceiling of the car parking level exceeds more than 1m above the natural ground level.
- 13. The maximum roof pitch shall be 36 degrees.
- 14. Townhouses built on steep or sloping blocks should be built of split-level construction.
- 15. Balconies are not permitted on the first floor of the side and / or rear portion of the dwelling. Balconies may be considered if they address public open space, communal open space and/or private driveways.
- 16. Blank walls in general that address street frontages or public open space are discouraged. Where they are unavoidable building elements or landscaping must be used to break up large expanses of walls. In some cases an anti-graffiti coating will need to be applied to the wall to a height of 2 metres.



Figure 5 Curving driveway

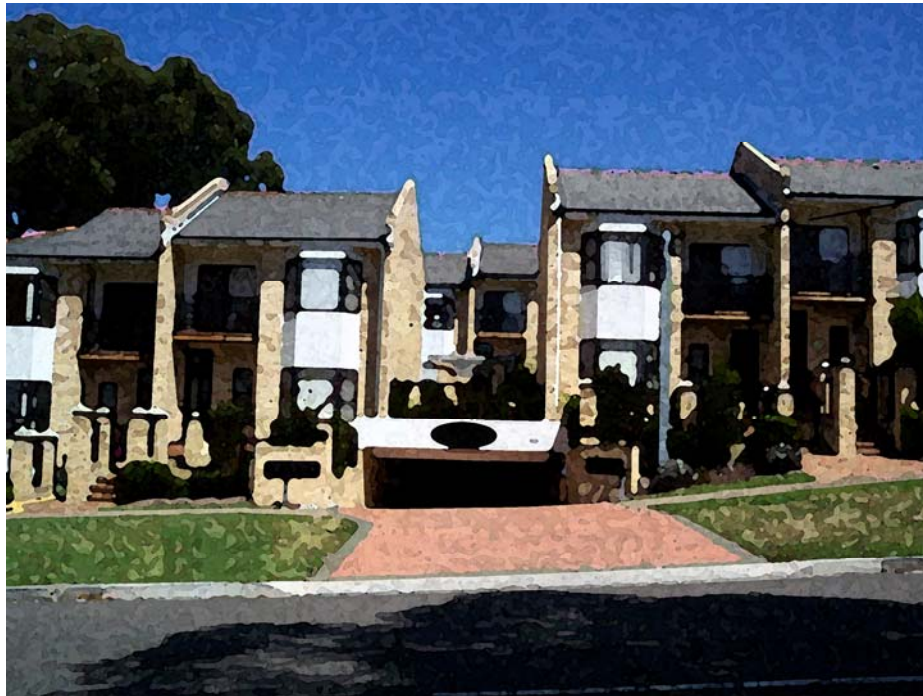


Figure 6 Terrace style Multi Dwelling Housing on a sloping site

Internal Design

Objectives

- a) The internal design must contribute to personal safety and to the protection of property by permitting casual surveillance of public spaces from private windows and entries.
- b) To provide natural surveillance from a room addressing the street.
- c) To encourage the internal design of the dwelling to take advantage of cross ventilation.
- d) To locate amenity rooms (such as laundries, bathrooms, toilets) to the side and rear of the development.
- e) To ensure that each unit provides a sufficient amount of storage for elements such as garden and sports equipment.

Controls

1. Multi Dwelling Housing located on street boundaries shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.
2. Living rooms should take advantage of northern aspects where possible.
3. Access to private open space must be from at least one living room.
4. The internal layout of the dwelling must incorporate cross ventilation.
5. Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side and the rear of the development.
6. Each dwelling must provide a minimum storage area of 8m³.
7. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

8. Car Parking and Access

Background

The provision of car parking for multiple dwellings can make a major difference to the usability and attractiveness of a residential development. In addition to the requirements in Part 1 there are requirements which are particular to multiple dwellings that need to be considered.

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To ensure adequate onsite parking is available to occupants and visitors.

Controls

Internal Driveway and Car Parking Layout

1. Refer to Part 1 for requirements for minimum widths for Internal Driveways.
2. The extent of paved area for driveways shall be kept to a minimum. Driveways abutting dwellings shall be kept to a minimum.
3. Avoid large expanses of driveways, including concentrating double garages adjacent to each other.
4. Land that is unlikely to be used for manoeuvring shall be used for landscaping or for pedestrian areas and be distinguished by different materials and levels.

Refer to the illustration below.

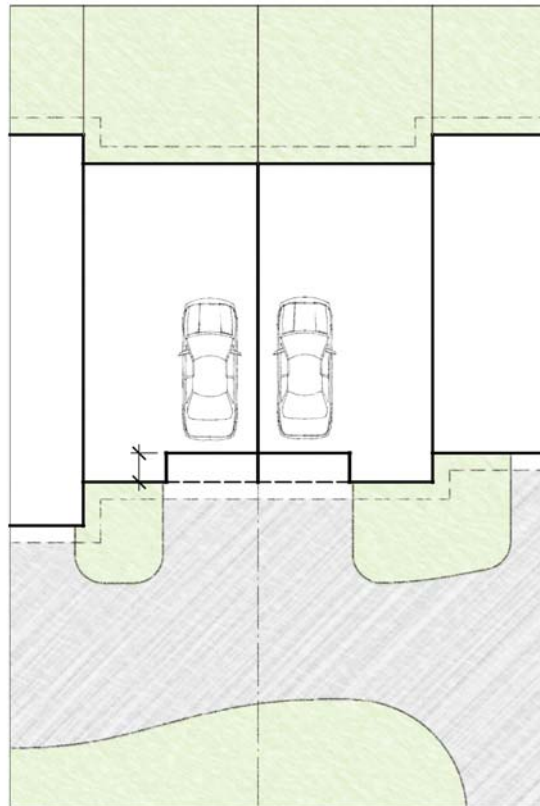


Figure 7 Garage and Driveway design

Basement Car parking

1. Basement car parking is permitted but will be included as a storey if the ceiling is located more than 1m above the natural ground level.
2. On sites that slope away from the street, underground car parking structures that protrude more than 1m above the natural ground level towards the rear will not be included as a storey where topographical features warrant and the streetscape is not adversely affected. The car parking area should be adequately obscured from visible sight by the screen planting.

Access Driveways

1. Driveways to the street shall be kept to a minimum.
2. Driveways may be permitted to individual dwellings provided that the streetscape is not adversely affected and the application complies elsewhere with the DCP.
3. Kerbs shall be provided along the edge of all internal driveways. All traffic must be able to enter and exit the site in a forward direction.

Note: Refer to Part 1 for other controls on Access Driveways

9. Landscaping and Fencing

Objectives

- a) To enhance the amenity of residential developments.
- b) To retain existing mature vegetation.
- c) To provide privacy within a residential development and to adjoining residential developments.
- d) To improve the energy efficiency and solar efficiency of dwellings and the microclimate of private open spaces.
- e) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- f) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas.
- 2. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 3. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (600 – 1800mm) especially along paths and close to windows and doors.
- 4. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
- 5. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The minimum height of screening to be provided is 2.5 to 3m at maturity.
- 6. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from habitable areas of dwellings or elsewhere as appropriate for gardener access in other forms of development.
- 7. A 2m wide landscaped area shall be provided between an internal driveway and a property boundary to provide privacy to the adjoining property and to soften the appearance of the internal driveway.
- 8. Landscaping shall be provided along the side and rear boundaries to provide privacy for adjoining residents.



Figure 8 Side and rear plantings for Multi Dwelling Housing

9. A maximum of 30% of the front setback is to be paved or sealed, unless the area is used for direct access to a garage, carport or dwelling entry.

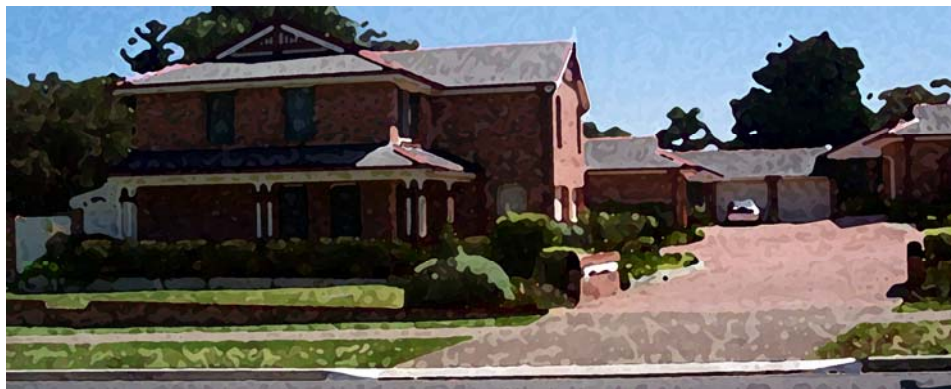


Figure 9 Front setback landscaping

10. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
11. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
12. Areas between a driveway and the windows of a dwelling shall be landscaped to provide privacy for the dwelling.



Figure 10 Landscaping within the front setback, with a low fence



Figure 11 Driveway landscaping for privacy

Fencing

Objectives

- a) To provide a clear distinction between common open space and private open space.
- b) To ensure fencing enhances the streetscape.
- c) To provide a visual element within the streetscape.

Controls

Primary Frontage

1. The maximum height of a front fence is 1.2m.
2. The front fence may be built to a maximum height of 1.5m *if* the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
3. Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
4. The front fence must be 30% transparent.
5. Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
6. The front fence may be built to a maximum of 1.8m *only if*:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and have landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.
7. Front fences are to be constructed of materials compatible with the proposed design of the dwelling.



Figure 12 Front Landscaping and Fencing

Secondary Frontage

8. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped
9. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the

remaining fence/wall may then be stepped up to a maximum of 1.8m . The secondary setback is the longest length boundary.



Figure 13 Secondary Street landscaping

Boundary Fences

10. The maximum height of side boundary fencing within the setback to the street is 1.2m.
11. Boundary fences shall be lapped and capped timber or metal sheeting.



Figure 14 Fencing within Setback

10. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least;

- One living, rumpus room or the like; and
- 50% of the private open space.

Privacy

Objectives

- a) To site and design buildings in a manner which protects the visual and acoustic privacy of nearby dwellings and their private open space.
- b) To minimise, wherever possible, the obstruction of views from adjoining properties.

Controls

1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
2. Windows to habitable rooms should be located so they do not overlook such windows in adjoining properties, other dwellings within the development or areas of private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

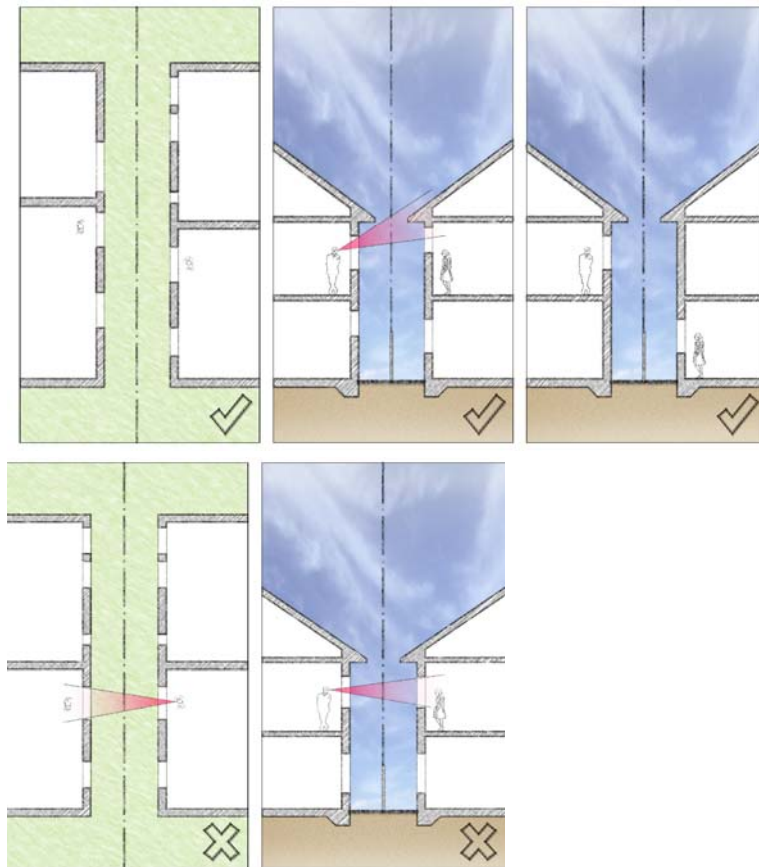


Figure 15 Privacy and Amenity

Acoustic Impact

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into residential development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the Building Code of Australia.
4. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

11. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
3. Setback 1m from the front boundary to the street.
4. Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
5. Not be located adjacent to an adjoining residential property.
6. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.



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Liverpool Development Control Plan 2008

Part 3.7

Residential Flat Buildings

19 February 2014

Part 3.7 must be read in conjunction with Part 1

Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.7 Residential Flat Buildings in the R4 Zone (Outside Liverpool City Centre)

Table of Contents

1. Preliminary	5
2 Frontage and Site Area	6
3. Site Planning.....	7
4. Setbacks	10
5. Landscaped Area and Private Open Space	12
6. Building Design, Streetscape and Layout.....	14
7. Landscaping and Fencing	28
8. Car Parking and Access.....	33
9. Amenity and Environmental Impact.....	35
10. Site Services	38

Table of Figures

Figure 1 Site analysis plan for a Residential Flat Building	8
Figure 2 Residential Flat Building in context with its surroundings	9
Figure 3 Residential Flat Building showing setbacks	11
Figure 4 Streetscape Presentation.....	14
Figure 5 Building appearance and streetscape.....	16
Figure 6 Roof design keeping in with the surrounds	17
Figure 7 Entry to the Residential Flat Building	18
Figure 8 Balcony design.....	20
Figure 9 Layout of dwellings	25
Figure 10 Cross Ventilation.....	26
Figure 11 Vegetation and fencing	30
Figure 12 Car parking at ground level.....	34
Figure 13 Screening and lower level balconies.....	36

List of Tables

Table 1	10
Table 2	10
Table 3	13

1. Preliminary

Applies to

1. Part 3.7 applies to residential flat building development on land in the Residential, R4 – High Density Residential zone under *Liverpool LEP 2008* except as described in 3.
2. Part 1 of the DCP also applies to the land.
3. Part 3.7 does not apply to residential development on land in the following locations. All controls in relation to the Private and Public Domain are covered by the respective parts.
 - Middleton Grange. (Refer to Part 2.5 for all controls on residential development).
 - Liverpool City Centre (Refer to Part 4 or all controls on residential development).

Background

Residential Flat Buildings are permitted in the R4 zone under *Liverpool LEP 2008*.

Good quality buildings help improve the quality of life. The quality involves the location, size and scale, appearance and amenity of the buildings in which many people live. The design of new residential flat buildings is important to neighbourhoods - to provide good quality and amenity to growing populations with changing needs. Quality design contributes to enjoyable places: buildings, streets, squares and parks.

Residential Flat Buildings are also subject to State Environmental Planning Policy No 65—Design Quality of Residential Flat Development.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To provide for a variety of housing choice within residential areas with Liverpool.
- c) Additional objectives are listed in the detailed controls for the various land uses.

2 Frontage and Site Area

Site Area and Frontage

Objective

To permit residential flat buildings on land that can adequately accommodate landscaping, open space, parking, and solar access requirements.

Control

The minimum lot width 24m.

Note: The amalgamation of land parcels into larger development sites is encouraged as this will result in better forms of housing development and design.

Refer to the Liverpool LEP 2008 written statement and maps for the minimum site area and width in the R4 zone.

3. Site Planning

Site Planning

Objectives

- a) To ensure that the residential flat building is sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.
- c) To ensure that residential flat buildings that do not result in the loss of amenity to adjacent dwellings and open space.
- d) To ensure that the development reflects the character of the locality and environment.

Controls

- 1. The building should relate to the site's topography with minimal earthworks, except for basement car parking.
- 2. Siting of buildings should provide usable and efficient spaces, with consideration given to energy efficiency in the building design.
- 3. Site layout should provide safe pedestrian, cycle and vehicle access to and from the street.
- 4. Siting of buildings should be sympathetic to surrounding development, taking specific account of the streetscape in terms of scale, bulk, setbacks, materials and visual amenity.
- 5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.
- 6. The development will need to satisfy the requirements of State Environmental Planning Policy No 65—Design Quality of Residential Flat Development.

Note: A Site Analysis Plan is required for each development application.

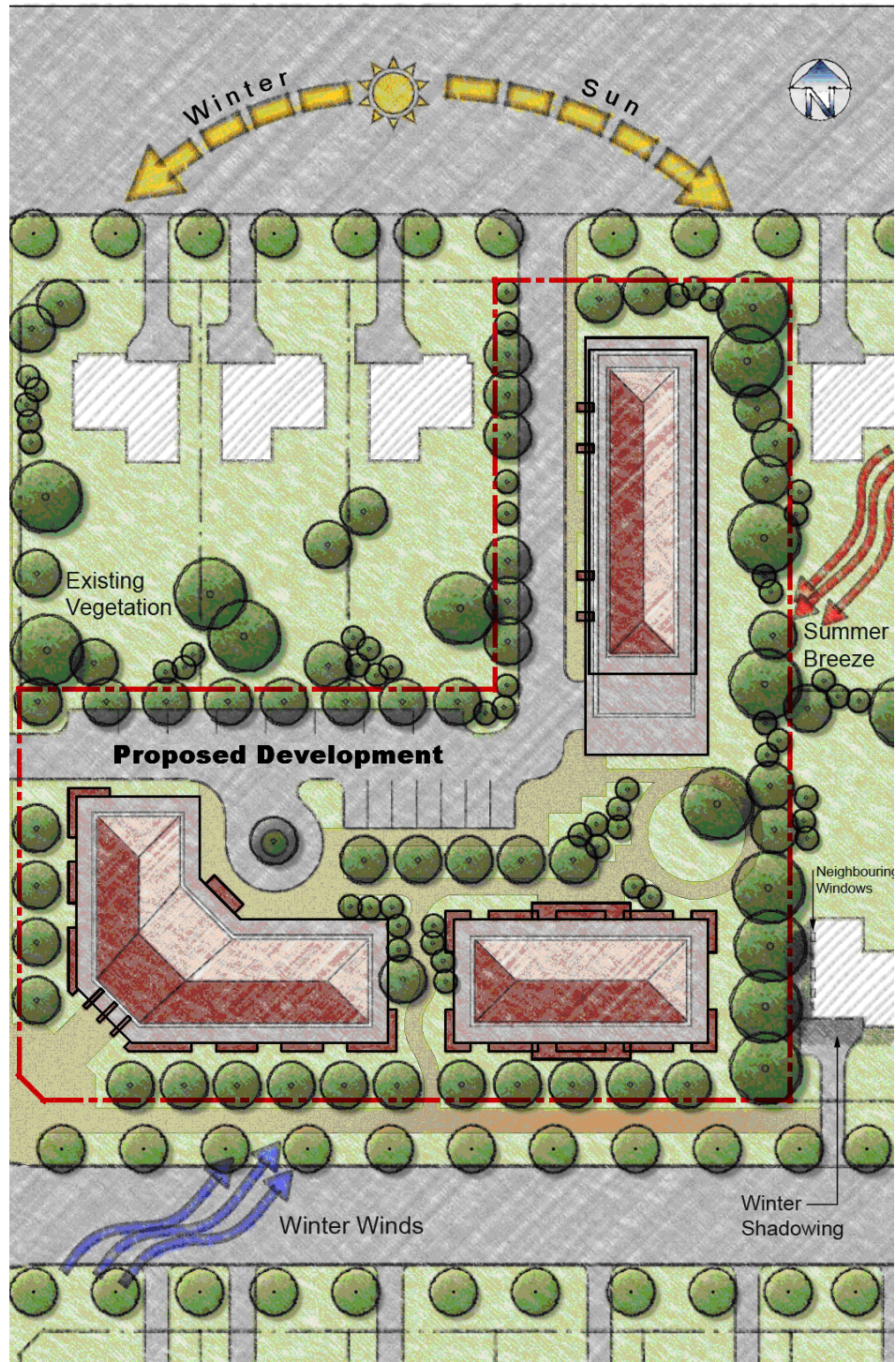


Figure 1 Site analysis plan for a Residential Flat Building



Figure 2 Residential Flat Building in context with its surroundings

4. Setbacks

Objectives

- a) To set buildings back from the street and adjacent properties to provide reasonable space for landscaping, open space and solar access.
- b) To set buildings back from each other to provide visual and acoustic privacy.
- c) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- d) To provide convenient and unobtrusive vehicle access and car parking without the use of long driveways.

Controls

Front and Secondary Setbacks

1. Buildings shall be setback in accordance with the following table.

Table 1

Road	Front Setback	Secondary Setback
Classified Roads	7.0m	7.0m
Other Streets	5.5m	5.5m

2. Verandahs, eaves and other sun control devices may encroach on the front and secondary setback by up to 1m.
3. The secondary setback is along the longest length boundary.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with the following table.

Table 2

Item	Side Setback	Rear Setback
Boundary to land in R2 & R3 zones	10m	10m
Boundary to land in R2 & R3 zones (no windows to habitable rooms)	10m	10m
Boundary to land in R4 zone (First 10m in height, excluding roof/attic)	3m	8m
Boundary to land in R4 zone (Greater than 10m in height)	8m	8m
Boundary to public open space	6m	6m

2. Consideration will need to be given to existing and approved setbacks of residential flat buildings on adjoining buildings.

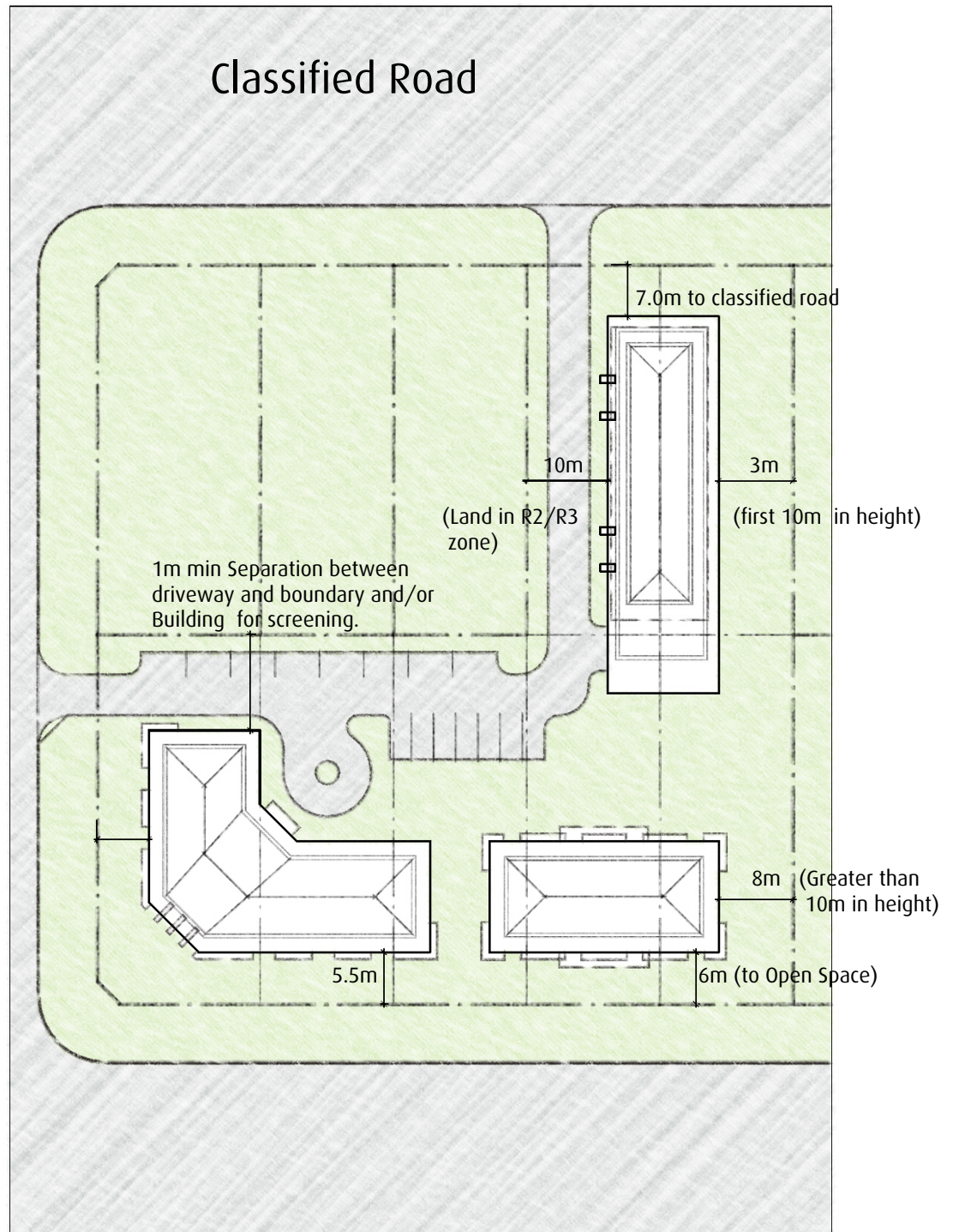


Figure 3 Residential Flat Building showing setbacks

5. Landscaped Area and Private Open Space

Landscaped area is defined in Liverpool LEP 2008.

Landscaped Area (deep soil area)

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To assist with management of the water table.
- c) To assist with management of water quality.
- d) To enhance the existing streetscape and soften the visual appearance of the buildings.

Controls

1. A minimum of 25% of the site area shall be landscaped area.
2. A minimum of 50% of the front setback area shall be landscaped area.
3. Optimise the provision of consolidated landscaped area within a site by:
 - The design of basement and sub-basement car parking, so as not to fully cover the site.
 - The use of front and side setbacks.
 - Optimise the extent of landscaped area beyond the site boundaries by locating them contiguous with the landscaped area of adjacent properties.
4. Promote landscape health by supporting for a rich variety of vegetation type and size.
5. Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials.

Open Space

Open space includes Landscaped Areas and hard paved areas such as footpaths and barbeque areas. It does not include driveways, drying areas or waste storage areas.

Objectives

- a) To provide residents with passive and active recreational opportunities.
- b) To provide an area on site that enables soft landscaping and deep soil planting.
- c) To ensure that communal open space is consolidated, configured and designed to be useable and attractive.
- d) To provide a pleasant outlook.

Controls

1. Provide communal open space, which is appropriate and relevant to the context and the building's setting.
2. Where communal open space is provided, facilitate its use for the desired range of activities by:
 - Locating it in relation to buildings to optimise solar access to dwellings.
 - Consolidating open space on the site into recognisable areas with reasonable space, facilities and landscape.
 - Designing its size and dimensions to allow for the range of uses it will contain.

- Minimising overshadowing.
 - Carefully locating ventilation duct outlets from basement car parking.
3. Locate open space to increase the potential for residential amenity.

Private Open Space

Objective

- a) To ensure that private open space is clearly defined, usable and meets user requirements for privacy, solar access, outdoor activities, accessibility and landscaping.
- b) To provide all dwellings with private open space.

Controls

1. Private open space shall be provided for each dwelling in accordance with the following table.

Table 3

Dwelling Size	Private Open Space Area	Minimum Width
Small < 65 sqm	10sqm	2m
Medium 65 – 100	12sqm	2m
Large > 100 sqm	12sqm	2m

2. Private open space may be provided as a courtyard for ground floor dwellings or as balconies for dwellings above the ground floor.
3. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
4. Private open space should be clearly defined for private use.

For balconies refer to Building Design, Streetscape and Layout for controls on their design.

Drying areas

Objective

To provide adequate area clothes drying area for residents.

Controls

Clothes drying facilities must be provided at a rate of 5 lineal m of line per unit. Clothes drying areas should not be visible from a public place and should have solar access.

6. Building Design, Streetscape and Layout

Building Height

Objective

To ensure that the new development is compatible with the character of residential flat buildings and the adjoining neighbourhood.

Controls

Refer to the Liverpool LEP 2008 written statement and maps for the maximum Building Height in the R4 zone. Note that this varies depending on the location.



Figure 4 Streetscape Presentation

Building Appearance and Streetscape

Objectives

- a) To ensure an attractive streetscape that is consistent with the environment of residential flat buildings.
- b) To promote high architectural quality in residential flat buildings.
- c) To ensure that new developments have facades which define and enhance the public domain and desired street character.
- d) To ensure that building elements are integrated into the overall building form and facade design.

Controls

1. Residential Flat Buildings shall comply with State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development, and should consider the Residential Flat Design Code.
2. Building facades shall be articulated and roof form is to be varied to provide visual variety.

3. The pedestrian entrance to the building shall be emphasised.
4. A sidewall must be articulated if the wall has a continuous length of over 14 m.
5. Where possible vehicular entrances to the basement car parking shall be from the side of the building. As an alternative a curved driveway to an entrance at the front of the building may be considered if the entrance is not readily visible from the street.
6. Driveway walls adjacent to the entrance of a basement car park are to be treated so that their appearance is consistent with the basement or podium walls.
7. Sensitive design of basement car parking areas can assist in ensuring that podiums and vehicle entry areas do not dominate the overall design of the building or the streetscape and optimise areas for deep soil planting.
8. The integration of podium design should be an integral part of the design of the development, and as far as possible should not visibly encroach beyond the building footprint.
9. A master antenna shall be provided for any development of more than three dwellings and be located so that it is not visible from the street or any public open space.
10. Consider the relationship between the whole building form and the facade and / or building elements. The number and distribution of elements across a façade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns.
11. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. This may include but are not limited to:
 - Defining a base, middle and top related to the overall proportion of the building.
 - Expressing key datum lines in the context using cornices, a change in materials or building set back.
 - Expressing the internal layout of the building, for example, vertical bays or its structure, such as party wall-divisions.
 - Expressing the variation in floor-to-floor height, particularly at the lower levels.
 - Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.
 - Selecting balcony types which respond to the street context, building orientation and residential amenity.
 - Cantilevered, partially recessed, wholly recessed, or Juliet balconies will all create different facade profiles.
 - Detailing balustrades to reflect the type and location of the balcony and its relationship to the façade detail and materials.
12. Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation.
13. Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height.

14. Co-ordinate and integrate building services, such as drainage pipes, with overall facade and balcony design.
15. Co-ordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design



Figure 5 Building appearance and streetscape

Roof Design

Objectives

- a) To provide quality roof designs, which contribute to the overall design and performance of residential flat buildings;
- b) To integrate the design of the roof into the overall facade, building composition and desired contextual response;
- c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
 - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.
 - Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
 - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
 - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.

4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
5. Where habitable space is provided within the roof optimise residential amenity in the form of attics or penthouse dwellings.



Figure 6 Roof design keeping in with the surrounds

Building Entry

Objectives

- a) To create entrances which provide a desirable residential identity for the development.
- b) To orient the visitor.
- c) To contribute positively to the streetscape and building facade design.

Controls

1. Improve the presentation of the development to the street by:
 - Locating entries so that they relate to the existing street and subdivision pattern, street tree planting and pedestrian access network.
 - Designing the entry as a clearly identifiable element of the building in the street.
 - Utilising multiple entries-main entry plus private ground floor dwelling entries-where it is desirable to activate the street edge or reinforce a rhythm of entries along a street.
2. Provide as direct a physical and visual connection as possible between the street and the entry.
3. Achieve clear lines of transition between the public street, the shared private, circulation spaces and the dwelling unit.
4. Ensure equal access for all

5. Provide safe and secure access by:
 - Avoiding ambiguous and publicly accessible small spaces in entry areas.
 - Providing a clear line of sight between one circulation space and the next.
 - Providing sheltered well-lit and highly visible spaces to enter the building, meet and collect mail.
6. Generally provide separate entries from the street for:
 - Pedestrians and cars.
 - Different uses, for example, for residential and commercial users in a mixed-use development.
 - Ground floor dwellings, where applicable.
7. Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces.
8. Provide and design letterboxes to be convenient for residents and not to clutter the appearance of the development from the street by:
 - Locating them adjacent to the major entrance and integrated into a wall, where possible.
 - Setting them at 90 degrees to the street, rather than along the front boundary.



Figure 7 Entry to the Residential Flat Building

Balconies

Objectives

- a) To ensure that balconies contribute positively to the façade of a building.
- b) To ensure balconies are functional and responsive to the environment thereby promoting the enjoyment of outdoor living for dwelling residents.
- c) To ensure that balconies are integrated into the overall architectural form and detail of residential flat buildings.

- d) To contribute to the safety and liveliness of the street by allowing for casual overlooking and address.

Controls

1. Balconies may project up to 1m from the façade of a building.
2. Balustrades must be compatible with the façade of the building.
3. Ensure balconies are not so deep that they prevent sunlight entering the dwelling below.
4. Design balustrades to allow views and casual surveillance of the street.
5. Balustrades on balconies at lower levels shall be of solid construction.
6. Balconies should where possible should be located above ground level to maximise privacy for occupants, particularly from the street.
7. Solid or semi solid louvres are permitted.
8. Noise attenuation measures on balconies facing a Classified Road should be considered.
9. Balconies should be located on the street frontage, boundaries with views and onto a substantial communal open space.
10. Primary balconies should be:
 - Located adjacent to the main living areas, such as living room, dining room or kitchen to extend the dwelling living space;
 - Sufficiently large and well proportioned to be functional and promote indoor/outdoor living. A dining table and two chairs (smaller dwelling) and four chairs (larger dwelling) should fit on the majority of balconies in any development.
11. Consider secondary balconies, including Juliet balconies or operable walls with balustrades, for additional amenity and choice in larger dwellings, adjacent to bedrooms or for clothes drying, site balconies off laundries or bathrooms.
12. Design and detail balconies in response to the local climate and context thereby increasing the usefulness of balconies. This may be achieved by:
 - Locating balconies facing predominantly north, east or west to provide solar access.
 - Utilising sunscreens, pergolas, shutters and operable walls to control sunlight and wind.
 - Providing balconies with operable screens, Juliet balconies or operable walls/sliding doors with a balustrade in special locations where noise or high winds prohibit other solutions - along rail corridors, on busy roads or in tower buildings - choose cantilevered balconies, partially cantilevered balconies and/or recessed balconies in response to daylight, wind, acoustic privacy and visual privacy.
13. Provide primary balconies for all dwellings with a minimum depth of 2m.
14. Ensuring balconies are not so deep that they prevent sunlight entering the dwelling below.
15. Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Design considerations may include:
 - Detailing balustrades using a proportion of solid to transparent materials to address site lines from the street, public domain or adjacent development. Full glass balustrades do not provide privacy for the balcony or the dwelling's interior, especially at night.

- Detailing balustrades and providing screening from the public, for example, for a person seated looking at a view, clothes drying areas, bicycle storage or air conditioning units.
16. Operable screens increase the usefulness of balconies by providing weather protection, daylight control and privacy screening.



Figure 8 Balcony design

Daylight Access

Objectives

- a) To ensure that daylight access is provided to all habitable rooms and encouraged in all other areas of residential flat development.
- b) To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours.
- c) To provide residents with the ability to adjust the quantity of daylight to suit their needs.

Controls

1. Plan the site so that new residential flat development is oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
3. Optimise the number of dwellings receiving daylight access to habitable rooms and principal windows:
4. Ensure daylight access to habitable rooms and private open space, particularly in winter - use skylights, clerestory windows and fanlights to supplement daylight access.
5. Promote two-storey and mezzanine, ground floor dwellings or locations where daylight is limited to facilitate daylight access to living rooms and private open spaces.

6. Ensure single aspect, single-storey dwellings have a northerly or easterly aspect
 - locate living areas to the north and service areas to the south and west of the development.
7. Avoid south facing dwellings.
8. Design for shading and glare control, particularly in summer:
 - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
 - Optimising the number of north-facing living spaces.
 - Providing external horizontal shading to north-facing windows.
 - Providing vertical shading to east or west windows.
9. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
10. On west facing windows, vertical louver panels or sliding screens protect from glare and low afternoon sun.
11. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
 - Using high performance glass but minimising external glare off windows.
 - Avoid reflective films.
 - Use a glass reflectance below 20%.
 - Consider reduced tint glass.
 - Limit the use of lightwells as a source of daylight by prohibiting their use as the primary source of daylight in habitable rooms. Where they are used:
 - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6 m.
 - Conceal building services and provide appropriate detail and materials to visible walls.
 - Ensure light wells are fully open to the sky.
 - A combination of louvres provides shading for different times of the day.

Internal design

Objective

To ensure that the internal design of buildings provide a pleasant environment for the occupants and residents of adjoining properties.

Controls

1. All staircases should be internal.
2. Minimise the length of common walls between dwellings.
3. Basement car parking shall be located beneath the building footprint.
4. Where possible natural ventilation shall be provided to basement car parking.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings
6. Minimise the location of noise sensitive rooms such as bedrooms adjoining noisier rooms such as bathrooms or kitchens or common corridors and stairwells.
7. Where a site has frontage to a Classified Road, locate bedrooms away from the front of the site.

8. Where common walls are provided they must be carried to the underside of the roof and be constructed in accordance with *Part F5 of the Building Code of Australia*.
9. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Ground Floor Dwellings

Objectives

- a) To contribute to the desired streetscape of an area and to create active safe streets.
- b) To increase the housing and lifestyle choices available in dwelling buildings.

Controls

1. Design front gardens or terraces, which contribute to the spatial and visual structure of the street while maintaining adequate privacy for dwelling occupants. This can be achieved by animating the street edge, for example, by promoting individual entries for ground floor dwellings.
2. Create more pedestrian activity along the street and articulate the street edge by:
 - Balancing privacy requirements and pedestrian accessibility.
 - Providing appropriate fencing, lighting and/ or landscaping to meet privacy and safety requirements of occupants while contributing to a pleasant streetscape.
 - Utilising a change in level from the street to the private garden or terrace to minimise site lines from the streets into the dwelling for some dwellings.
 - Increasing street surveillance with doors and windows facing onto the street.
3. Planting along the terrace edge contributes to a quality streetscape.
4. Ground floor dwellings are special because they offer the potential for direct access from the street and on-grade private landscape areas. They also provide opportunities for the dwelling building and its landscape to respond to the streetscape and the public domain at the pedestrian scale. Ground floor dwellings also support housing choice by providing accessibility to the elderly and/or disabled and support families with small children.
5. Optimise the number of ground floor dwellings with separate entries and consider requiring an appropriate percentage of accessible units. This relates to the desired streetscape and topography of the site.
6. Provide ground floor dwellings with access to private open space, preferably as a courtyard.

Security

Objectives

- a) To ensure that buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure that entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.
- c) To ensure buildings are safe and secure for residents and visitors.
- d) To contribute to the safety of the public domain.

Controls

1. Entrances to buildings should be orientated towards the front of the site and facing the street.

2. The main entrance to dwellings or other premises should not be from rear lanes and should be designed with clear directions and signage.
3. Blank walls in general that address street frontages or public open space are discouraged. Where they are unavoidable building elements or landscaping must be used to break up large expanses of walls. In some cases an anti-graffiti coating will need to be applied to the wall to a height of 2 metres.
4. Minimise the number of entry points to buildings.
5. Reinforce the development boundary to strengthen the distinction between public and private space by:
 - Employing a level change at the site and/or building threshold (subject to accessibility requirements).
 - Signage.
 - Entry awnings.
 - Fences, walls and gates.
 - Change of material in paving between the street and the development.
6. Optimise the visibility, functionality and safety of building entrances by:
 - Orienting entrances towards the public street.
 - Providing clear lines of sight between entrances, foyers and the street.
 - Providing direct entry to ground level dwellings from the street rather than through a common foyer.
 - Direct and well-lit access between car parks and dwellings, between car parks and lift lobbies and to all unit entrances.
7. Improve the opportunities for casual surveillance by:
 - Orienting living areas with views over public or communal open spaces, where possible.
 - Using bay windows and balconies, which protrude beyond the main facade and enable a wider angle of vision to the street.
 - Using corner windows, which provide oblique views of the street.
 - Providing casual views of common internal areas, such as lobbies and foyers, hallways, recreation areas and car parks.
8. Minimise opportunities for concealment by:
 - Avoiding blind or dark alcoves near lifts and stairwells, at the entrance and within indoor car parks, along corridors and walkways.
 - Providing well-lit routes throughout the development.
 - Providing appropriate levels of illumination for all common areas.
 - Providing graded illumination to car parks and illuminating entrances higher than the minimum acceptable standard.
9. Control access to the development by:
 - Making dwellings inaccessible from the balconies, roofs and windows of neighbouring buildings.
 - Separating the residential component of a development's car parking from any other building use and controlling car park access from public and common areas.
 - Providing direct access from car parks to dwelling lobbies for residents.

Natural Ventilation

Objectives

- a) To ensure that dwellings are designed to provide all habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants.
- b) To provide natural ventilation in non-habitable rooms, where possible.
- c) To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Controls

1. Utilise the building layout and section to increase the potential for natural ventilation. Design solutions may include:
 - Facilitating cross ventilation by designing narrow building depths and providing dual aspect dwellings, for example, cross through dwellings and corner dwellings.
 - Facilitating convective currents by designing units, which draw cool air in at lower levels and allow warm air to escape at higher levels, for example, maisonette dwellings and two-storey dwellings.
2. Select doors and windows (that open) to maximise natural ventilation opportunities established by the dwelling layout.
3. Provide narrow building depths to support cross ventilation.
4. Avoid single-aspect dwellings with a southerly aspect.
5. Design the internal dwelling layout to promote natural ventilation by:
 - Minimising interruptions in air flow through a dwelling.
 - Grouping rooms with similar usage together, for example, keeping living spaces together and sleeping spaces together. This allows the dwelling to be compartmentalised for efficient summer cooling or winter heating.
 - Select doors and operable windows to maximise natural ventilation opportunities established by the dwelling layout.

Building Layout

Objectives

- (a) To provide variety in appearance.
- (b) To provide increasing privacy between dwellings within the building.
- (c) To assist with flow through ventilation.
- (d) To improve solar access.

Controls

The layout of dwellings within a residential flat building should minimise the extent of common walls. Figure 9 shows layouts that are not preferred and options that are considered acceptable.



Poor example of a Residential flat building – high level of common wall and lower cross ventilation.



NOT TO SCALE



Better example of a Residential Flat Building – little to no common wall and high levels of cross ventilation.

Figure 9 Layout of dwellings

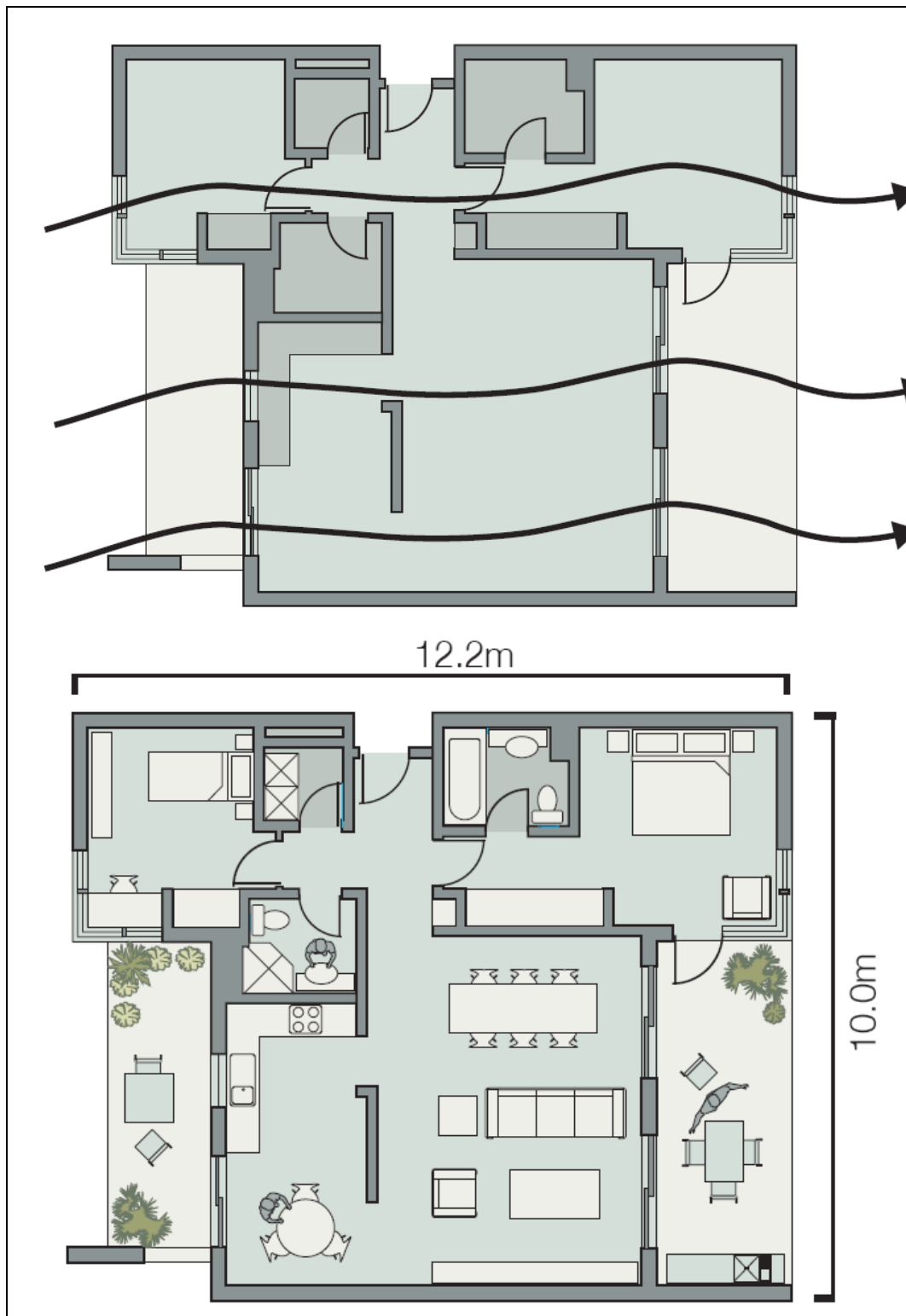


Figure 10 Cross Ventilation

Storage Areas

Objective

To provide for the need of residents to be able to store personal items adjacent to the car parking area.

Controls

1. A secure storage space is to be provided for each dwelling with a minimum volume 8 m³ (minimum dimension 1m²). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

7. Landscaping and Fencing

Landscaping

Objectives

- a) To ensure that the development uses 'soft landscaping' treatments to soften the appearance of the buildings and complement the streetscape.
- b) To ensure that the relation of landscape design is appropriate to the desired proportions and character of the streetscape.
- c) To ensure that the use of planting and landscape elements are appropriate to the scale of the development.
- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- d) To add value to residents' quality of life within the development in the forms of privacy, outlook and views.

Controls

1. The setback areas are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8 m height at maturity within front and rear setback areas.
2. Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees.
3. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (600 – 1800mm) especially along paths and close to windows and doors.
4. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
5. Tree and shrub planting alongside and rear boundaries should assist in providing effective screening to adjoining properties.
6. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from habitable areas of dwellings or elsewhere as appropriate for gardener access in other forms of development.
7. The development must be designed around significant vegetation on the site.
8. It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.
9. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
10. Where landscaping is used to control overlooking, species selected are to be a kind able to achieve privacy within 3 years.
11. All species of trees and shrubs should be drought resistant.
12. Advanced tree species are to be used for key elements with the landscape design concept.

13. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
14. Contribute to streetscape character and the amenity of the public domain by:
 - Relating landscape design to the desired proportions and character of the streetscape.
 - Using planting and landscape elements appropriate to the scale of the development.
 - Mediating between and visually softening the bulk of large development for the person on the street.
15. Improve the energy efficiency and solar efficiency of dwellings and the microclimate of private open spaces.
16. Planting design solutions include:
 - Trees for shading low-angle sun on the eastern and western sides of a dwelling.
 - Trees that do not cast a shadow over solar collectors at any time of the year.
 - Deciduous trees for shading of windows and open space areas in summer.
17. Design landscape which contributes to the site's particular and positive characteristics, for example by:
 - Enhancing habitat and ecology.
 - Retaining and incorporating trees, shrubs and ground covers endemic to the area, where appropriate.
 - Retaining and incorporating changes of level, visual markers, views and any significant site elements.



Figure 11 Vegetation and fencing

Planting on Structures

Objectives

- a) To contribute to the quality and amenity of communal open space on podiums and internal courtyards.
- b) To encourage the establishment and healthy growth of trees in urban areas.

Controls

1. Design for optimum conditions for plant growth by:
 - Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established.
 - Providing appropriate soil conditions and irrigation methods.
 - Providing appropriate drainage.
 - Design planters to support the appropriate soil depth and plant selection by:
 - Ensuring planter proportions accommodate the largest volume of soil possible. Minimum soil depths will vary depending on the size of the plant. However, soil depths greater than 1.5 m are unlikely to have any benefits for tree growth.
 - Providing square or rectangular planting areas rather than long narrow linear areas.
2. The following are recommended as minimum standards for a range of plant sizes:
 - Large trees such as figs (canopy diameter of up to 16 m at maturity)
 - Minimum soil volume 150m³.
 - Minimum soil depth 1.3m.
 - Minimum soil area of 10 x 10m or equivalent.

Medium trees (8m canopy diameter at maturity).

- Minimum soil volume 35m³.
- Minimum soil depth 1m.
- Approximate soil area of 6 x 6m or equivalent.

Small trees (4 m canopy diameter at maturity).

- Minimum soil volume 9m³.
- Minimum soil depth 0.8m.
- Approximate soil area of 3.5 x 3.5m or equivalent.

Shrubs: Minimum soil depths 500 – 600mm.

- Ground cover: Minimum soil depths 300 – 450mm.

Turf: Minimum soil depths 100 – 300mm.

Any subsurface drainage requirements are in addition to the minimum soil depths quoted above.

Fencing

Objectives

- To provide a clear transition between public and private open space.
- To provide variety in the streetscape.
- To provide fencing that enhances the streetscape.

Controls

Primary Frontage

- The maximum height of a front fence is 1.2m.
- The front fence may be built to a maximum height of 1.5m *if* the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.
- Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.
- The front fence must be 30% transparent.
- Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.
- The front fence may be built to a maximum of 1.8m *only if*:
 - The primary frontage is situated on a Classified Road.
 - The fence is articulated by 1m for 50% of its length and have landscaping in front of the articulated portion.
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site.

Secondary Frontage

- Fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped.
- For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence / wall may then be raised to a maximum of 1.8m. The secondary setback is the longest length boundary.

Boundary Fences

9. The maximum height of side boundary fencing within the setback to the street is 1.2m.
10. Boundary fences shall be lapped and capped timber or metal sheeting.

8. Car Parking and Access

Car Parking

Objectives

- a) To provide convenient, accessible and safe on site car parking for residents and visitors.
- b) To minimise driveway crossings to maximise on street parking and landscaped nature strips.
- c) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.
- d) To integrate the location and design of car parking with the design of the site and the building.

Controls

1. Visitor car parking shall be clearly identified and may not be stacked car parking.
2. Visitor car parking shall be located between any roller shutter door and the front boundary.
3. Pedestrian and driveways shall be separated.
4. Driveways shall be designed to accommodate removalist vehicles.
5. Where possible vehicular entrances to the basement car parking shall be from the side of the building. As an alternative a curved driveway to an entrance at the front of the building may be considered if the entrance is not readily visible from the street.
6. Give preference to underground parking, whenever possible by:
 - Retaining and optimising the consolidated areas of deep soil zones.
 - Facilitating natural ventilation to basement and sub-basement car parking areas, where possible.
 - Integrating ventilation grills or screening devices of car park openings into the facade design and landscape design.
 - Providing safe and secure access for building users, including direct access to residential dwellings, where possible.
 - Providing a logical and efficient structural grid. There may be a larger floor area for basement car parking than for upper floors above ground. Upper floors, particularly in slender residential buildings, do not have to replicate basement car parking widths.
7. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and street amenity by:
 - Avoid exposed parking on the street frontage.
 - Hiding car parking behind the building facade. Where wall openings (windows, fenestrations) occur, ensure they are integrated into the overall facade scale, proportions and detail.



Figure 12 Car parking at ground level

Pedestrian Access

Objectives

- a) To promote residential flat development that is well connected to the street and contributes to the accessibility of the public domain.
- b) To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their dwelling and use communal areas via minimum grade ramps, paths, access ways or lifts.

Controls

1. Utilise the site and it's planning to optimise accessibility to the development.
2. Provide high quality accessible routes to public and semi-public areas of the building and the site, including major entries, lobbies, communal open space, site facilities, parking areas, public streets and internal roads.
3. Promote equity by:
 - Ensuring the main building entrance is accessible for all from the street and from car parking areas.
 - Integrating ramps into the overall building and landscape design.
 - Design ground floor dwellings to be accessible from the street, where applicable, and to their associated private open space.
4. Maximise the number of accessible and adaptable dwellings in a building by:
 - Providing more than one accessible entrance where a development contains clusters of buildings.
 - Separating and clearly distinguish between pedestrian accessways and vehicle accessways.
 - Locating vehicle entries away from main pedestrian entries and on secondary frontages.

9. Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

1. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:
 - One living, rumpus room or the like; and
 - 50% of the private open space.

Privacy

Objectives

- a) To locate and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.
- b) To avoid any external impacts of a development, such as overlooking of adjoining sites.
- c) To provide reasonable levels of visual privacy externally and internally, during the day and at night.
- d) To maximise outlook and views from principal rooms and private open space.

Controls

1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of onsite and adjoining buildings and outdoor spaces.
2. Windows to habitable rooms should be located so they do not overlook such windows in adjoining properties, other dwellings within the development or areas of private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
4. Where possible the ground floor dwellings should be located above ground level to ensure privacy for occupants of the dwellings.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings by:
 - Balconies to screen other balconies and any ground level private open space.
 - Separating communal open space, common areas and access routes through the development from the windows of rooms, particularly habitable rooms.
 - Changing the level between ground floor dwellings with their associated private open space, and the public domain or communal open space.
6. Use detailed site and building design elements to increase privacy without compromising access to light and air by:
 - Offsetting windows of dwellings in new development and adjacent development windows.
 - Recessed balconies and/or vertical fins between adjacent balconies.

- Solid or semi-solid balustrades to balconies - louvres or screen panels to windows and/or balconies.
- Fencing.
- Vegetation as a screen between spaces.
- Incorporating planter boxes into walls or balustrades to increase the visual separation between areas.
- Utilising pergolas or shading devices to limit overlooking of lower dwellings or private open space.

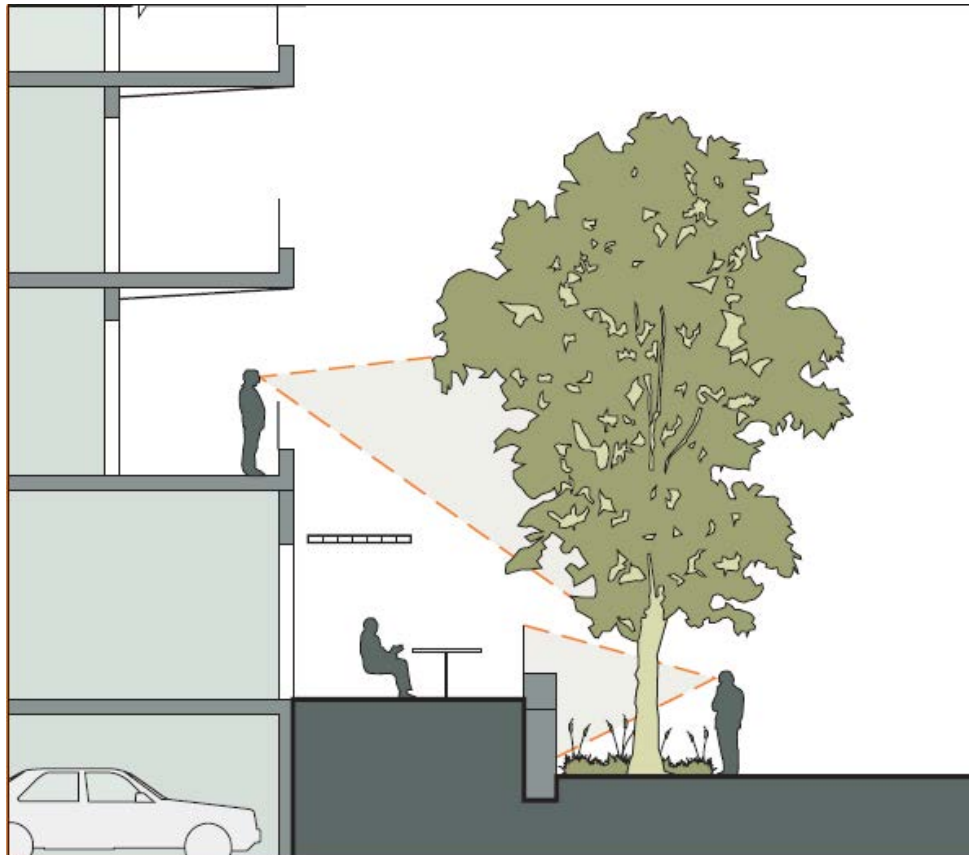


Figure 13 Screening and lower level balconies

Acoustic Impact

Objective

To ensure a high level of amenity by protecting the privacy of residents within residential flat buildings.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Buildings having frontage to a Classified Road or a railway and impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

4. Arrange dwellings within a development to minimise noise transition between dwellings by:
- Locating busy, noisy areas next to each other and quieter areas next to other quiet areas, for example, living rooms with living rooms, bedrooms with bedrooms
 - Using storage or circulation zones within an dwelling to buffer noise from adjacent dwellings, mechanical services or corridors and lobby areas
 - Minimising the amount of common walls with other dwellings.
 - Design the internal dwelling layout to separate noisier spaces from quieter spaces by:
 - Grouping uses within a dwelling - bedrooms with bedrooms and service areas like kitchen, bathroom, and laundry together.

10. Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes

1. Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.
2. Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.
3. Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.

Waste management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
3. Setback 1 m from the front boundary to the street.
4. Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
5. Not be located adjacent to an adjoining residential property.
6. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Electricity Sub Station

In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage



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Liverpool Development Control Plan 2008
Part 3.8
Non-Residential Development in
Residential Zones

19 February 2014

Part 3.8 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 3.8 Non Residential Development in Residential Zones

Table of Contents

1. Preliminary	6
2. Child Care Centres.....	8
2.1 Licence Requirements.....	8
2.2 Subdivision, Frontage and Lot Sizes.....	8
2.3 Site Planning	9
2.4 Setbacks.....	10
2.5 Landscaped Area and Open Space	11
2.6 Building Form, Style and Streetscape	12
2.7 Landscaping and Fencing	12
2.8 Car Parking and Access.....	14
2.9 Amenity and Environmental Impact.....	15
2.10 Site Services	16
3. Education Establishments.....	17
3.1 Subdivision, Frontage and Lot Sizes.....	17
3.2 Site Planning	17
3.3 Setbacks.....	18
3.4 Open Space and Landscaped Area	19
3.5 Building Form, Style and Streetscape	20
3.6 Landscaping and Fencing	21
3.7 Car Parking and Access.....	22
3.8 Amenity and Environmental Impact.....	23
3.9 Site Services	24
4. Health Consulting Rooms	25
4.1 Building Appearance, Streetscape and Layout	25
4.2 Car Parking and Access.....	25
4.3 Amenity and Environmental Impact.....	25
4.4 Site Services	26
5. Neighbourhood Shops and Shop Top Housing.....	27
5.1 Subdivision, Frontage and Lot Size.....	27
5.2 Site Planning	27
5.3 Setbacks.....	28
5.4 Building Design, Streetscape and Layout.....	28
5.5 Car Parking and Access.....	29
5.6 Amenity and Environmental Impact.....	29

5.7	Site Services	30
6.	Places of Public Worship.....	32
6.1	Site Planning	32
6.2	Setbacks.....	33
6.3	Landscaped Area and Open Space	34
6.4	Building Form, Style and Streetscape	34
6.5	Landscaping and Fencing	35
6.6	Car Parking and Access	37
6.7	Amenity and Environmental Impact.....	37
6.8	Site Services	38
7.	Exhibition Homes/Exhibition Villages	39
7.1	Subdivision, Frontage and Lot Sizes	39
7.2	Site Planning	39
7.3	Car Parking and Access.....	40
7.4	Amenities and Environmental Impact.....	40
7.5	Site Services	41
8.	Home Businesses and Home Industries	42
8.1	Site Planning	42
8.2	Setbacks.....	42
8.3	Car Parking and Access.....	43
8.4	Amenity and Environmental Impact.....	43
8.5	Site Services	44
9.	Large Vehicle, Vessel and Trailer Parking	45
9.1	Subdivision, Frontage and Lot Sizes	45
9.2	Car Parking and Access.....	45
9.3	Amenity and Environmental Impact.....	46
9.4	Site Services	46

List of Tables

Table 1 Front and Secondary Setbacks 10

Table 2 Side and Rear Setbacks 11

Table 3 Education Establishments Front Setbacks..... 19

Table 4 Education Establishments Side and Rear Setbacks 19

Table 5 Neighbourhood Shops and Shop Top Housing Front Setbacks28

Table 6 Neighbourhood Shops and Shop Top Housing Side and Rear Setbacks28

Table 7 Place of Public Worship Front Setbacks33

Table 8 Place of Public Worship Side and Rear Setbacks34

1. Preliminary

Applies to

1. Part 3.8 applies to Non Residential Development on all land in the R2, R3, R4, & R5 zones, except in Liverpool City Centre under Part 4.
2. Part 3.8 also applies to residential localities in Parts 2.1 to 2.15.
3. Part 1 also applies.

Background

Development in residential areas in Liverpool has been traditionally single dwellings on single lots. More recently there have been other forms of housing developed in residential areas. Nevertheless, the scale of new dwellings has generally not exceeded two storeys with the living areas at ground floor level with bedrooms upstairs.

In higher density areas there is the scope for dwellings to be wholly located above ground, with different expectations of amenity.

Within the residential areas there are also non-residential developments, which due to their likely number or extent of impact are considered acceptable in the residential environment subject to appropriate controls.

Residential development in Liverpool prior to the 1950's was concentrated around the current Liverpool CBD and a portion of Moorebank near Moorebank Avenue, and consisted generally of single detached dwelling houses. In the 1960's development took place in the Housing Commission area around Miller and on land at Moorebank. There was also development at Casula and Lurnea. Again it largely consisted of dwelling houses. There was some limited home unit re-development near the Liverpool City Centre.

The *Sydney Region Outline Plan*, released in 1968 identified areas on the fringe of Sydney for urban development. The bulk of the land to the west of Liverpool identified in the plan now forms Hoxton Park Release Area, Stages 1 & 2.

In the 1970's development took place in Chipping Norton and Moorebank and to a lesser extent at Green Valley and Casula. There was also some home unit urban re-development adjacent to Liverpool City Centre.

Development in the 1980's commenced in the area known as the Hoxton Park Stage 1 Release Area including Green Valley, Hinchinbrook and Casula. These areas consisted largely of dwelling houses although dual occupancy housing and multiple dwellings were also permitted in these areas.

In the 1990's the rate of residential development increased substantially. It commenced in Wattle Grove, Cecil Hills, Hoxton Park, Carnes Hill and Prestons. Again it consisted largely of dwelling houses although dual occupancy housing and multiple dwellings were also permitted in these areas.

In the early 2000's more re-development began to take place in the established areas of Liverpool, in the form of dual occupancy and multiple dwellings in suburban areas as well as substantial home unit re-development around the Liverpool City Centre.

During these periods non-residential developments took place in the residential areas including schools and churches.

Relationship to zones in LEP

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objective

To provide controls for non-residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.

2. Child Care Centres

Background

There is an increasing need to have Child Care Centres in close proximity to work places and places of residence. This needs to be balanced with the need to ensure that Child Care Centres do not adversely affect the amenity of residential areas. The *Department of Community Services* also regulates the standards and operations of Child Care Centres.

Applies to

This section applies to the erection of Child Care Centres in residential zones.

Objectives

- a) To provide and maintain a safe and healthy learning and play environment for children.
- b) To ensure that Child Care Centres do not interfere with the amenity of adjoining properties.
- c) To ensure Child Care Centres are consistent with the existing streetscape in residential areas.
- d) To ensure that Child Care Centres maintain the existing character of the surrounding environment.
- e) To ensure that the play areas are clearly defined and to enable children to play in a secure environment under supervision.

Controls

These controls are additional to those in Part 2 where applicable.

2.1 Licence Requirements

In order to operate a child care centre, the applicant needs to obtain the following:

- 1. Development consent from Council under the *Environmental Planning and Assessment Act 1979*.
- 2. A licence to operate from the *NSW Department of Community Services* (DOCS) under the *Children and Young Persons (Care and Protection) Act 1998* and the *Children's Services Regulation 2004*.

It is strongly recommended that applicants arrange a meeting with Council prior to submitting a development application to ensure that all the pre-requisite documentation is in order.

2.2 Lot Sizes

Objectives

- a) To ensure Child Care Centres are consistent with the amenity, streetscape and residential character of the area.
- b) To limit traffic and parking issues to the level found within a residential area.

Controls

- 1. The maximum number of children in any centre cannot exceed 45 for 0-5 year olds; however Council may consider a maximum number of 60 children per centre of which 30% must be aged between 0-2.

2. The proposed child care centre must comply with open space requirements as set out in the *Children Services Regulation 2004*.

2.3 Site Planning

Objectives

- a) To ensure that Child Care Centres are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for neighbours.

Site Location

1. Child Care Centres should be located:
 - In the general vicinity of primary schools, major employment areas and recreation areas.
 - Within the grounds of community facilities, educational facilities or churches.
 - Near services such as shops, medical facilities and public transport.
 - On streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles; and on approach streets within the road hierarchy such as on collector streets.
 - Where traffic control devices do not impede vehicular access to sites.
 - Where the children will not be adversely affected by lead contamination, offensive noise and air pollution.
 - Child Care Centres must be located and designed so as not to pose health or safety risk to children using the centre.
2. Child Care Centres shall not be permitted:
 - Adjacent to industrial activities.
 - Within 300m of an existing Child Care Centre.
 - On classified roads.
 - Adjacent to railway lines.
 - On streets with a carriageway width of 6.5m or less.
 - On streets, which are cul-de-sacs.
 - On lots adjacent to a roundabout (including a proposed roundabout)
 - In areas where aircraft noise levels exceed *25 Australian Noise Exposure Forecast (ANEF)*.

Site Planning

1. Site planning should be sensitive to site attributes such as; streetscape character; natural landform; existing vegetation; views and land capability.
2. The site layout should enhance the streetscape through the use of landscaping and built form.
3. Site planning should enable buildings to address streets and public open spaces.
4. The site layout should ensure that the external play area is maximised and enjoys solar access.
5. The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.

6. In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.
7. The site layout should ensure that the front entrance to the Child Care Centre is easily located and accessible.
8. The layout must be designed around the site attributes such as slope; existing vegetation; land capability and/or solar access.
9. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
10. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

2.4 Setbacks

Objectives

- a) To set Child Care Centres back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set Child Care Centres back from other dwellings to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front and Secondary Setbacks

1. Child Care Centres shall be setback in accordance with the following Table 1.

Table 1 Front and Secondary Setbacks

Street	Front Setback	Secondary Setback
Street setbacks	5.5m	4m

For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.

2. Verandahs, balconies, eaves and other sun control devices may encroach on the minimum front and secondary setback by up to 1m.
3. The secondary setback is the longest length boundary.

Side and Rear Setbacks

4. Buildings shall be setback from the side and rear boundaries in accordance with Table 2.

Table 2 Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey buildings	1.2m	4m
Second storey component of buildings	1.2m	8m
Access doors from children's internal space	4m	4m
For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.		

2.5 Landscaped Area and Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Landscaped Area

Objectives

- To provide an area to allow vegetation to mature.
- To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- To reduce the amount of impervious areas.
- To enhance the existing streetscape and soften the visual appearance of the dwelling.
- To maximise the amount of landscaped area within the front setback of the Child Care Centre.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

- A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.
- There must be an unencumbered area of 5 x 6m in the rear setback for the opportunity to accommodate the planting of deep rooted trees.
- A minimum of 50% of the front setback area shall be landscaped area.
- There must be an unencumbered area of 3 x 5m in the front setback for the opportunity to accommodate deep rooted trees.

Open Space

Objective

- To ensure that a minimum amount of Open Space is provided for outdoor activities.
- To ensure outdoor open space areas are located to minimise any potential risk from errant vehicles to children and staff.

Controls

- A proposed Child Care Centre must comply with open space requirements as set out in the *Children Services Regulation 2004*.
- Outdoor open space is to be located behind the childcare centre i.e. away from roads/streets.

2.6 Building Form, Style and Streetscape

Building Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing colour and finish shall add visual interest to the street and shall compliment the street.

Controls

- 1. Where large glass areas cannot be avoided appropriate shade devices shall be incorporated into the design.
- 2. The roof design shall be compatible with surrounding properties with respect to height, pitch, building materials and colour.
- 3. The building shall be designed so that it is in character with the surrounding residential area in terms of bulk, scale, size and height.
- 4. The front pedestrian entrance must be visible from the street.
- 5. The front building facades shall be articulated. This articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
- 6. For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.
- 7. Buildings that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

Security

Objectives

- a) To ensure buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.

Controls

- 1. Entrances to buildings should be orientated towards the front of the site facing the street.
- 2. Blank walls addressing the street frontage and other public places must be avoided.

2.7 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.

- c) To enhance the existing streetscape and visual appearance of buildings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

1. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP.
2. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted.
3. Trees adjacent to/or within the play area, are to provide shade and allow winter sun entry. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
4. Landscaping species must be appropriate to prevent injury to children. No toxic, spiky or other hazardous plant species.
5. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
6. Landscape planting should principally comprise of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
7. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 – 1.8m) especially along paths and close to windows and doors.
8. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The height of screening plants to be provided is 2.5 to 3m at maturity.
9. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from internal rooms as appropriate for gardener access.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Side (behind the building setback) and rear fencing shall be 1.8m in height.
2. Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park.
3. Fences shall be constructed of materials compatible with the proposed building.
4. Fencing shall be designed to minimise opportunities for graffiti.
5. Gates shall be the same height as the fence, self-closing and be secure and fitted with a childproof lock.
6. Wall finishes must have low reflectivity.

7. Front fences are to be light coloured and low in height or open form.
8. Fences should not prevent surveillance by the building's occupants of the main open or communal areas within the property or the street frontage.
9. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. Front fences shall have a maximum height of 1.2m, and constructed of masonry, timber and/or vegetation.
2. The front fence must be 30% transparent.
3. The front wall may exceed 1.2m (to a maximum of 1.8m) *only if*:
 - The fence is articulated by 1m and has landscaping in front of the fence, and
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site, and
 - Front fences are to be constructed of materials compatible with the proposed design of the dwelling.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped.
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence/wall may then be stepped up to a maximum of 1.8m.
3. The secondary setback is the longest length boundary.
4. Side fencing facing a public street or parkland must not be constructed of sheet metal. However, metal sheet fencing is permitted on internal boundaries.

2.8 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.

Site Access

1. All vehicles shall enter and leave the site in a forward direction.
2. Dead end streets or cul-de-sacs present traffic movement and parking problems and are inappropriate locations for Child Care Centres or facilities.

Location

1. To provide adequate vehicle access and on-site car parking facilities for residents and visitors.
2. To minimise reliance on on-street parking.
3. To provide safe and easy access to and from the site for pedestrians and motorists.
4. To provide adequate turning areas for manoeuvring into and out of car parking spaces and/or garages.
5. To minimise the impact of driveways and parking areas on existing landscaping, landform and streetscape.

6. To ensure pavement or driveway materials are sympathetic to the streetscape and surrounding landscape character.
7. Refer to Section *** for the number of spaces required.

2.9 Amenity and Environmental Impact

Noise

Development for childcare centres shall not be permitted in areas where aircraft noise levels exceed *25 Australian Noise Exposure Forecast (ANEF)*.

Contaminants

All buildings whether to be built, extended, renovated or converted shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.

Site Operation

1. In residential zones the days/hours of operation shall be limited to 7.00 am - 7.00 pm: Monday – Saturday. No operation on Sundays or public holidays.
2. Child Care Centres or facilities shall be no closer than 50m to mobile phone towers or antennas or transmission line easements or other similar electromagnetic radiation sources.

Overshadowing

Objectives

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 3pm on 21 June to at least:

- one living, rumpus room or the like and/or
- 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling.
2. Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space.
3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on-site and adjoining buildings and private open spaces.
4. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attenuation measures are incorporated into the development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. The proposed buildings must comply with the Department of Environment and Climate Change criteria and the current relevant Australian Standards for noise and vibration and quality assurance.

2.10 Site Services

Waste Management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
3. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Letterboxes and Numbering

1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting, it may be a condition of consent that street trees are provided in the footpath area immediately in front of the site.

3. Education Establishments

Background

Education Establishments are permitted in most residential areas. There is a trend for private schools to locate in residential areas, sometimes in conjunction with a place of public worship. These are an intensive use of land with the potential for significant impacts on the streetscape and residential environment.

Applies to

This section applies to the erection of Education Establishments in the Residential zones.

Objectives

- a) To ensure that Education Establishments are compatible with the residential environment.
- b) To minimise any adverse impact of Education Establishments on surrounding properties.
- c) To minimise any adverse impact of Education Establishments on road safety and traffic movement.

Controls

These controls are additional to those in the Part 2 where applicable.

3.1 Subdivision, Frontage and Lot Sizes

1. Where it has been demonstrated that a proposed new school, or extensions to an existing school, will require a regular bus service, a minimum site frontage of 60m shall be provided. This is the minimum length necessary for a bus and car set-down area and driveway entry and exit points. This includes a minimum length of 40m for a single bus bay.
2. Additional frontage, the equivalent of 12m per bus, may be required if a larger bus set-down area is needed. In this regard, the applicant shall provide written advice from the Ministry of Transport stating the minimum requirements for bus set-down areas for the proposed school population.

3.2 Site Planning

Objectives

- a) To ensure that Education Establishments are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for neighbours.

Site Location

1. Education Establishments should be located;
 - In the general vicinity of recreation areas; and
 - Within proximity of Public transport; and
 - On corner lots; and
 - On streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles; and on approach streets within the road hierarchy such as on collector streets; and

- Where traffic control devices do not impede vehicular access to sites; and
 - Where the children will not be adversely affected by lead contamination, offensive noise and air pollution or by adjacent land uses.
2. Education Establishments shall not be permitted:
- Adjacent to industrial activities, which generate significant noise or air pollution.
 - Streets with a carriageway width of 6.5m or less.
 - Streets, which are culs-de-sac.
 - In areas where aircraft noise levels exceed 25 Australian Noise Exposure Forecast (ANEF).

Site Planning

1. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.
2. The site layout should enhance the streetscape through the use of landscaping and built form.
3. Site planning should enable buildings to address streets and public open spaces.
4. The site layout should ensure that the external play area is maximised and enjoys solar access.
5. The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.
6. In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.
7. The site layout should ensure that the front entrance to the school is easily located and accessible.
8. The layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access.
9. The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.
10. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

3.3 Setbacks

Objectives

- a) To set Education Establishments back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set Education Establishments back from other dwellings to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front Setbacks

1. Buildings shall be setback in accordance with Table 3.

Table 3 Education Establishments Front Setbacks

Road	Front Setback	Secondary Setback
Classified Roads	7.5m	7.5m
Other Streets	5.5m	4m

For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.

2. Verandahs, balconies, eaves and other sun control devices may encroach on the minimum front and secondary setback by up to 1m.
3. The secondary setback is the longest length boundary.

Side and Rear Setbacks

Buildings shall be setback from the side and rear boundaries in accordance with Table 4.

Table 4 Education Establishments Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey buildings	4m	4m
Second storey component of buildings	8m	8m

For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.

3.4 Open Space and Landscaped Area

Objective

To ensure that a minimum amount of open space is provided for outdoor activities.

Outdoor Play Areas

1. These areas shall not be used for on site detention of stormwater.
2. The provision of outdoor play areas shall satisfy the requirements of the *NSW Department of Education and Training*.

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the buildings.
- e) To maximise the amount of landscaped area within the front setback of the buildings.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

1. A minimum of 25% of the site area shall consist of landscaped area, including lawn, deep rooted trees, garden beds and mulched areas.
2. There must be an unencumbered area of 5 x 6m in the rear setback for the opportunity to accommodate the planting of deep rooted trees.
3. A minimum of 50% of the front setback area shall be landscaped area.

3.5 Building Form, Style and Streetscape

Building Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) The building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.

Controls

1. Where large glass areas cannot be avoided appropriate shade devices shall be incorporated in the design.
2. The roof design shall be compatible with surrounding properties with respect to height, pitch, building materials and colour.
3. Buildings shall be designed so that it is in character with the surrounding residential area in terms of bulk, scale, size and height.
4. Buildings adjacent to a street shall be orientated to the street.
5. The front pedestrian entrance must be visible from the street.
6. The front building facades shall be articulated, this articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
7. For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.

Security

Objectives

- a) To ensure buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.

Controls

1. Entrances to buildings should be orientated towards the front of the site facing the street.
2. The main entrance should not be from rear lanes and should be designed with clear directions and signage.
3. Blank walls addressing the street frontage and other public places must be avoided.

3.6 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

- 1. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP.
- 2. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted.
- 3. Trees adjacent to/or within the play area, are to provide shade and allow winter sun entry. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
- 4. Landscaping species must be appropriate to prevent injury to children. No toxic, spiky or other hazardous plant species.
- 5. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
- 6. Landscape planting should principally comprise of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
- 7. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 – 1.8m) especially along paths and close to windows and doors.
- 8. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The minimum height of screening to be provided is 2.5 to 3m at maturity.
- 9. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from internal rooms as appropriate for gardener access.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Side (behind the building setback) and rear fencing shall be 1.8m in height unless adjoining a park.
2. Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park.
3. Fences shall be constructed of materials compatible with the proposed building.
4. Fencing shall be designed to minimise opportunities for graffiti.
5. Fences should not prevent surveillance by the building's occupants of the main open or communal areas within the property or the street frontage.
6. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. Front fences shall have a maximum height of 1.2m, and constructed of masonry, timber and/or vegetation.
2. The front fence must be at least 30% transparent.
3. The front wall may exceed 1.2m (to a maximum of 1.8 m) *only if*:
 - The primary frontage is situated on a Classified road; and
 - The fence is articulated by 1m and has landscaping in front of the fence; and
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site; and
 - Front fences are to be constructed of materials compatible with the proposed design of the building.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped.
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence/wall may then be stepped up to a maximum of 1.8m. The secondary setback is the longest length boundary.
3. Side fencing to a public road or open space must not be constructed of sheet metal. However, metal sheet fencing is permitted on internal boundaries.

3.7 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.

Site Access

1. All vehicles shall enter and leave the site in a forward direction.
2. Dead end streets or culs-de-sac present traffic movement and parking problems and are inappropriate locations for Education Establishments.

3.8 Amenity and Environmental Impact

Objectives

- a) To minimise the impact on the adjoining residential area.
- b) To minimise the impact of any on site risks.

Controls

Noise

- 1. A Noise Impact Assessment Statement prepared by a qualified Acoustics Engineer may be required to be submitted with the application depending on the scale and location of the proposed school.
- 2. As adjoining uses may be affected by increased noise, the design of the proposed school should take into account the projection of noise from various school activities. Buildings should be located in a manner, which optimises opportunities for ameliorating the noise generated from outdoor play areas.

Contaminants

All buildings whether to be built, extended, renovated or converted shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Control

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 3pm on 21 June to at least:

- One living, rumpus room or the like.
- 50% of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

- 1. Windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling.
- 2. Windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space.
- 3. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
- 4. Landscaping should be used where possible to increase visual privacy of adjoining properties.

3.9 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Waste Management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located within 4m of adjacent to an adjoining residential property.
3. Details of the design of waste disposal facilities are shown in Part 1.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

Letterboxes and Numbering

1. The Letterbox shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

1. All areas designated for bus bays or pickup/drop-off zones must be located on the school side of the street.
2. Barrier kerbs must be provided for all street frontages.
3. Footpaths must be provided along all street frontages.
4. The full verge must be paved on the primary street frontage.
5. A 2.5m wide footpath must be provided on any secondary street frontages.
6. All primary schools must provide a children's crossing that is designed to meet current RTA standards.
7. Where a footpath, road works or access driveway works are required to be provided this shall be provided at no cost to Council.
8. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
9. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
10. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may a condition of consent that street trees be provided in the footpath area immediately in front of the site, at a rate of 1 tree per 10m of school frontage.

4. Health Consulting Rooms

Background

There is the need for Health Consulting Rooms in residential areas in the same way as there is in commercial areas. While these are an intensification of the use of the site, these can potentially be carried out with minimal environmental impact.

Objectives

- a) To ensure that health consulting rooms are compatible with the residential environment.
- b) To minimise any adverse impact of health consulting rooms on surrounding properties.
- c) To ensure that the appearance of the building remains consistent with that of a dwelling house.

Controls

These controls are additional to those in the Part 2 where applicable.

4.1 Building Appearance, Streetscape and Layout

Objective

To ensure that health consulting rooms are consistent in appearance with dwelling houses.

Control

- 1. The building shall be designed so that it is in character with the surrounding residential area in terms of bulk, scale, size and height.
- 2. Health consulting rooms shall be located towards the front of the dwelling house.

4.2 Car Parking and Access

Objectives

- a) To provide adequate vehicle access and on-site car parking facilities for residents and visitors.
- b) To minimise reliance on on-street parking.

Controls

- 1. Car parking areas, internal driveways and access driveways must be clearly delineated.
- 2. Car parking areas should be located to minimise the impact on neighbouring residential development. (Car parking rates are specified within Part 1)
- 3. A minimum of 1m landscaping strip shall be provided between the car park and the street setback.

4.3 Amenity and Environmental Impact

Council may restrict the hours of operation to between 8.00 am and 6.00 pm, Monday to Friday, and 8.30 am to 12 noon on Saturday with no work to be conducted on Sundays or public holidays.

4.4 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Control

The storage of the garbage receptacles shall be screened from public view and from adjoining properties.

Letterboxes and numbering

- 1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
- 2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

- 1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may a condition of consent that street trees are provided in the footpath area immediately in front of the site.

5. Neighbourhood Shops and Shop Top Housing

Background

Local shops can provide the day-to-day shopping needs of residents.

Objectives

- a) To facilitate convenient access to daily shopping needs within the neighbourhood.
- b) To ensure that Neighbourhood Shops and Shop Top Housing will not visually detract from the neighbourhood.
- c) To ensure that Neighbourhood Shops and Shop Top Housing do not interfere with the amenity of adjacent properties and the neighbourhood.

Applies to

This section applies to Neighbourhood Shops and Shop Top Housing in a R1, R3 & R4 zone.

Controls

These controls are additional to those in Part 2 where applicable.

5.1 Subdivision, Frontage and Lot Size

Objective

To ensure that there is sufficient street frontage for on street car parking.

Control

The lot should have a sufficient frontage to cater for parallel car parking of 3 motor vehicles.

5.2 Site Planning

Objectives

- a) To ensure that Neighbourhood Shops and Shop Top Housing are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

- 1. The Neighbourhood Shops and Shop Top Housing layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access.
- 2. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate.

Site Location

Neighbourhood Shops and Shop Top Housing will not be permitted in streets with a carriageway width of 6.5m or less or cul-de-sacs.

5.3 Setbacks

Objectives

- a) To set Neighbourhood shops and Shop Top Housing back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set Neighbourhood shops and Shop Top Housing back from adjoining uses to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the Locality.

Controls

Front Setbacks

1. Buildings shall be setback in accordance with Table 5.

Table 5 Neighbourhood Shops and Shop Top Housing Front Setbacks

Road	Front Setback	Secondary Setback
Classified Roads	7.5m	7.5m
Other Streets	5.5m	4m

For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.

2. The secondary setback is the longest length boundary.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table 6.

Table 6 Neighbourhood Shops and Shop Top Housing Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey buildings	0.9m	4m

For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.

2. Activities associated with the operation of a Neighbourhood shops and Shop Top Housing shall be at least 2m from all neighbouring property boundaries. This area shall be landscaped and fenced in such a way, as to ensure that neighbouring premises are adequately buffered against visual impacts.

5.4 Building Design, Streetscape and Layout

Building Appearance

Objectives

- a) To ensure that the appearance of a Neighbourhood shops and Shop Top Housing is compatible with the residential environment.
- b) To encourage designs that will enhance the character of the neighbourhood.
- c) To promote variation of building facade and design.
- d) To ensure the building enhances the streetscape through the use of suitable built form design and landscaping.

- e) To ensure buildings address all street frontages.
- f) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- g) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.

Security

Objectives

- a) To ensure buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.

Controls

- 1. Entrances to a Neighbourhood shops and Shop Top Housing should be orientated towards the front of the site facing the street.
- 2. Blank walls addressing the street frontage and other public places should be avoided.

5.5 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.

Controls

- 1. One employee car parking space is to be located on-site without affecting approved residential parking. Parking must not interfere with pedestrian access into the shop.
- 2. The street(s) to which Neighbourhood shops and Shop Top Housing has frontage must be;
 - Drained, constructed kerb to kerb with hard surface carriageway to Council's construction standards.
 - Sufficient width to allow for a kerbside parking aisle in front of the Neighbourhood shops and Shop Top Housing, and two – way traffic flow.
- 3. Neighbourhood shops and Shop Top Housing sites must be a sufficient distance from the nearest intersection, to ensure that traffic generated from the shop will not create a traffic hazard.
- 4. The street verge to which Neighbourhood shops and Shop Top Housing has frontage must be clear of above ground utilities and infrastructure, such as established bus stops, public telephone installations and service pillar-boxes.

5.6 Amenity and Environmental Impact

Amenity

The impact on the adjoining neighbours, and the street in which a Neighbourhood shop and Shop Top Housing is proposed to be located, will be taken into consideration when processing the DA. Impact on adjoining properties includes:

- 1. The visual impact of a proposed Neighbourhood Shop on the street (consistency in character with surrounding residential development).
- 2. Noise generated by activities at the shop and its patrons.

3. Hours of operation.
4. Deliveries.
5. Customer parking.
6. Traffic generated by the shop.
7. Pedestrian and vehicular access arrangements.
8. Waste removal.
9. Lighting.
10. Signage.

Lighting control

External lighting of Neighbourhood shops and Shop Top Housing is to be of a low-level incandescence. The lighting is to be constructed and shielded in a manner that directs illumination away from all nearby properties. Neighbourhood Shop lighting is to be consistent with the approved hours of operation. However, low-level all-night security lighting is permissible.

Hours of Operation

Generally the hours of operation of a Neighbourhood Shop is to be restricted to between 7am and 7pm weekdays, and 8am and 7pm weekends, subject to Council approval.

5.7 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Waste management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
3. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Letterboxes and numbering

1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may a condition of consent that street trees be provided in the footpath area immediately in front of the site.

6. Places of Public Worship

Background

Many places of public worship are located in residential areas and are likely to continue to be located there.

Applies to

This section applies to the erection of Places of Public Worship in the R1, R2, R3, R4 & R5 zones.

Objectives

- a) To ensure that Places of Public Worship do not interfere with the amenity of adjoining properties.
- b) To maintain the existing streetscape in residential areas.
- c) To ensure that Places of Public Worship maintain the existing character of the surrounding environment.
- d) To ensure the amenity of the surrounding area is maintained.

Controls

These controls are additional to those in the Part 2 where applicable.

6.1 Site Planning

Objectives

- a) To ensure that Places of Public Worship are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for neighbours.

Site Location

1. Places of Public Worship should be located:
 - On corner lots.
 - On streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles; and on approach streets within the road hierarchy such as on collector streets.
 - Where traffic control devices do not impede vehicular access to sites.
2. Places of Public Worship shall not be permitted:
 - Adjacent to industrial activities, which generate significant noise or air pollution.
 - Streets with a carriageway width of 6.5 m or less.
 - Streets, which are cul-de-sac.
 - In areas where aircraft noise levels exceed 25 *Australian Noise Exposure Forecast* (ANEF).

Site Planning

1. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.
2. The site layout should enhance the streetscape through the use of landscaping and built form.

3. The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.
4. In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.
5. The site layout should ensure that the front entrance to Places of Public Worship is easily located and accessible.
6. The layout must be designed around the site attributes such as slope, existing vegetation, land capability and/or solar access.
7. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.

6.2 Setbacks

Objectives

- a) To set Places of Public Worship back from the street and adjacent properties to provide reasonable space for landscaping, private open space and solar access.
- b) To set Places of Public Worship back from dwellings to provide visual and acoustic privacy.
- c) To create a streetscape that provides a desirable and safe environment.
- d) To establish a streetscape of a scale and sense of enclosure appropriate to the locality.
- e) To maximise the amount of area capable of allowing the growth of trees and shrubs.

Controls

Front Setbacks

1. Places of Public Worship shall be setback in accordance with Table 7.

Table 7 Place of Public Worship Front Setbacks

Road	Front Setback	Secondary Setback
Classified Roads	7.5 m	7.5 m
Other Streets	5.5 m	4 m
For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.		

2. The secondary setback is the longest length boundary.

Side and Rear Setbacks

1. Buildings shall be setback from the side and rear boundaries in accordance with Table 8.

Table 8 Place of Public Worship Side and Rear Setbacks

Item	Side Setback	Rear Setback
Single storey buildings	0.9 m	4 m
Second storey component of buildings	1.2 m	8 m

For sites in Part 2 Localities, which involve controls for Land Subdivision and Development, refer to the controls for the particular site for setback requirements.

6.3 Landscaped Area and Open Space

Landscaped area is defined in *Liverpool LEP 2008*.

Landscaped Area

Objectives

- a) To provide an area to allow vegetation to mature.
- b) To reduce the impact to neighbouring properties and natural waterways from stormwater runoff.
- c) To reduce the amount of impervious areas.
- d) To enhance the existing streetscape and soften the visual appearance of the dwelling.
- e) To maximise the amount of landscaped area within the front setback of the building.

Note: All proposed developments require a landscape plan to be submitted with the development application.

Controls

1. A minimum of 25% of the site area shall consist of Landscaped Area, including lawn, deep rooted trees, garden beds and mulched areas.
2. There must be an unencumbered area of 5 x 6m in the rear setback for the opportunity to accommodate the planting of deep rooted trees.
3. A minimum of 50% of the front setback area shall be landscaped area.
4. There must be an unencumbered area of 3 x 5m in the front setback for the opportunity to accommodate deep rooted trees.

6.4 Building Form, Style and Streetscape

Building Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure the buildings enhance the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.

- f) To ensure that the building design, detailing, colour and finish shall add visual interest to the street and shall compliment the street.

Controls

1. Where large glass areas cannot be avoided appropriate shade devices shall be incorporated in the design.
2. The building shall be designed so that it is in character with the surrounding residential area in terms of bulk, scale, size and height.
3. The front pedestrian entrance must be visible from the street.
4. The front building facade shall be articulated. This articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
5. For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.
6. Buildings that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

6.5 Landscaping and Fencing

Landscaping

Objectives

- a) To retain existing mature trees within the site in a way which ensures their ongoing health and vitality.
- b) To provide privacy, summer shade and allow winter sun.
- c) To enhance the existing streetscape and visual appearance of dwellings.
- d) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- e) To ensure the visual impact of development is minimised and integrated into the streetscape.

Controls

1. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP.
2. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted.
3. Trees adjacent to the place of Public worship are to provide summer shade and allow winter sun entry.
4. Landscaping species must be appropriate to prevent injury to children. No toxic, spiky or other hazardous plant species.
5. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.
6. Landscape planting should principally comprise of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
7. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 – 1.8m) especially along paths and close to windows and doors.

8. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The minimum height of screening to be provided is 2.5 to 3m at maturity.
9. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from internal rooms as appropriate for gardener access.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Side (behind the building setback) and rear fencing shall be 1.8m in height unless adjoining a park.
2. Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park.
3. Solid front fences and walls shall be a maximum of 1.2m in height.
4. Fences shall be constructed of materials compatible with the proposed building.
5. Fencing shall be designed to minimise opportunities for graffiti.
6. Wall finishes must have low reflectivity.
7. Fences should not prevent surveillance by the building's occupants.
8. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Primary Frontage

1. Front fences shall have a maximum height of 1.2m, and be constructed of masonry, timber and/or vegetation.
2. The front fence must be 30% transparent.
3. The front wall may exceed 1.2m (to a maximum of 1.8 m) *only if*:
 - The primary frontage is situated on a classified road; and
 - The fence is articulated by 1m and has landscaping in front of the fence; and
 - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site; and
 - Front fences are to be constructed of materials compatible with the proposed design of the dwelling.

Secondary Frontage

1. Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped.
2. For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence/wall may then be stepped up to a maximum of 1.8m. The secondary setback is the longest length boundary.
3. Side fencing must not be constructed of sheet metal. However, metal sheet fencing is permitted on internal boundaries.

6.6 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking.

Site Access

1. All vehicles shall enter and leave the site in a forward direction.

Note. Refer to Part 1 for the required amount of car parking.

6.7 Amenity and Environmental Impact

Overshadowing

Objective

To minimise overshadowing of neighbouring dwellings and their private open space.

Controls

Adjoining properties must receive a minimum of three hours of sunlight between 9am and 3pm on 21 June to at least:

1. One living, rumpus room or the like.
2. 50 percent of the private open space.

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.
2. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.

Acoustic Privacy

Objective

To ensure appropriate noise and vibration attention measures are incorporated into the development.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design and orientation of the buildings

Note: A Noise Impact Assessment Statement describing the hours of operation and predicted noise levels prepared by a suitably qualified Acoustics Engineer may be considered necessary dependant upon the scale and location of the proposed Place of Public Worship. Details on Special Events must also be included.

6.8 Site Services

Garbage Disposal

1. Garbage bins shall be stored where they are not directly visible from the street.
2. All garbage bins shall be wheeled to the street. Use of a garbage contractor removal service using commercial size trade bins is not permitted.

Waste Management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
3. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Letterboxes and numbering

1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may a condition of consent that street trees be provided in the footpath area immediately in front of the site.

7. Exhibition Homes/Exhibition Villages

Background

Exhibition Homes and Exhibition Villages are a way for homebuilders to display finished dwellings in a residential environment. During their use as Exhibition Homes and Exhibition Villages there is a potential for significant traffic generation, particularly on weekends. The Exhibition Homes can eventually be sold for use as dwellings and become part of the residential environment.

Applies to

This section applies to the erection of Exhibition Homes and Exhibition Villages.

Objectives

- a) To ensure that Exhibition Homes and Exhibition Villages operate with minimal impact on the surrounding residential area.
- b) To ensure that Exhibition Homes and Exhibition Villages operate for a limited time after which they cease to operate.
- c) To ensure that Exhibition Homes and Exhibition Villages revert to a conventional residential environment.

Controls

These controls are additional to those in Parts 2 & 3 where applicable.

7.1 Subdivision, Frontage and Lot Sizes

Controls

- 1. Any subdivision of land shall be in accordance the requirements for dwellings in *Liverpool LEP 2008*.
- 2. Any proposed street within an Exhibition Village may be held as a lot within the development until the cessation of the operation of the Exhibition Village.

7.2 Site Planning

Objectives

- a) To ensure that Exhibition Homes/Exhibition Villages are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure that when Exhibition Homes/Exhibition Villages cease that they become a residential area consistent with Parts 2 and 3.

Site Location

1. Exhibition Homes/Exhibition Villages should be located:
 - Close to classified roads or sub classified roads.
 - Where vehicular access is via collector streets.
 - Where the vehicular access is via minimum of residential street frontage.
 - On streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles.
 - Where traffic control devices do not impede vehicular access to and from the site.
2. Exhibition Homes/Exhibition Villages shall not be permitted:
 - Where access is via streets with a carriageway width of 6.5m or less;
 - On streets, which are cul-de-sacs.

7.3 Car Parking and Access

Objectives

- a) To provide car parking facilities on sites that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking.

Location

1. Car parking for Exhibition Homes shall be provided off street.
2. Exhibition Villages may include on street car parking in their provision of car parking where there are no privately occupied dwellings opposite the individual Exhibition Homes.

Operation

Internal streets may be closed out of hours of operation only where the streets are not yet dedicated as public roads.

7.4 Amenities and Environmental Impact

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Control

During the operation of an Exhibition Home/Exhibition Village additional measures to maintain the privacy of adjoining residential development may be required.

Site Operation

Objective

To ensure minimal adverse impact on adjoining residential areas.

Controls

1. The hours of operation shall be limited to 7 am to 7 pm each day.
2. The operation of an Exhibition Village shall be limited to 3 years after which it shall cease to operate.

3. An Exhibition Village shall cease to operate when any of the individual Exhibition Homes ceases to operate as an Exhibition Home.
4. Buildings used for such uses as providing home finance, materials display or take-away food and the like shall cease to operate when the Exhibition Home/Exhibition Village.
5. Temporary buildings used for providing home finance, materials display or take-away food shall be removed and the site made good.
6. Security lighting shall be provided in such a way to minimise any adverse impact on adjoining residential areas.

7.5 Site Services

Waste Management

1. Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site.
2. Any structure involving waste disposal facilities shall be located as follows:
 - Setback 1m from the front boundary to the street.
 - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape.
 - Not be located adjacent to an adjoining residential property.
3. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.

Letterboxes and numbering

1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting, it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

8. Home Businesses and Home Industries

Background

There is a demand for people to be able to work from home in residential areas. Such businesses have the potential to have significant impact on residential areas.

Objectives

1. To ensure that Home Businesses and Home Industries are compatible with the residential environment.
2. To minimise any adverse impact of Home Businesses and Home Industries on surrounding properties.

Applies to

This section applies to the use of land for a Home Business and Home Industry.

Controls

These controls are additional to those in Part 2 where applicable.

8.1 Site Planning

Objective

- a) To ensure that Home Businesses and Home Industries are sensitive to site attributes, such as streetscape character, natural landform, drainage, existing vegetation, land capability, slope, solar access and if relevant, heritage items.
- b) To ensure privacy for residents and neighbours.

Controls

1. The home business or home industry should be carried out in a dwelling, or a building ancillary to a dwelling.
2. The operation of a home business or a home industry is not to interfere with the amenity of the neighbourhood.

8.2 Setbacks

Impact on Private Open Space

Objective

To ensure that the Home Businesses and Home Industries do not adversely impact on the private open space of a dwelling.

Controls

1. There shall be no outside storage of materials in conjunction with the Home Businesses and Home Industries within the Private Open Space of the dwelling.
2. There shall be no adverse impact on the use of the Private open space of the dwelling.

8.3 Car Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street car parking from new dwellings.

Control

Car parking shall be provided for the Home Business behind the setback to the street.

8.4 Amenity and Environmental Impact

Privacy

Objective

To site and design buildings in a manner which protects the visual privacy of adjoining dwellings and their private open space.

Controls

1. Building siting, window location, balconies and fencing must consider the importance of the privacy of on-site and adjoining buildings and private open spaces.
2. Landscaping should be used where possible to increase visual privacy between buildings and adjoining properties.

Amenity

Objective

To ensure that a Home Business and/or Home Industry does not have any adverse impact on adjoining dwellings.

Controls

1. Council may restrict the hours of operation to between 8.30am and 5.30pm, Monday to Friday and 8.30am to 12 noon on Saturday with no work to be conducted on Sundays or public holidays.
2. Council may require the preparation of a Noise Impact Statement prepared by a suitably qualified Acoustics Consultant in circumstances where the proposed Home Business and Home Industry is likely to generate significant noise levels.
3. Home Businesses and Home Industries which generate odours will only be approved if those odours can be controlled on the site.
4. Council reserves the right to issue a 12 month consent on Home Business and Home Industry proposals, where it is considered that some doubts may exist about the extent of the impacts of the use on the adjoining residential area. In proceeding with the commencement of the use, the applicant is advised that Council is under no obligation to extend the development approval in circumstances where it is demonstrated that the use in operation has a detrimental impact on adjoining residential properties and the residential neighbourhood.
5. Home Businesses and Home Industries involving food preparation shall provide details of suitable odour-controlling installations such as filtered exhausts (including full manufacturer's details and specifications) prior to approval being considered.

8.5 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Frontage works and damage to Council assets

- 1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.
- 3. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.

Waste Management

Waste disposal facilities shall be provided for development and disposed of by private contractors.

9. Large Vehicle, Vessel and/or Trailer Parking

Background

There is a demand for people to be able to park large vehicles on their own property in conjunction with their business. The parking of such vehicles, vessels and trailers in residential areas has the potential to have significant impact on residential areas.

Objectives

- a) To ensure that the parking of large vehicles, vessels and/or trailers are compatible with the residential environment.
- b) To minimise any adverse impact of the parking of large vehicles, vessels and/or trailers on surrounding properties.

Applies to

This section applies to the use of land for the parking of large vehicles, vessels and/or trailers.

Controls

These controls are additional to those in Part 2 where applicable.

9.1 Lot Sizes

Controls

1. Parking of a vehicle, vessel and/or trailer over 4.5 tonne, 7.5m in length or 2.1m in height is not permitted on allotments with an area less than 600sqm.
2. A maximum of 1 vehicle, vessel or trailer over 4.5 tonne, 7.5m in length or 2.1m in height is permitted per property or per 1,000sqm of site area.

9.2 Parking and Access

Objectives

- a) To provide parking facilities on site that is convenient, safe and has sufficient space for vehicular manoeuvrability, whilst being visually unobtrusive.
- b) To minimise the need for on street parking.

Control

1. Development is not permitted for the routine parking or servicing of vehicles, caravans, vessels, earthmoving equipment and other machinery on any land in a residential zone (other than ancillary to an education facility) where the vehicle, vessel or trailer is greater than 6 tonne in weight, 8m in length, or 2.6m in height.
2. Development consent is required for the parking of vehicles, vessels or trailers which are between 4.5 - 6 tonne, 7.5 - 8m in length or 2.1 – 2.6m in height.
3. The entire vehicle must be able to be parked:
 - Wholly within the property.
 - In a driveway or designated parking area on the property (i.e. not on grass in the front yard).
 - Behind the main building line.

9.3 Amenity and Environmental Impact

Amenity

Objective

To ensure that the parking of large vehicles, vessels and trailers does not have any adverse impact on adjoining dwellings.

Controls

Council reserves the right to issue a 12 month consent on the parking of large vehicles, vessels and trailers, where it is considered that some doubts may exist about the extent of the impacts of the use on the adjoining residential area. In proceeding with the commencement of the use, the applicant is advised that Council is under no obligation to extend the development approval in circumstances where it is demonstrated that the use in operation has a detrimental impact on adjoining residential properties and the residential neighbourhood.

9.4 Site Services

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Frontage works and damage to Council assets

- 1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
- 2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.



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Liverpool Development Control Plan 2008

Part 3.9

Boarding House Development

Part 3.9 must be read in conjunction with Part 1

Parts 2, 3, 4 and 6 also apply to boarding house development

Liverpool Development Control Plan 2008

Part 3.9 Boarding House Development

Table of Contents

1. Preliminary	1
2. General Requirements	3
3. Building Character.....	4
4. Site Planning	5
5. External Design.....	6
6. Internal Design	7
7. Communal Open Space	9
8. Parking and Access	10
9. Amenity	11
10. Side and Rear Setbacks in the R2 zone	12
Appendix 1 – Character Statement.....	13
Appendix 2 – Plan of Management.....	14

Table of Figures

Figure 1 Bedroom Ratio Formula..... 7

List of Tables

Table 1 8

Table 2..... 8

Table 3 12

1. Preliminary

Applies to

1. Part 3.9 applies to Boarding Houses in the R1 General Residential, R2 Low Density Residential, R3 Medium Density Residential, R4 High Density Residential, B1 Neighbourhood Centre, B2 Local Centre and B4 Mixed Use zones, except as provided below.
2. Part 1 of the DCP also applies to the land.
3. The following Parts of the DCP shall also be applied to boarding house development:
 - i. Part 2 of the DCP must be applied in specific localities.
 - ii. Part 3.2 of the DCP must be applied in the R2 zone.
 - iii. Part 3.6 of the DCP must be applied in the R3 zone.
 - iv. Part 3.7 of the DCP must be applied in the R4 zone (outside of the Liverpool City Centre).
 - v. Part 4 of the DCP must be applied in the Liverpool City Centre.
 - vi. Part 6 of the DCP must be applied in business zones.

Note: Part 3.9 of the DCP prevails to the extent of any inconsistency with Parts 2, 3, 4 and 6 of the DCP.

Background

The State Environmental Planning Policy (Affordable Rental Housing) 2009 [SEPP ARH] was introduced on 31 July 2009 to increase the supply of affordable rental housing in NSW and as a result, the Liverpool LGA has seen a significant increase in demand for such housing. Particularly, controls are required to regulate the development of boarding houses, and this part of the DCP ensures that boarding houses are sympathetic to the desired character of their surroundings.

Link to SEPP ARH

This part of the DCP must be read in conjunction with the SEPP ARH. Where there is an inconsistency between the SEPP ARH and this DCP, the SEPP ARH prevails. The controls listed in the following subsections of this part of the DCP are to be used when addressing Clause 30A of the SEPP ARH.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential and business areas of Liverpool. Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential and business zones as well as provisions for specific forms of development in certain areas or for development on specific sites.

Objectives

- a) To ensure boarding houses achieve a high standard of urban design, which are compatible with the desired amenity and character of the area.
- b) To provide controls additional to those contained within State Environmental Planning Policy (Affordable Rental Housing) 2009 (SEPP ARH).
- c) To ensure that the amenity of neighbours is maintained.

2. General Requirements

Registration

All boarding houses are to be registered in accordance with the provisions of the Boarding Houses Act 2012, and are to be utilised in accordance with the Boarding Houses Regulation 2013.

Building Code of Australia (BCA)

Boarding Houses may be classified as either Class 1b or Class 3 under the BCA.

A BCA report is required for all Class 3 boarding houses and any boarding house involving alterations and additions to an existing building.

Subdivision

The subdivision (including strata or community title subdivision) of boarding houses is not permitted.

3. Building Character

Objectives

- a) To achieve the desired future character for the locality and minimise amenity impacts on adjoining properties.
- b) To reduce adverse impacts on heritage items.

Controls

1. A Character Statement is to be submitted with all applications for boarding house development. At a minimum the statement is to address the criteria listed under Appendix 1 of this DCP.

Note: Character statements are to be prepared by a suitably qualified person and must include 3D perspective drawings showing how the building appears when situated amongst other buildings within a 100m radius.

2. Boarding houses located in the vicinity of a Heritage Item or within a Heritage Conservation Area must be designed sympathetically to the significance of the Heritage Conservation Area/Item.

4. Site Planning

Objectives

- a) To ensure that boarding houses are only provided on lots that are capable of supporting such development.
- b) To ensure that boarding houses are located in areas that encourage patronage of public transport.

Controls

1. All boarding houses must be located in an accessible area as defined in the SEPP ARH.

Note: Boarding houses in the R2 zone are subject to additional locational criteria as required under the SEPP ARH.

2. Boarding houses must not be located on cul-de-sacs streets and battle-axe allotments.
3. Boarding houses must have a separate pedestrian access to a street.
4. Boarding houses must be located to minimise the extent of cut and fill.

5. External Building Design

Objectives

- a) To encourage designs that are sympathetic to the amenity of adjoining neighbours.
- b) To ensure buildings address all street frontages appropriately.

Controls

- 1. All boarding rooms must only be accessed from within the building.
- 2. Main entrances shall not be located along rear and side boundaries where they face adjoining properties.

6. Internal Building Design

Objectives

- a) To ensure that boarding houses are designed to provide sufficient communal facilities for the occupants in terms of communal indoor and outdoor areas, kitchen and laundry facilities.
- b) To limit the potential overdevelopment of various sites in Liverpool.
- c) To ensure that lodgers are provided with a reasonable level of amenity.

Controls

1. Boarding houses shall be limited to a maximum number of bedrooms using the formula below (rounded to the nearest whole number). Any floor space ratio (FSR) over 1:1 shall be rounded down to 1:1:

No. of rooms	=	<u>Site Area (sqm)</u>	X	FSR (no more than 1:1)
		45		
<i>Example 1: 400sqm site with 0.5:1 FSR</i>				
		$\frac{400\text{sqm}}{45}$	X 0.5	= 4.4 (or 4 rooms)
<i>Example 2: 2,500sqm site with 2:1 FSR</i>				
		$\frac{2500\text{sqm}}{45}$	X 1	= 55.5 (or 56 rooms)

Figure 1: Bedroom ratio formula

2. Communal living rooms and kitchens shall be the focal point of the building (e.g. near lobby, laundry, mail area etc.) and be provided with access to the communal open space area.
3. An indoor communal living room must be provided at a rate of 15sqm for the first 5 lodgers (or part thereof) and 1sqm for each additional lodger.

Note: Required floor area for the communal living room may be split across multiple parts of the building if it is seen as beneficial for the internal layout of the building.
4. No boarding rooms shall open directly on to communal living, dining and kitchen areas.
5. At least 10% of the rooms shall be adaptable in accordance with the relevant Australian Standards (AS) for Adaptable Housing (AS 4299 - 1995) as amended.
6. Boarding houses shall be designed to comply with the minimum access requirements contained within the BCA and Australian Standard 1428 – Design for Access and Mobility (as amended).

7. At least 70% of the rooms shall receive a minimum of 3 hours direct sunlight between 9am and 3pm on 21 June.
8. Where self-contained boarding rooms are proposed they shall be provided with the following facilities (at a minimum) in accordance with Table 1:

Table 1 Self-contained facilities

Facility	Area
Bathroom	2.1sqm
Shower in bathroom	0.8sqm
Laundry	1.1sqm
Kitchenette	2sqm

9. Where shared facilities are proposed, they must be provided at a rate of 1 per 10 occupants (or part thereof) in accordance with Table 2:

Table 2 Communal facilities

Facilities
1 washing machine and 1 washing sink
1 electric clothes dryer or 30m of external clothes line
1 bathroom
1 toilet and wash basin (separate from bathroom)

10. A communal kitchen is to be provided on each floor (if more than 2 storeys) with a minimum area of 8sqm or 1.2sqm for each resident without a kitchenette (whichever is the greater).

Note: The kitchen is to comply with food safety standards adopted under the NSW Food Act 2003 and the National Code for the Construction and Fitout of Food Premises.

11. If management or reception offices (apart from a manager's room) are to be provided, they are to be located at a central, visible point which is convenient to occupants and visitors of the boarding house.
12. Boarding houses in the B1, B2 or B4 zones shall not be provided with any rooms on the ground floor.

7. Communal Open Space

Objectives

- a) To ensure that access to communal open space areas are designed to meet the needs of lodgers.
- b) To ensure that privacy is provided to communal open space areas from adjoining developments.

Controls

1. The communal open space must receive 3hrs of sunlight to 50% of its area between 9am and 5pm on 21 June, and must:
 - i. be provided at ground level in a courtyard or terrace area, wherever possible;
 - ii. provide partial cover from weather;
 - iii. incorporate soft/porous surfaces for 50% of the area;
 - iv. be connected to communal indoor spaces, such as kitchens or living areas;
 - v. contain communal facilities such as barbecues, seating and pergolas where appropriate; and
 - vi. be screened from adjoining properties and the public domain with plantings or similar

8. Parking and Access

Objectives

- a) To provide car parking facilities on site that are convenient, safe and have sufficient space for vehicular manoeuvrability.
- b) To ensure that increased traffic movements do not have adverse impacts on the road network.
- c) To minimise the need for on street car parking.
- d) To provide convenient pedestrian access.

Controls

- 1. A traffic and parking impact statement is required for all boarding house developments demonstrating that the use of the premises will not result in adverse traffic, parking and road safety impacts. The assessment is to include the following (but not being limited to):
 - i. Identification of prevailing traffic conditions;
 - ii. the likely impact of the proposed development the road network;
 - iii. pedestrian and traffic safety measures; and
 - iv. justification for any variations of on-site parking requirements
- 2. The path to any building entrance(s) shall be designed in a manner which provides direct and convenient access from the nearest public footpath.

9. Amenity

Objectives

- a) To ensure that boarding houses operate without impeding upon the amenity of adjoining residents.
- b) To ensure appropriate noise and vibration attention measures are incorporated into boarding houses where applicable.

Controls

1. An acoustic report prepared by a suitably qualified person shall be submitted and is to include:
 - i. Identification of sensitive noise receivers potentially impacted by the proposal;
 - ii. Measure (in decibels) and describe the existing acoustic environment;
 - iii. Details of the acoustic mitigation measures to be implemented in the proposal;
 - iv. Identification of noise likely to be generated by the proposal based on full occupation; and
 - v. Certification that the proposal is capable of operating without causing nuisance, including a statement of mitigation measures required to ensure this
2. A 'Plan of Management' is to be submitted with each development application for a boarding house, including criteria as outlined in Appendix 2.

10. Side and Rear Setbacks in the R2 zone

Objectives

- a) To provide visual and acoustic privacy to adjoining development.
- b) To minimise the impacts of intensified development in low density areas.

Controls

- 1. Buildings in the R2 zone shall be setback from the side and rear boundaries in accordance with Table 3:

Table 3 Setbacks

Item	Side Setback	Rear Setback
Ground Floor	3m	6m
First Floor	3m	8m

Note: Boarding house encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the building.

Appendix 1 – Character Statement

At a minimum all local character statements must analyse the desired urban form and scale with regard to the following elements:

Building Type

- Identify the predominant building typology in the locality (e.g. single storey detached dwellings) and ensure that (and describe how) the proposed boarding house is sympathetic to both the existing and desired future building type.

Streetscape

- Identify and describe the streetscape character and provide for a development which is consistent with, or improves upon, this character by means of public domain improvements (e.g. planting street trees and minimising driveway cross-overs).

Setbacks/Building lines

- Determine if there is a desired subdivision pattern and spacing of buildings including, consistency in size of lots, frontage width, and regular spacing between buildings.
- Explain how the proposed boarding house will be consistent with the desired future building separation in the locality.

Building Style

- Identify the dominant age/style of buildings in the locality (e.g. federation, 'interwar', post WWII style).
- Describe how the design of the boarding house will respond to the style of surrounding buildings in the locality.

Materials and Finishes

- Identify and describe the predominant building finishes and materials in the locality.
- Explain how the selected materials and finishes for the boarding house are appropriate when juxtaposed against that of other buildings in the locality.

Views, vistas and skylines

- Identify any views or vistas within the locality (e.g. views towards heritage buildings or bodies of water)
- Describe how the design of the boarding house will respond to the views and vistas.
- Determine if the boarding house will open up or block views that are enjoyed by occupants of existing developments in the vicinity.

The character statement is to be prepared by a suitably qualified person and must also include 3D perspective drawings showing how the built form appears when situated amongst other buildings within a 100m radius.

Appendix 2 – Plan of Management

At a minimum all plans of management must contain the following elements:

- Manager duties & staffing arrangements including the location and 24/7 contact details of any on-site manager or resident caretaker, who has overall responsibility for the operation, administration, cleanliness, maintenance and fire safety of the premises.
- Council consent compliance details (attached as an addendum upon commencement of operations)
- Procedures for maintaining an Incidents Register, and keeping Council informed of any change in management
- Occupancy rates for each bedroom.
- House rules and how they will be displayed including (but not limited to) guest behaviour, activities and noise, parking arrangements, operating hours of outdoor common areas, visitor policy, and the use of alcohol and/or drugs, and location of smoking area.
- Measures to minimise impacts on adjoining residents including the management of communal open spaces, visiting hours and limitations on noise generating activities between 10pm and 7am.
- Waste management, cleaning and property maintenance measures including schedule of regular professional cleaning, landscaping and pest control services, and details of waste management procedures (including disposal of 'sharps' and/or sanitary napkin receptacles).
- Furniture and facilities including a list of items to be provided in each room (inclusive of communal areas) of the premises.
- Safety and security including an emergency evacuation plan with emergency contact details, staff training, fire mitigation measures, display of annual fire safety statement, perimeter lighting, landline telephone and floor plans showing emergency egress routes.

**LIVERPOOL
CITY
COUNCIL**



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Liverpool Development Control Plan 2008 Part 4

Development in Liverpool City Centre

17 April 2019

Part 4 must be read in conjunction with Part 1

Liverpool Development Control Plan 2008

Part 4 Liverpool City Centre

Table of Contents

1.	Preliminary	7
2.	Controls for Building Form	12
2.1	Building Form	12
2.2	Mixed Use Buildings	22
2.3	Site Cover and Deep Soil Zones	23
2.4	Landscape Design	25
2.5	Planting on Structures	26
3.	Amenity	28
3.1	Pedestrian Permeability	28
3.2	Active Street Frontages and Address	31
3.3	Front Fences	33
3.4	Safety and Security	34
3.5	Awnings	35
3.7	Pedestrian Overpasses and Underpasses	39
3.8	Building Exteriors	40
3.9	Corner Treatments	41
4.	Traffic and Access	45
	Figure 22 Controlled vehicular access servicing arrangements facilitate better pedestrian amenity and streetscape design	45
4.1	Pedestrian Access and Mobility	46
4.2	Vehicular Driveways and Manoeuvring Areas	46
4.3	On Site Parking	47
5.	Environmental Management	52
5.1	Energy Efficiency and Conservation	52
5.2	Water Conservation	53
5.3	Reflectivity	54
5.4	Wind Mitigation	55
5.5	Noise	56
	Figure 25 Noise	57
5.6	Waste	58
5.7	Floodplain and Water Cycle Management	59
5.8	Sewage Treatment Plant	61

6.	Controls for Residential Development-----	62
6.1	Housing Choice and Mix-----	62
6.2	Multi Dwelling Housing-----	64
7.	Controls for Special Areas -----	67
7.1	Heritage Items and Conservation Areas-----	67
7.2	Controls for Restricted Premises -----	71
7.3	Key Sites -----	73
7.4	Design Excellence -----	78
7.5	Non Business Uses -----	79
7.6	Restaurants/Outdoor Cafes-----	79
7.7	Child Care Centres-----	82

Table of Figures

Figure 1 Land to which this Part applies	7
Figure 2 Character Areas	11
Figure 3 Specific Street Alignment and Street Setbacks	14
Figure 4 Street frontage height principle diagram	15
Figure 5 Street Frontage Heights	16
Figure 6 Building height and Depth Controls	18
Figure 8 Mixed use buildings	22
Figure 9 Communal public places with deep soil zone allows for high quality plantings and landscape	24
Figure 10 Encourage high quality landscape on structures and internal communal courtyards	25
Figure 11 Through site links	30
Figure 12 Active pedestrian link	31
Figure 13 Active street frontages promote a safe pedestrian environment	32
Figure 14 Front fence controls where building is raised up to 700mm above street level	33
Figure 15 Front fence controls where building is raised over 700mm and up to 1.1m above street level	34
Figure 17 Awnings3.6 Vehicle Footpath Crossings	36
Figure 18 Restrictions of vehicular entries	38
Figure 19 Vehicle footpath crossings	39
Figure 20 Corner treatment controls	42
Figure 21 Corner Treatments3.10 Public Artworks	43
Figure 22 Controlled vehicular access servicing arrangements facilitate better pedestrian amenity and streetscape design	45
Figure 23 Integrated onsite parking for developments in the commercial core and mixed use zones	49
Figure 25 Noise	57
Figure 26 Encourage innovative and visually attractive sustainable urban drainage	60
Figure 28 Liverpool Railway Station	68
Figure 29 View through Bigge Park to Liverpool College of Tafe	68
Figure 31 Outdoor cafe seating on footpaths greater than 6m wide footpath	80
Figure 32 Placement of outdoor seating areas cannot interfere with pedestrian road access	81

List of Tables

Table 1 Maximum Floorplate Size	18
Table 2 Minimum setback distance from property boundary	21
Table 3 Car parking	48
Table 4 Waste	58

1. Preliminary

Applies to

1. This Part applies to the area shown in Figure 1.
2. Part 1 also applies to the area shown in Figure 1.

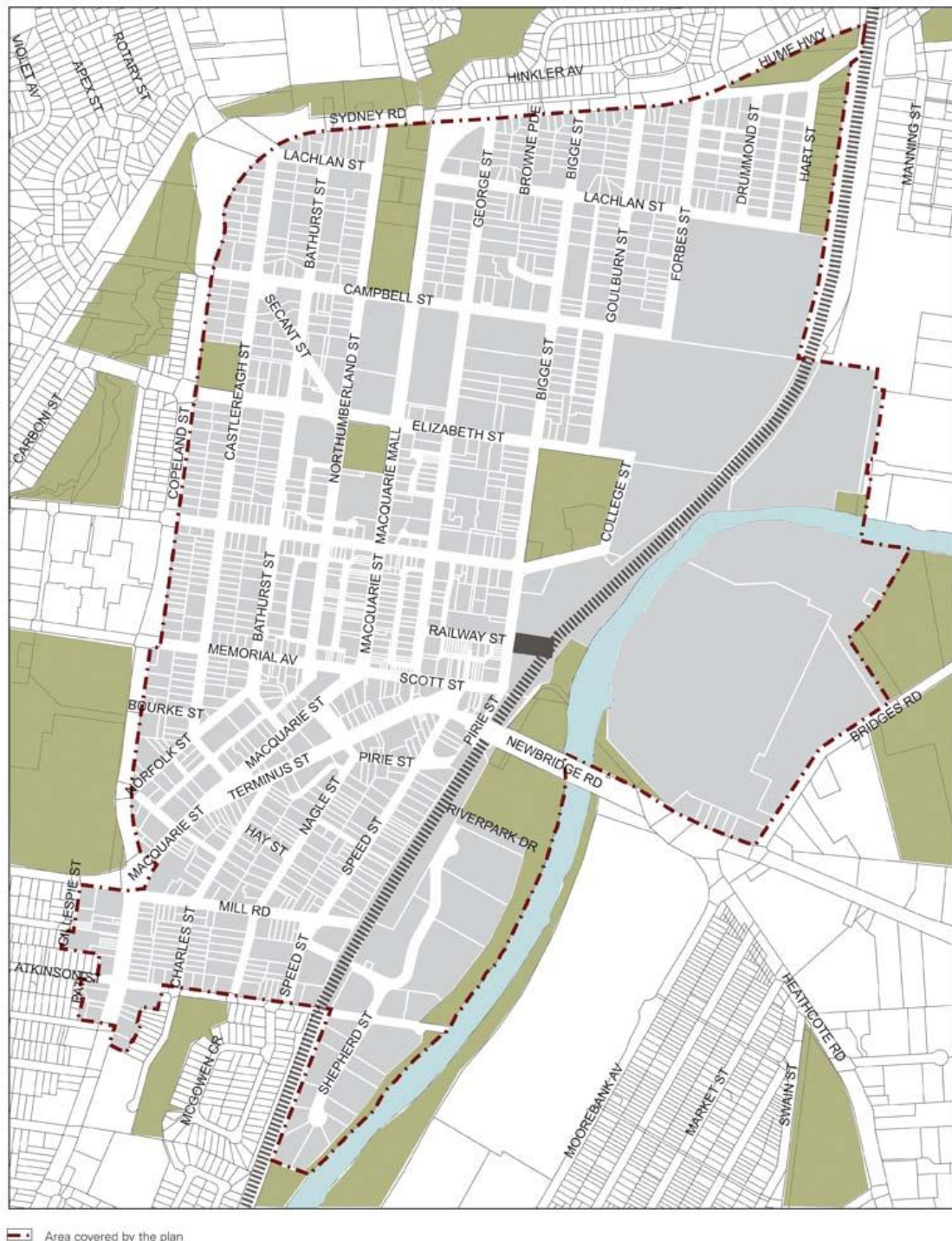


Figure 1 Land to which this Part applies

Background

The Liverpool City Centre was identified by the Department of Planning as a Regional City through the Sydney Metropolitan Strategy – A City of Cities. The Cities Taskforce then developed an LEP, DCP, and CIP plans for the City Centre, which were adopted on the 12/12/2007. This part of the consolidated DCP is the DCP that the Cities Taskforce has made, and Liverpool City Council appreciates the effort and work involved in creating this DCP, by this taskforce.

Characteristics of the Liverpool City Centre

The character of Liverpool City Centre can be divided into special areas and these areas have a number of key character elements. As prescribed by the zoning of the Liverpool LEP 2008, these special areas are described below:

Residential;
Commercial and retail core;
Education and medical precinct;
Riverfront;
Ring road and laneways; and
Eastbank industrial land.

Residential

Liverpool city centre is an increasingly popular residential area. The city centre is surrounded by predominantly three storey units. A large number of units are strata titled and this impedes redevelopment opportunities around the periphery of the city centre. Residential development, mainly catering for a higher income market, has been taking place in the centre of the city. There are opportunities for mixed use developments including shop-top housing within the city centre near the pedestrian mall. Most new residential development is likely to occur on the periphery of the city centre, particularly in the northern precinct. With the growth of the hospital, there will be increasing demand for nursing, intern and other accommodation for health workers. One of the key aims of the Liverpool city centre plan is to improve access between residential areas and the City Centre Core. This will spur economic development of the city and will also ensure that sufficient sites are available within the commercial and retail core.

New residential development will be focused around the northern, western and southern periphery of the city centre area. It is desirable that the frontage to Macquarie Street at Pioneer Park accommodate retail/café/restaurant activities at ground floor with residential and potentially some office space on floors above. The industrial area on Shepherd Street (at the southern extremity of the city centre) will be rezoned to accommodate residential development and a concept plan will be prepared for the site. Planning controls have been reviewed to assist these outcomes.

Commercial and retail core

Employment growth in commercial and retail areas in the city centre is expected to reach a total of 30,000 jobs by 2031. The majority of commercial development will be concentrated around the public transport interchange and in areas already containing a focus of commercial development. This strategy will assist in creating vitality and ensuring a high level of public transport accessibility. Consolidation at the southern end of the city centre will also assist in redressing the degradation of activity occurring here. Commercial development and the majority of the tall buildings will be focused within a core area centred between the railway station, Bathurst Street, Memorial Avenue and Elizabeth Street. Residential development will be avoided within this core commercial area, however mixed use development incorporating other uses at lower levels is acceptable. Additional cultural and entertainment facilities will be established within the area around Bigge, Railway and Moore Streets.

Retail development will continue to be focused around the Macquarie Street Mall and Westfield shopping centre, though retail uses will also be permitted throughout the mixed

use and commercial precincts. The Mall presently functions well in a retail and activity sense, though would benefit from a better integration with Westfields and an improved sense of arrival. The active street frontages along Macquarie Street and throughout the City Centre are an asset that should be maintained and expanded. The existing lane and through-site link system will be maintained and enhanced to provide pedestrian connectivity within the core and across the city centre.

Education and medical precinct

The education and medical precinct is located on the eastern edge of the city centre. It is defined by the South-Western Sydney Area Health Service (Liverpool Hospital) and attendant medical centres and clinics, the Liverpool Private Hospital, public and private schools, and the Liverpool TAFE buildings. The precinct is centred on historic Bigge Park and the grand historic Francis Greenway architecture of the old Liverpool Hospital, now part of TAFE.

The education and health uses intersect with the railway and transport interchange. Its character is marked by the grand sandstone edifices of the heritage buildings, tall Washingtonia palm trees and Kauri and Bunya pines of the early 19th century and other significant urban elements such as sandstone kerb and gutters and formal plantings.

The recently completed TAFE building on Bigge Street provides an example of sensitive integration of contemporary architecture. The sculptural design and mosaic art of this new building responds to and reinforces an urban dialogue which takes place between the historical buildings and the Liverpool Railway Station. There is the opportunity to unite this section of Bigge Street with a new public health or education building linking the two sites.

Elsewhere the precinct character is fragmented. Expansion of the hospital has occurred in a piecemeal fashion and without consideration for the development of a master plan for the precinct. The hospital lands extend to the east of the railway line and abut the Georges River. This places constraints on transport access, communication, land use and public access to the foreshore.

The high schools and primary school provide green informal open space link. Remnant tall gum trees terminate the vista along Moore Street near its intersection with Bigge Street. It is anticipated that within the next ten years, the high school and primary school may desire to move away from the city and closer to the centre of their demographic within the local government area. The Liverpool Primary School has been identified as a key site suitable for future development that may integrate with the existing heritage context and providing entertainment or cultural facilities such as a performing arts/conference centre.

Riverfront

Local character and topography analyses reveal a city identity closely connected to the Georges River – a city of bridges, viaducts and arches and closely associated with rail and transport. The Liverpool City Centre is ringed by rail and transport corridors.

There is currently an imbalance between the growing city centre and the East Bank precinct which is used for small scale industry. There is an imbalance between the desired image of the city and the built form of the East Bank. There are poor connections between the city centre and the East Bank. There is the opportunity to pursue multiple connections through the insertion of transport and pedestrian links, bridges and walkways and riverside promenades in the future. Lake Moore to the east of the precinct provides a natural informal edge to contrast with a proposed urban formal river edge opposite the Liverpool rail and transport Interchange. The deep river north of the Liverpool Weir is navigable and has the potential to become a public ferry transport route with a ferry terminal adjacent to the Transport Interchange.

The city centre has been separated from the banks of the Georges River ever since the construction of the South Western Rail Corridor. The proposed State Rail Freight Line to parallel the existing passenger line on the east and immediately adjacent to the river will further divide the city and obstruct connections across the Georges River, both physically and visually.

The natural edge of the Georges River and Chipping Norton lakes system is one of the city's most valuable legacies. Opportunities exist to create continuous urban parkland on the west bank while establishing an urban promenade on the east bank. Any proposed works in these areas will need to consider bank stabilisation in order to minimise the impacts of erosion.

Ring Road and laneways

Streets make up the largest area of public space in Liverpool City Centre. Used for primarily traffic and pedestrian movement, they also accommodate business, shopping, festivals, dining, socialising and entertainment. The Liverpool street layout and hierarchy determines the urban design potential and amenity of the city. The Hoddle grid, adopted as the township plan shortly after Governor Macquarie founded Liverpool as a colony in 1810, provides an excellent and legible framework for development. It has a vital role in determining the city's built form.

The primary street layout – the Hoddle grid defines the city centre. The Hoddle grid is the city's major asset in defining urban form. Liverpool City Centre shares this important and valuable street layout with the city of Melbourne, recognised for its great streets. Within the formal grid of north-south streets are the laneways and arcades providing important mid-block pedestrian links and city permeability

In the southern portion of the city centre, the grid distorts in response to the topography, forming a secondary grid of formal minor streets. The meeting of the regular Hoddle grid with the secondary grid along memorial Avenue creates corner blocks with obtuse and acute angles. This provides a valuable opportunity to develop the character and streetscape quality of the Liverpool city centre as a unique place.

The core of the city centre – the retail and commercial heart – is defined by the Ring Road and is contained within Bathurst Street, Campbell Street, Bigge Street and Pirie Street. The Ring Road within the grid layout defines the pedestrian core and assists in traffic movement and wayfinding. The Ring Road carries the bulk of through traffic around the core of the city centre to access the major arterials – Newbridge Road, Hoxton Park Road, the Hume Highway, Elizabeth Drive and the Cumberland highway. The Ring Road allows for the fine-grain preservation of the pedestrian core.

The laneway network both complements and contrasts with the dominant qualities of the main streets. Their narrow proportions and often sheltered atmosphere have a potentially unique charm. Hidden within the blocks, they can provide a set of spaces that diversify and enrich the city, in the same way that Melbourne's laneways, 'little' streets and arcades have enriched its liveability. Planning controls will ensure the amenity of the laneways is protected and enhanced through the control of the height and form of abutting buildings, the protection of vistas, views of the sky and provision of natural light, regulating the nature of material used in abutting buildings, and restricting bridges, overhangs or structures over laneways.

Eastbank Industrial land

The Industrial precinct east of the Georges River provides an opportunity for further expansion of the city centre. Although it is subject to flooding, it is capable of a large variety of land uses to complement those already found within the city centre and to provide additional high density housing and/or accommodation. The site has been identified as a key site suitable for a range of activities including business uses, residential, public open space, and potentially education. Development of the site should also consider linking to the City Centre over the Georges River.

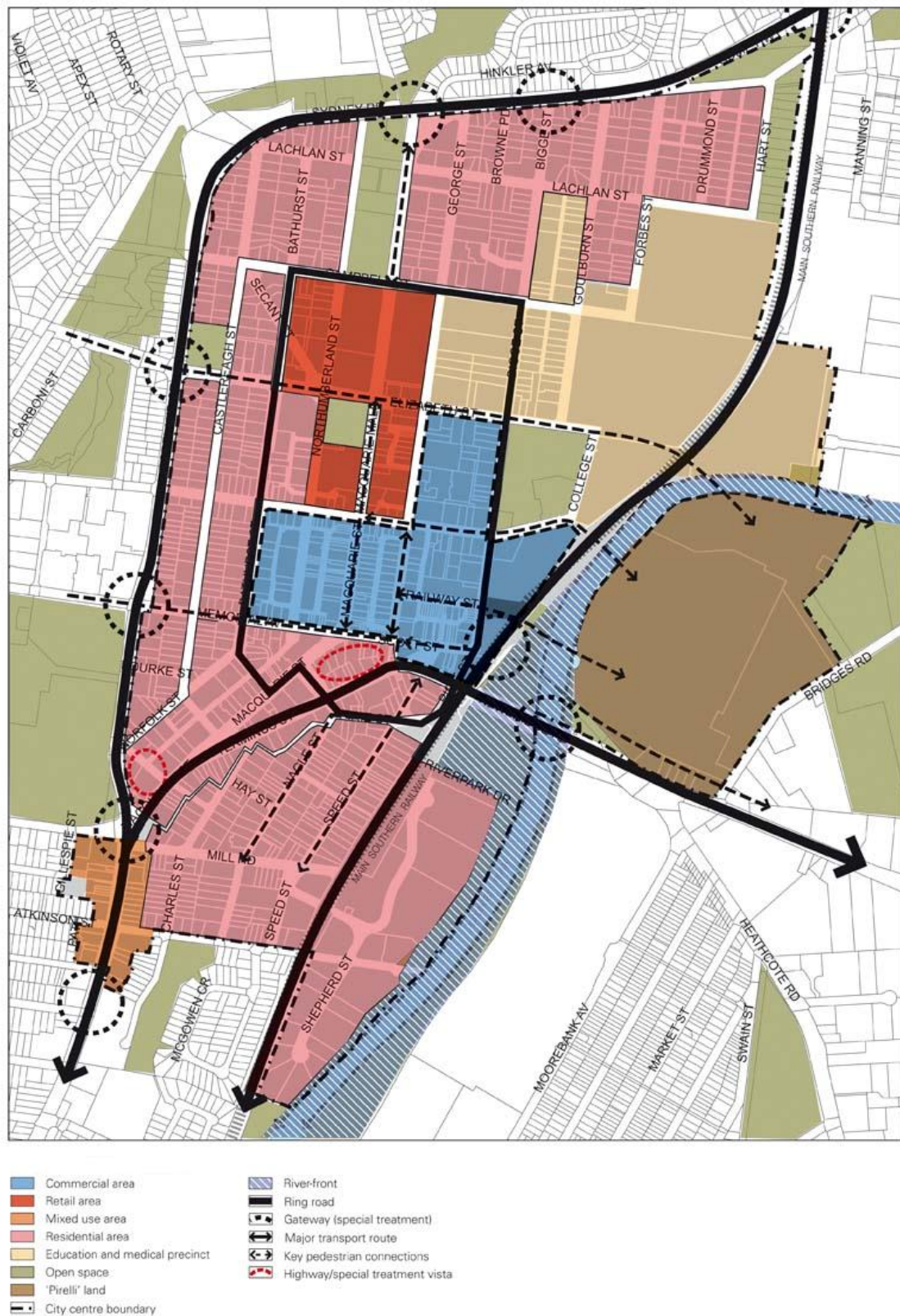


Figure 2 Character Areas

2. Controls for Building Form

2.1 Building Form

Background

Building form and character refers to the individual elements of building design that collectively contribute to the character and appearance of the built environment. The *Liverpool LEP 2008* includes provisions for land use, building heights, sun access, floorspace ratio and design excellence. The development provisions in this Part of the DCP on building form are intended to encourage high quality design for new buildings, balancing the character of Liverpool with innovation and creativity. The resulting built form and character of new development should contribute to an attractive public domain in Liverpool city centre and produce a desirable setting for its intended uses.

The controls in this section aim to:

- Establish the scale, dimensions, form and separation of buildings appropriate for the setting in the city centre.
- Achieve an attractive and sustainable Liverpool city form within the city centre context.
- Provide a strong definition of the public domain.
- Achieve active street frontages with good physical and visual connections between buildings and the street.
- Ensure there is consistency in the main street frontages of buildings having a common alignment.
- Provide for pedestrian comfort and protection from weather conditions.
- Define the public street to provide spaces that are clear in terms of public accessibility and safety, and are easy to maintain.
- Ensure building depth and bulk is appropriate to the environmental setting and landform by providing for view sharing and good internal building amenity.
- Ensure building separation is adequate to protect amenity, daylight penetration and privacy between adjoining developments.
- Encourage mixed use development with residential components that achieve active street fronts and maintain good residential amenity.
- Achieve an articulation and finish of building exteriors that contribute to a high quality of design excellence.
- Provide for high quality landscape to contribute to the amenity of the city centre and a sustainable urban environment.
- Contribute to the legibility of the city.
- Ensure that new buildings are responsive to the character and heritage values of Liverpool city centre.

Building to Street Alignment and Street Setbacks

Background

Street setbacks and building alignments establish the front building line (see Figure 3). They help to create the proportions of the street and can contribute to the public domain by enhancing streetscape character and the continuity of street facades. The way in which buildings address the street has important implications for the quality of the public domain. In general terms, streets should be fronted by buildings that respond to the street alignment by orientation of their main entrances and facades.

Street setbacks can also be used to enhance the setting and address for the building. They provide for landscape areas, entries to ground floor apartments and deep soil zones. Along the main commercial and retail areas, buildings are to be built up to the street alignment to reinforce the urban character and improve pedestrian amenity and activity at street level. Above street frontage height, buildings are to be set back to provide sunlight access to streets, comfortable wind conditions, view corridors, an appropriate building scale for pedestrians, and good growing conditions for street trees

Objectives

- a) To achieve a strong and consistent definition of the public domain.
- b) To align external facades of buildings with the streets that they front.
- c) To provide front setbacks appropriate to building function and character.
- d) To establish the desired spatial proportions of the street and define the street edge.
- e) To create a transition between public and private space.
- f) To locate active uses, such as shopfronts, closer to pedestrian activity areas.
- g) To allow an outlook to, and surveillance of, the street.
- h) To allow for street landscape character, where appropriate.
- i) To maintain sun access to the public domain

Controls

- 1. Street building alignment and street setbacks are to comply with Figure 3.
- 2. The external facades of buildings are to be aligned with the streets that they front.
- 3. Notwithstanding the setback controls, where development must be built to the street alignment (as identified in Figure 3), it must also be built to the side boundaries (0m setback) where fronting the street. The minimum height of development built to the side boundary is to comply with the minimum street frontage height requirement.
- 4. Balconies may project up to 1.2m into front building setbacks in the High Density Residential zone and up to 600mm in all other zones, provided the cumulative width of all balconies at that particular level totals no more than 50% of the horizontal width of the building façade, measured at that level.
- 5. Minor projections into front building lines and setbacks for sun shading devices, entry awnings and cornices are permissible (see also Section 3.8 Building Exteriors).

Street Frontage Heights

Background

It is important that new buildings within Liverpool city centre contribute to a strong definition of the street and public domain, and reflect the city's status as a regional city, and the function and character of different parts of the city. Concurrently, the lower scale nature of parts of the existing city centre makes a positive contribution to its image and character. In this light, the approach to street frontage height therefore, needs to be one that provides a strong address to the street environment, whilst also maintaining a suitable relationship to the scale of existing buildings.

New buildings in the city centre are to have street frontage heights in the range of 3 - 7 storeys depending on location, form and use (see Figure 4). These will provide for well framed streetscapes appropriate to a regional city, and that maintain a pedestrian scale. Street frontage heights refer to the height of the building that directly addresses the public street from the ground level up to the first (if any) setback (refer to Figure 4).

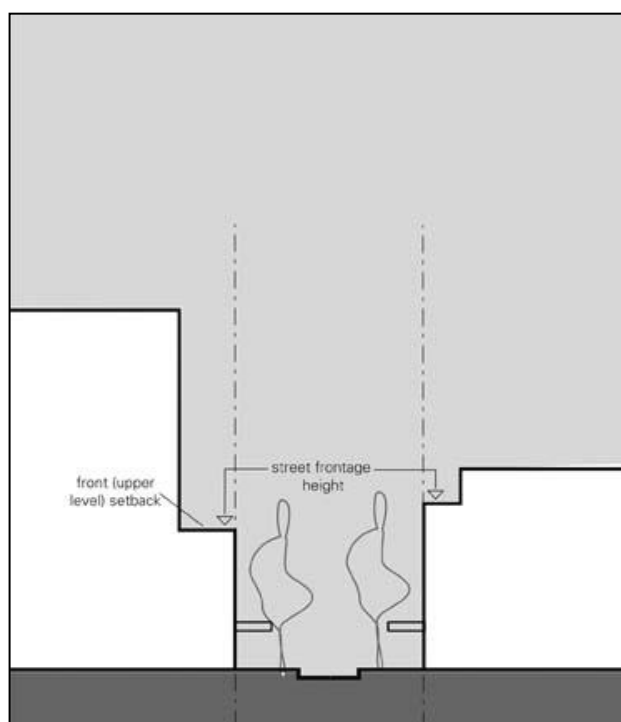


Figure 4 Street frontage height principle diagram

Objectives

- a) Provide a strong, consistent and appropriate definition of the public domain.
- b) To achieve comfortable street environments for pedestrians in terms of daylight, scale, sense of enclosure and wind mitigation as well as a healthy environment for street trees.
- c) To protect solar access to key streets and public spaces.

Controls

1. The street frontage height of buildings must comply with the minimum and maximum heights above mean ground level on the street front as shown in Figure 5.
2. Notwithstanding the above, the street front height of any new building is to be consistent with the controls in Section 2.6 Solar Access.
3. Notwithstanding the controls in Figure 5, the street frontage height controls of any new building adjacent to Heritage Items is to be appropriately scaled (refer to Section 7.1 Heritage Items and Special Heritage Areas).
4. 'Fake' building street walls (frames with the building line recessed behind) will not be permitted up to street frontage height level.

Building Depth and Bulk

Background

Controlling the size of upper level floor plates in new buildings allows for good internal amenity in regards to natural light and ventilation and mitigates potential adverse effects that tall and bulky buildings may have on the public domain, including overshadowing and amenity of the streets.

Building depth is related to building use. Commercial and retail floor plates are typically larger than residential floor plates. The following controls are therefore classified into residential or commercial at the detail level.

Objectives

- a) To promote the design and development of sustainable buildings.
- b) To achieve the development of living and working environments with good internal amenity and minimise the need for artificial heating, cooling and lighting.
- c) To provide viable and useable commercial floor space.
- d) To achieve useable and pleasant streets and public domain at ground level by controlling the size of upper level floor plates of buildings.
- e) To reduce the apparent bulk and scale of buildings by breaking up expanses of building wall with building separation, modulation of form and articulation of facades.

Controls

1. The maximum floor plate sizes and depth of buildings are specified and illustrated in Figure 6 and Table 1.
2. Notwithstanding the above, the component of a building above the maximum specified street frontage is not to have a building length in excess of 45m.
3. Maximum floor plate sizes only apply above street frontage height levels.
4. All points on an office floor should be no more than 10m from a source of daylight (eg. window, atria, or light wells) in buildings less than 25m in height, and no more than 12.5m from a window in buildings over 25m in height.

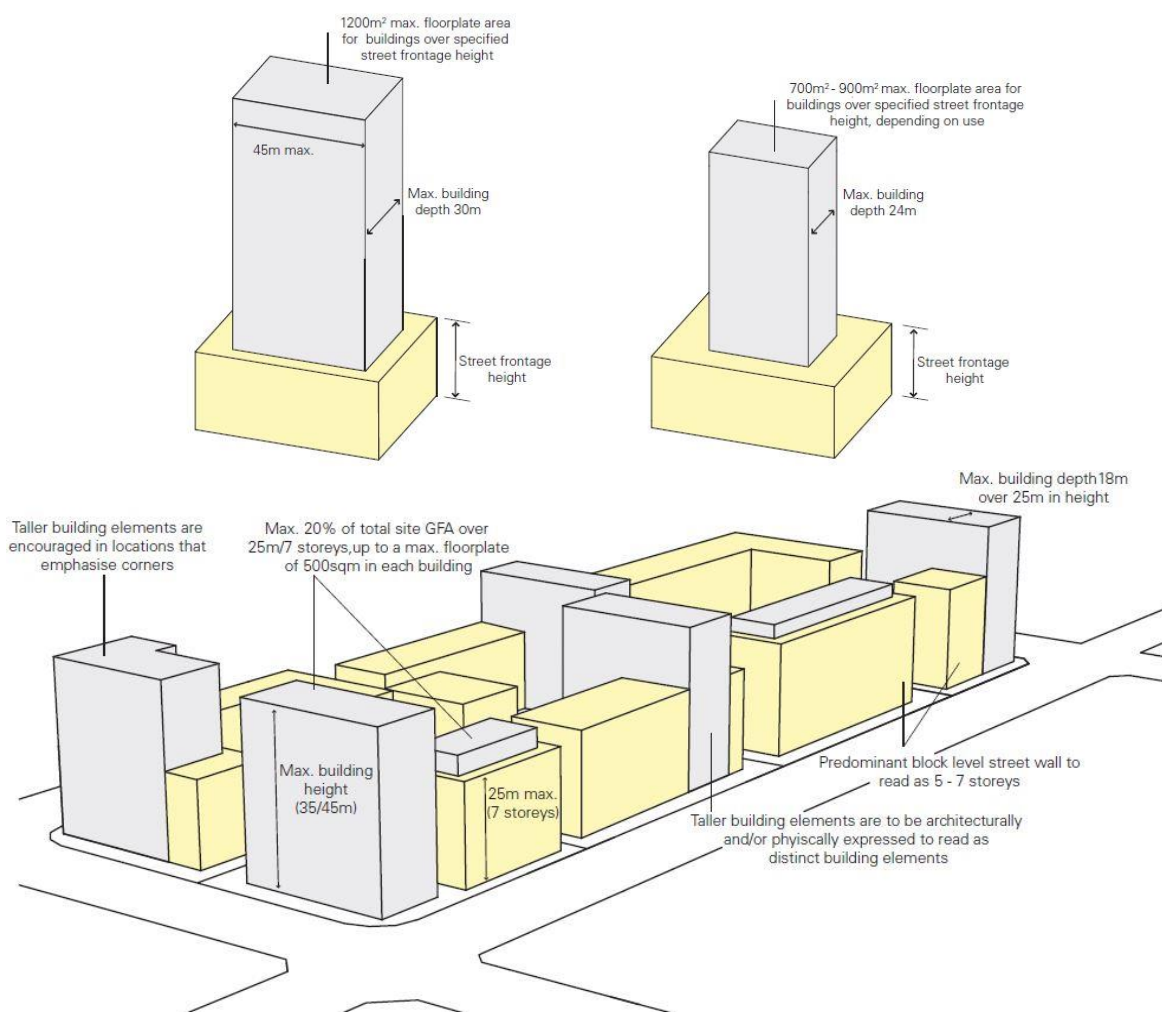


Figure 6 Building height and Depth Controls

Table 1 Maximum Floorplate Size

Land use zone	Building use	Condition	Maximum GFA per floor	Maximum building depth (excludes balconies)
Commercial Core:	Commercial and retail uses	Above street frontage height	1,200sqm	30m
Mixed Use:	Commercial / retail uses	Above street frontage height	900sqm	24m
	Residential uses	Above street frontage height	700sqm	24m
Residential & all other zones	All residential uses	Above 25m in height. The gross floor area permitted above this height is 20% of the total gross floor area of the development, up to the maximum permissible height shown on the Height of Buildings map in the Liverpool LEP 2008.	500sqm	18m

Boundary Setbacks and Building Depth and Bulk

Background

Front, side and rear setbacks, where provided, allow ventilation, solar and daylight access, increase privacy, and reduce adverse wind effects. Building separation increases in proportion to building height to ensure appropriate urban form, amenity and privacy for building occupants. In residential buildings and serviced apartments, separation between windows on side and rear facades and other buildings is particularly important for privacy, acoustic amenity and view sharing. For commercial buildings, separation distances are smaller due to reduced requirement for privacy, noise and daylight access. Separation for mixed use buildings containing residential and commercial uses is to be in accordance with specified distances for each component use.

Objectives

- a) To ensure an appropriate level of amenity for building occupants in terms of daylight, outlook, view sharing, ventilation, wind mitigation, and privacy.
- b) To achieve usable and pleasant streets and public domain areas in terms of wind mitigation and daylight access.

Controls

Note: For the purposes of this section, commercial uses means all non-residential buildings (including hotel accommodation, but not serviced apartments).

1. The minimum building setbacks from the front, side and rear property boundaries are specified in Table 2 and illustrated generically in Figure 7.
2. In mixed use buildings, setbacks for the residential component are to be the distances specified in the table below for residential development in the specified zone.
3. If the specified setback distances cannot be achieved when an existing building is being refurbished or converted to another use, appropriate visual privacy levels are to be achieved through other means. These will be assessed on merit by the consent authority.
4. Buildings with a boundary to the Hume Highway are to be a setback a minimum of 8m.
5. The front setback for buildings on the southern side of Elizabeth Street between Macquarie Street Mall and George Street (Lot 2 DP 90210) must be 3m for the ground floor. Any awning / roof structure above the 3m setback area shall not restrict solar access to the footpath area.
6. Buildings with a rear or side boundary to the rail corridor are to be setback a minimum of 12m with a landscaped area.
7. In exceptional circumstances where the required setback distances are not possible, the portion of a building over 45m in height may be considered on merit by the consent authority so long as the following minimum separation distances between tall buildings, or potential future tall buildings are adhered to:
 - 20m applies between commercial uses and
 - 28m between residential uses.

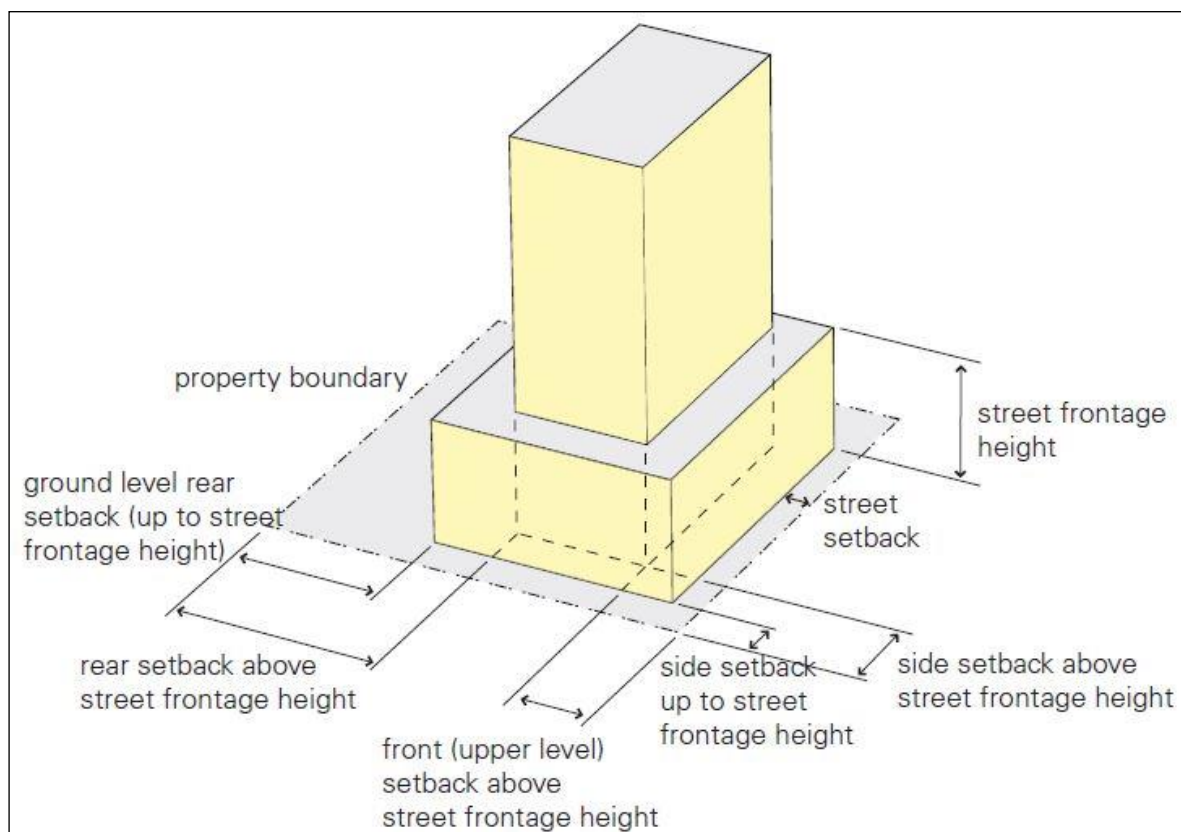


Figure 7 Generic diagram illustrating section terminology

Table 2 Minimum setback distance from property boundary

Zone	Building height & uses	Front (upper level) setback	Side setback	Rear setback
Commercial	Up to permissible SFH level	Street setback [†]	0m	0m
Core	Between SFH level and 45m	6m*	6m	6m
	Above 45m	6m*	14m	14m
Enterprise	Commercial uses;			
Corridor,	– up to permissible SFH level	Street setback [†]	0m	6m
Mixed Use	– between SFH level and 45m	6m*	6m	6m
	– above 45m	6m*	14m	14m
	Residential uses up to 12m height:	Street setback [†]	0 m [#]	6m
	Residential uses between 12 – 25m height:			
	– non-habitable rooms	6m*	4.5 m [#]	6m
	– habitable rooms	6m*	9 m [#]	9m
	Residential uses between 25 – 45m height:			
	– non-habitable rooms	6m*	6 m [#]	6m
	– habitable rooms	6m*	12 m [#]	12m
	Residential uses between over 45m height:			
	– non-habitable rooms	6m*	12m	9m
	– habitable rooms	6m*	16m	16m
High Density	All uses up to 12m height:			
Residential	– non-habitable rooms	Street setback [†]	3 m	6m
	– habitable rooms	Street setback [†]	6m	6m
	All uses between 12 – 25m height:			
	– non-habitable rooms	n/a	4.5m	6m
	– habitable rooms	n/a	9m	9m
	All uses between 25 – 35m height:			
	– non-habitable rooms	see Figure 6	6m	6m
	– habitable rooms	see Figure 6	12m	12m
	All uses between 35 – 45m height:			
	– non-habitable rooms	see Figure 6	6m	9m
	– habitable rooms	see Figure 6	14m	14m

SFH: Street Frontage Height

* Setback occurs at street frontage height (i.e. only one setback allowable)

[#] Notwithstanding the setback controls, where development must be built to the street alignment (as identified in Figure 3), it must also be built to the side boundaries (0m setback) where fronting the street. The minimum height of development built to the side boundary is to comply with the minimum street frontage height requirement.

[†] refer to Figure 3 Specific Street Alignment and Street Setbacks.

Please Note. n/a means not applicable

2.2 Mixed Use Buildings

Background

Mixed-use developments provide for a variety of uses and activities within city centres, encouraging use of the city outside the working day, adding vibrancy and life to the city streets (see Figure 8). Different uses within the same building are best located to a pattern and layout suitable to the mix of uses, with retail and business activity at ground level to assist street activation, and residential uses, requiring privacy and noise mitigation, located above street level.

Mixed use development within the city centre is preferred in sustainable locations, close to public transport and recreational areas.

Objectives

- a) To encourage a variety of mixed-use developments in the city centre.
- b) To create lively streets and public spaces in the city centre.
- c) To increase the diversity and range of shopping and recreational activities for workers, residents and visitors.
- d) To enhance public safety by increasing activity in the public domain on week nights and on weekends.
- e) To minimise potential conflicts and achieve compatibility between different uses.
- f) To minimise conflicts between permitted land use and heritage buildings.
- g) To ensure that the design of mixed-use buildings addresses residential amenity.
- h) To create separate, legible and safe access and circulation in mixed use buildings.
- i) To ensure that mixed use buildings address the public domain and the street.



Figure 8 Mixed use buildings

Controls

1. The ground floor component of a mixed-use building is to be used for a permitted non-residential use.
2. Ground floor of all mixed-use buildings is to have a minimum floor to ceiling height of 3.6m in order to provide for flexibility of future use. Above ground level, minimum floor to ceiling heights are 3.3m for commercial office, 3.6m for active public uses, such as retail and restaurants, and 2.7m for residential.
3. Provide flexible building layouts which allow variable tenancies or uses on the first floor of a building above the ground floor in the Mixed Use zone.
4. Separate commercial service requirements, such as loading docks, from residential access, servicing needs and primary outlook.
5. Locate clearly demarcated residential entries directly from the public street.
6. Clearly separate and distinguish commercial and residential entries and vertical circulation.
7. Provide security access controls to all entrances into private areas, including car parks and internal courtyards.
8. Provide safe pedestrian routes through the site, where required.
9. Front buildings onto the public domain with active uses
10. Avoid the use of blank building walls at the ground level.

2.3 Site Cover and Deep Soil Zones

Background

Limiting site cover provides separation between buildings. This space may be public (accessible and useable by the general public), communal (shared by all occupants of a development) or private (for the exclusive use of a single dwelling or tenancy). Limiting site cover improves amenity by providing daylight access, visual privacy and opportunities for recreation and social activities (refer to Figure 9). Site coverage is greater closer to the Commercial Core where boundary to boundary development is permissible.

Deep soil zones are areas of natural ground retained within a development, uninhibited by artificial structures and with relatively natural soil profiles. Deep soil zones have important environmental benefits, including promoting healthy growth of large trees with large canopies, protecting existing mature trees, and allowing stormwater infiltration.

Objectives

- a) To provide an area on sites that enables soft landscaping and deep soil planting, permitting the retention and/or planting of trees that will grow to a large or medium size.
- b) To limit building bulk on a site and improve the amenity of developments, allowing for good daylight access, ventilation, and improved visual privacy.
- c) To provide passive and active recreational opportunities.



Figure 9 Communal public places with deep soil zone allows for high quality plantings and landscape

Controls

1. The maximum site cover for development is specified in the following table:

Zone Commercial Residential & Mixed Use

Zone	Commercial & Mixed Use	Residential
Commercial Core	100%	n/a
Mixed Use, Enterprise Corridor & Infrastructure	75%	50%
All other zones	60%	50%

2. Developments with a residential component in all zones, except the Commercial Core, must include a deep soil zone.
3. The deep soil zone shall comprise no less than 15% of the total site area (or proportionate to the percentage of residential uses in a mixed-use development). It is to be provided preferably in one continuous block but otherwise with no dimension (width or length) less than 6m.
4. Where non-residential development results in full site coverage and there is no capacity for water infiltration, the deep soil component must be provided on structure, in accordance with the provisions of Section 2.5. In such cases, compensatory stormwater management measures must be integrated within the development to minimise stormwater runoff.
5. Where deep soil zones are provided, they must accommodate existing mature trees as well as allowing for the planting of trees/ shrubs that will grow to be mature plants.
6. No structures, works or excavations that may restrict vegetation growth are permitted in this zone (including but not limited to car parking, hard paving, patios, decks and drying areas).

2.4 Landscape Design

Background

Landscape design includes the planning, design, construction and maintenance of all utility, open space and garden areas. The landscape qualities of the city centre are an important influence on its future image, comfort, public and private amenity. Landscape within the public domain will be implemented within the framework established by the *Liverpool City Centre Civic Improvement Plan 2007*, *Draft Liverpool Public Domain Strategy* and the *Liverpool CBD Streetscape and Paving Guidelines 2005*. In the private domain, it is important that a strong and consistent approach to landscape is achieved in order to contribute to both a high level of amenity and a cohesive image for the city centre (refer to Figure 10).



Figure 10 Encourage high quality landscape on structures and internal communal courtyards

Objectives

- a) To add value and quality of life for residents and occupants within a development in terms of privacy, outlook, views and recreational opportunities.
- b) To ensure that the use of potable water for landscaping irrigation is minimised.
- c) To ensure landscaping is integrated into the design of development.
- d) To improve stormwater quality and control run-off.
- e) To improve the microclimate and solar performance within the development.
- f) To improve urban air quality and contribute to biodiversity.

Controls

1. Landscaped areas are to be irrigated with recycled water.
2. Landscape species are to be selected in accordance with Council's schedule of Preferred Landscape Species.
3. Commercial and retail developments are to incorporate planting into accessible outdoor spaces.
4. Remnant vegetation must be maintained throughout the site wherever practicable.
5. A long-term landscape concept plan must be provided for all landscaped areas, in particular the deep soil landscape zone. The plan must outline how landscaped areas are to be maintained for the life of the development.
6. Any new public spaces are to be designed so that at least 50% of the open space provided has a minimum of 3 hours of sunlight between 10am and 3pm on 21st June (Winter Solstice).

2.5 Planting on Structures

Background

The following controls apply in the Commercial Core, Mixed Use and Enterprise Zones for planting on roof tops or over carpark structures, particularly for communal open space required as a component of mixed use residential development, and in non-residential developments where the landscaping proposed is not on natural ground.

Objectives

- a) To contribute to the quality and amenity of open space on roof tops and internal courtyards.
- b) To encourage the establishment and healthy growth of trees in urban areas.
- c) To minimise the use of potable water for irrigating planting on structures.

Controls

1. Areas with planting on structures are to be irrigated with recycled water.
2. Design for optimum conditions for plant growth by:
 - providing soil depth, soil volume and soil area appropriate to the size of the plants to be established,
 - providing appropriate soil conditions and irrigation methods, and
 - providing appropriate drainage.
 - Design planters to support the appropriate soil depth and plant selection by:
 - ensuring planter proportions accommodate the largest volume of soil possible and soil depths to ensure tree growth, and providing square or rectangular planting areas rather than narrow linear areas.
3. Increase minimum soil depths in accordance with:
 - the mix of plants in a planter for example where trees are planted in association with shrubs, groundcovers and grass,
 - the level of landscape management, particularly the frequency of irrigation,
 - anchorage requirements of large and medium trees, and soil type and quality.
4. Provide sufficient soil depth and area to allow for plant establishment and growth. The following minimum standards are recommended:

- a. Large trees (over 8m high) minimum soil depth 1.3m, minimum soil volume 150m³
- b. Medium trees (2 – 8m high), minimum soil depth 1m, minimum soil volume 35m³
- c. Small trees (up to 2m high), minimum soil depth 0.8m, minimum soil volume 9m³
- d. Shrubs and ground cover, minimum soil depth 0.5m, no minimum soil volume.

3. Amenity

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 the public spaces of the city centre. The pedestrian environment provides people with their primary experience of and interface with the city. This environment needs to be safe, functional and accessible to all. It should provide a wide variety of opportunities for social and cultural activities. The pedestrian environment is to be characterised by excellence of design, high quality materials and a standard of finish appropriate to a regional city centre. The city's lanes, arcades and through site links should form an integrated pedestrian network providing choice of routes at ground level for pedestrians.

The controls in this section aim to increase the vitality, safety, security and amenity of the public domain by:

- Encouraging future through site links at ground level.
- Ensuring active street frontages and positive building address to the street.
- Ensuring provision of awnings along the commercial core street frontages and other retail and tourist areas.
- Mitigating adverse impacts on the street arising from driveway access crossings, advertising signage and selection of building finishes and materials.

3.1 Pedestrian Permeability

Background

Through site links provide connections between the long sides of street blocks. The existing lanes and through site links are an integral component of the pedestrian movement system, providing direct access between the street frontage and rear parking areas. With the north-south oriented grid of the city centre, through site links in an east-west direction are important to improve accessibility and thereby improving the relationship between the railway station and the central retail and commercial areas. Additionally, lanes also provide for site servicing in a manner that protects the public domain quality of the main street frontages of the city centre.

Objectives

- a) To improve access in the city centre by providing through site links as redevelopment occurs.
- b) To retain and enhance existing through site links as redevelopment occurs.
- c) To encourage active streets fronts along the length of through site links where possible.
- d) To provide for pedestrian amenity and safety.
- e) To encourage removal of vehicular entries from primary street frontages.

Controls

1. Through site links are to be provided as shown in Figure 11.
2. Where possible, links are to be open to the air, rather than enclosed or internal (refer to Figure 12).
3. Where possible, existing dead end lanes are to be extended through to the next street as redevelopment occurs.

4. New through site links should be connected with existing and proposed through block lanes, shared zones, arcades and pedestrian ways and opposite other through site links.
5. Existing publicly and privately owned links are to be retained.
6. Through block connections are to:
 - be a minimum width of 5m clear of all obstructions,
 - have active street frontages and/or a street address along its length,
 - be clear and direct throughways for pedestrians,
 - be open to the air and publicly accessible at all times,
 - have signage at street entries indicating public accessibility and the street to which the through site link connects, and
 - demonstrate the application of 'safer-by-design' principles.
7. Arcades are to:
 - be a minimum width of 5m clear of all obstructions (including columns, stairs, escalators),
 - have active street frontages along its length,
 - be clear and direct throughways for pedestrians,
 - provide public access at all business trading times,
 - where practical, have access to natural light for at least 50% of their length,
 - where air conditioned, have clear glazed entry doors comprising at least 50% of the entrance, and
 - have signage at street entries indicating public accessibility and the street to which the through site link connects.

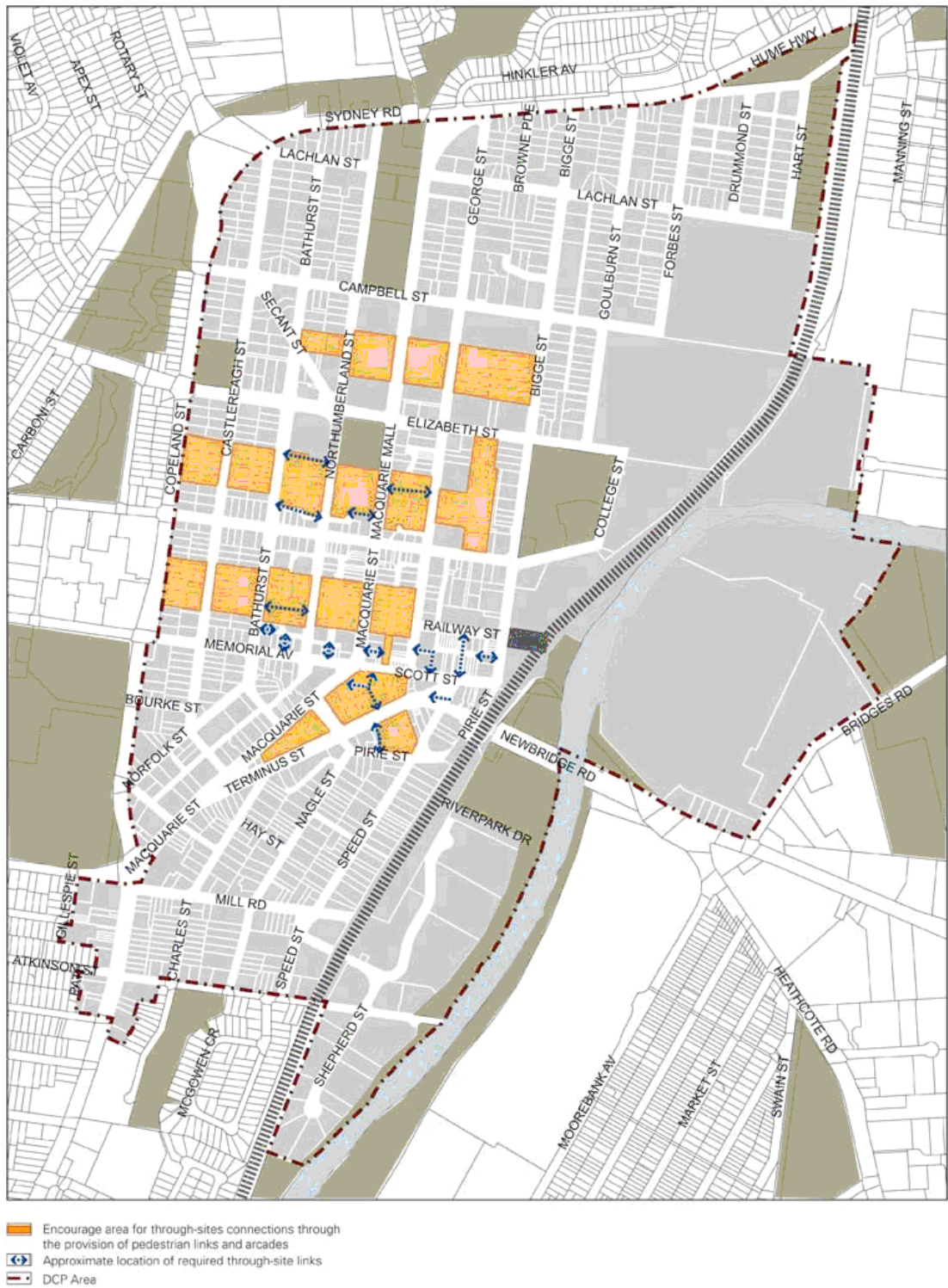


Figure 11 Through site links

3.2 Active Street Frontages and Address

Background

Active street frontages promote an interesting and safe pedestrian environment. Busy pedestrian areas and non-residential uses such as shops, studios, offices, cafes, recreation and promenade opportunities promote the most active street fronts (refer to Figure 13).

Residential buildings contribute positively to the street by providing a clear street address, direct access from the street and outlook over the street.

Objectives

- a) To promote pedestrian activity and safety in the public domain.
- b) To maximise active street fronts in Liverpool city centre.
- c) To define areas where active streets are required or are desirable.



Figure 12 Active pedestrian link

Controls

1. Active frontage uses are defined as one of a combination of the following at street level:
 - entrance to retail,
 - shop front,
 - glazed entries to commercial and residential lobbies occupying less than 50% of the street frontage, to a maximum of 12m frontage,
 - café or restaurant if accompanied by an entry from the street,
 - active office uses, such as reception, if visible from the street, and
 - public building if accompanied by an entry.

2. Active street fronts are required on ground level of all areas identified in Figure 11, including adjacent through block connections.
3. In the commercial core, mixed use and enterprise corridor zones, active street fronts are required in the form of non-residential uses on ground level. In addition to the ground level, non-residential active uses are also required at first floor level when facing onto the busy vehicular roads along Memorial Avenue, Scott Street and from the southern boundary of the DCP area from the Hume Highway to the junction with Macquarie Street and along Terminus Street to Newbridge Road.
4. Active ground floor uses are to be at the same general level as the footpath and be accessible directly from the street.
5. Restaurants, cafes and the like are to consider providing openable shop fronts.
6. Only open grill or transparent security (at least 50% visually transparent) shutters are permitted to retail frontages.



Figure 13 Active street frontages promote a safe pedestrian environment

Street Address

1. Street address is defined as:
 - a building that is not raised more than an weighted average of 700mm above street level, up to a maximum of 1.1m (refer to Section 3.3 Front Fences), and
 - contains entries, lobbies, and habitable rooms with clear glazing overlooking the street, and
 - excludes car parking areas.
2. Street address is required on ground level of all areas identified in Figure 14.

3. Residential developments are to provide a clear street address and direct pedestrian access off the primary street front, and allow for residents to overlook all surrounding streets.
4. Provide multiple entrances for large developments including an entrance on each street frontage.
5. Provide direct 'front door' access to ground floor residential units.
6. Residential buildings are to provide not less than 65% of the lot width as street address

3.3 Front Fences

Background

Active street frontages promote an interesting and safe pedestrian environment. Busy pedestrian areas and non-residential uses such as shops, studios, offices, cafes, recreation and promenade opportunities promote the most active street fronts (refer to Figure 13).

Residential buildings contribute positively to the street by providing a clear street address, direct access from the street and outlook over the street.

Objectives

- a) To clearly define the interface between the public and private domain.
- b) To ensure front fences allow for passive surveillance of the street.
- c) To encourage the preservation and/or construction of fences and walls that contributes to the character of the locality.

Controls

1. Front fences include fences to the primary and secondary street frontages, and side boundary fences forward of the building alignment.
2. Front fences are to be designed in accordance with Figures 14 and 15, and must not present a solid edge to the public domain greater than 1.3m above the footpath/public domain level (refer to Section 3.2 regarding Street Address).
3. The use of varied materials is preferred. The use of sheet metal is not permitted as a front fence material.

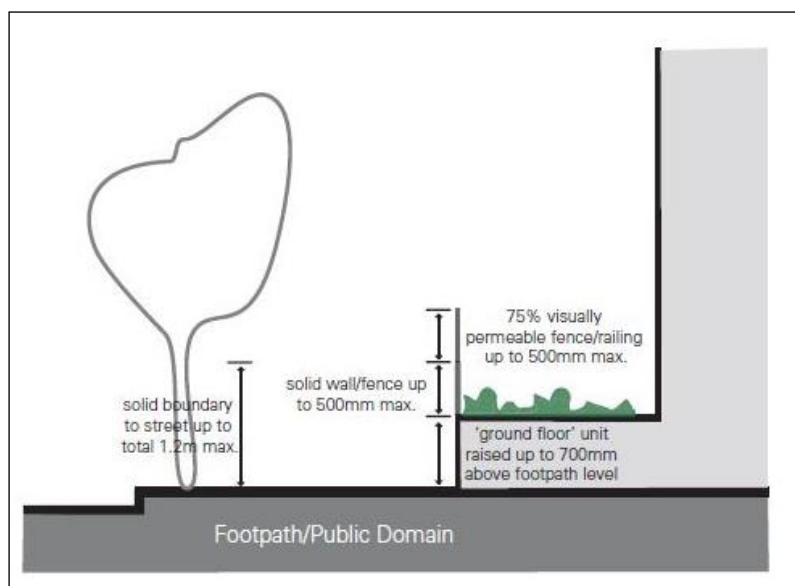


Figure 14 Front fence controls where building is raised up to 700mm above street level

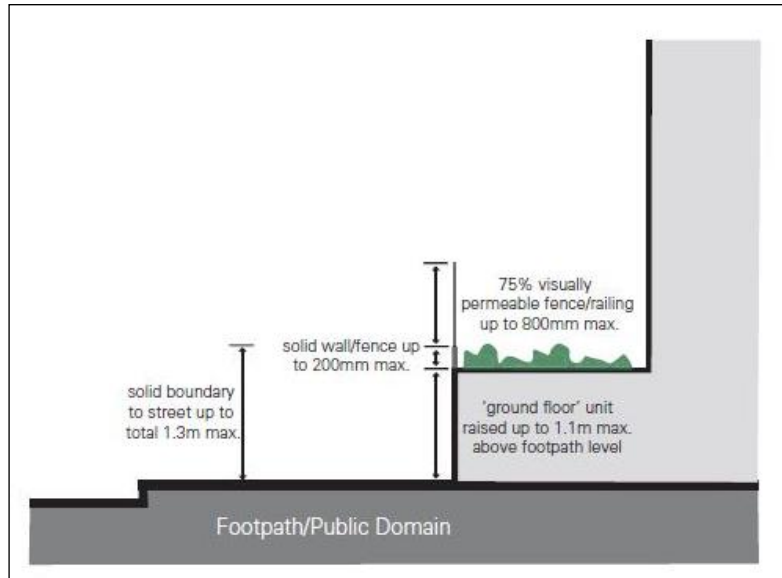


Figure 15 Front fence controls where building is raised over 700mm and up to 1.1m above street level

3.4 Safety and Security

Background

The design of buildings and public spaces has an impact on perceptions of safety and security, as well as actual opportunities for crime. A safe and secure environment encourages activity, vitality and viability, enabling a greater level of security.

Objectives

- a) To ensure developments are safe and secure for pedestrians.
- b) Reduce opportunities for crime through environmental design.
- c) To contribute to the safety of the public domain.
- d) Encourage a sense of ownership over public and communal open spaces.

Controls

1. Address 'Safer-by-Design' principles to the design of public and private domain, and in all developments (including the NSW Police 'Safer by Design' crime prevention through environmental design (CPTED) principles).
2. Ensure that the building design allows for passive surveillance of public and communal spaces, accessways, entries and driveways.
3. Avoid creating blind corners and dark alcoves that provide concealment opportunities in pathways, stairwells, hallways and car parks.
4. Maximise the number of residential 'front door' entries at ground level.
5. Provide entrances which are in visually prominent positions and which are easily identifiable, with visible numbering.
6. Clearly define the development boundary to strengthen the transition between public, semi-private and private space. This can be actual or symbolic and can include landscaping, fences, change in paving material, etc.
7. Provide adequate lighting of all pedestrian access ways, parking areas and building entries.
8. Provide clear lines of sight and well-lit routes throughout the development.
9. Where a pedestrian pathway is provided from the street, allow for casual surveillance of the pathway.

10. For large scale retail and commercial development with a gross floor area of 5000 sqm over, provide a 'safety by design' assessment in accordance with the CPTED principles from a qualified consultant.

3.5 Awnings

Background

Awnings increase the useability and amenity of public footpaths by protecting pedestrians from sun and rain. They encourage pedestrian activity along streets and, in conjunction with active edges such as retail frontages, support and enhance the vitality of the local area (see Figure 16). Awnings, like building entries, provide a public presence and interface within the public domain and contribute to the identity of a development (refer to Figure 17).

Objectives

- a) To provide shelter for public streets where most pedestrian activity occurs.
- b) To address the streetscape by providing a consistent street frontage in the city centre.

Controls

1. Street frontage awnings are to be provided for all new developments as indicated in Figure 16.
2. Awning dimensions should generally be:
 - horizontal in form,
 - minimum 2.4m deep (dependent on footpath width),
 - minimum soffit height of 3.2m and maximum of 4m,
 - steps for design articulation or to accommodate sloping streets are to be integral with the building design and should not exceed 700mm,
 - low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height), and
 - 1.2m setback from kerb to allow for clearance of street furniture, trees, and other public amenity elements.
3. Awning design must match building facades, be complementary to those of adjoining buildings and maintain continuity.
4. Wrap awnings around corners for a minimum 6m from where a building is sited on a street corner.
5. Vertical canvas drop blinds may be used along the outer edge of awnings along north-south streets. These blinds must not carry advertising or signage.
6. Provide under awning lighting to facilitate night use and to improve public safety recessed into the soffit of the awning or wall mounted onto the building.
7. Any under awning sign is to maintain a minimum clearance of 2.8m from the level of the pavement.
8. All residential buildings are to be provided with awnings or other weather



Figure 16 Outdoor Dining

protection at their main entrance area.

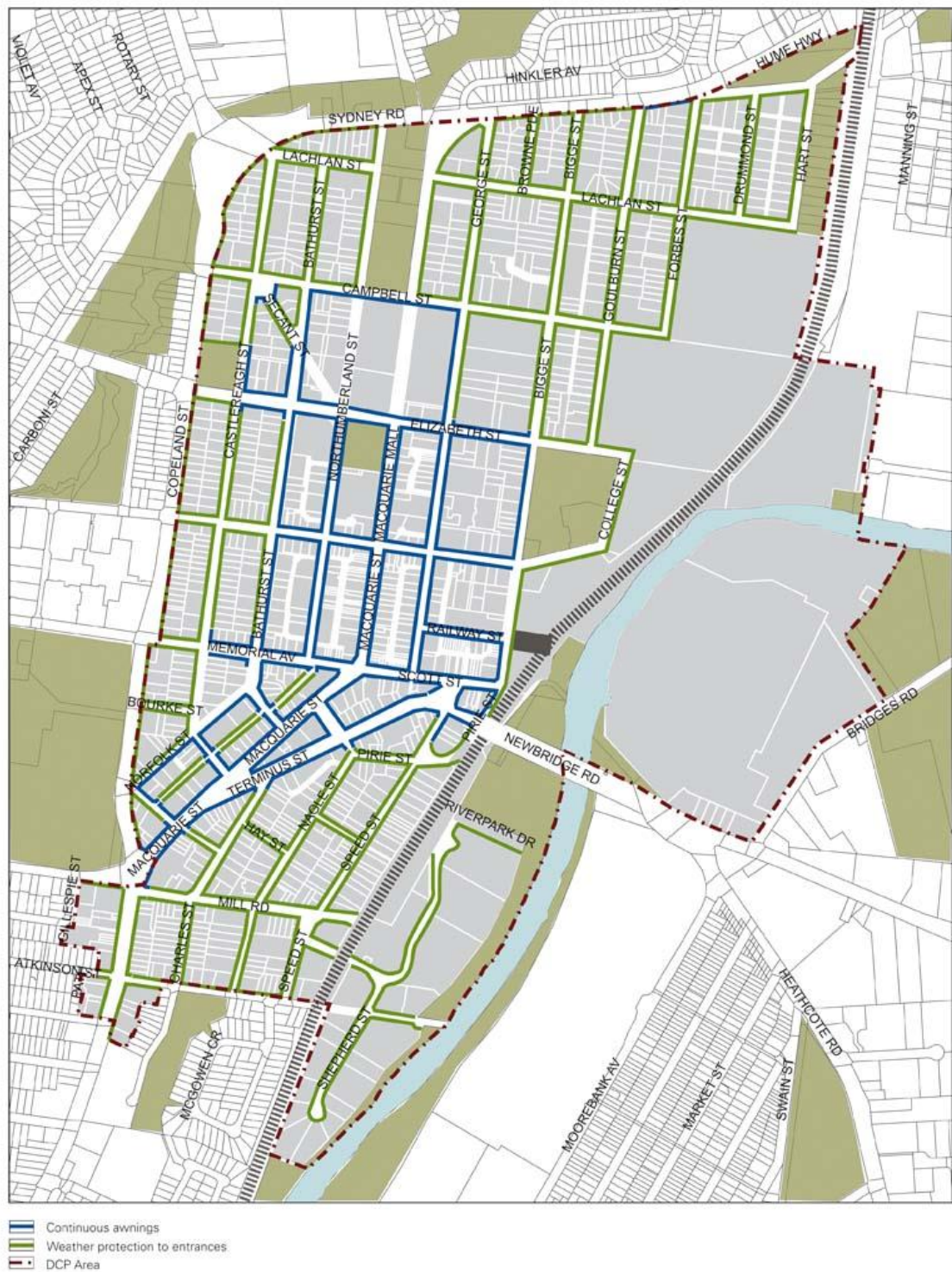


Figure 17 Awnings

3.6 Vehicle Footpath Crossings

Background

Vehicle crossings over footpaths disrupt pedestrian movement and threaten safety. The design of vehicle access to buildings also influences the quality of the public domain. Overly wide and high vehicle access points detract from the streetscape and the active use of street frontages.

The design and location of vehicle access to developments should minimise both conflicts between pedestrians and vehicles on footpaths, particularly along pedestrian priority places, and visual intrusion and disruption of streetscape continuity.

Design of driveways and vehicle access is to be in accordance with the provisions of Section 4.2

Objectives

- a) To make vehicle access to buildings more compatible with pedestrian movements.
- b) Reduce the impact of vehicular access on the public domain.

Controls

Location of Vehicle Access

1. No additional vehicle entry points will be permitted into the parking or service areas of development along those streets identified in Figure 18 (edged in blue).
2. In all other areas, one vehicle access point only (including the access for service vehicles and parking for non-residential uses within mixed use developments) will be generally permitted.
3. Where practicable, vehicle access is to be from lanes and minor streets rather than primary street fronts or streets with high pedestrian priority routes identified in Figure 18 (marked yellow).
4. Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment is to be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date.
5. Vehicle access may not be required or may be denied to some heritage buildings.

Design of Vehicle Access

1. Wherever practicable, vehicle access is to be a single lane crossing with a maximum width of 2.7m over the footpath, and perpendicular to the kerb alignment. In exceptional circumstances, a double lane crossing with a maximum width of 6m may be permitted for safety reasons (refer to Figure 18).
2. Vehicle access ramps parallel to the street frontage will not be permitted.
3. Ensure vehicle entry points are integrated into building design.
4. Doors to vehicle access points are to be roller shutters or tilting doors set back from the building facade.
5. Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.

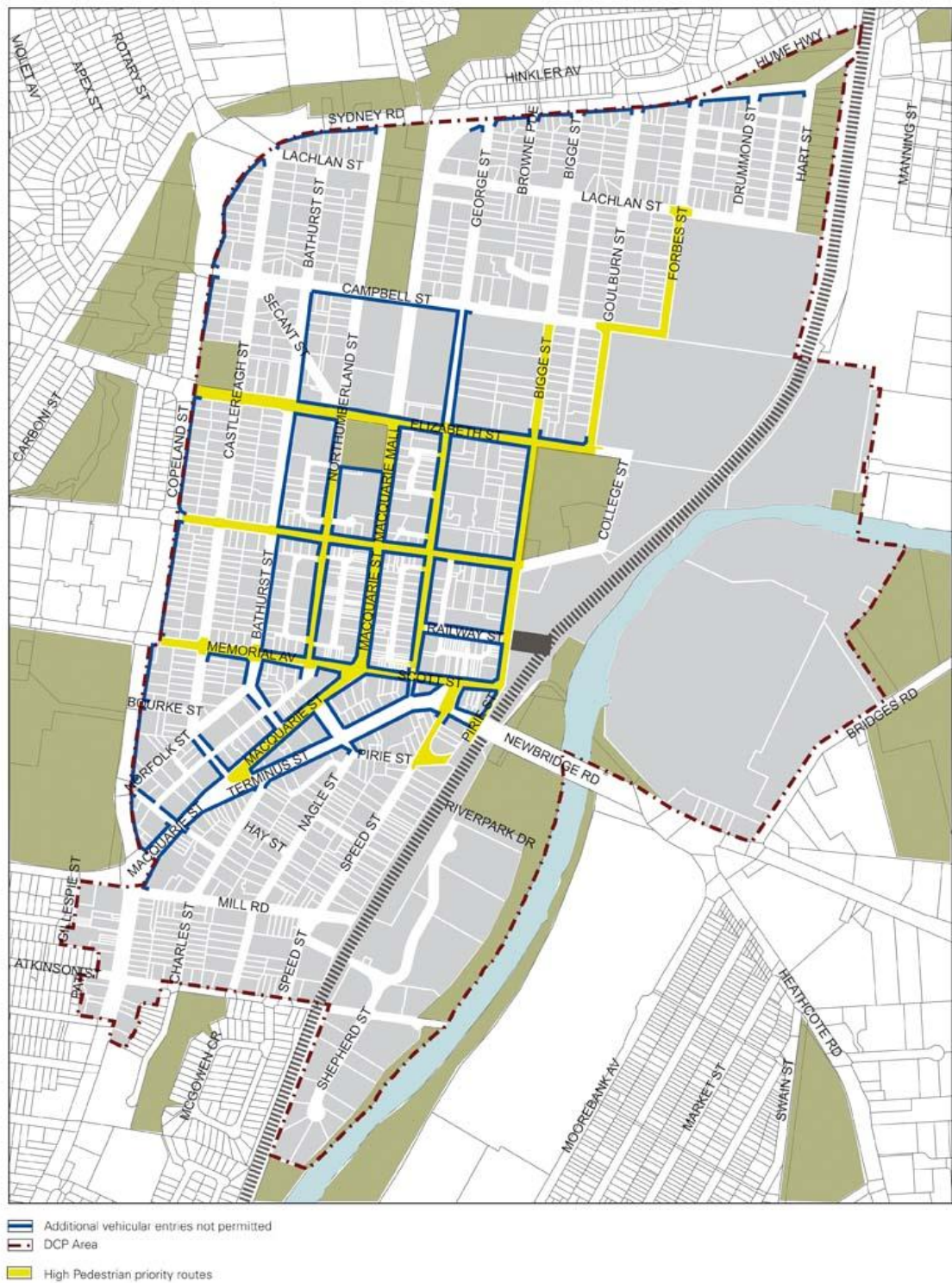


Figure 18 Restrictions of vehicular entries

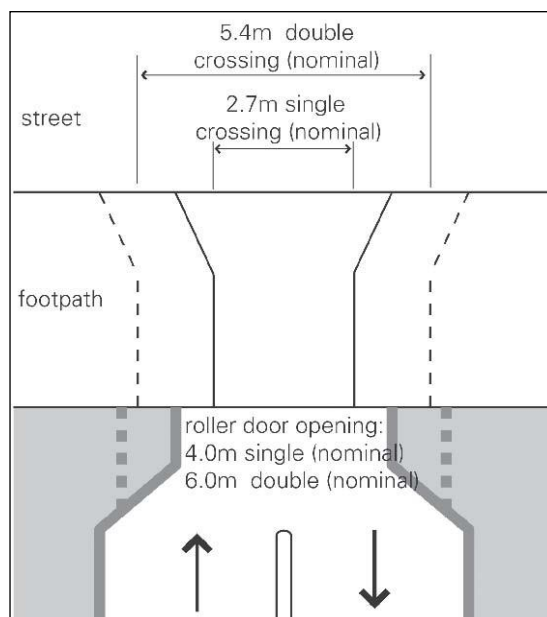


Figure 19 Vehicle footpath crossings

Porte Cocheres

1. Porte cocheres are not favoured and may only be permitted for hotels subject to urban design, streetscape, heritage and pedestrian amenity considerations.
2. Where practicable, porte cocheres are to be internal to the building with one combined vehicle entry and exit point, or one entry and one exit point on two different frontages of the development.
3. In exceptional circumstances for buildings with one street frontage only, an indented porte cochere with separate entry and exit points across the footpath may be permitted, as long as it is constructed entirely at the footpath level and provides an active frontage at its perimeter.

3.7 Pedestrian Overpasses and Underpasses

Background

Streets represent important components of the public domain and provide the best potential amenity and safety when activated by pedestrians. Streets offer sky exposure, sunlight and air, a sense of orientation and direct access to the main frontages of buildings. Pedestrians should be encouraged to use the street level to enhance and contribute to street life, to promote activity and interest, and to maximise safety and security of the public domain.

Pedestrian overpasses linking commercial or retail buildings over the public street are discouraged as they have a negative impact on the streetscape quality and on views and vistas along streets. New pedestrian overpasses or underpasses will only be considered where they would directly connect to major transport nodes (such as the railway station), and would substantially improve pedestrian safety and access over major arterial roads (such as over the Hume Highway).

Objectives

- a) To promote pedestrian activation of streets and public places.
- b) To promote 'safer by design' and crime prevention principles.
- c) To encourage pedestrian circulation at street level.
- d) To protect views and vistas along streets.

Controls

1. New overpasses over streets are discouraged. In exceptional circumstances, new overpasses over service lanes may be considered subject to assessment of impacts on safety and crime prevention, streetscape amenity and activation of the public domain. In such circumstances, overpasses are to be fully glazed, not greater than 6m wide or more than one level high.
2. Underpasses may be considered for direct connection under adjacent streets to the railway station:
 - Where they would substantially improve pedestrian safety and accessibility.
 - Incorporate active uses, particularly at entry and exit points.
 - Are to have a minimum width of 4.5m clear of all fixed obstructions and a minimum ceiling height of 4m.

3.8 Building Exteriors

Background

Liverpool's cityscape and public domain is defined by its buildings, streets and public places. The maintenance and improvement of the public domain is dependent on a consistent approach to the design of new development including the articulation and finish of building exteriors.

Objectives

- a) contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes,
- b) provide richness of detail and architectural interest especially at visually prominent parts of buildings such as lower levels and roof tops,
- c) present appropriate design responses to nearby development that complement the streetscape,
- d) clearly define the adjoining streets, street corners and public spaces and avoid ambiguous external spaces with poor pedestrian amenity and security,
- e) maintain a pedestrian scale in the articulation and detailing of the lower levels of the building, and
- f) contribute to a visually interesting skyline.

Controls

1. Adjoining buildings (particularly heritage buildings) are to be considered in the design of new buildings in terms of:
 - appropriate alignment and street frontage heights,
 - setbacks above street frontage heights,
 - appropriate materials and finishes selection,
 - facade proportions including horizontal or vertical emphasis, and
 - the provision of enclosed corners at street intersections.
2. Balconies and terraces should be provided, particularly where buildings overlook public spaces. Gardens on the top of setback areas of buildings are encouraged.
3. Articulate façades so that they address the street and add visual interest. Buildings are to be articulated to differentiate between the base (street frontage height), middle and top in design.
4. Blank walls in general that address street frontages or public open space are discouraged. Where they are unavoidable building elements or landscaping must

be used to break up large expanses of walls. In some cases an anti-graffiti coating will need to be applied to the wall to a height of 2 metres.

5. Finishes with high maintenance costs, those susceptible to degradation due to a corrosive environment or finishes that result in unacceptable amenity impacts, such as reflective glass, are to be avoided.
6. To assist articulation and visual interest, expanses of any single material is to be avoided.
7. Limit sections of opaque or blank walls greater than 4m in length along the ground floor to a maximum of 30% of the building frontage.
8. Maximise glazing for retail uses, but break glazing into sections to avoid large expanses of glass
9. Highly reflective finishes and curtain wall glazing are not permitted above ground floor level (refer to Section 5.3).
10. A materials sample board and schedule is required to be submitted with applications for development over \$1million or for that part of any development built to the street edge.
11. Minor projections up to 450mm from building walls in accordance with those permitted by the Building Code of Australia may extend into the public space providing it does not fall within the definition of gross floor area and there is a public benefit, such as:
 - expressed cornice lines that assist in enhancing the streetscape,
 - projections such as entry canopies that add visual interest and amenity.
12. Communication towers such as mobile phone towers and the like, but excluding satellite dishes, are not to be located on residential buildings or mixed use buildings with a residential component.
13. Roof top structures, such as air conditioning, lift motor rooms, and the like are to be incorporated into the architectural design of the building.

3.9 Corner Treatments

Background

As buildings located on corner sites address two streets, they play a particularly important role in townscape, strengthening the form of city blocks, streets and intersections. Corners play an important legibility role in city centres by identifying junctions and pedestrian routes.

Objectives

- a) To contribute to the legibility of a city.
- b) To encourage the use of architectural techniques to place emphasis on corner buildings.
- c) To recognise the high visibility and contribution of particular corner sites to overall city streetscape and 'gateway' design.
- d) To address heritage buildings on corner sites.

Controls

1. Buildings identified in Figures 20 and 21 are to address corner sites through architectural emphasis and use of distinguishing architectural features and materials to adjacent buildings, and an additional storey may be permitted onto the specified street frontage height range (refer to Figure 20 and Figure 6 Street Frontage Heights) below,

2. Notwithstanding the above, new corner buildings opposite or adjacent to Heritage Items are to respond to the Heritage Items in terms of height, scale and proportion.
3. Notwithstanding the above, new corner buildings opposite or adjacent to public open space are to comply with the sun access controls as set out in *Liverpool LEP 2008*.

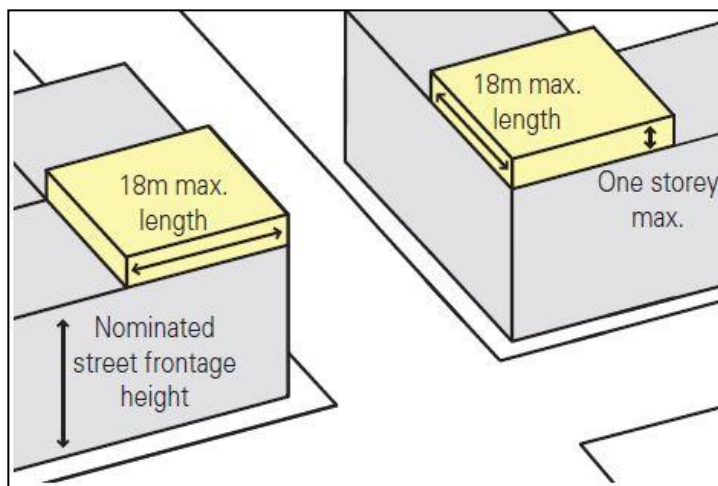


Figure 20 Corner treatment controls

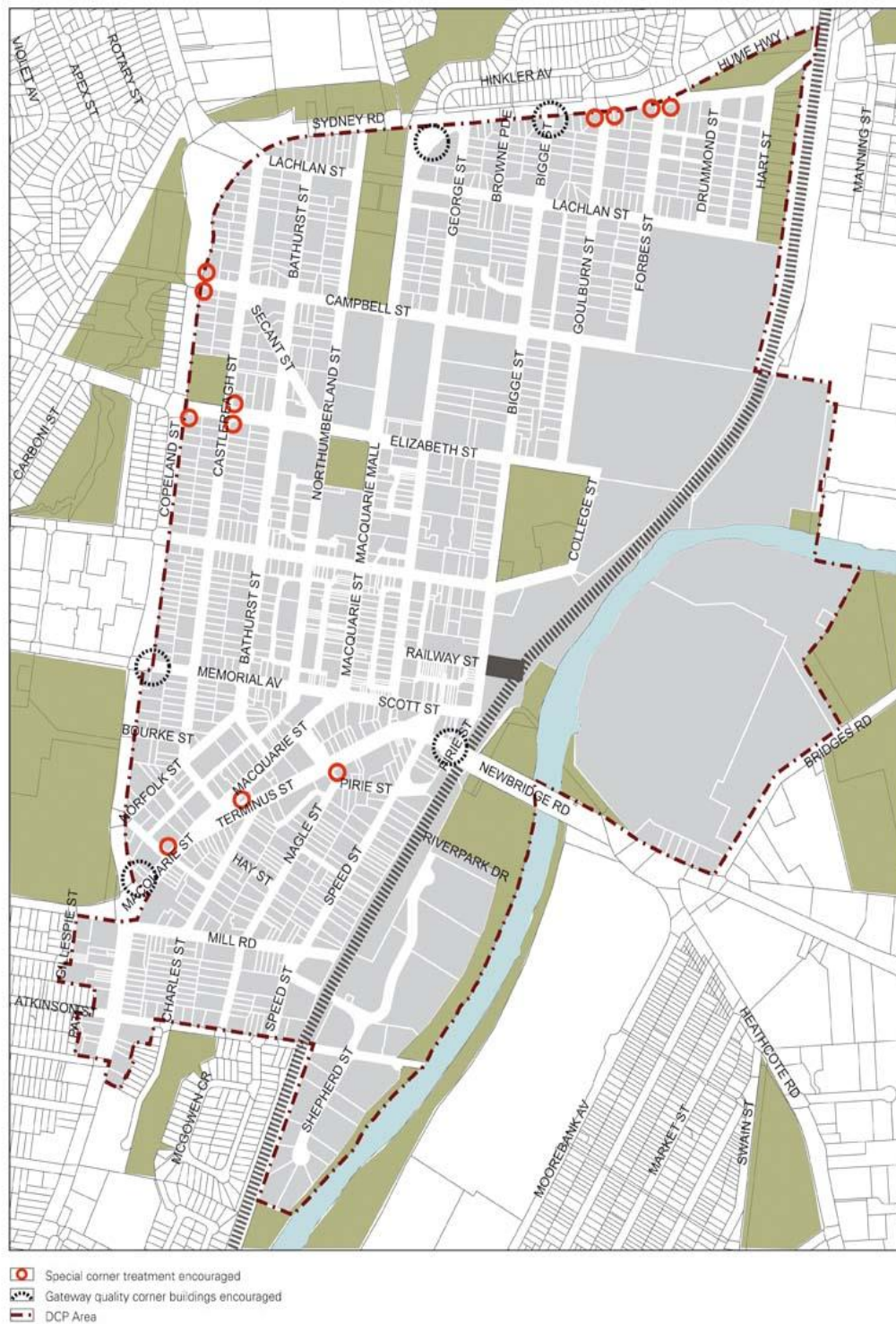


Figure 21 Corner Treatments

3.10 Public Artworks

Background

Public Art enhances the visual quality and cultural influence of both the private and public domain. It contributes to people feeling positive about their surroundings. Major developments in the Liverpool City Centre (i.e. over 5,000sqm in floor space) are required to prepare a Public Art Plan as part of their development proposal.

Objectives

- a) To contribute to Liverpool City's physical attractiveness and the quality of life that it offers visitors and residents.
- b) To provide the opportunity to interpret and express Liverpool's historical and cultural themes.
- c) To increase the amount of public artworks in Liverpool.

Controls

- 1. Public art is to respond to the particular site of the development as well as the city as a whole.
- 2. Provide well designed and visually interesting public art made by artists or organisations that are competent in the selected field.
- 3. Construct public art of materials that are hard-wearing, resistant to vandalism and constructed to ensure minimal maintenance.

4. Traffic and Access

This section contains detailed objectives and controls on pedestrian access, vehicular access, on-site parking and site facilities, including refuse collection and removal.

To satisfy the aims and zoning objectives of the *Liverpool LEP 2008*, controls in this section aim to:

- Facilitate the development of building design excellence appropriate to a regional city.
- Require parking and servicing provisions to be contained within development sites to an amount and rate adequate for the economic and sustainable growth of the city centre.
- Provide for safe and secure access.
- Minimise impacts on city amenity, the public domain and streetscape (refer to Figure 22).
- Ensure that access is provided for the disabled and mobility impaired.



Figure 22 Controlled vehicular access servicing arrangements facilitate better pedestrian amenity and streetscape design

4.1 Pedestrian Access and Mobility

Background

Any new development must be designed to ensure that safe and equitable access is provided to all, including people with a mobility problems and disabilities.

Objectives

- a) To provide safe and easy access to buildings to enable better use and enjoyment by people regardless of age and physical condition, whilst also contributing to the vitality and vibrancy of the public domain.
- b) To ensure buildings and places are accessible to people with a disability.
- c) To provide a safe and accessible public domain.

Controls

- 1. Main building entry points should be clearly visible from primary street frontages and enhanced as appropriate with awnings, building signage or high quality architectural features that improve clarity of building address and contribute to visitor and occupant amenity.
- 2. The design of facilities (including car parking requirements) for disabled persons must comply with the relevant Australian Standard (*AS 1428 Pt 1 and 2*, or as amended) and the *Disability Discrimination Act 1992* (as amended).
- 3. Barrier free access is to be provided to not less than 20% of dwellings in each development and associated common areas.
- 4. The development must provide at least one main pedestrian entrance with convenient barrier free access in all developments to at least the ground floor.
- 5. The development must provide accessible internal access, linking to public stress and building entry points.
- 6. Pedestrian access ways, entry paths and lobbies must use durable materials commensurate with the standard of the adjoining public domain (street) with appropriate slip resistant materials, tactile surfaces and contrasting colours.

4.2 Vehicular Driveways and Manoeuvring Areas

Background

The location, type and design of vehicle access points to a development can have significant impacts on the streetscape, the site layout and the building façade design.

Objectives

- a) To minimise the impact of vehicle access points on the quality of the public domain.
- b) To minimise impact of driveway crossovers on pedestrian safety and streetscape amenity.
- c) Minimise stormwater runoff from uncovered driveways and parking areas.

Controls

1. Driveways should be:
 - provided from lanes and secondary streets rather than the primary street, wherever practical,
 - located taking into account any services within the road reserve, such as power poles, drainage inlet pits and existing street trees,
 - located a minimum of 10m from the perpendicular of any intersection of any two roads, and
 - Located to minimise noise and amenity impacts on adjacent residential development.
2. Vehicle access is to be integrated into the building design so as to be visually recessive.
3. 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.
4. Design of driveway crossings must be in accordance with Council's standard Vehicle Entrance Designs, with any works within the footpath and road reserve subject to a Section 138 Roads Act approval.
5. Driveway widths must comply with the relevant Australian Standards.
6. Car space dimensions must comply with *Australian Standard 2890.1*.
7. Driveway grades, vehicular ramp width/ grades and passing bays must be in accordance with the relevant Australian Standard, (*AS 2890.1*).
8. Access ways to underground parking should be sited to minimise noise impacts on adjacent habitable rooms, particularly bedrooms.

4.3 On Site Parking

Background

Onsite parking includes underground (basement) surface (at grade) and above ground parking, including parking stations.

Car parking rates for commercial and retail development in the Commercial Core and Mixed Use zones are specified within the *Liverpool LEP 2008*. Parking rates for other land uses and development outside these zones are specified in Table 3.

Objectives

- a) To facilitate an appropriate level of on-site parking provision in the city centre to cater for a mix of development types
- b) To minimise the visual impact of onsite parking
- c) To provide for adequate space for parking and manoeuvring of vehicles including service vehicles and bicycles.
- d) To encourage economic growth within the City Centre
- e) To enable the conversion of above ground parking to other future uses
- f) To recognise the complementary use and benefit of public transportation and non-motorised modes of transport such as bicycles and walking.

Controls

General (All Development)

1. Except as separately provided for in the *Liverpool LEP 2008*, on site vehicle and bicycle parking is to be provided in accordance with Table 3.

Table 3 Car parking

Car Parking For Residential Development
- 1 Space per two studio apartments
- 1 space per one bedroom or two bedroom apartments
- 1.5 spaces per three or more bedroom units
- 1 space per 10 units or part thereof, for visitors
- 1 space per 40 units for service vehicle (including removalist vans (and car washing bays, up to a maximum of 4 spaces per building.
Car parking for all other development
- 1 space per 100 sqm of floor area
- Sufficient service and delivery vehicle parking adequate to provide for the needs of the development.
Motorcycle parking for all development
- Provision is to be made for motorcycle parking at the rate of 1 motorcycle space per 20 car spaces
Minimum Car parking requirements for people with disabilities
- Provide 2% of the total demand generated by a development, for parking spaces accessible, designed and appropriately signposted for use by persons with disabilities.
Bicycle parking for all development
- 1 bicycle space per 200 sqm of gross floor area. 15% of this requirement is to be accessible to visitors.

Notes:

- Required car parking should be provided on site with the balance of any required car parking spaces subject to a contribution under an adopted Contributions Plan, or as set out by the terms of a Voluntary Planning Agreement.
 - Required parking for service and delivery vehicles must be provided onsite unless Council is satisfied that adequate dedicated on-street 'loading zones' space(s) are available in the vicinity.
 - Where a proposed use is, in the opinion of Council, unusual and not appropriately dealt with by the parking rates, the RTA guidelines to Parking rates may be used to guide the required parking rate.
2. Car parking and associated internal manoeuvring areas provided over and beyond that required by this Part is to be calculated towards gross floor area.
 3. Car parking above ground level is to have a minimum floor to ceiling height of 2.8m so it can be adapted to another use in the future.
 4. Onsite parking must meet the relevant Australian Standard (AS 2890.1 2004) – Parking Facilities or as amended.
 5. To accommodate people with disabilities provide a minimum of 2% of the required parking spaces, or minimum 1 space per development (whichever is the greater) as an appropriately designated and signed disabled parking space.
 6. Bicycle parking is to be in secure and accessible locations with weather protection.

7. Required parking for service and delivery vehicles must be provided on site unless Council is satisfied that adequate dedicated on street 'loading zone' space(s) are available in the vicinity.

Developments within the Commercial and Mixed Use Zones

8. Onsite parking is to be accommodated in basement parking, except to the extent provided below;
 - Up to 25% of the required parking can be provided above ground where it is fully integrated into the building design in accordance with Figure 23 without counting towards gross floor area.
 - Any parking above the 25% will count towards gross floor area for the purposes of calculating Floor Space Ratio.
 - Exposed but screened natural parking ventilation may be permitted fronting onto the nominated sections of service lanes as illustrated in Figure 24

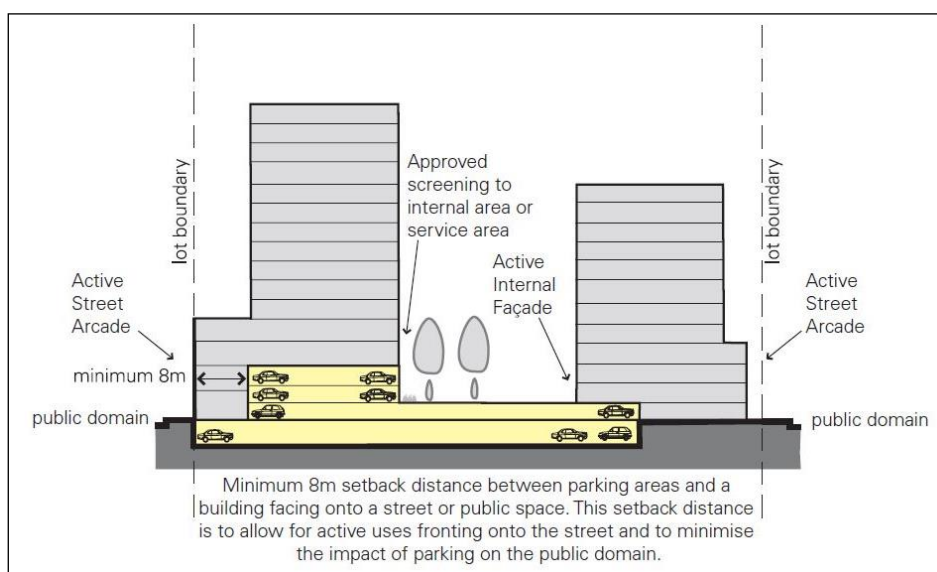


Figure 23 Integrated onsite parking for developments in the commercial core and mixed use zones

Developments in all other zones

9. Onsite parking for residential flat buildings (or residential flat building component of a mixed use development) is to be wholly in basement parking unless Council is satisfied that unique site conditions prevent achieving all parking in basements. Council may require provision of a supporting geo-technical report or other supporting documentation, prepared by an appropriately qualified professional as information to accompany a development application to Council.
10. The impact of any on grade car parking must be minimised by:
 - Locating parking on the side or rear of the lot, away from the street frontage
 - Provision of fencing or landscaping to screen the view of cars from adjacent streets and buildings

- Incorporating car parking into landscape design of the site (such as plantings between parking bays to improve views, selection of paving material and screening from communal and open space areas)
11. Natural ventilation should be provide to underground parking areas, where possible, with ventilation grills and structures:
- Integrated into the overall façade and landscape design of the development
 - Not located on the primary street façade and
 - Oriented away from windows of habitable rooms and private open space areas

Bicycle Lockers and shower facilities

12. For commercial and retail development providing employment for 20 persons or more, provide adequate change and shower facilities for cyclists. Facilities should be located conveniently close to bike storage areas.

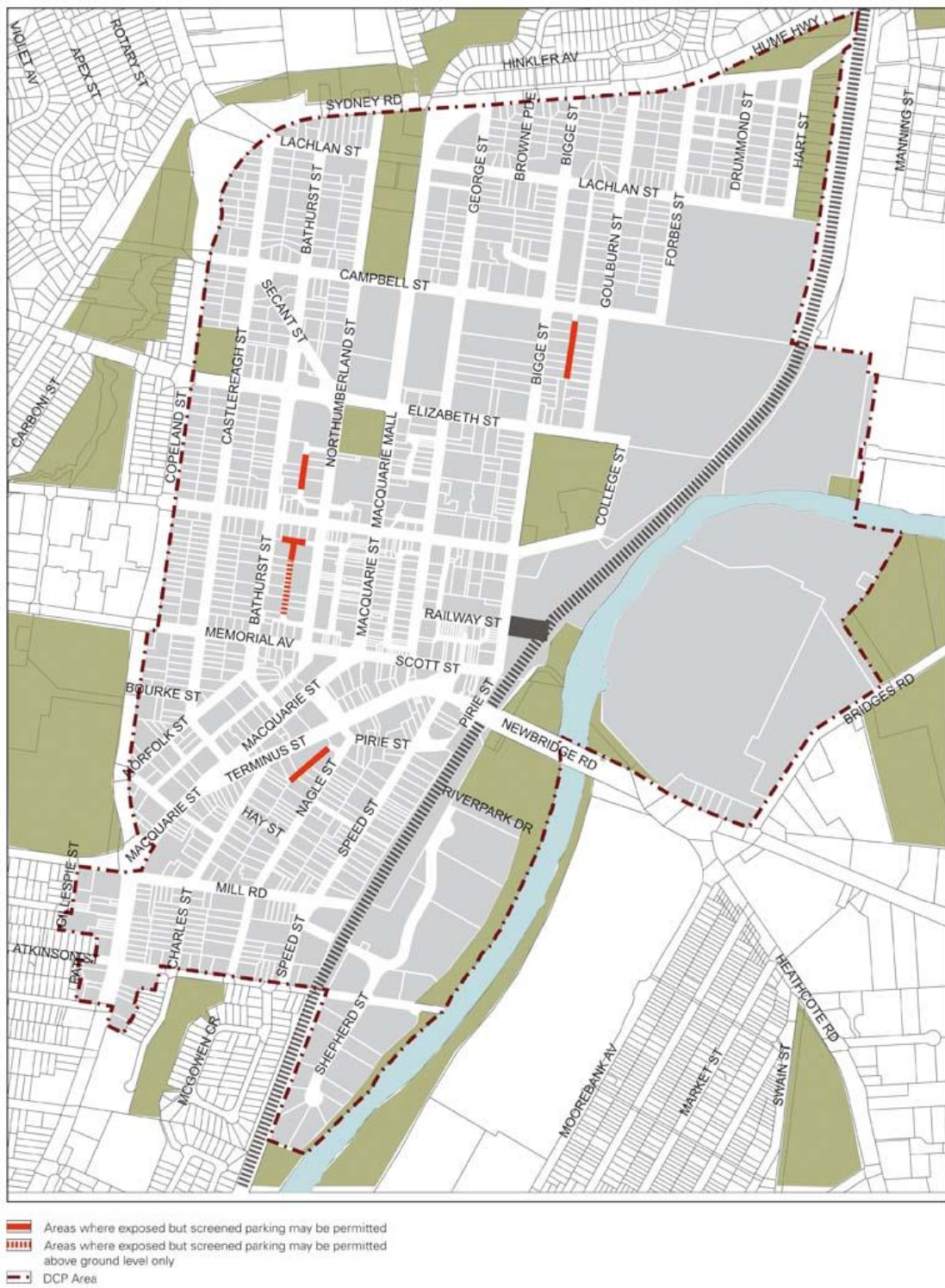


Figure 24 Car parking in Lanes

5. Environmental Management

Background

This section discusses energy efficiency requirements of buildings, water use and conservation, wind, noise and solar impacts and waste management.

To satisfy the aims and zoning objectives of the *Liverpool LEP 2008*, controls in this section aim to:

- Facilitate the development of building design excellence appropriate to a regional city.
- Ensure environmental impacts of new development are managed in a sustainable and economical way.
- Provide an adequate and renewable supply of resources.
- Ensure application, where appropriate, of the BASIX or Australian Greenhouse Ratings (AGR) certification systems

5.1 Energy Efficiency and Conservation

Background

The ability of development to optimise thermal performance, thermal comfort and day lighting will contribute to the energy efficiency of the buildings, provide increased amenity to occupants and reduce greenhouse emissions and, with them, the cost of supplying energy.

Objectives

- a) To reduce the necessity for mechanical heating and cooling.
- b) To minimise greenhouse gas emissions.
- c) To provide thermal comfort by minimising temperature variations within buildings.

Controls

Residential

1. New dwellings, including dwellings within a mixed use building and serviced apartments intended or capable of being strata titled, are to demonstrate compliance with *State Environmental Planning Policy – Building Sustainability Index (BASIX)*. A complying BASIX report is to be submitted with all development applications containing residential activities.

Non-Residential

For all non-residential development

2. All Class 5 to 9 non-residential development is to comply with the Building Code of Australia energy efficiency provisions.
3. Improve the control of mechanical space heating and cooling by designing heating/ cooling systems to target only those spaces which require heating or cooling, not the whole building.
4. Improve the efficiency of hot water systems by:
 - insulating hot water systems, and
 - installing water saving devices, such as flow regulators, 3 stars rated shower heads, dual flush toilets and tap aerators.

5. Reduce reliance on artificial lighting and designing lighting systems to target only those spaces which require lighting at any particular 'off-peak' time, not the whole building.

For all commercial office development over \$5 million

6. Provide an Energy Efficiency Report from a suitably qualified consultant to accompany any development application for new commercial office development. The report is to demonstrate that the building can achieve no less than 4 stars under the Australian Building Greenhouse Rating Scheme.

5.2 Water Conservation

Background

Building design can contribute to environmental sustainability by integrating measures for improved water quality and efficiency of use. Water can be conserved in a number of ways, including; reducing water demand from the mains and re-using water, which would otherwise be lost, as run off or waste water. By integrating water use efficiency, water collection and water reuse measures into building and associated infrastructure design development can contribute to environmentally sustainable outcomes.

All mains water is treated to drinking water standard; however, only about 1% of domestic water consumption is actually used for drinking. Uses such as toilet flushing, laundry and outdoor uses do not require water to be treated to such a high standard. Such uses can be satisfactorily supplied using rainwater collected from roofs and stored in tanks. Benefits include significant water cost savings and substantial reductions in stormwater discharges.

Objectives

- a) To reduce per-capita mains consumption of potable water.
- b) To harvest rainwater and urban stormwater runoff for use.
- c) To reduce wastewater discharge.
- d) To capture, treat and reuse wastewater where appropriate.
- e) To safeguard the environment by improving the quality of water run-off.
- f) To ensure infrastructure design is complementary to current and future water use.

Controls

Residential

1. New dwellings, including a residential component within a mixed use building and serviced apartments intended or capable of being strata titled, are to demonstrate compliance with State Environmental Planning Policy – Building Sustainability Index (BASIX).

Non-residential

2. A comprehensive Water Management Plan is to be submitted with all non-residential development to address the following criteria:
3. Installed water fixtures (shower heads, taps, toilets, urinals, etc) are to be Wells 3 Star or better rated.

4. Installed appliances (dishwashers, clothes washers etc) are to be Wells 3 Star or better rated with respect to water use efficiency. Demonstrate, if necessary, how these requirements will be achieved for replacement appliances, appliances not installed at construction, or bought in by occupants following construction.
5. Stormwater runoff control, capture and reuse, including water quality management in accordance with Council guidelines.
6. Select water efficient plants and/or, indigenous vegetation for landscape in accordance with Council's recommendations.
7. Use non-potable water for watering gardens and landscape features.
8. For development of more than \$1 million construction cost, consideration of separate pipe-work for the utilisation of recycled stormwater for non-potable purposes should be considered.
9. Operating details for swimming pools and water features including filling, draining and maintenance activities. Covers are to be included in the design and operational aspects of swimming pool installations.
10. Alternatives to the above water savings methods can be presented to Council and they will be assessed on merit.
11. Any development that contains a rainwater tank is to satisfy the following criteria:
 - rainwater is to be sourced only from roof structures via a tank storage system, the tank capacity, or combined tank capacity, is to be at least 5,000L (10,000L preferred),
 - tanks may be connected to toilets and garden/outdoor taps (the common tanks in residential flat buildings are to be connected to common outdoor taps only),
 - tanks may be connected to laundry taps with suitable filters,
 - the system is to be fitted with an effective first flush device for removing roof surface contamination,
 - the system is to contain a facility for periodic de-sludging, and
 - tanks are to be connected to main water to top them up during times of low rainfall with supplemental inflow not taking places until the tank is 80% empty.

5.3 Reflectivity

Background

Reflective materials used on the exterior of buildings can result in undesirable glare for pedestrians and potentially hazardous glare for motorists. Reflective materials can also impose additional heat load on other buildings. The excessive use of highly reflective glass should be discouraged. Buildings with a glazed roof, facade or awning should be designed to minimise hazardous or uncomfortable glare arising from reflected sunlight.

Objectives

- a) To restrict the reflection of sunlight from buildings to surrounding areas and buildings.

Controls

1. New buildings and facades should not result in glare that causes discomfort or threatens safety of pedestrians or drivers.
2. Visible light reflectivity from building materials used on the facades of new

buildings should not exceed 20%.

3. Subject to the extent and nature of glazing and reflective materials used, a Reflectivity Report that analyses potential solar glare from the proposed development on pedestrians or motorists may be required.

5.4 Wind Mitigation

Background

Windy conditions can cause discomfort and danger to pedestrians, and downdrafts from buildings can inhibit the growth of street trees. Conversely, moderate breezes that penetrate the streets can enhance pedestrian comfort, particularly in summer, and disperse vehicle emissions and air conditioning plant exhausts. Future growth of the city may necessitate the management of the microclimatic influences of building form.

Objectives

- a) To ensure that new developments satisfy nominated wind standards and maintain comfortable conditions for pedestrians.
- b) To ensure that the moderate breezes are able to penetrate the streets of Liverpool City Centre.

Controls

1. To ensure public safety and comfort, the following maximum wind criteria are to be met by new buildings:
 - 10m/second in retail streets,
 - 13m/second along major pedestrian streets, parks and public places, and
 - 16m/second in all other streets.
2. Site design for tall buildings (towers) should:
 - set tower buildings back from lower structures built at the street frontage to protect pedestrians from strong wind downdrafts at the base of the tower,
 - ensure that tower buildings are well spaced from each other to allow breezes to penetrate city centre,
 - consider the shape, location and height of buildings to satisfy wind criteria for public safety and comfort at ground level, and
 - ensure useability of open terraces and balconies.
3. A Wind Effects Report is to be submitted with the DA for all buildings greater than 35m in height.
4. For buildings over 48m in height, results of a wind tunnel test are to be included in the report

5.5 Noise

Background

A range of principal noise sources, based on major road and railway corridors, have been identified within and adjacent to the City Centre. It is important for the amenity and comfort of future occupants of buildings in proximity to these areas that appropriate measures are put in place.

Objectives

- a) Achieve appropriate amenity in noise affected locations.

Controls

1. An acoustic report is required for all noise affected locations, as identified in Figure 25. This report is to demonstrate that appropriate noise attenuation and barrier planning is to be implemented.
2. Sites adjacent to noise sources identified in Figure 25 are to be designed in a manner that any residential development is shielded from the noise source by virtue of the location and orientation of built form on the site. Depending on the type and scale of development, acoustic assessment may be required for sites outside the noise source 3 areas. Fig. 5.1
3. An 8m setback is to be provided to any residential component of development located fronting onto Terminus Street.
4. An 8m setback is to be provided to any habitable building located adjacent to the Hume Highway

5.6 Waste

Background

The minimisation of waste from development can reduce impacts on the public domain, contribute to the amenity of the building and limit the potential harmful impacts to the environment. Waste management refers to all stages of development from construction and use through to demolition. It also includes the way in which waste is stored and collected.

Objectives

- a) To minimise waste generation and disposal to landfill with careful source separation, reuse and recycling.
- b) To avoid the generation of waste through design, material selection and building practices.
- c) To plan for the types, amount and disposal of waste to be generated during demolition, excavation and construction of the development.
- d) To ensure efficient storage and collection of waste and quality design of facilities

Controls

Non-residential development

1. Development applications for all non-residential development must be accompanied by a waste management plan that addresses:
 - best practice recycling and reuse of construction and demolition materials,
 - use of sustainable building materials that can be reused or recycled at the end of their life,
 - handling methods and location of waste storage areas, such that handling and storage has no negative impact on the streetscape, building presentation or amenity of occupants and pedestrians, and
 - procedures for the on-going sustainable management of green and putrescible waste, garbage, glass, containers and paper, including estimated volumes, required bin capacity and on-site storage requirements.
2. The waste management plan is to be prepared by a specialist waste consultant and is subject to approval by Council

Residential development

3. Provision must be made for the following waste generation

Table 4 Waste

Type of Waste	Residential Flats	Multi-dwelling Housing
General Waste	80 litres/week/dwelling	120 litres/week/dwelling
Recycling	80 litres/week/dwelling	120 litres/week/dwelling
Green Waste	A communal waste bin of sufficient capacity to accept waste from landscaped areas.	120 litres/fortnight/dwelling

4. In dwellings not exceeding six (6) dwellings, individual waste storage facilities may be permitted.

5. In a development of more than six dwellings or where the topography, or distance to the street makes access difficult for individual occupants, a collection and storage area is required. The storage area must be located in a position which is:
 - Not visible from the street
 - Easily accessible to dwelling occupants
 - Accessible by collection vehicles (or adequately managed by the body corporate to permit relocation of bins to an approved collection point),
 - Has water and drainage facilities for cleaning and maintenance; and
 - Does not immediately adjoin private open space, windows or clothes drying areas
 6. Wherever a rear lane is present and waste removal is available, the rear lane is to be utilised for the removal of waste.
 7. Subject to Council collection policy, common garbage storage areas must be sized to either accommodate the number of individual bins required or to accommodate sufficient larger bins with the following minimum dimensions:
- Table 5 Bin Size
- | Bin Size | Dimensions |
|------------|--------------------|
| 660 Litres | 1070 x 910 x 635mm |
| 240 Litres | 1180 x 740 x 570mm |
8. The size and number of the waste bins shall be determined having regard to the need for either on-site access by collection vehicles or the requirement for bins to be wheeled to the street 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.

5.7 Floodplain and Water Cycle Management

Background

Significant areas of the city centre are potentially impacted by a 100 yr ARI flood event and/or a Probable Maximum Flood (PMF) event. In such circumstances it is important that future development is managed in a way that takes account of flood risks on individual sites and that flood risk is not increased generally in the city centre and surrounds.

Objectives

- a) To reduce the impact and risk of flooding on residents.
- b) To encourage a holistic approach to water cycle management, implementing total catchment management within the developed areas.
- c) To minimise the impact of urbanisation on water quality within the catchment.
- d) To encourage innovative and visually attractive sustainable urban drainage systems that respond to drainage and the stormwater management needs for the individual sites (refer to Figure 26).
- e) To minimise the volume of stormwater draining from the site and maximise opportunities for infiltration and ground water replenishment.
- f) To ensure development does not adversely impact on overland flow paths and natural functions of the water cycle, and is compatible with the predicted flood hazard.

- g) To minimise any risk to human life and damage to vehicles as a result of the inundation of basement car parking, other car parking or driveway areas.
- h) To consider the flood liability of access to a development, and to minimise the risk to personal safety of the public, emergency service and rescue personnel who might be involved in any flood evacuation.



Figure 26 Encourage innovative and visually attractive sustainable urban drainage

Controls

The following controls apply to development that is located within Council's identified floodplain. (Note: site specific investigations will need to be undertaken by proponents)

1. The habitable floor level of all dwellings is to be at least 0.5m above the 1% flood level.
2. All services associated with the development are to be either flood proofed or located at least 0.5m above the 1% flood level.
3. Development is to comply with Council's adopted Floodplain Management Studies and Plans for relevant catchments such as Georges River, Cabramatta Creek and the city centre.
4. Development is to comply with the NSW Government's current Floodplain Management Manual
5. Development is not to make flooding any worse than existing conditions and demonstrate any mitigation measures for changes in floodplain, such as loss of flood storage
6. Any Statement of Environmental Effects submitted with an application shall identify the flood impact and risk of flooding to residents as a result of the development. The Statement is to assess the development by considering the primary objective of the NSW Government's Flood Prone Land Policy, that is:
 - "to reduce the impact 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."

7. Development is to provide effective flood access and evacuation routes from flood prone areas. The routes shall:
 - Remain accessible for sufficient period of time to evacuate people and possessions.
 - Consider both pedestrian and vehicular access
 - Consider access and evacuation during extreme flood up to and including PMF.
8. Any basement car parking area is to be protected from inundation by flood equal to or greater than the 1% flood.
9. The driveway providing access between the road and on-site car parking spaces must be provided at a level that minimises risk to persons and vehicles during floods.
10. Any car parking areas that are at a level below the 5% flood level or more than 0.8m below the 1% flood level shall have appropriate warning systems and signs to assist in safe evacuation.
11. All exits from car parking areas shall be located such that pedestrian evacuation paths provide safe travel routes to a place of refuge above the PMF.

5.8 Sewage Treatment Plant

Objectives

To ensure that development near the sewage treatment plant does not encroach on the buffer zoning.

Controls

Development within 400m of the Schrivener Street Sewage Treatment Plant needs to be referred to Sydney Water for assessment.

6. Controls for Residential Development

Background

The provisions in the Residential Flat Design Code associated with *State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development (SEPP 65)* are adopted in this DCP to apply to residential development in the Liverpool city centre including flats, any residential component of a mixed use development, and serviced apartments that are strata titled. In particular, Parts 2 and 3 of the Code are to apply to the city centre and include provisions for the following:

- Site configuration including deep soil zones, fences and walls, landscape design, open space, orientation, planting on structures, and stormwater management;
- Site amenity including safety and visual privacy;
- Site access including building entries, parking, pedestrian and vehicle access;
- Building configuration including apartment layout, balconies, ceiling heights, flexibility, ground floor apartments, internal circulation, mixed use and storage;
- Building amenity including acoustic privacy, daylight access and natural ventilation;
- Building form including awnings and signage, facades and roof design; and
- Building performance including energy efficiency, maintenance, waste management and water conservation.

Where there is an inconsistency between other provisions in this DCP and the Residential Flat Design Code, this DCP prevails to the extent of the inconsistency.

Multi dwelling housing is to be designed in accordance with the general provisions of this DCP and the following residential provisions, to the extent that they apply

6.1 Housing Choice and Mix

Background

A choice of apartment types and mix of sizes in the city centre caters for a variety of socio-economic groups

Objectives

- a) Ensure that residential development provides a mix of dwelling types and sizes to cater for a range of household types.
- b) Ensure that dwelling layout is sufficiently flexible for residents' changing needs over time.
- c) Ensure a sufficient proportion of dwellings include accessible layouts and features to accommodate changing requirements of residents.
- d) Ensure the provision of housing that will, in its adaptable features, meet the access and mobility needs of any occupant.

Controls

In addition to the provisions for apartment mix as per Part 3 of the *Residential Flat Design Code*, the following additional controls apply.

1. To achieve a mix of living styles, sizes and layouts within each residential development, comply with the following mix and size:
 - studio and one bedroom units must not be less than 10% of the total mix of units within each development,
 - three or more bedroom units must not be less than 10% of the total mix of units within each development, and
2. For smaller developments (less than six dwellings) achieve a mix appropriate to the locality.
3. For development built by (or on behalf of) the Department of Housing, an alternative mix of unit types may be approved, subject to housing needs being demonstrated by the Department
4. For residential flat buildings and multi-unit housing, 10% of all dwellings (or at least one dwelling – whichever is greater) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes “pre-adaptation” design details to ensure visitability is achieved.
5. Where possible, adaptable dwellings shall be located on the ground floor, for ease of access. Dwellings located above the ground level of a building may only be provided as adaptable dwellings where lift access is available within the building. The lift access must provide access from the basement to allow access for people with disabilities.
6. 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 Adaptable Housing Standard (AS 4299-1995).
7. Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard for disabled parking spaces

6.2 Multi Dwelling Housing

Background

Multi-dwelling housing generally refers to town housing development forms that do not fall under the requirements of *SEPP 65* and the *Residential Design Code*. Where this is the case, the following provisions, in addition to the general provisions of this DCP, apply.

Objectives

- a) To ensure development positively contributes to and actively addresses the streetscape.
- b) To ensure development contributes to a well framed streetscape.
- c) To clearly define semi-private, private and communal spaces, and to ensure no left over spaces with ambiguous ownership.
- d) To ensure adequate levels of privacy for new and existing residents.
- e) To ensure adequate levels of solar access to private open spaces and principle living rooms within the development, and to existing dwellings.
- f) To provide quality, useable private and communal open spaces for residents.
- g) To maximise deep soil and open space for mature tree planting, water percolation and residential amenity
- h) To minimise the physical and visual dominance of car parking, garaging and vehicular circulation.

Controls

Form and Streetscape

- 1. Site layout is to maximise the number of dwellings that address and face directly onto the street (refer to Section 3.2). Where possible, dwellings are to face existing streets rather than internal private access roads.
- 2. Buildings addressing the street are to have a minimum height of 2 storeys.
- 3. Parts of development towards the rear of the site should be more modest in scale to limit the impact on adjoining properties.
- 4. Where possible, maintain the existing orientation and pattern of dwelling 'fronts' and 'backs'. Generally dwellings 'fronts' should face other 'fronts' and 'backs' should face other backs.
- 5. Utilise the site so that any private, public and communal spaces are clearly defined with a clear sense of ownership
- 6. Notwithstanding the controls of Section 2.4 Boundary Setbacks and Building Separation, multi-dwelling housing of 2 storeys or under (or a row of attached dwellings) are to have minimum side separation distance to another dwelling of 2.5m. This is to be increased to 3m separation when involving 3 storey development. These minimum separation distances between dwellings are only permitted between non-habitable rooms and do not include balconies or terraces

Privacy

- 1. Privacy measures such as screens, landscaping and fencing should be provided between private open spaces at ground level. Fencing between dwellings is to be a maximum height of 1.8m. Any fencing that faces onto the public domain is to meet the requirements of Section 3.3 Front Fences.

2. A minimum separation distance between opposing second level or higher rear windows (within the private domain) to primary living areas and bedrooms of 12m applies.
3. Use landscaping to provide a visual buffer between new and existing dwellings

Solar Access

1. Dwellings within the development site and adjoining properties are to receive a minimum of 3 hours sunlight to principal living rooms and to at least 50% of the private open space between 9am and 5pm on 21st June. Where existing development currently receives less sunlight than this requirement, this should not be unreasonably reduced. Shadow diagrams will be required with the development application in order to demonstrate compliance

Private Open Space

1. Provide each dwelling with private open space in the form of a courtyard garden, balcony, and/or terrace, to the following standards:
2. For units with ground level access: ground-level area totalling 40 sqm (with one part at the side or rear and adjacent to a living room or kitchen) having a minimum contiguous area of 25sqm with a minimum width of 5m.
3. For units above ground level: a balcony or terrace (preferably adjacent to a living room or kitchen of the dwelling), having a minimum area of 10 sqm with a minimum depth of 2.5m.

Communal Open Space

4. Retain, where possible, existing mature trees in communal open space.
5. Communal open space should be readily accessible to all dwellings in the development.
6. Communal open space should receive a minimum of 3 hours of sunlight between 9am and 5pm to a least 50% of the space on 21st June.
7. Communal open space is to consist of at least 50% deep soil, have a minimum dimension of 5m in any direction, contain landscaping, seating and barbeque areas.
8. Dwellings are to be designed so that they overlook and provide informal surveillance of communal open spaces. Any threshold treatments between private and communal space is not to exceed 1.2m in height

Parking and driveways

9. Small centralised and landscaped car-parking courts that reduce the amount of space occupied by driveways, garages and approaches to garages are preferred over individual garages.
10. Avoid long, straight and unrelieved driveways that are visually dominant by:
 - varying the alignment of driveways to avoid a 'gunbarrel' effect,
 - setting garages back a minimum of 1m behind the predominant building line to reduce their visibility from the street, and
 - considering alternative site designs that avoid driveways running the length of the site
11. Minimise the impact of driveways on the streetscape by:
 - terminating vistas with landscaping or a dwelling, not parking areas,
 - using planting to soften driveway edges,
 - limiting driveway widths on narrow sites to single carriageway widths with passing points,

- providing gates at the head of driveways to minimise the visual 'pull' of driveways,
- ensuring that driveways, garaging and entry to car parks do not exceed 35% of the site frontage,
- designing individual garages to dwellings where provided so as to be visually recessive, and not occupying more than 50% of the ground floor of the associated dwelling, and
- setting dwellings back a minimum of 1.5m (preferably landscaped) from shared driveways, access lanes and car parks

7. Controls for Special Areas

Background

The following controls are in addition to the general controls elsewhere in this DCP. Controls for special areas apply to Heritage Items, Heritage Conservation Areas and Key Sites

7.1 Heritage Items and Conservation Areas

Background

Heritage items and heritage conservation areas are identified in Schedule 5 of the *Liverpool LEP 2008*. Works to listed heritage items, or development on listed heritage sites, is subject to the provisions of the *Liverpool LEP 2008*. As part of the assessment process, the consent authority must have regard to:

- Heritage provisions in the *Liverpool LEP 2008*.
- Heritage objectives, controls and conservation criteria as listed below.
- The relevant Statement of Significance for each item.
- Any conservation management plan, heritage impact statement or study required by the consent authority in response to proposed development of these areas.
- For development that affects a heritage item, information addressing relevant issues must be included in a Statement of Heritage Impact submitted with the development application (DA).

Development within the curtilage of a listed item, or a heritage conservation area, or which will impact upon the setting of a heritage item or heritage conservation area is also subject to the following provisions. Where there is a discrepancy with general controls elsewhere in this DCP, the following objectives and controls are to apply.

Objectives

- a) To facilitate the conservation and protection of heritage items and heritage conservation areas and their settings.
- b) To reinforce the special attributes and qualities of heritage by ensuring that development has regard to the fabric and prevailing character of the item or conservation area eg. scale, proportions, materials and finishes.
- c) To conserve, maintain and enhance existing views and vistas to buildings and places of historic and aesthetic significance.

Controls

1. A Conservation Management Plan is required to be submitted, and considered by Council, prior to the submission of any development application for the following sites (refer to Figures 27 to 30):
 - St Lukes Church,
 - Bigge Park,
 - Liverpool Railway Station,
 - Liverpool College of TAFE (Francis Greenway Building), and
 - Pioneer Memorial Park.
2. An area around Bigge Park has been classified as a Conservation Area. The effect of this classification is to require all work in the precinct to be considered in terms of its potential impact on the heritage significance of the area as a whole



Figure 27 St Luke's Church



Figure 28 Liverpool Railway Station

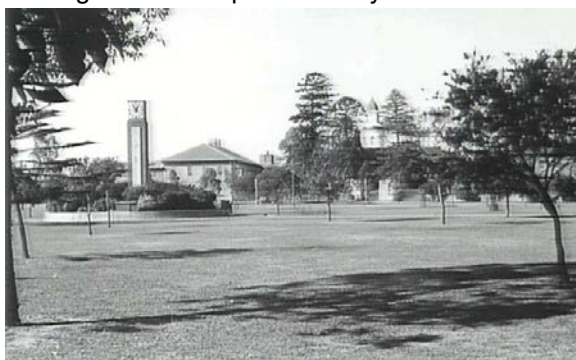


Figure 29 View through Bigge Park to Liverpool College of TAFE



Figure 30 Pioneer Memorial Park

1. Any new development within the study area must ensure that the significance of heritage items and their setting are retained and enhanced. Any new development within the study area must ensure that the significance of heritage items and their setting are retained. Development Applications relating to heritage listed sites or sites within heritage conservation areas must demonstrate how the proposed work will not adversely affect the heritage significance of the site and the area around it.
2. For sites in the vicinity of heritage items or heritage conservation areas, an assessment of the impact of the proposal on the setting of nearby heritage items or heritage conservation areas are to be undertaken.
3. Relevant criteria to be considered will vary for each proposal depending on the nature of development, the proximity of the development to surrounding heritage items and conservation areas as well as other factors. For this reason, each proposal will need to be considered on a case by case basis using the following general principles:
4. Scale: The scale and bulk of any new building or work must be in scale with the original building and new development must not obstruct important views or vistas of the item. In the case of infill work in a conservation area, the scale of the new building must be similar to those around it. Where this is not feasible sufficient curtilage around the heritage item must be included to assist interpretation of its heritage significance. In some circumstances, where site depth would allow, a higher building could be erected behind a heritage shopfront.

Conservation Criteria

5. Siting: If the existing street façade of the building is sympathetic to the character of the street, then alteration must be avoided. New work is best located to the rear or side of the building.
6. Architectural form: The basic architectural form of any new work needs to respect what exists. Issues to consider are the roof form, proportion and location of windows and doors.
7. Architectural detailing: It is important to be aware of the particular era and architectural style of the building or buildings and make sure that any proposed changes are contextual to the period. For example, it is not appropriate to mix Victorian features with California Bungalow. Overuse of historical architectural features on new work should be avoided, with preference given to uncomplicated interpretive forms and detailing.
8. Materials and finishes: Reuse existing materials where possible. New materials and detailing must be compatible with the original and consideration must be given to the colour, texture and type of materials and finishes.
9. Use: The best use for a building is usually the one for which it is built. Where this is not possible, a use sympathetic to the layout of the building and requiring minimal alterations will be more compatible.
10. Original fabric: It is important to minimise alterations to the original fabric and where possible, repair rather than replace individual elements, such as windows and doors.
11. The aging process: The patina of age on a building adds much to its character and significance. A worn step for example demonstrates the many years of feet crossing a threshold. Such features add to the uniqueness and character of a place and must be retained wherever this does not present a public safety risk.
12. Curtilage: There are three types of heritage curtilage:
 - Lot boundary - The lot boundary is the most common type of curtilage. It may contain associated buildings, gardens, walls, fences and the like which contribute to the significance of the property. The majority of built items in Liverpool are listed within their lot boundary curtilage.
 - Reduced Curtilage - This curtilage is less than the lot boundary of the property and it arises where the significance of the item and its interpretation is not dependant on having a large curtilage extending to a lot boundary. For examples are a large estate with sufficient land on the lot that can be subdivided independent of the heritage significance of any item on that land, or a new dwelling adjacent but not impacting on the existing heritage item on that land. In such cases, it is necessary to identify a curtilage that enables the heritage significance of the item to be retained.
 - Expanded Curtilage - This curtilage is greater than the property boundary. An expanded curtilage may be required to protect that landscape setting or visual catchment of an item. For example, the significance of some properties includes a visual link between the property itself and a harbour, river or topographical feature.
13. Infill Development - The key to successful infill development adjacent to a heritage item is reflected in design where the infill is of similar mass and character to the adjacent heritage building/s. This may comprise use of the vertical (versus square) windows, verandahs, balconies, positive roof pitches (ie. 25 to 35 degrees) and general facade detailing. Buildings and landscaping may establish a character of an area and provides a sense of continuity and a recognised community value. Unsympathetic infill will disrupt the unity of a group of buildings and may spoil the existing character. Architectural 'good manners' are important in areas of special character. An infill building must not precisely imitate its neighbour but use recognisable tools such as massing, scale, setback and orientation, detailing and materials, roof forms and coursing lines to complement adjacent heritage items.

Refer to the joint NSW Heritage Office and RAlA publication “*Designing in Context: Guidelines for Infill Development in the Historic Environment*” (2005) for further guidance

7.2 Controls for Restricted Premises

Objectives

- a) To ensure that the design and external appearance of restricted premises (including colour scheme and lighting) does not have an adverse impact on the architectural character of the surrounding built environment and streetscape appearance
- b) To ensure that the safety of all staff and visitors to restricted premises is maintained when approaching, entering and leaving the premises
- c) To ensure that restricted premises are provided with appropriate facilities in accordance with the relevant occupational health and safety provisions
- d) To ensure that adequate and suitable facilities are provided within restricted premises to ensure the privacy, comfort, safety and security of staff and patrons
- e) To ensure that advertising and signage associated with restricted premises is discreet, does not draw attention to the use and does not result in visual clutter or other adverse visual impacts on the surrounding area
- f) To minimise the potential for the operation of a restricted premises to cause a disturbance in the surrounding area because of its size, location, hours of operation, number of employees or clients, or proximity to other restricted premises or sex services premises
- g) To ensure the safe and adequate storage, handling and disposal of contaminated waste

Controls

Siting

- 1. Restricted premises shall not be located within 150m of any land zoned residential or any place of worship, school, community facility, child care centre, hospital, rail station, bus stop, taxi stand, licensed premises (i.e. hotel, club, restaurant), or any place regularly frequented by children for recreational or cultural pursuits.
- 2. Restricted premises shall not be located within 150m of any land for which a consent for the uses listed in item 1 above exists.
- 3. In determining an application to carry out development for the purpose of restricted premises, the consent authority must consider the following matters:
 - a) whether the operation of the restricted premises will be likely to cause a disturbance in the neighbourhood because of its size, location, hours of operation, clients or the number of employees and other people working in it,
 - b) whether the operation of the restricted premises will be likely to interfere with the amenity of the area, and
 - c) whether the operation of the restricted premises will be likely to cause a disturbance in the neighbourhood when taking into account other businesses

operating in the neighbourhood offering similar goods and services and involving similar hours of operation.

Design of Premises

4. No part of the premises (other than an access corridor to the premises) shall be located at ground floor level, mezzanine, sub basement level or street level or be visible from a public place.
5. Restricted premises must be designed so that there is only one visible pedestrian entrance to the premises from the primary street frontage. In instances where there is no front access and/or front access is impractical, Council will consider a side or rear pedestrian access where adequate attention has been given to safety and security matters.
6. Rear or side pedestrian access is to be limited to one only, unless it can be demonstrated to Council's satisfaction that more than one access contributes to the amenity and functional efficiency of the restricted premises and surrounding uses and does not result in safety and security concerns or visual clutter via the need for additional signage.
7. The external appearance of restricted premises must respect the character and appearance of the streetscape, such that they do not become a prominent feature in the street. In this regard, the external colour scheme of these premises is to be consistent with surrounding colour schemes. Vivid and/or ostentatious colour schemes will not be permitted unless it can be demonstrated that the proposed colour scheme would be in keeping with the existing streetscape.
8. All entrances and exits of restricted premises must have appropriate lighting to ensure the safety of all staff and visitors as they arrive and leave the premises. Any flashing, intermittent etc. lighting used in conjunction with a restricted premises must not be visible from a public place.
9. No merchandising display relating to the sex services premises shall be erected, displayed or exhibited in any location which is visible from a public place or in an access corridor (including any stairwell to the premises).

Signage

10. Signage is to be discreet and is limited to a combination of the business name, address and phone number.
11. There is to be one sign, not exceeding 1.5sqm in area, per premises. A second sign may be permitted where pedestrian access is provided at the side or rear of the site.
12. The content, illumination and shape of the sign must not interfere with the amenity of the locality. In this regard, signs are not to include suggestive or offensive material, or include colours or designs that may distract passing motorists. Illumination of signs must not cause nuisance to any adjoining premises or interfere with the amenity of the area.
13. In addition to a business identification sign, a clearly visible street number is to be displayed on the premises.

Note: In addition to the above controls, applications for restricted premises must comply with the requirements of the *Crimes Act 1900 Section 578 (e)* and *Classification (Publications, Films and Computer Games) Enforcement Act 1995*.

7.3 Key Sites

Background

A number of key sites have been identified within the City Centre for specific attention. Each site has been selected as a result of one or a number of the following factors:

- A site (or grouping) is of sufficient size to enable substantial development, and therefore beneficial impact for meeting the established City Centre targets.
- Substantial existing development interest.
- Strategic location within the City Centre.
- Demonstration site value, to provide a quality benchmark for future development.
- Catalyst value for regeneration of nearby areas.
- Long term vacancies, highlighting a need to revisit development potential.

Each site is identified below and in the LEP Key Sites Map, and the specific importance and intentions for each identified site is in the following sections. In addition, the following general objectives and controls apply.

Objectives

- a) Encourage and foster the appropriate development of each site in a manner that provides demonstration and catalyst value for the city centre.
- b) Provide a mechanism for securing site responsive and high quality design in the city centre
- c) Ensure that all nominated key sites and certain major developments within the City Centre are well resolved with respect to their relative opportunities and constraints.
- d) Ensure that new development is coordinated and integrated with the development of the City Centre.
- e) Encourage development on a combination of lots within a key site.

Controls

1. Development applications for a lot or combination of lots within Key Sites are to demonstrate design excellence.
2. Development of individual proposals on a Key Site and Special Precinct Areas is to be coordinated with adjacent and neighbouring properties.
3. Development applications within Key Sites are to demonstrate compatibility with the general development principles outlined in this DCP for each site.

Key Sites

Corner of Castlereagh and Lachlan Streets - Western Gateway

This site is visually prominent to the commuter traffic from Orange Grove road (Cumberland Highway) which is one of the main arterial roads into Liverpool. This arrival point shall be marked with residential development exhibiting a high standard of architectural design.

Northern City Centre Gateway Sites

These 3 key sites are located to the main northern entries to the City Centre between Bigge and Macquarie Streets. Some of these sites are partially developed.

The sites present as the northern gateway to the city centre. Development on these key sites is to define the entrance to Liverpool City centre's northern end with a series of residential flat buildings.

Car Park – Bathurst Street, Elizabeth Drive and Northumberland Streets

This site is located in close proximity to the retail core and in its present form given its

strategic location, is underutilised. The site offers substantial catalyst and demonstration project potential. Key outcomes include:

1. A mix of uses with lower level retail/ commercial and commercial/residential on upper floors.
2. Provision of public parking is an appropriate development outcome for the site.
3. Development should provide an address and elevations exhibiting visual interest to all street frontages.
4. Public forecourt area on the corner of Northumberland and Elizabeth Streets.
5. Vehicle access is to be from the rear lane, Northumberland or Bathurst Streets only.

Development should not result in additional overshadowing of St Lukes Church and grounds between 9:00am and 3:00pm in mid-winter

Elizabeth Street South between George and Bigge Streets

This site is strategically located immediately adjacent to the retail core, the “EdMed” precinct”, and is part of the commercial core. The site is particularly underdeveloped in its context and offers great potential for the provision of significant additional employment within the City Centre. Key outcomes include:

1. Commercial offices as the principal activity accommodated on the site. Hotel accommodation may also be considered, overlooking Bigge Park.
2. A mixed retail and commercial street frontage.
3. Vehicle access is to be from a rear lane, Bigge or George Streets only.
4. Development should not result in unreasonable overshadowing of Bigge Park. (refer to LEP and DCP sun access controls)

Macquarie and Moore Street

This site is in a prominent location fronting directly onto the south western corner of the Macquarie Street Mall. The present treatment of this important corner and “arrival” point to the Mall is relatively poor and requires improvement through a quality architectural and urban design response to this site. The following outcomes apply:

1. Retail and other active development such as cafes etc on ground level
2. Upper levels should be designed to address the Macquarie Street Mall and Moore Street. Office or entertainment uses are appropriate.
3. Maximum buildings heights have been set to maintain solar access and the existing sense of space on the Mall. Maximum permissible heights are specified in the *Liverpool LEP 2008*.
4. Building design should emphasise the south east corner, adjacent to the Mall
5. Vehicle access is to be via the rear lane only

George Street between Moore and Railway Street

This site comprises a number of properties bounded by George Street, Moore Street, Railway Street and Crawford Lane. The site has street and rear lane access, allowing for an uninterrupted pedestrian address to George Street. This site is considered significant due to its relatively large parcels, allowing efficient site assembly. The site is within the core of the commercial area and is well located with respect to other existing office development and the rail station/bus interchange. Key outcomes include:

1. Commercial office development, possibly with retail on ground floor.
2. Vehicle access from the rear lane only
3. Main entrances to George Street combined with a strong public address of Moore and Railway Streets.

Provide breaks in the building form between Moore and Railway Streets to enable shafts of sunlight to access sites located immediately to the east in the afternoon

Liverpool Public School

The current school site, corner of Moore Street and Bigge Streets provides a barrier between the core commercial and retail areas of the City Centre and the main public transport interchange at the Railway station. Potential redevelopment of the site could assist with improved consolidation and vibrancy of the City Centre. Key outcomes if the school is to be relocated include:

1. Development of a cultural and entertainment precinct potentially mixed with components of retail and commercial development is appropriate.
2. Community and publicly accessible facilities are required on the site.

3. A public open space of acceptable amenity and at least 1,500sqm is required to be provided on the site.
4. The site is heritage listed and is the location of several heritage buildings. Any future development will be required to respect and integrate with this context.
5. Pedestrian access is to be provided across the site in both a north-south (Moore St – Railway St) and an east-west (Bigge St – Crawford Serviceway) direction
6. Vehicular access will be restricted to Moore Street, Railway Street and the Crawford Serviceway.

Railway Street South

This site is comprised of an entire block of existing small scale development located directly adjacent to the railway station. Its railway Street frontage is along the key pedestrian route between the rail station and the core of the city centre. Given its present development pattern and strategic location, the site is significantly underdeveloped and lacking in a proper contribution to one of the most important street frontages in the City Centre. The following outcomes apply:

1. The site should be a key focus of commercial office development, with an active retail and entertainment frontage to improved, pedestrian friendly streets.
2. Existing heritage buildings should be retained and integrated into any future development of the block.
3. Development should activate the rear lane system.
4. Vehicular access is to be predominantly from the rear lane, with some restricted access from Memorial Avenue available.
5. A through block link is to be provided in a north-south direction, around mid-block.(from Scott to Railway Street)

Scott Street Site

This key site terminates the vista up Macquarie Street and has potential to provide the “anchor” that the southern end of the Macquarie Street strip vitally requires. The site is also located on one of the City Centre’s highpoints and therefore any future development will be highly visible from surrounding areas. Under these conditions, the development of this site must exhibit the very best in design quality as it will not only be a catalyst for regeneration of the southern end of the commercial area, but will also be a highly visible demonstration of the form, appearance and quality of development that is expected within the City Centre. Key outcomes include:

1. Development of the site must incorporate significant floorspace and critical mass to enable the creation of an anchor for the southern end of Macquarie Street.
2. Development should consist of a podium of public uses (commercial, retail, community etc) and 1-2 tower elements that may be residential and/or commercial in use.
3. A public plaza is to be provided and located on the Memorial Avenue frontage and Macquarie Street axis. The plaza is to be publicly accessible at all hours and should be a minimum of 800sqm in area.
4. All frontages of the plaza and Memorial Avenue are to be addressed by active development.
5. Development should consider the setting of the heritage listed Memorial School of the Arts building.
6. Active uses are to address at least 50% of the Terminus Street frontage.
7. Vehicular access to the site will be provided from one point either at Terminus Street and Memorial Avenue or the lane at the eastern end of the site.

8. Parking for the site is to be provided in a basement and no more than one parking level above grade

Newbridge Road, Speed Street and Pirie Street

This site is presently utilised as a Council car park and contains a commercial office building. The site is peripheral to the core of the City Centre and has become highly isolated with the introduction of the Ring Road system. Nevertheless, the site is very well located with respect to proximity to the railway station and enjoys excellent views over the Georges River and Light Horse Park. Its location provides a significant opportunity to enliven and regenerate the southern end of the City Centre, particularly the Scott Street area and pedestrian connections to the south. Key outcomes include:

1. The site is suitable for development for commercial and/or residential purposes.
2. Pedestrian access should be available under New Bridge Road.
3. Vehicular access is to be from Speed Street only.

Parking for the site is to be provided in a basement and no more than one parking level above grade

Southern Gateway Site - Corner of Macquarie Street and Copeland Street

This site sits at the key southern gateway to the City Centre area. The current development presents poorly to the street in terms of its value as an “announcement” of the City Centre and would benefit from redevelopment to improve its image and presentation, especially since this is possibly the most visually significant site along the edge of the City Centre. Key outcomes include:

1. It is appropriate that the site be developed for a mix of commercial and residential purposes and be of a high quality architectural design.
2. Any residential tower should be set back from the main traffic sources of the Hume Highway and Macquarie Street.
3. A future building should be set back from the main intersection of Macquarie Street and Hume Highway and a significant landscape feature placed on this important entry corner.
4. Vehicular access to the site is to be from Short Street only

Eastbank Precinct (Pirelli Site)

This site is identified as a potential precinct for city centre expansion due to its single ownership and proximity to the rail station.

However the necessity for expansion onto this site may not occur for some time given a number of constraints, including that:

1. The railway and the river significantly constrain connectivity to the existing city centre;
2. The site is located within the 1 % year flood line;
3. Geotechnical constraints that are likely to limit construction of tall buildings;
4. Current floorspace supply and demand indicates there is sufficient capacity currently within the existing city centre commercial and retail zones; and
5. There is a need to achieve consolidation of these existing city centre core areas.

Nonetheless, the site possesses attributes that point toward its future development as a vibrant mixed use precinct that provides for expansion of the commercial core and is a catalyst for additional river crossings

Key outcomes for development are:

1. Generally to be of low to medium scale, set back from the River frontage.
2. To create a high quality pedestrian precinct along the River frontage, connecting to Chipping Norton Lakes.
3. To provide increased permeability through the site for public access, including pedestrian, bicycle, motor vehicles and service vehicle movements.
4. To allow for a range of land uses including business, residential, cultural and public open space. There is also potential for education uses, such as relocation of the Liverpool Public school.
5. To provide a connection over the Georges River to the City Centre that includes an extension to the bus transit way and the pedestrian and cycle paths to Moorebank.

Over the river connection of the East Bank to the City Centre is an important consideration in the future development of the site

7.4 Design Excellence

Background

Good building design should positively contribute to the overall architectural quality of the city and provide buildings appropriate to their context. In some circumstances, this contribution may be as an iconic or landmark building, but more typically it is as a well-mannered building that fits sensitively into the streetscape.

Objectives

To ensure a high standard of design quality, development subject to the design guidelines provisions or as identified on the Key Sites Map of *Liverpool LEP 2008* are subject to a design competition in accordance with the provisions below.

Controls

1. In determining a development application the *Liverpool LEP 2008* requires the consent authority to consider whether the proposed development exhibits design excellence
2. The architectural design competition is to be in accordance with the Director General of the Department of Planning procedures (advice available from Council).
3. An architectural competition can be undertaken at either the development plan stage or the development application stage

Architectural Design Competitions Process

1. In preparing a development application for a site, subject to these provisions and in order to satisfy competitive process requirements, an applicant is to use a formal design competition to generate design alternatives for a development site.
2. The purpose of a design competition is to generate high quality solutions which address the constraints and opportunities of a site and achieve design excellence.
3. In recognition of the rigour involved in undertaking a successful design competition that achieves design excellence, the applicant may be eligible for a development bonus, as stipulated in *Liverpool LEP 2008*.

7.5 Non Business Uses

Background

Liverpool LEP 2008 permits a range of Non Business land uses within the business zones. These Non Business land uses may involve using an existing industrial development or construction of a new development. The following provisions are additional provisions for particular land uses. These land uses shall also comply with the other provisions of the DCP.

Objectives

- a) To ensure that the Non Business developments are compatible with the Business environment.
- b) To ensure that the Non Business developments do not unnecessarily restrict the operation of Business and related uses in Business areas.
- c) To ensure that Non Business developments are designed to operate without adverse impact from Business developments.

Controls

The following controls are in addition to those in Sections 1 – 9.

Site Planning

Site planning for a Non Business development shall give consideration to how minimise the impact of uses on the site and how to ensure that a proposed use would not unduly impose restrictions on existing or future nearby business uses.

Building Appearance, Streetscape and Layout

All developments in a business area shall present a shop front to the street. Closing in of windows or painting over windows shall not be permitted.

Amenity and Environmental Impact

1. Where the hours of operation are after sunset, the car parking areas and any other public areas shall be provided with lighting to provide a safe environment for users of the premises after hours.
2. A Noise Impact Assessment Statement prepared by a qualified Acoustics Engineer may be required to be submitted with the application depending on the scale and location of the proposed use to show that the use can operate satisfactorily in the business area.

7.6 Restaurants/Outdoor Cafes

Background

There is an increasing trend to have outdoor eating in conjunction with restaurants and cafes. This contributes to the activity in business areas. There is however a potential conflict between the users of outdoor eating areas and users of the footpath areas.

Objectives

- a) To ensure that outdoor cafes enhance the economic viability for centres.
- b) To ensure that outdoor cafes enhance the streetscape to create attractive and vibrant surroundings.
- c) To preserve or enhance public amenity, safety and access.

Controls

These controls apply to outdoor eating areas on public footpaths. Other than Hours of operation, these controls do not apply to outdoor eating areas may also take place on private land.

Streetscape and Layout

General Requirements

1. A minimum width of 2.5m of footpath shall be available for pedestrians thoroughfare at all times.
2. There shall be no increase in the number of chairs and tables at each individual cafe site without further approval from Council.
3. Outdoor furniture shall remain at least 3m away from a corner, pedestrian crossing, bus stop, taxi stand or anywhere pedestrians often congregate to cross the road or wait for services
4. Outdoor furniture shall remain at an appropriate distance from any pedestrian crossing, disabled parking spaces, post box, public telephone, street sign, street tree or other street structure to ensure that these facilities remain accessible and / or retain function. An appropriate distance will be determined by Council officers.

Controls for footpaths greater than 6m

5. Outdoor furniture must be located at least 2.5 m away from the shop front. This leaves an appropriate width to ensure there is unobstructed pedestrian thoroughfare (See Figure 31).
6. Outdoor seating shall be arranged to ensure a minimum of a 1m clearance is retained from the back of the kerb to the furniture (See Figure 31). This ensures that passengers in vehicles can enter and exit vehicles safely.

Note: In some instances Council may require more than 1m width from the back of the kerb.

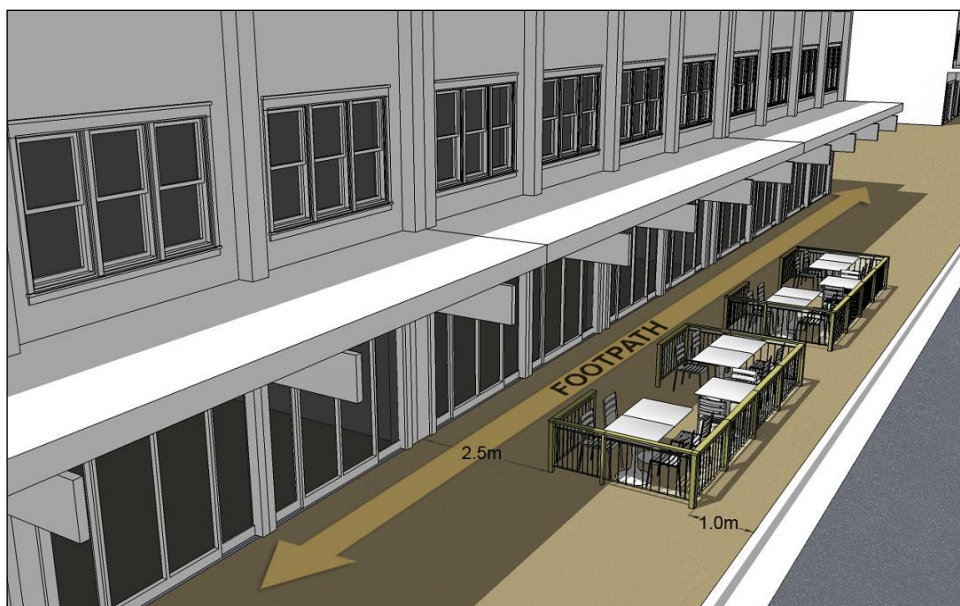


Figure 31 Outdoor cafe seating on footpaths greater than 6m wide footpath

Controls for footpaths less than 6m

7. Outdoor furniture shall be located abutting the building frontage/shop front. This provides an appropriate width for safe pedestrian passage (see Figure 32).

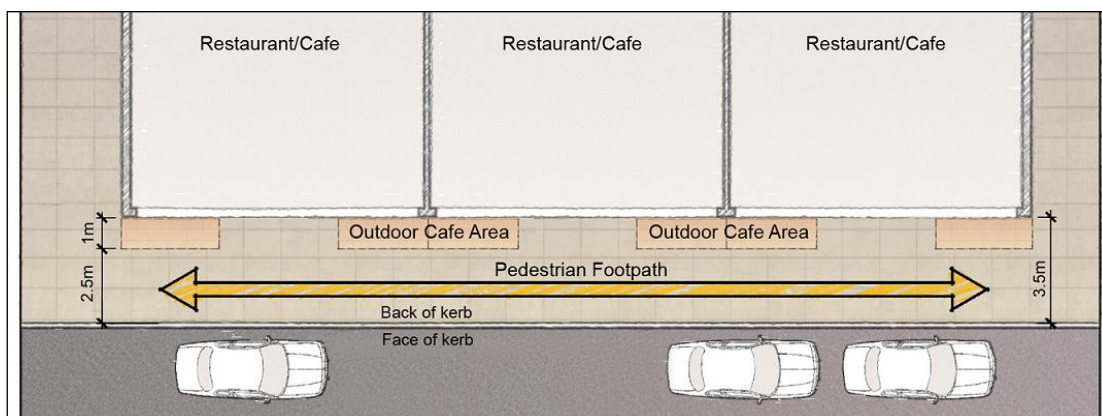


Figure 32 Placement of outdoor seating areas cannot interfere with pedestrian road access

Written Consent

A standard letter of consent must be provided by the owner of the building from which the associated business operates. However in the event that permission is withheld without due cause and Council judges this to be unreasonable consideration will be given to proceeding without it. The owner will be informed by letter of the development application at the commencement of the public exhibition.

A standard letter of consent must also be provided by neighbouring tenants on each side of the associated business. However in the event that permission is withheld without due cause and Council judges this to be unreasonable consideration will be given to proceeding without it. The neighbouring tenants will be informed by letter of the development application at the commencement of the public exhibition.

Car Parking and Access

No additional car parking is required for any outdoor eating area.

Amenity and Environmental Impact

The hours of operation shall be restricted to between 7:00 to 10:00 pm, unless otherwise varied by Council.

Operational matters

For further information on operational matters refer to the Appendix.

Landscaping

Planter boxes should be provided to enclose eating areas.

Site Services

1. If any of Council's street furniture or other items such as garbage bins, seats and planter boxes has to be removed for the installation of outdoor cafe seating, then that removal and any subsequent re-erection in the vicinity shall be at the permit holder's expense and shall be completed to Council's satisfaction.
2. Any additional lighting to normal street lighting shall be provided at the applicant's expense and shall be completed to the satisfaction of Council.
3. Any illuminations shall be appropriately managed during operations of the premises.

7.7 Child Care Centres

Background

There is an increasing need to have child care centres in close proximity to work places and places of residence. The need to locate child care centres in close proximity to work places and places of residence in business centres is balanced by the need to ensure that other business uses do not adversely affect the operation of a child care centre and vice versa. The *Department of Community Services* also regulates the standards and operations of child care centres.

Objectives

- a) To ensure that Child Care Centres are compatible with the business environment.
- b) To minimise any adverse impact of Child Care Centres on surrounding properties.
- c) To locate childcare centres where they would not have an adverse impact on the safety and health of children.

Licence Requirements

In order to operate a child care centre, the applicant needs to obtain the following:

1. A development consent from Council under the Environmental Planning and Assessment Act 1979.
2. A licence to operate from the *NSW Department of Community Services (DOCS)* under the *Children and Young Persons (Care and Protection) Act 1998* and the *Children's Services Regulation 2004*.

It is strongly recommended that applicants arrange a meeting with Council prior to submitting a development application to ensure that all the pre-requisite documentation is in order. This will save time and money for the applicant.

Controls

Lot Sizes and Maximum Number of Children

The appropriate lot size is determined by the proposed number of children.

Objectives

- a) To maintain the amenity, streetscape and character of the area.
- b) To limit traffic and parking issues to the level found within the area.

Controls

1. The maximum number of children in any centre cannot exceed 45 for 0-5 year olds; however Council may consider a maximum number of 60 children per centre of which 30% must be aged between 0-2.

The proposed child care centre must comply with open space requirements as set out in the *Children Services Regulation 2004*.

Site Location

1. Child Care Centres should be located:
 - in the general vicinity of primary schools, major employment areas and recreation areas;
 - within the grounds of community facilities, educational facilities or churches;
 - near services such as shops, medical facilities and public transport;
 - on streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles; and on approach streets within the road hierarchy such as on collector streets;
 - where traffic control devices do not impede vehicular access to sites;

- where the children will not be adversely affected by lead contamination, offensive noise and air pollution;
 - childcare centres must be located and designed so as not to pose health or safety risk to children using the centre.
2. Child Care Centres shall not be permitted:
- adjacent to industrial activities, which generate significant noise or air pollution;
 - within 150m of an existing Child Care Centre;
 - on classified roads;
 - adjacent to railway lines;
 - streets with a carriageway width of 6.5m or less;
 - streets, which are cul-de-sacs;
 - On lots adjacent to a roundabout (including a proposed roundabout).

Site Planning

1. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.
2. The site layout should enhance the streetscape through the use of landscaping and built form.
3. Site planning should enable buildings to address streets and public open spaces.
4. The site layout should ensure that the external play area is maximised and enjoys solar access.
5. The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.
6. In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.
7. The site layout should ensure that the front entrance to the Child Care Centre is easily located and accessible.

Open Space and Landscaped Area

1. The proposed child care centre must comply with open space requirements as set out in the *Children Services Regulation 2004*.
2. The outdoor play space shall not be located within the setback to the street;
3. Buildings shall be designed to ensure that sunlight shall be available to 50% of the outdoor play area for a minimum of 3 hours between 9.00 am and 3.00 pm on June 21 or shall not create additional overshadowing;
4. The play area shall not be used as a stormwater detention basin.

Building Appearance

Objectives

- a) To encourage designs that will enhance the character of the neighbourhood.
- b) To promote variation of building facade and design.
- c) To ensure the building enhances the streetscape through the use of suitable built form design and landscaping.
- d) To ensure buildings address all street frontages.
- e) To discourage garages and in particular garage doors, from visually dominating the streetscape.
- f) To ensure that the building design, detailing colour and finish shall add visual interest to the street and shall compliment the street.

Controls

1. Where large glass areas cannot be avoided appropriate shade devices shall be incorporated into the design.
2. Buildings shall be designed to be capable of being converted to a dwelling at a later stage.
3. The roof design shall be compatible with surrounding properties with respect to height, pitch, building materials and colour.
4. The building shall be designed so that it is in character with the surrounding residential area in terms of bulk, scale, size and height.
5. The front pedestrian entrance must be visible from the street.
6. The front building facades shall be articulated. This articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.
7. For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.
8. Buildings that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.

Landscaping

1. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP.
2. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted.
3. Trees adjacent to/or within the play area, are to provide shade and allow winter sun entry. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.
4. Landscaping species must be appropriate to prevent injury to children. No toxic, spiky or other hazardous plant species.
5. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.

6. Landscape planting should principally comprise of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.
7. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 – 1.8m) especially along paths and close to windows and doors.
8. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The minimum height of screening to be provided is 2.5 to 3m at maturity.
9. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from habitable areas of dwellings or elsewhere as appropriate for gardener access in other forms of development.

Fencing

Objectives

- a) To provide a clear transition between public and private areas.
- b) To provide a visual element within the streetscape.
- c) To ensure fencing enhances the streetscape.

Controls

1. Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park;
2. Solid front fences and walls shall be a maximum of 1.2m in height;
3. Fences shall be constructed of materials compatible with the proposed building;
4. Gates shall be the same height, self-closing and be secure and fitted with a childproof lock.

Car Parking and Access

Access for the disabled including those with prams is to be provided from the car parking area to the building.

Amenity and Environmental Impact

Adjoining uses

Child Care Centres shall be designed and operated so that noise generated by the centre does not impact significantly upon adjoining properties.

Lead, Asbestos and other contaminants

1. Child Care Centres shall not be constructed on sites that are contaminated.
2. All buildings, whether to be built, extended, renovated or converted to a Child Care Centre shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.

Noise

Child Care Centres shall not be permitted in areas where aircraft noise levels exceed 25 *Australian Noise Exposure Factor (ANEF)*.

Site Services

Owners must provide their own waste management system. Area must be designated for the storage of waste on site.

**LIVERPOOL
CITY
COUNCIL**



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NRS 133 677 (for hearing and
speech impaired callers only)

Liverpool Development Control Plan 2008
Part 5
Development in
Rural and E3 Zones

1 April 2015

Part 5 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 5 Rural and E3 Zones

Table of Contents

Outline	5
1. Site Planning	7
2. Setbacks	9
3. Private Open Space and Landscaped Area	11
4. Building Design, Style and Streetscape	12
5. Landscaping and Fencing	16
6. Car Parking and Access	19
7. Amenity and Environmental Impact.....	21
8. Site Services.....	22
9. Additional Requirements.....	23
9.1 Dwelling Houses and Dual Occupancy	23
9.2 Health Consulting Rooms	26
9.3 Home Businesses	26
9.4 Intensive livestock agriculture	28
9.5 Intensive plant agriculture	31
9.6 Rural Industries	34
9.7 Roadside stalls	35
9.8 Communication Facilities	36
9.9 Places of Public Worship	38
9.10 Landfill	39
9.11 Dams	41
9.12 Extractive Industries	42
9.13 Cemeteries, Crematoriums and Funeral chapels	44
9.14 Secondary Dwellings (Granny Flats)	45

Table of Figures

Table of Figures

Figure 1 Poor location of building.....	8
Figure 2 Better location of building.....	8
Figure 3.1 Setbacks to primary and secondary road frontages	10
Figure 3.2 Setbacks to primary road frontage, side and rear.....	10
Figure 3.3 Dual occupancy primary, side and rear	10
Figure 4 Height of Buildings	13
Figure 5 Poor Roof Design.....	14
Figure 6 Better Roof Design.....	14
Figure 7 Poor example of Streetscape	14
Figure 8 Better example of Streetscape	15
Figure 9 Examples of Landscaping	18
Figure 10 Poor Driveway Design	20
Figure 11 Better Driveway Design.....	20
Figure 12 Dual-occupancies and subdivision	25
Figure 13 Recommended Distances for Poultry Farming Developments.....	29
Figure 14 Recommended Distances for Greenhouses/Igloos/Market Gardening	32

List of Tables

Table 1 Front Setbacks.....	9
Table 2 Setbacks for Intensive Livestock Agriculture	29
Table 3 Setbacks for Intensive Plant Agriculture	32

Outline

Applies to

1. Part 5 applies to all land in rural zone
2. Part 5 also applies for dwelling houses in the E3 zone
3. Part 1 of the DCP also applies to the land in the rural and E3 zoned land.

Background

Range of rural areas

Liverpool has a number of distinct rural environments. There are the western rural areas, which consist of large allotments, mostly west of The Northern Road. Some is used for agriculture while some is bushland. The area largely east of The Northern Road consists of smaller rural allotments, mainly 2 ha lots with 1.2 ha lots in the Austral area.

The area south of Camden Valley Way in Denham Court consists of largely 2 ha lots in the scenic hills and 1 ha lots in the valley. The other major rural area is west of The Northern Road, and consists of large blocks in agricultural uses. The rural land east of The Northern Road, is predominately in 2-5ha blocks, and is part of the Growth Centres. This means that this land will become residential land in the future.

Much of the rural areas have been used for agriculture for many years and the previous subdivision reflects these rural uses with most land in the 1.2 – 5 ha lots.

The E3 – Environmental Protection Living zone is contained within Part 5, which deals predominately with rural uses, as the E3 zone is used predominately on land, which has similar development standards within the *Liverpool LEP 2008* as the rural zones.

Link to Liverpool LEP 2008

The *Liverpool LEP 2008* provides a number of general provisions that apply to all land including that in the rural and E3 zones

Objectives

- a) To minimise potential land use conflicts between intensive agriculture and neighbouring land uses.
- b) To ensure new development maintains the rural character and recognises the diversity of rural zones.
- c) To maintain agricultural viability of rural land.
- d) To protect the natural environment including landform, waterways, air quality, native animals, threatened species populations, ecological communities or their habitats.
- e) To maintain the rural character and scenic landscape qualities of land in the vicinity of the Georges River and Nepean River.
- f) To preserve the rural character and scenic landscape qualities of the area.
- g) To provide design requirements for the range of uses permitted in the various rural zones.
- h) To provide design requirements to ensure that the range of uses permitted in the various rural zones are compatible with each other.
- i) To provide design requirements to ensure that the range of uses permitted in the various rural zones are compatible with development permitted in adjoining zones.

- j) To provide design requirements to ensure development in the rural zones are compatible with the natural environment.
- k) To provide design requirements to ensure that development in the rural zones are compatible with the requirements of *Liverpool LEP 2008*.
- l) To provide design requirements to ensure that development in the rural zones are compatible with the character and amenity of nearby areas (both existing and likely future) in terms of:
 - its scale, bulk, design, height, siting and landscaping,
 - its operation,
 - traffic generation and car parking,
 - noise, dust, light and odour nuisance,
 - privacy,
 - stormwater drainage,
 - hours of operation,
 - overshadowing.

1. Site Planning

Background

Rural areas within the Liverpool LGA, have maintained the rural aesthetic. Through a wide variety of land uses operate within areas zoned for rural use, development has used site planning and building design affectively to achieve the rural feel. Environmental Protection areas have significant environmental protection constraints that act similar to rural constraints, for the purpose of site planning.

Objectives

- a) To ensure that new development is compatible with and enhances the visual quality of the existing rural environment.
- b) To ensure that developments do not detrimentally affect the amenity of adjoining areas.
- c) To site buildings having regard to views and vistas, the landform, existing buildings and roads, and to minimise the visual impact of buildings.
- d) Does not restrict the uses of adjoining or existing agriculture.

Controls

Location of buildings

- 1. Buildings shall not be located on ridges or in places where they are too visible from the street.
- 2. Buildings shall be sited to maximise the retention of existing trees.
- 3. When siting buildings and seeking to maximise views, the visual impact of the building on the landscape is to be minimised.
- 4. Outbuildings and water tanks associated with rural dwellings are to be organised and planned in a group and not be predominantly from public view.
- 5. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.
- 6. The site layout should enhance the streetscape through the use of landscaping and built form.
- 7. Site planning should enable buildings to address streets and public open spaces.

Additional Controls on the location of Building in the E3 zone

- 1. The dwelling house must not be placed on land that is classified as Environmental sensitive land, as per the *Liverpool LEP 2008*.
- 2. The dwelling house must not be placed on land that is classified as within the residential flood planning area, as per the *Liverpool LEP 2008*.
- 3. The layout of the building should be designed in such a way to ensure that the majority of the dwelling is not visible from other land.
- 4. Development for a dwelling house must ensure that it has adequate access to a street, without additional clearing works.
- 5. Development for a dwelling house should ensure that connection to mains water supply or that a dam/rainwater tank of sufficient size can be placed without significant clearing.

6. Development for a dwelling house must ensure that there is adequate land available to dispose of sewage onsite, or into a mains sewer, without compromising surrounding water quality.



Figure 1 Poor location of building



Figure 2 Better location of building

2. Setbacks

Background

The setbacks from the street frontage can have a significant impact on the amenity of a rural or Environmental Protection area. It can also impact on access to and from a site and on traffic circulation. The environmental, economic and visual impacts of the various densities of rural development are readily noticeable.

Objectives

- a) To ensure appropriate development on site.
- b) That setbacks help maintain the rural character.

Controls

Site Coverage

Maximum site coverage: 10% except where otherwise specified for particular land uses.

Setback from Street frontage

1. Dwellings shall be setback as set out in the following table:

Table 1 Front Setbacks

Setback	Front Setback
Land within the RU1, RU2, or RU4 zone	20m
Land with a Frontage to Greendale Road	50m
Land that is classified as part of the Growth Centres	15m
Land within the E3 zone	20m

2. Minimum setback to secondary frontage from a public street: 10m.
3. Variation of the setback requirement may be considered in areas within the South West Growth Centre, where planning for new residential release is sufficiently advanced.

Setback from other boundaries

1. Minimum setback to side boundaries: 2m except where otherwise specified for particular land uses.
2. Minimum setback to rear boundaries: 10m except where otherwise specified for particular land uses.

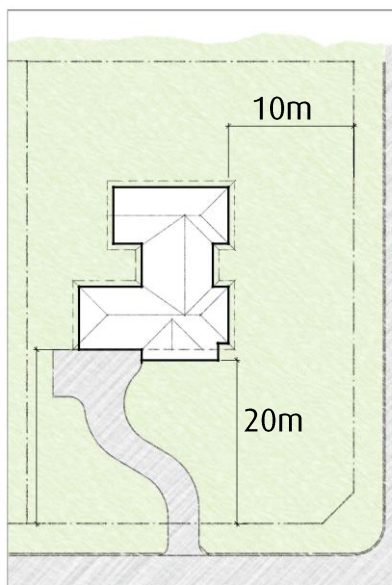


Figure 3.1 Setbacks to primary and secondary road frontages

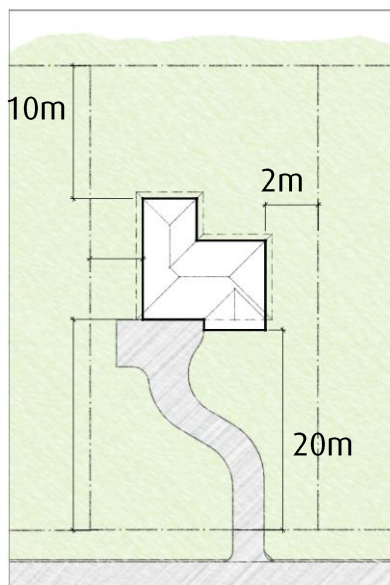


Figure 3.2 Setbacks to primary road frontage, side and rear.

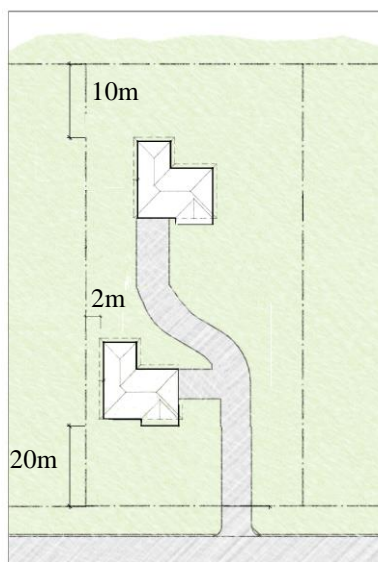


Figure 3.3 Dual occupancy primary, side and rear

Note:

- Council may consider variations to setbacks if it will result in a better environmental outcome or enhance the ability to subdivide land within the Growth Centres
- The clustering of the dwellings is encouraged. The purpose of Figure 3 is to illustrate the minimum setbacks and preferred dwelling siting.
- Images are not to scale.

3. Private Open Space and Landscaped Area

Background

Dwellings in Rural and Environmental Protection Areas require private open space. While this may not be too difficult to achieve it is nevertheless a need to be provided for.

Objectives

- a) To ensure that Private Open Space is provided for residential development.
- b) To ensure that areas of private open space are usable.
- c) To ensure that Private Open Space is clearly defined for private use, and is private, landscaped and screened from overlooking.

Controls

Dwellings

- 1. Dwellings shall have private open space area not less than 100sqm. Areas less than 2.5m in width do not qualify as private open space.
- 2. Within the E3 zone, private open space may be varied up to a maximum of 20% if the applicant can show that to provide the maximum level of private open space, would detrimentally effect the Environmentally sensitive land.
- 3. Private Open Space must be directly accessible from living areas.
- 4. Private Open Space should be located where they are not visible from the street.
- 5. If necessary, fencing should be provided to provide privacy if Private Open Space is located at the side of the dwelling.
- 6. Areas of private open space must receive at least 3 hours of direct sunlight.

4. Building Design, Style and Streetscape

Background

All developments have an impact on the streetscape and landscape in rural or Environmental protection areas. This impact can result from the location, design and height of buildings and structures. Streetscape is the urban environment created by the relationship of built elements to the public domain. The quality and scale of architecture, landscape elements, natural elements and works in the public domain determine the streetscape character. Ancillary elements of development such as advertising, driveways and fencing are important elements of the streetscape. To make a positive contribution to the streetscape, new development needs to reinforce the scale and character of existing buildings and landscape elements.

Objectives

- a) To protect the scenic, historic and cultural value of Liverpool's natural and built environment.
- b) To protect significant views and vistas to and from public places.
- c) To maintain the existing streetscape and rural aesthetic of the area.
- d) To minimise the visual impact of any large development in rural zones.
- e) To promote a high standard of urban design, particularly along Classified Roads.

Controls

Height in Rural Areas

Note: Height is generally not controlled by the *Liverpool LEP 2008* in rural zones. This is due to the varying and differing uses that can be found within rural zones, each with significant variations in height. Therefore the following restrictions generally apply.

Residential Heights in Rural Areas:

Residential Buildings are permitted to be a maximum of two (2) Storeys and an Attic in Height. This is equivalent to the height limit that is found across the residential zones of 8.5m.

Residential Heights in Environmental Protection Areas

Dwellings are permitted to be a maximum of (2) Storeys and an Attic in Height. Dwellings must be designed to blend in with the landscape, and minimal clearing works.

Other Non Residential Uses:

All non residential uses can have a general maximum height of 8.5m.

Further Restrictions on Height:

All development must fit in with the surrounding areas, and conserve and protect the rural nature of the area. Therefore the above heights are a guide only, and a merit based assessment will occur for all development above 8.5m for a dwelling, and above 8.5m for a non-residential building.

Towers

A landscape assessment shall be submitted showing that a tower would not have an adverse impact on the rural landscape.



Figure 4 Height of Buildings

Roof design

1. The roof pitch of a building is not to exceed 36 degrees.
2. Gabled and hipped rooflines are to be incorporated into the design of a building.

Building Materials

1. Materials must complement the rural landscape. Examples include stained timbers, brickwork, mud bricks, metal roofs and similar materials sympathetic to the Australian rural heritage.



Figure 5 Poor Roof Design



Figure 6 Better Roof Design

2. Buildings and structures must complement the rural landscape where possible. However Council will consider the use of the building when assessing building materials.

Colours

1. Natural earth colours and natural vegetation colours are to be emphasised on all buildings. (Examples include light ochres, silver greys, grey blues and olive greens.)
2. Highly reflective (shiny) colours are to be avoided for roofs and walls of buildings, including sheds.

Streetscape

1. Natural vegetation should be retained in setback to the street.
2. Buildings shall directly address the street frontage.



Figure 7 Poor example of Streetscape



Figure 8 Better example of Streetscape

Rural landscape

1. Except for driveways, no paved areas or “hard surfaces” are permitted in the front setback.
2. All development should attempt to maintain the existing natural environment.

Views, Scenic landscape and built features

1. Buildings shall not be sited that obstruct views and vistas.
2. Any significant natural and built features should be maintained.

E3 landscape

1. No paved areas or “hard surfaces” are permitted in the front setback.
2. All development should attempt to maintain the existing natural environment.
3. Timber decking is an alternative to paving, as it can be built with and around the existing treed landscape.

5. Landscaping and Fencing

Background

The landscaping of a development has a major role in maintaining the streetscape and landscape of rural areas. Landscaping assists energy efficiency and thermal control to dwellings. Vegetation screens are used to minimise the effects of odour, winds and enhance the visual quality of the development.

The landscaping must consider the existing streetscape and landscape character and the impact on neighbouring properties. The provided landscaping should make the site more attractive and soften the appearance of development.

Objectives

- a) That existing trees are retained whenever possible.
- b) To protect any areas of scenic quality.
- c) To preserve and enhance any significant natural features on site.
- d) To encourage the use of indigenous flora, especially on sites adjoining natural vegetation corridors.
- e) To encourage landscaping that is appropriate to the natural, cultural and heritage characteristics of its locality.
- f) To ensure the visual impact of development is minimised and integrated into natural surrounds and the streetscape.

Controls

Tree Planting

1. Existing trees and native vegetation are to be retained, protected and incorporated into the development proposal. This is particularly important for vegetation which forms part a ridgeline tree canopy and in foreshore areas (with the exception of weed species).
2. Ridgelines shall be visually enhanced through the mass planting of additional indigenous vegetation, including native undergrowth and canopy species.
3. The landscape design of a development must have regard to the prevailing weather conditions.
4. Trees are to be used to provide shade to buildings, outdoor recreation areas and car parking. Unless required for screening or noise attenuation purposes, solid wall or fences, which do not allow „through vision“ along allotment boundaries will not be allowed.
5. All other perimeter screen planting is to be native species.
6. Hard surfaces should be limited to access, car parking and private open space areas.

Landscaping for rural landscape

Landscaping for rural landscape is generally applied for dwellings, out buildings and other buildings. While dense planting in garden beds may form part of the landscape treatment the primary aim is to provide tree planting to enhance the rural landscape. In particular the landscaping shall involve the following:

1. The trees shall provide a canopy for the streetscape and rural landscape.
2. Shrubs may be used and preferably in mulched garden beds.

3. Trees shall only be planted in grass where there is a border or protection around the tree separating it from the grassed area.

Landscaping for screening

Landscaping for screening is generally applied to uses such as Intensive Plant Agriculture, Intensive Livestock Agriculture, Extractive Industries, outside storage areas and large storage buildings. The aim is to minimise the view of such buildings and items. It will involve the provision of trees and shrubs in mulched garden beds. In particular the landscaping shall involve the following:

1. The trees shall provide a canopy for the streetscape and soften the appearance of the rural environment, without unduly concealing approved on site signage.
2. Mulched garden beds shall incorporate ground covers that will cover the ground area.
3. Large shrubs shall be used under the tree canopy to screen the building or item.
4. Shrubs shall only be planted in mulched garden beds.

Fencing

1. Maximum height for solid fences at the front of site: 1.2m.
2. Maximum height for transparent fences at the front of site: 1.8m.
3. Fences at the front of site shall not be chain wire, metal sheeting, brushwood or electric fences.
4. Fences alongside and rear boundaries shall have a maximum height of 1.8m.
5. Where screening of a building or item is needed a solid fence may be provided behind intensive landscaping.



Figure 9 Examples of Landscaping

6. Car Parking and Access

Background

Car parking and safe access provision can have a major impact on the streetscape and landscape of rural areas. Refer to Part 1 for additional information about car parking and access requirements.

Objectives

- a) To provide adequate and safe vehicle entry and exit points.
- b) To ensure movement of vehicles on site is adequate.
- c) To provide adequate vehicle access and on-site car parking facilities for residents and visitors.
- d) To minimise the impact of driveways and parking areas on existing landscaping, landform and streetscape.
- e) To ensure pavement or driveway materials are sympathetic to the streetscape and surrounding landscape character.

Controls

Access

- 1. The location of access driveways should consider the natural features, topography and existing vegetation of the site. Access driveways should follow the topography and landscaping onsite.
- 2. Access driveways should be located where they are easily visible on the street. Avoid placing driveways at bends or where the road creates visibility problems for access points.
- 3. Development on sites located on classified roads may be required to provide a deceleration lane to ensure that the flow of traffic is not impeded.

Design and location of car parking and loading

- 1. Loading bays or parking for trucks, should be located in an area that is not visible from the street.
- 2. Large car parking areas are not to be visible from the street. Car parking areas must be clearly indicated through signage on site.
- 3. Should the site require overflow parking for special events, an area shall be designated that can be used for temporary car parking.



Figure 10 Poor Driveway Design



Figure 11 Better Driveway Design

7. Amenity and Environmental Impact

Background

Amenity is a major consideration for residents in rural areas. Rural activities such as intensive plant and livestock agriculture and rural industries have the potential to have a major impact on the amenity and environment of a rural area.

Objectives

- a) To minimise the Environmental impact of such issues as pollution, noise, traffic, odour and ensure that the local amenity is not affected.
- b) To restrict the size & intensity of some uses, where they may have an adverse affect on surrounding properties.
- c) To ensure that any future aircraft noise will be of minimal disturbance to development within the vicinity of the airport site.

Controls

Noise

Land uses that would create excessive noise will not be permitted. Land uses will be subject to the *Protection of the Environment Act 2008*.

Air

Land uses that would create excessive pollution and odour will not be permitted. Land uses will be subject to the *Protection of the Environment Act 2008*.

Water cycle

Stormwater and excess water associated with irrigation including nutrient enriched waters generated within the site are to be contained and treated on the site.

Hazardous materials

Storage and handling of fuels and chemicals (fertilisers, pesticides) is to be contained within areas that are impermeably floored and bunded.

8. Site Services

Background

There is a range of services that may need to be provided either on site or within the adjacent road reserve. Owners are required to provide some services and maintain some of the services on the site. Owners must also ensure that services provided on the site are protected from any potential damage.

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Waste management

1. Non-residential properties shall provide their own waste management.
2. Non-residential developments should provide details of their waste management system.
3. The storage of the garbage receptacles shall be screened from public view and from adjoining properties.

Letterboxes and House Numbering

1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Frontage works and damage to Council assets

1. Where a footpath, road shoulder, new or enlarged access driveway or is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

Electricity Sub Station

In some cases it may be necessary to provide an electricity substation at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

Sewer

Applications for development of land where reticulated sewage is not planned to be provided shall be accompanied by an application under *S68 of the Local Government Act 1993* for an On Site Sewer System. Development consent will not be issued until this application can be issued by Council.

9. Additional Requirements

Background

Liverpool LEP 2008 permits a range of non-rural land uses within the rural zones. Such development may be considered acceptable in that they are compatible with a rural environment and do not place excessive demand on services and infrastructure.

The following controls are additional to the provisions contained within Section 1-8 of this DCP chapter.

9.1 Dwelling Houses and Dual Occupancy

Background

Most rural properties will have a dwelling house for the occupants of the site. In some cases there will be a second dwelling on the site but which cannot be separately subdivided. The proliferation of dwelling houses and associated out buildings has the potential to have a major impact on the rural landscape. As such careful consideration should be given to the design, scale and location of such development on rural lots.

As per the provisions of LLEP 2008, dual occupancies can be either attached or detached with the exception of land zoned RU2 – Rural Landscape, in which case dual occupancies may be attached only.

Objectives

- a) To ensure that Dwelling Houses and Dual Occupancy are compatible with the rural environment.
- b) To ensure that the scale and location of dwellings retain the potential for rural agricultural uses and extractive industry.
- c) To ensure that dwellings are located and arranged to minimise the potential for land use conflicts.
- d) Ensure that external finishes have a minimal detrimental impact on the visual amenity of the area
- e) Encourage consideration of all components of Dwelling Houses and Dual Occupancy developments such as fencing, driveways and landscaping in the design process.

Controls

The following controls are in addition to those in Sections 1 – 8 of this DCP Chapter.

Building Appearance, Streetscape and Layout

- 1. Depending on the location and land use zoning of the property, the LLEP 2008 may stipulate a maximum floor area for dual occupancies.
- 2. An extension or alteration which creates attached dual occupancy housing is to ensure that design features complement the existing dwelling house.
- 3. An attached dual occupancy shall be compatible with the design features of the existing dwelling in terms of cladding, colour, building materials, windows, verandahs, roof form and pitch.
- 4. The front building line of the second dwelling is to be located behind the building line of the existing dwelling house. In the event two dwellings are constructed at the same

time, one dwelling shall be sited to present as the principal dwelling with the second dwelling to be subservient in scale.

5. The principal dwelling and second dwelling in rural dual occupancies shall be sited in close proximity in order to reflect the traditional rural landscape character of clustering buildings and to allow for larger expanses of undisturbed land that allows for the pursuit of rural activities. Dual occupancies proposed on land zoned RU2 – Rural Landscape must be attached to the principal dwelling.
6. Mirror reversed dual occupancies or replica dwelling designs are not supported.
7. Attached Dual Occupancy development shall be physically attached under the same roofline and have the general appearance of a large single dwelling house when viewed from the primary street frontage. Structures such as carports, skillion roofs, pergolas, covered awnings and the like are not acceptable as a mode of attachment,
8. In the case of Detached Dual Occupancy and Secondary Dwelling development, both dwellings shall possess compatible architectural treatments and building materials.
9. Dwellings must be located to minimise the removal of any existing vegetation.
10. Buildings should be visually unobtrusive in the rural landscape.
11. Buildings should complement the characteristics of the landform. Cut and Fill must be kept to a minimum.
12. The roofline of all buildings should reflect the land profile within the vicinity of the development.
13. The colours of roof and wall cladding shall be generally low reflective neutral/earth tones, compatible with existing development on the site.
14. On land zoned RU2 – Rural landscape dual occupancies are not permitted to be created with semi-detached dwellings that have resulted from the subdivision of an attached dual occupancy. Refer Figure 12 below.

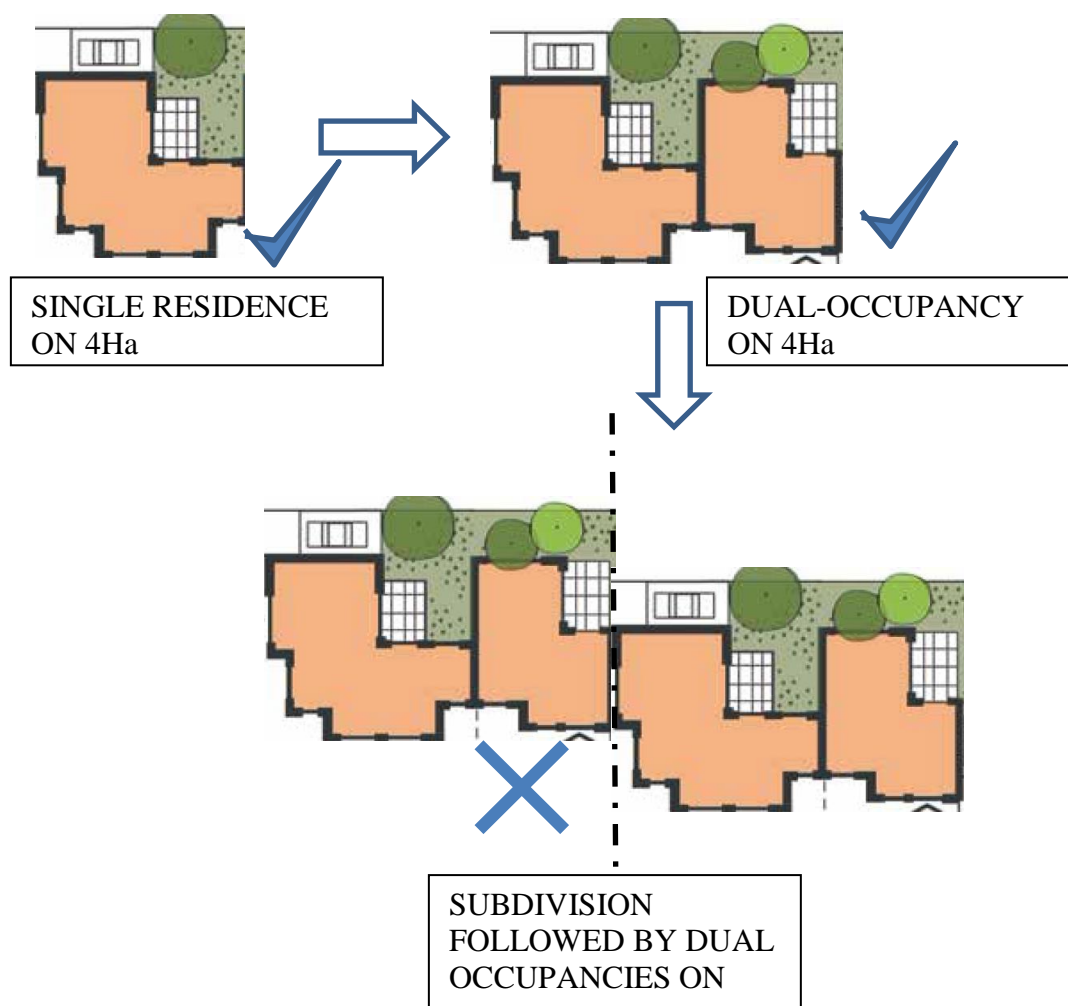


Figure 12: Dual-occupancies and subdivision

Car Parking and Access

Car parking areas, internal driveways and access driveways shall be constructed of all-weather material.

Rural Character

In areas of high quality natural settings such as elevated, sloping land with natural bushland, secondary dwellings should be visually unobtrusive. A visual impact assessment should be provided to support a proposed secondary dwelling. Council may require additional works to moderate the impact of the secondary dwelling to Council's satisfaction. Such works may include landscaping, mounding, or requiring relocation to a less obtrusive position.

Environment

1. Secondary dwellings must be located to minimise development on steeply sloping land to ensure that runoff from impervious surfaces is managed properly.
2. Secondary dwellings must be located to minimise any impacts on remnant Cumberland Plain Woodland and other environmentally sensitive land.

3. Secondary dwellings must be located to avoid bushfire hazard, consistent with Ministerial Direction 4.4 (Planning for Bushfire Protection).

Infrastructure

Applications for a dual occupancy must provide evidence of adequate provision of urban services and facilities to the satisfaction of NSW instrumentalities and Council. Particular care should be taken with the on-site treatment and disposal of effluent, which can have adverse environmental impacts, particularly on sloping sites, sites subject to flooding or smaller sites.

9.2 Health Consulting Rooms

Background

There is the need for Health consulting rooms in rural areas in the same way as there is in residential areas. While these are an intensification of the use of the site these can potentially be carried out with minimal Environmental impact.

Objectives

- a) To ensure that Health consulting rooms are compatible with the rural environment.
- b) To minimise any adverse impact of Health consulting rooms on surrounding properties.
- c) To ensure that the appearance of the building remains consistent with that of a Dwelling house.

Controls

The following controls are in addition to those in Sections 1 – 8.

Building Appearance, Streetscape and Layout

Health Consulting Rooms shall be located within the dwelling house on site.

Car Parking and Access

1. Car parking areas, internal driveways and access driveways shall be constructed of hard standing, all weather material. Car parking areas, internal driveways and access driveways must be clearly delineated.
2. Car parking areas should be located at the side or rear of the premises.

Amenity and Environmental Impact

Council may restrict the hours of operation to between 8.00 am and 6.00 pm, Monday to Friday, and 8.30 am to 12 noon on Saturday with no work to be conducted on Sundays or public holidays.

9.3 Home Businesses

Background

There is a demand for people to be able to work from home in rural areas in addition to operation of an agricultural business. Such businesses have the potential to have significant impact on rural areas.

Objectives

- a) To ensure that Home Businesses are compatible with the rural environment.
- b) To minimise any adverse impact of Home Businesses on surrounding properties.

Controls

The following controls are in addition to those in Sections 1 – 8.

Building Appearance, Streetscape and Layout

Where the Home Business is carried out in an outbuilding that building shall comply with the other requirements of the DCP. Council may limit the size of the building to ensure that the business does not become excessive and begin to have an adverse impact on the rural environment.

Car Parking and Access

- 1. Car parking, internal driveways and access driveways shall be constructed of hard standing, all weather material.
- 2. Car parking should be located at the side or rear of the premises.

Amenity and Environmental Impact

1. Council may restrict the hours of operation to between 8.30 am and 5.30 pm, Monday to Friday and 8.30 am to 12 noon on Saturday with no work to be conducted on Sundays or public holidays.
2. Council may require the preparation of a Noise Impact Statement prepared by a suitably qualified Acoustics Consultant in circumstances where the proposed Home Business is likely to generate significant noise levels.
3. Home businesses, which generate odours, will only be approved if those odours can be controlled on the site.
4. Council reserves the right to issue a 12 month consent on Home Business proposals, where it is considered that some doubts may exist about the extent of the impacts of the use on the adjoining residential area. In proceeding with the commencement of the use, the applicant is advised that Council is under no obligation to extend the development approval in circumstances where it is demonstrated that the use in operation has a detrimental impact on adjoining residential properties and the residential neighbourhood.
5. Home Businesses involving food preparation shall provide details of suitable odour-controlling installations such as filtered exhausts (including full manufacturer's details and specifications) prior to approval being considered.

9.4 Intensive livestock agriculture

Background

Intensive livestock agriculture is permitted in some rural areas. Such a use involves concentrated resources in the production of livestock. There are potential impacts on the rural environment involving odour, noise, and effluent impacts. It also involves intensive input of resources such as water and feed.

Objectives

- a) To ensure that Intensive livestock agriculture is compatible with the rural environment.
- b) To minimise any adverse impact of Intensive livestock agriculture on surrounding properties.
- c) To minimise the Environmental impact of Intensive livestock agriculture on surrounding areas and the creek system.

Controls

The following controls are in addition to those in Sections 1 – 8.

Subdivision, Frontage and Allotment Size

Minimum Allotment Size: 8ha

Site planning

The selection of a site for Intensive livestock agriculture shall address adjoining uses, vistas, access and drainage.

Density and Setbacks

Site Coverage

Maximum Site Coverage: 10%.

Setbacks

Sheds for the housing of farmed animals or birds and solid and liquid waste storage/handling areas shall be setback in accordance with Table 2. (Also refer to Figure 12).

Table 2 Setbacks for Intensive Livestock Agriculture

Setback	New Farms	Existing Farms
Front and rear boundary	100m	50m
Side boundary	50m	10m
Dams, watercourses, wells and dry gullies	100m	50m
Dwellings on adjoining property in a Rural zone, R5 zone or other sensitive population	200m	150m
Other Intensive livestock agriculture premises	500m	500m
Dwellings on same property	50m	50m
Sheds for the housing of farmed birds	15m	15m
Existing vegetation	20m	15m
Residential zones	500m	500m

Note: These distances are a minimum and each application will be assessed on its merits. Council has the discretion to increase the minimum distances dependent upon the topography, prevailing wind direction, vegetation and other Environmental characteristics of the site.

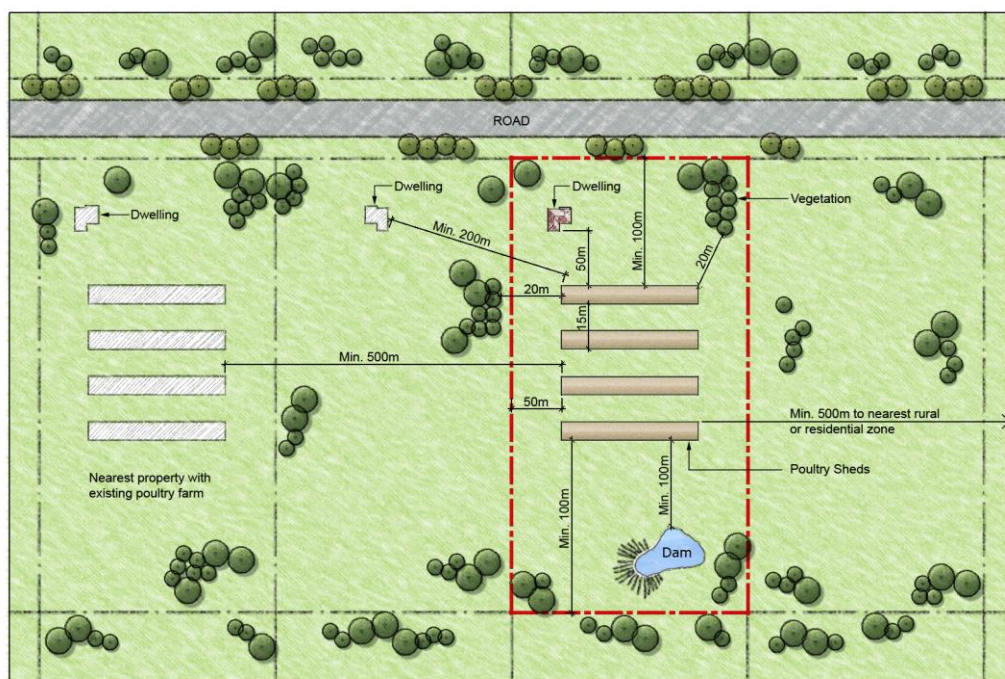


Figure 13 Recommended Distances for Poultry Farming Developments

Landscaping and Fencing

All structures are to have screen landscaping in order to minimise visual impact. A landscaping buffer should be established around the poultry sheds. Screen planting is to be located at least 12m from poultry sheds to allow for adequate air movement.

Car parking and Access

1. Details should be submitted to Council outlining the timing and manner of transport activities associated with the poultry farm. Details submitted should include the frequency, times, routes and number of bird deliveries and pick-ups, feed deliveries and clean-outs and gas deliveries.
2. Depending on the amount of traffic generated by the use, paving of car parking, internal driveways and access driveways may be required. If not an all weather surface may be required to be provided for car parking, internal driveways and access driveways. Car parking areas, internal driveways and access driveways must be clearly delineated.

Amenity and Environmental Impact

Farm Management Plan

A Farm Management Plan (FMP) is to be submitted with the DA. A suitably qualified person or rural consultant should prepare this document. This document should provide details of how the proposed development will address the following issues.

Waste Management

The FMP shall specify the method by which wastes including dead birds are to be disposed. The incineration of dead birds is prohibited, unless within an authorised incinerator and in accordance with EPA guidelines. On-site disposal of manure and composting is not acceptable. The preferred method of disposal is by waste contractors. The proposed method of wastewater collection and treatment including that water used in hose down areas is to be detailed.

Control of Pests and Vermin

The FMP shall demonstrate that adequate vermin control will be carried out with a regular fly and pest control program. The control program shall comply with the requirements of the *NSW Agriculture and Fisheries* and shall be maintained to the satisfaction of Council.

Dust Control

All areas of vehicular access are to be stabilised and treated in a manner to minimise dust nuisance caused by traffic generation. To eliminate dust as a nuisance, grass cover should be maintained and grown wherever practical and possible. The FMP shall also outline how dust from poultry sheds and ventilation sheds will be minimised and managed.

Pesticides

The FMP shall incorporate a schedule of all pesticides and other toxic chemicals likely to be stored and used upon the site. The FMP shall stipulate the purpose for which such chemicals are to be used and the manner of application. All use of chemicals will be in compliance with the *Pesticides Act 1999* and *Protection of the Environment Act 2008* and *Workcover*.

Odour Control

1. The FMP shall demonstrate adequate odour control from poultry sheds, waste storage and handling areas. Odour impacts can be dispersed by the addition of appropriate landscaping including upper and lower storey vegetation, and application of setbacks.

2. Fans on tunnel-ventilated sheds should be directed up rather than down. Odour mitigation efforts need to address the shed ventilation systems, population size, climatic conditions and topography of the site. The location of potential sensitive population should also be considered when siting elements of the development.

Noise Control

The FMP shall include strategies to minimise noise nuisance produced on site. The FMP shall include feed and gas deliveries and bird pick up events. The FMP shall provide information of separation distances, equipment selection and use, mitigation measures and hours of operation. Climatic conditions and topography should be considered with regard to noise transmission. (Refer to the *EPA Industrial Noise Policy* and the *EPA Road Traffic Noise Policy*).

Water Cycle

1. The FMP shall include advice from *Sydney Water* that the supply of water to the property is adequate. Where mains water supply is not available to the site, the FMP shall demonstrate that any alternative water supply is of adequate quality for the intended purpose.
2. Council consent is required to construct or form a dam. The FMP shall demonstrate that surface, ground and collective water bodies will not be polluted by any impacts of the development. Information should be provided as to the drainage and disposal of stormwater, the location of creeks and surface run off patterns, the proposed irrigation system and measures to clean and treat dirty water on site. Pollution mitigation efforts can include separation, hydrological isolation, water treatment or otherwise.

Site Services

The storage of the garbage receptacles shall be screened from public view and from adjoining properties.

9.5 Intensive plant agriculture

Background

Intensive plant agriculture is permitted in some rural areas. Such a use involves concentrated resources in the production of vegetables, flowers and other plants. There are potential impacts on the rural environment involving odour, noise, and effluent impacts. It also involves intensive input of resources such as water and fertiliser.

Objectives

- a) To ensure that Intensive plant agriculture is compatible with the rural environment.
- b) To minimise any adverse impact of Intensive plant agriculture on surrounding properties.
- c) To minimise the Environmental impact of Intensive plant agriculture on surrounding areas and the creek system.

Controls

The following controls are in addition to those in Sections 1 – 8.

Subdivision, Frontage and Allotment Size

Minimum Allotment Size: 2ha.

Density and Setbacks

Site Coverage

Maximum Site Coverage: 20%, including any igloo structures.

Setbacks

1. Sheds for the Intensive plant agriculture shall setback in accordance with Table 3.

Table 3 Setbacks for Intensive Plant Agriculture

Setback	Distance
Front boundary	20m
Side and rear boundary	10 m
Dwellings on adjoining property in a Rural zone, R5 zone or other sensitive population	100 m
Dwelling on property	20 m
Existing vegetation including any vegetation on neighbouring land	20 m
Residential zone	300 m
Dams, watercourses, wells and dry gullies	40 m
Other similar farms	150 m

(Refer to Figure 12)

2. All greenhouses/igloos/market gardening farms shall be setback behind any dwellings and landscape screens on the site.
3. These distances are a minimum and each application will be assessed on its merits. Council has the discretion to increase the minimum distances dependent upon the topography prevailing wind directions, vegetation and other Environmental characteristics of the site.

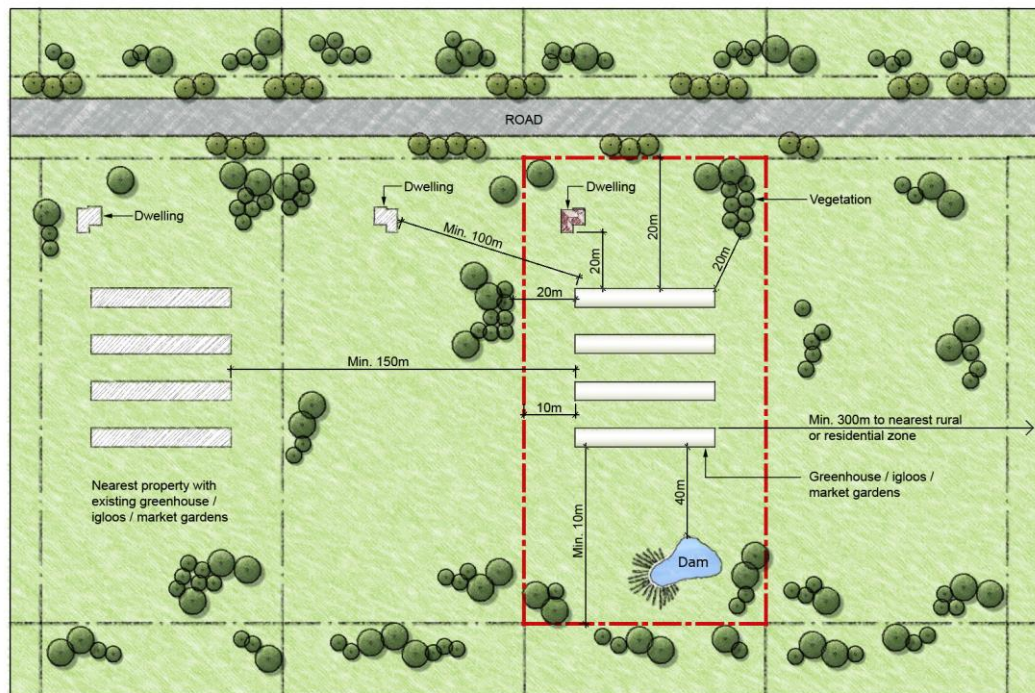


Figure 14 Recommended Distances for Greenhouses/Igloos/Market Gardening

Building Design, Style and Streetscape

Appearance

Only new and durable materials shall be used in the construction of such greenhouses/igloos/market gardens and such structures shall be maintained in a sound and tidy condition free from all defective or damaged material including plastic/fabric covering at all times.

Height

Maximum Height of Greenhouses/Igloos: 4m

Landscaping and Fencing

1. A suitable landscape screening or buffer shall be established between any boundary and greenhouses/igloos/market gardens to effectively mitigate the visual impact of the development.
2. Screen trees need to limit shading of growing areas, provide porous filter and capture dust and provide a windbreak.
3. The landscaped screening or buffers shall be established through planting trees or shrubs (minimum 1.5m in height). This will occur prior to the erection of any structures and shall at all times be adequately maintained to enhance its growth. Landscaped and grassed areas should be maintained in a neat manner.
4. Existing native vegetation should be protected or enhanced where possible to maintain the visual amenity and protect the ecological integrity of the rural area.

Car Parking and Access

1. All areas of vehicular access are to be stabilised and treated in a manner to minimise dust nuisance caused by traffic generation. To eliminate dust as a nuisance, grass cover should be maintained and grown wherever practical and possible.
2. Details should be submitted to Council outlining the timing and manner of transport activities associated with the market garden. Details submitted should include the frequency, times, routes and number of deliveries and pick-ups.
3. Depending on the amount of traffic generated by the use, paving of car parking, internal driveways and access driveways may be required. If not an all weather surface may be required to be provided for car parking, internal driveways and access driveways. Car parking areas, internal driveways and access driveways must be clearly delineated.

Amenity and Environmental Impact

1. Any chemicals or pesticides applied shall be used in strict accordance with the requirements of relevant legislation (e.g. *Pesticides Act 1999*, *Protection of the Environment Operations Act 2008* and *Workcover*).
2. Mechanical equipment, such as heaters, air conditioners, frost fans etc. shall not be used or operated to create an artificial environment unless the requirements of the *Protection of the Environment Act 2008* have been satisfied. In this regard Council shall be consulted prior to the installation or use of any such equipment.

Water cycle

1. The FMP shall include advice from *Sydney Water* that the supply of water to the property is adequate. Where mains water supply is not available to the site, the FMP shall demonstrate that any alternative water supply is of adequate quality for the intended purpose.
2. Council consent is required to construct or form a dam. The FMP shall demonstrate that surface, ground and collective water bodies will not be polluted by any impacts of the development. Information should be provided as to the drainage and disposal of stormwater, the location of creeks and surface run off patterns, the proposed irrigation system and measures to clean and treat dirty water on site. Pollution mitigation efforts can include separation, hydrological isolation, water treatment or otherwise.
3. A minimum of 800sqm should be left void to alleviate the effects of the property's septic system.

9.6 Rural Industries

Background

Rural industries are permitted in some rural areas. They may involve the processing of rural produce or providing a service to rural properties in the local area. They have a potential to impact on the rural environment.

Objectives

- a) To ensure that Rural Industries are compatible with the rural environment.
- b) To minimise any adverse impact of Rural Industries on surrounding properties.

Controls

The following controls are in addition to those in Sections 1 – 8.

Site Planning

The selection of a site for a Rural Industry shall address adjoining uses, vistas, access and drainage.

Density and Setbacks

Buildings and Outside Storage Areas are to be sited at least 20m from a public street and from any boundary where there is a dwelling on an adjoining property.

Building Appearance, Streetscape and Layout

Rural Industries should maintain the rural streetscape. Designs should complement the surrounding buildings in relation to materials used, colours and building form.

Landscaping and Fencing

1. Planting/landscaping is to be used to screen buildings from the roadway and from neighbouring dwellings.
2. Outdoor storage yards are to be located behind buildings or screen walls so they are not visible from a public place or neighbouring property. Screen walls are to be compatible with respect to design, materials used and colours of buildings on site. Earth mounding and landscaping can also be used.
3. Chained wire fences for security purposes are to be located behind the landscaped setback area.

Car Parking and Access

1. Details should be submitted to Council outlining the timing and manner of transport activities associated with the poultry farm. Details submitted should include the frequency, times, routes and number of bird deliveries and pick-ups, feed deliveries and clean-outs and gas deliveries.
2. Depending on the amount of traffic generated by the use, paving of car parking, internal driveways and access driveways may be required. If not an all weather surface may be required to be provided for car parking, internal driveways and access driveways. Car parking areas, internal driveways and access driveways must be clearly delineated.

Amenity and Environmental Impact

1. Rural Industries that are likely to cause adverse Environmental impact and which do not satisfy the requirements of *Protection of the Environment Operations Act 2008* will not be permitted.
2. Council may limit the hours of operation of a Rural Industry where there is the likelihood of adverse impact on the amenity of the local area.

9.7 Roadside stalls

Background

Roadside stalls provide fresh produce to passing travellers and the local community. There is potential significant impact on the rural streetscape and landscape and also impact on traffic movement and safety.

Objectives

- a) To ensure that roadside stalls are compatible with the rural environment.
- b) To minimise any adverse impacts of roadside stalls on surrounding properties.
- c) To minimise any adverse impact of roadside stalls on road safety and traffic movement.

Controls

The following controls are in addition to those in Sections 1 – 8.

Subdivision, Frontage and Allotment Size

Minimum Frontage: 20m.

Site Planning

Roadside stalls must be located immediately behind the front boundary of the site.

Density and Setbacks

Maximum Floor Space: 20sqm.

Building Appearance, Streetscape and Layout

1. Maximum height of structure: 3m.
2. No trees shall be removed for the erection of a stall.
3. The location of the stall must consider the streetscape and natural features of the site.

Landscaping and Fencing

Landscaping shall be provided around the Road Side Stall.

Car Parking and Access

1. Sites with poor visibility for vehicles will not be permitted. Roadside stalls will not be permitted at bends or where it is unsafe for vehicles to pull over.
2. Car parking areas, internal driveways and access driveways must be made of a hard standing, all weather material. Car parking areas, internal driveways and access driveways must be clearly delineated.

Amenity and Environmental Impact

1. Roadside stalls shall not operate facilities that produce any excessive noise or pollution.
2. Any waste that is produced must be disposed of daily. Details must be provided of waste storage on site.

9.8 Communication Facilities

Background

There is a need to permit Communication Facilities to allow sufficient coverage for uses of mobile telephones. This need is balanced by the need to consider the Environmental impact of these on rural areas. The Australian Communications Authority also manages Telecommunications Facilities.

Objectives

- a) To ensure that Communication Facilities are compatible with the rural environment.
- b) To minimise any adverse impact of Communication Facilities on surrounding properties.
- c) To minimise the number of Communication Facilities by encouraging the co-location and sharing of facilities.
- d) To minimise any health risks associated with the emission of electro-magnetic radiation.
- e) To ensure that Telecommunications Facilities are not within close proximity to dwellings or sensitive populations in order to minimise the potential of electro-magnetic radiation exposure.

Controls

The following controls are in addition to those in Sections 1 – 8.

Site Planning

1. The selection of a site shall involve a site analysis of the existing landscape.

2. Existing and future potential for co-location of Telecommunications Facilities needs to be considered.
3. The erection of any new Telecommunications Facility must be proven to be required only where no available alternative for co-location is possible.
4. The construction of any Telecommunications Facility must have the demonstrated potential for co-location of additional facilities and must be addressed as part of any proposal.

Site Location

1. Telecommunications Facilities and associated ground facilities will not permitted on land that is *Environmentally Significant* as identified in *Liverpool LEP 2008*.
2. Telecommunications Facilities and associated ground facilities will not permitted on land below the PMF level.

Density and Setbacks

A Telecommunications Facility shall be set back 300m from any dwelling or sensitive population unless the annual average exposure limit does not exceed 0.2uW/cm2.

Building Appearance, Streetscape and Layout

1. The shape, height and colour of the Telecommunications Facility shall be addressed in order to ensure that visual amenity is maintained.
2. A Telecommunications Facility is not to be located where it will detract the heritage significance or settings of a heritage item or potential archaeological site.
3. Wherever possible, Telecommunications Facilities should be of a “slimline monopole” construction.
4. Advertising signs of any type, including logos are not permitted on the Telecommunications Facility.
5. Night illumination is not permitted; except where a proposed Telecommunications Facility infringes the *Obstacle Limitation Surface* (OLS) for aircraft safety.

Landscaping and Fencing

1. A Telecommunications Facility shall be located where the vegetation, landform or features of an open space location will adequately screen or reduce the impact of the Telecommunications Facility from public areas.
2. A Telecommunications Facility must be located a sufficient distance from any existing trees to allow access.
3. Landscaping is required where any existing vegetation will not adequately screen a Telecommunications Facility.
4. Where landscaping is required, trees must be located a sufficient distance from the Telecommunications Facility to allow access.
5. All sites for Telecommunications Facilities and associated ground facilities must be enclosed by a minimum of 1.8m open mesh or similar fencing to prevent public access to the site in order to maintain public safety.

Amenity and Environmental Impact

1. All sites must have warning and information signs displayed to minimise public risk.
2. The level of electro-magnetic radiation emitted from any Telecommunications Facility must not exceed the limit of 0.2uW/cm².
3. Any Telecommunications Facility, which is no longer needed, or no longer in operation shall be removed by the carrier at its own cost and restore the land to its natural state, within a three (3) month period. The carrier must also notify Council by letter prior to the removal of any Telecommunications Facility.
4. All sites for Telecommunications Facilities and associated ground facilities must be enclosed by a minimum of 1.8m open mesh or similar fencing to prevent public access to the site in order to maintain public safety.
5. If at any one time a Telecommunications Facility is no longer needed, or no longer in operation, the carrier will, except otherwise agreed with Council, at its own cost remove the structure and facilities and restore the land to its natural state, within a three (3) month period. The carrier must also notify Council by letter prior to the removal of any Telecommunications Facility.
6. Once development has been completed on the site, the carrier must then restore the site to its previous state. Under the *Telecommunications Code of Practice 2008*, this work must commence within 10 working days after completion of the development.

9.9 Places of Public Worship

Background

Some places of public worship seek to operate in rural areas. There is a trend for places of public worship to locate in rural areas, sometimes in conjunction with an Education Establishment. These are an intensive use of land with the potential for significant impacts on the streetscape and rural environment.

Objectives

- a) To ensure that Places of Public Worship are compatible with the rural environment.
- b) To minimise any adverse impact of Places of Public Worship on surrounding properties.
- c) To minimise any adverse impact of Places of Public Worship on road safety and traffic movement.

Controls

The following controls are in addition to those in Sections 1 – 8.

Subdivision, Frontage and Allotment Size

Minimum site area: 1 ha.

Site Planning

Site Location

1. Places of Public Worship should be located:
 - On streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles.
 - Where traffic control devices do not impede vehicular access to site.

2. Places of Public Worship shall not be permitted adjacent to activities, which generate significant noise or air pollution.

Site Planning

The site layout should ensure that the front entrance to the Place of Public Worship is easily located and accessible.

Building Appearance, Streetscape and Layout

1. Maximum height: 8.5m and buildings must be consistent with the surrounding amenity.
2. Spires, towers and similar structures shall have a maximum height of 15m and may be considered on the basis of their bulk and scale, the extent of their overshadowing, and their contribution to the streetscape.
3. Buildings that are for the purpose of ancillary uses to a place of public worship must be single storey and comply with all relevant built form controls within this section.

Car Parking and Access

Overflow car parking may be required to be provided. This may be provided as a grassed area.

Amenity and Environmental Impact

1. Details must be provided of the intended times for services and other ancillary uses. Council will stipulate what times these events are permitted to be held.
2. An ancillary use includes schools, halls, residence, libraries or other uses directly associated with the Place of Public Worship.

Landscaping

1. A landscaped buffer zone of at least 10 metres wide must be provided to the side and rear boundaries of the site. The buffer zone shall not be used for parking areas or the like.

9.10 Landfill

Background

Landfill is sought when the topography of land does not suit the proposed economic use of land. This has potential to have a significant impact on the streetscape and rural landscapes as well as the water cycle particularly where Landfill involves flood prone land.

Objectives

- a) To ensure that Landfill is compatible with the rural environment.
- b) To minimise any adverse impact of Landfill on surrounding properties.
- c) To minimise the environmental impact of Landfill on surrounding areas and the creek system.

Controls

The following controls are in addition to those in Sections 1 – 8.

Site Planning

1. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.
2. The site layout should enhance the streetscape through the use of landscaping.

Density and Setbacks

Minimum setback for Landfill from the street frontage, side and rear boundaries: 20m.

Building Appearance, Streetscape and Layout

Minor filling of land to fill a natural depression

1. Land shall not be filled higher than the land at the edge of the depression.
2. Minor filling to make the land reasonably level with the balance of the site shall be turfed to ensure that no soil erosion takes place.

Major Landfill to a former extractive industry or similar

1. Land shall not generally be filled higher than the level of land at the edge of the Landfill.
2. Upon completion major land filling shall be turfed and landscaped to ensure that no soil erosion takes place and to re-instate the rural environment.
3. Landfills are not permitted to operate on sites where there are significant vistas or areas of natural significance.

Landscaping and Fencing

The setback from the street frontage, side and rear boundaries shall be intensely landscaped prior to commencement of Land filling to screen the landfill and to help reduce the dispersal of dust.

Amenity and Environmental Impact

Construction

1. Material imported to the site should be:
 - Non-putrescible.
 - Free of slag, hazardous, contaminated, toxic or radioactive material.
 - Free of industrial, medical or building waste.
2. Imported material should not originate from a contaminated site unless:
 - That material has been scientifically tested and the materials approved for disposal as clean fill, or
 - The site from which the material originates has been demonstrated by suitable investigation to be free of contamination to the satisfaction of Council.
3. Landfill activity which involves excavation or the disturbance of the natural surface should not commence on land which has been identified as contaminated or which has been used at any time for activities listed in Appendix A of the Policy for the Identification, Evaluation and Remediation of Contaminated Land unless:
 - The site has been demonstrated by suitable investigation to be free of contamination to the satisfaction of Council, or
 - The proposed activity will not disturb any identified contamination so as to cause an adverse impact on the environment.
4. All soil testing should comply with the Environment Protection Authority (EPA) Guidelines and *ANZECC and NHMRC Guidelines for the Assessment and Management of Contaminated Sites*.

5. Records of the source of imported material (including the address and owner of the source site); the nature, quantity and date of all incoming loads; the name of the carrier and the vehicle registration number should be maintained by the applicant/operator and supplied to Council on a monthly basis together with results of chemical testing of that material.
6. Where the landfill activity and/or dam construction involves the excavation and removal of material from the site, the excavated material is to be tested for contamination prior to commencement of that excavation and proven to be free of contamination. All material leaving the site is to be disposed of to the satisfaction of the *Department of Environment and Climate Change* and Council. Records of the quantity and nature of the material excavated and removed from the site should be maintained by the applicant/operator. Records of the carrier, vehicle registration number, and destination of the material should also be maintained. Proof of the means of disposal of the excavated material should be supplied to Council on a monthly basis.

Water cycle

Stormwater runoff and/or flood characteristics should not be altered to the detriment of others by:

- The deflection and/or concentration of stormwater runoff.
- Restricting the width of overland flow paths and/or waterway areas, or
- Increasing the velocity of flow of natural drainage.

9.11 Dams

Background

Dams have in the past been constructed to harness rainwater for agricultural uses particularly in those areas where there is not reticulated water supply. Dams can contribute to the rural landscape but also have the potential to have significant Environmental impact.

Objectives

- a) To ensure that Dams are compatible with the rural environment.
- b) To minimise any adverse impact of Dams on surrounding properties.
- c) To minimise the Environmental impact of Dams on surrounding areas and the creek system.
- d) To ensure all dams are adequately and safely constructed.

Controls

The following controls are in addition to those in Sections 1 – 8.

Density and Setbacks

To avoid damages associated with potential overflow or seepage, dams are not to be sited within 50m of utility installations, streets or dwellings.

Building Appearance, Streetscape and Layout

1. Maximum height of the dam wall above top water level: 300mm.
2. Maximum batter ratio for dam walls is 3:1.

Landscaping and Fencing

The area around the Dam shall be landscaped to reduce evaporation and make the dam more attractive.

Amenity and Environmental Impact

1. The material to be used in the construction of the Dam shall not contain contaminated material.
2. The Dam shall be constructed to be structurally sound so that it would not fail in a PMF event.

Water cycle

3. Dams are to be designed and constructed to ensure that they do not result in the flooding of neighbouring properties by:
 - The deflection and/or concentration of stormwater runoff.
 - Restricting the width of overland flow paths and/or waterway areas.
 - Increasing the velocity of flow of natural drainage.
4. Dams are to be designed and constructed to control storm event spillway flow such that:
 - Flow is not concentrated onto neighbouring properties.
 - Runoff is dispersed as closely as possible to the original overland flow regime.
5. Dam construction is not to affect natural water flows on adjoining and downstream properties and is to be constructed off-line of the natural water flows.
6. Dam construction is not to adversely affect adjoining and downstream properties in flooding.

9.12 Extractive Industries

Background

Extractive industries are located where ever the mineral deposit is. The mineral deposit can have a significant economic benefit for the wider community. For this reason the State Government has protected such deposits so that other developments are not located too close to these and thereby avoiding land use conflicts. Such sites once mined provide opportunities for a landfill and rehabilitation. This also requires management due to the potential land use conflicts.

Objectives

- a) To ensure that Extractive industries are compatible with the rural environment.
- b) To minimise any adverse impact of Extractive industries on surrounding properties.
- c) To minimise any adverse impact of Extractive industries on road safety and traffic movement.
- d) To ensure that the site can be eventually rehabilitated satisfactorily.

Controls

The following controls are in addition to those in Sections 1 – 8.

Density and Setbacks

Extractive Industries shall observe the following setbacks:

1. 40m from any potential habitats for threatened species.
2. 200m from any critical habitats for endangered species.
3. Extraction should not occur within 200m of a dwelling.

Extractive Site:

The extractive site should have all landscaping and fencing measures implemented to minimise visual pollution within the rural landscape.

Streetscape:

The extractive industry site shall present a rural appearance to the streetscape through the use of endemic vegetation plantings to screen the site.

Landscaping and Fencing

Earth mounding and screen planting is to be provided around the perimeter of land proposed for extractive industry developments, landfill operations and rural industries. Proposed species are to be of suitable height and spread to screen the development from neighbouring land uses and the roadside and to be used as a means of dust control. Where an acoustic barrier is necessary, earth mounding is to be of an appropriate height.

Car Parking and Access

Extractive industries shall provide car parking at the rate of one car space per worker on site. This car parking shall meet the requirements of Part 1.

Amenity and Environmental Impact

1. Any machinery or associated equipment should be stored in a structure, when not being used.
2. Proponents must prepare a Dust Suppression Plan which identifies the range of measures to be used to minimise dust generation.
3. Stockpiles of materials should be stabilised and maintained to reduce any potential for dust nuisance.

Noise

Proponents must submit a Noise Impact Assessment Report which is to be prepared by a suitably qualified person and shall address a range of potential noise emission matters including (but not limited to) the following:

- The existing acoustic environment including a statistical breakdown of the meteorological conditions (prevailing winds, temperature, humidity and inversion details) and any topographical features of the subject site and surrounding locality which may influence potential noise, blasting and/or vibration impacts;
- Proposed hours of operation of the extractive industry operation including proposed hours of operation of trucks entering and exiting the site;
- Likely noise levels of any fixed and mobile extractive industry equipment which generates noise, including haulage trucks.
- Existing ambient noise levels at all residential dwellings within 1km or other sensitive land uses not associated with the extractive industry operation;

- Likely noise levels at all dwellings or other sensitive land uses within 1km not associated with the extractive industry operation; and
- Proposed mitigation measures and management practices.

Rehabilitation

1. Any DA must also submit a rehabilitation plan.
2. A site plan showing the proposed post-extraction final land use is required. This site plan shall include the following requirements:
 - The nature, location and duration of post-extraction land uses;
 - Expected final land form, including drainage lines; and
 - Proposed areas designated for the final proposed land use and other areas reserved for vegetation.
 - The Development Application should also address the program for the removal of all buildings and structures from the site.

Hours of operation

The Extractive Industries shall only be permitted to operate between the hours of 7.00 am to 5.00 pm Monday to Friday and 7.00 am to 12.00 noon on Saturdays.

9.13 Cemeteries, Crematoriums and Funeral chapels

Background

Cemeteries, Crematoriums and Funeral chapels are sensitive land uses which can potentially have an impact on the amenity of the surrounding area. In particular, there may be visual and traffic impacts.

Objectives

- a) To ensure that the operation of cemeteries, crematoria and funeral chapels does not have an adverse impact on adjoining land uses and the surrounding area.
- b) To restrict these uses to appropriate locations.
- c) To ensure uses locate on appropriate sites.
- d) To ensure that uses locate on roads with the capacity to accommodate probable traffic generation. and
- e) To provide for appropriate development controls relating to the ongoing operation of such uses.

Controls

The following controls are in addition to those in Sections 1 – 8 of this Part.

Site Suitability

1. Cemeteries and crematoria must locate on a site with a minimum of 15ha available for burial plots and memorial walls. Landscaped areas, setbacks, parking, driveways and turning areas, internal congregation areas, places of public worship, and areas where

ground water is within 3m of the surface will not be counted toward the minimum 15ha site area.

Note: This Minimum Lot Size requirement is to ensure financial and operational sustainability of the cemetery and to limit the proliferation of cemeteries and crematoriums on rural land.

2. Cemeteries, Crematoriums and Funeral chapels shall not locate on a road which has a seal width of less than 6m.
3. Burial plots must not be located in areas where the water table is within 3m of the ground surface. If the water table is between 3m and 5m of the ground surface, deep rooted planting will be required in affected areas.
4. Cemeteries should not be located on flood prone land.

Setbacks

1. Buildings and burial plots are to be sited at least 20m from a public street and at least 15m from any side or rear boundary.

Landscaping and Fencing

1. A berm is to be provided around the property and must be 1m high and 3m wide. Landscaping is to be provided over the top of the berm.
2. A landscaped buffer zone at least 10 metres wide must be provided to the side and rear boundaries of the site. The buffer zone shall not be used for parking areas or the like.
3. Any proposed cemetery must have an adequate water supply to ensure the ongoing maintenance of landscaping and to assist in the operation of the site.

Car Parking and Access

1. A traffic study is to be included with any development application for a cemetery, crematoria or funeral chapel. This study should determine whether or not a turning lane or slip lane is required to enter the site.

Operation

1. A Plan of Management must be submitted with a Development Application and must include details of the operation of the use.
2. In the case of perpetual burials, the Plan of Management needs to outline how the perpetual care would occur.

9.14 Secondary Dwellings (Granny Flats)

Objectives

- a) To provide housing choice within a rural lot for the use of a separate dwelling within the existing title;
- b) To minimise any potential impact on the surrounding area;
- c) To minimise any potential impact on the future use of the surrounding area.

Controls

The following controls are in addition to those in Sections 1 – 8.

Site Suitability

1. Only one (1) Secondary Dwelling is permitted on any one lot of land.
2. Secondary Dwellings must be single storey.
3. A Secondary Dwelling shall not be approved where there is an existing dual occupancy on the same lot of land.
4. A Secondary Dwelling or Dual Occupancy shall not be permitted where it provides for more than two dwellings on a rural lot regardless of lot size.
5. A detached secondary dwelling is not permitted on land zoned RU2 – Rural Landscape.



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Liverpool Development Control Plan 2008

Part 6

Development in Business Areas

25 July 2014

Part 6 must be read in conjunction with Part 1

Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 6 Development in Business Areas

Table of Contents

1. Preliminary	5
2. Subdivision, Frontage and Allotment Size.....	7
3. Site Planning	8
4. Setbacks.....	10
5. Landscaped Areas and Pedestrian Areas.....	12
6. Building Form, Streetscape and Layout.....	14
7. Landscaping and Fencing.....	22
8. Car Parking and Access	27
9. Amenity and Environmental Impact	29
10. Site Services	30
11. Non Business Uses	31
12. Shop Top Housing.....	32
12.1 Building Design, Streetscape and Layout.....	32
12.2 Landscaping and Fencing	46
12.3 Car Parking and Access.....	47
12.4 Amenity and Environmental Impact.....	50
13. Restaurants/Outdoor Cafes	54
14. Child Care Centres.....	57
15. Telecommunications Facilities	60
16. Used Clothing Bins	62
17. Service Stations.....	64
18. Restricted Premises	65
Appendix – Outdoor Cafes	67

Table of Figures

Figure 1 Landscaping, Vehicular and Pedestrian Access	13
Figure 2 Neighbourhood Centre redevelopment with Shop Top Housing	16
Figure 3 Indoor/Outdoor Transition.....	17
Figure 4 Integration of public transportation	18
Figure 5 Corner Sites	18
Figure 6 Shop Top Housing.....	19
Figure 8 Building design.....	20
Figure 9 B5 Business Development & B6 Enterprise Corridor Pedestrian Access	21
Figure 10 Landscaping around a Local Centre	24
Figure 11 Landscaping around the Business Development and Enterprise Corridor zones	26
Figure 12 Reducing the visual impact of multi-storey car parking	28
Figure 13 Pedestrian Access.....	28
Figure 14 Shop Top Housing Designs.....	34
Figure 15 Shop Top Housing Designs.....	35
Figure 16 Shop Top Housing Roof Design	36
Figure 17 Ground Floor Entry to Shop Top Housing.....	38
Figure 18 Solar Access and Air Circulation within Shop Top Housing	41
Figure 19 Car Parking at grade	49
Figure 20 Balconies and Screening.....	51
Figure 21 Privacy, balconies and screening	52
Figure 22 Outdoor cafe seating on 6m wide footpath	54
Figure 23 Placement of outdoor seating areas cannot interfere with pedestrian road access.....	55

List of Tables

Table 1 Business Development Setbacks	11
Table 2 Enterprise Corridor Setbacks.....	11

1. Preliminary

Applies to

This part applies to all land in business zones under *Liverpool LEP 2008* except the Liverpool City Centre. See Part 4 for the Liverpool City Centre.

Part 1 of the DCP also applies.

Background

Range of Business Areas

Liverpool has a range of business areas. The largest is Liverpool City Centre, which is identified as a Region Centre for South Western Sydney.

Local Centres (B2 zones)

Below this are a number of “shopping mall” centres, each with at least one supermarket and a range of speciality shops. Carnes Hill and Casula also have discount department stores. These centres generally consist of one large building with associated on site car parking, generally at the front of the building and loading at the rear. Some have internal malls. They are generally located on the busier collector streets or sub-arterial roads and consequently have a significant amount of traffic and bus movement around them. There are also a congregation of services, such as health care professionals locating across the street in the residential zone. There is also Council Community and Recreation Facilities often located adjacent to these centres. In this way these centres become multipurpose centres where residents may often congregate.

Local Centres are in the B2 zones.

Neighbourhood Centres (B1 zones)

Below these centres are neighbourhood centres, which consist of individual shops on separate lots fronting directly to the street with a rear laneway. These centres generally cater either for local shopping needs or for businesses that need low rent premises. There is generally less traffic generated around these centres. They are more a part of the residential environment than the Local Centres.

Neighbourhood Centres are in the B1 zones.

Business Development (B5 zones)

The Business Development zone is intended for use by bulky goods premises and other uses that require large floor plates which have limited opportunity to locate within commercial centres. B5 Business Development zones are located in areas of high accessibility to the arterial road network.

Enterprise Corridor (B6 zones)

In addition to the above centres there are also business areas along certain arterial roads. These generally cater for a broader market than the local area. They are not areas that people generally would congregate at, like the Local Centres.

In addition to these there are a number of sites that have business development on them but which are located and permitted in certain locations in the residential areas. These generally consist of a service station and a convenience store and sometimes with a fast food outlet.

History of development of Business Areas

The oldest and largest business area is Liverpool City Centre. Most other centres have only developed since the 1950's as each new residential area has developed.

Objectives

- a) To have viable and vibrant local centres that provides a diversity of retail, commercial, residential, and other uses.
- b) To have viable neighbourhood centres that provides businesses and services to the local community.
- c) To revitalise and enhance the image and urban design of centres.
- d) To ensure the building bulk of a development is in keeping with the height and scale of neighbouring development, and/or the desired character of the commercial centre.
- e) To encourage viable retail and commercial activities.
- f) To provide a high level of accessibility and amenity for workers, shoppers, residents, and visitors in the centres.
- g) To provide housing choice in centres.
- h) To protect the amenity of residential zoned land that adjoins centres.

2. Subdivision, Frontage and Allotment Size

Background

Land within the Business zones in Liverpool varies in size from individual shop size lots to large land holdings occupied by a shopping complex. The smaller lots often have rear lane access with loading access and a limited amount of car parking at the rear. The larger shopping complexes provide car parking and loading access wholly within their site. Any subdivision of land within a business zone for new development; or for redevelopment; or subdivision of an existing building should aim to ensure that the site can accommodate the car parking and loading facilities on site.

Development in a business zone may also incorporate shop top housing. A site will need to be wide enough to sufficient scope for window space for the occupants of the dwellings. The site will also need to be sufficient size to provide an adequate internal layout and private open space for the dwellings.

Objectives

- a) To ensure that land in a Business zone can accommodate the use including the car parking and loading provisions.
- b) To ensure that there is sufficient frontage and area for any dwellings in conjunction with the business use.
- c) To ensure that vehicular access is reasonably spaced and separated along roads and lanes.
- d) To ensure suitable business exposure in a visually uncomplicated and ordered environment.

Controls

Neighbourhood Centres and Local Centres (B2 & B1 zones)

Sites must have a minimum street frontage of 20 m.

Business Development (B5 zone)

The minimum subdivision lot size is 2000sqm (LLEP 2008).

Enterprise Corridor (B6 zone)

1. Development shall not be permitted for a new building (other than a maximum 10% addition to an existing structure) in the B6 zone unless the site has a frontage width to the Classified road of at least:
 - 30 m, where the site also has frontage to a local street that intersects with and would permit access to and from the classified road; or
 - 90m otherwise.
2. Development for a new building (other than a maximum 10% addition to an existing structure) in the B6 zone must not leave adjacent land such that it cannot achieve either:
 - A site frontage with of at least 30m (where the site also has frontage to a local street that intersects with and would permit access to and from the Classified road); or
 - 90m otherwise.

3. Site Planning

Background

Centres are relatively small in area compared with other land uses in Liverpool. In most cases there is residential development in the immediate vicinity with potential impacts on nearby residential areas.

Neighbourhood Centres in Liverpool LGA generally consist of groups of individual properties and any new development or redevelopment will probably take place incrementally. The impact of development on adjoining areas will be gradual.

The Local Centres are often in one land parcel. Any redevelopment of these is more likely to be a comprehensive development and have the potential to impact the surrounding area in one step.

Enterprise Corridors generally consist of groups of individual properties, and any new development or redevelopment will probably take place incrementally. The impact of development on the highway environment will be gradual.

Objectives

- a) To ensure that the development is compatible with amenity to nearby residential areas and open space.
- b) To ensure that the development is compatible with the adjoining business development.
- c) To ensure that the development reflects the character of the locality and environment.
- d) To ensure that the development contributes to the public domain and attractiveness of the centre for its users;

Controls

Neighbourhood Centres, Local Centres and Enterprise Corridor (B2, B1 & B6 zones)

The siting of buildings and the development should:

1. Provide safe pedestrian, cycle and vehicle access to and from the public street.
2. Be compatible with nearby residential development in terms of appearance, overshadowing, privacy, views, setbacks and height.
3. Address the street and consider its presentation to the public domain.
4. Consider the impact on existing and potential pedestrian links.
5. Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Refer to Water Cycle Management in Part 1.

Neighbourhood Centres (B1 zones)

In Local Centres the siting of buildings and the development should also:

1. Be compatible with surrounding business development in terms of scale, bulk, setbacks, materials and visual amenity.
2. Assist in the creation of a main street environment.

Local Centres (B2 zones)

In Local Centres the redevelopment of the centres should also:

1. Utilise opportunities to address the street and provide an outdoor public domain.
2. Where appropriate provide bus access within the centre.
3. Incorporate links from any adjoining community facilities, open space or residential areas not currently linked.

Urban Design Strategy

The layout and location of each Local Centre is distinct. Any redevelopment of each centre shall be determined as part of an urban design strategy. This strategy shall consider the following in determining the appropriate building form and layout:

1. Opportunities for a public domain/public street frontage.
2. Need for car parking, bus stops and drop off points between the buildings and the public street.
3. Whether the street is a primary access to the Local Centre.
4. The location of adjacent residential development.
5. The range of adjoining uses, such as Health Consulting Rooms etc.

Business Development (B5 zone)

1. Where possible, site planning should allow for the retention of trees and vegetation particularly near the street frontage
2. The development must be designed around the site attributes such as slope, existing vegetation and land capability.
3. Development must address the street frontage.
4. Development should provide for articulation and variation of materials to minimise bulk/scale and visual dominance of the streetscape.

Enterprise Corridor (B6 zones)

In Enterprise Corridor the siting of buildings and the development should also:

1. Be compatible with existing business development in terms of scale, bulk, setbacks, materials and visual amenity.
2. Address the street and consider its presentation to the arterial road environment.

4. Setbacks

Background

Centres are relatively small in area compared with other land uses in Liverpool. In most cases there is residential development in the immediate vicinity with potential impacts on nearby residential areas.

Neighbourhood Centres in Liverpool LGA generally consist of groups of individual properties and any new development or redevelopment will probably take place on small lots incrementally. While the impact of development on adjoining areas will be gradual, it will be noticed over time.

The Local Centres are often in one land parcel. There is usually residential development across the street from Local Centres. Redevelopment of these may involve a substantial development. Given the size of the land parcels there may be a desire to carry out a substantial development, which has the potential to impact the surrounding area in one step.

Highway Business generally consists of groups of individual properties and any new development or redevelopment will probably take place incrementally. The impact of development on the highway environment will be gradual.

Objectives

- a) To ensure the height and scale of a development complements neighbouring development, and/or the desired character of a commercial centre.
- b) To ensure a development does not detrimentally affect the amenity of adjoining residential development.

Controls

Neighbourhood Centres, Local Centres, Business Development and Enterprise Corridor

Rear Setbacks

1. Where the site has rear lane access the building may be built to the rear boundary, at ground and first floor level. Any floors above the first floor shall be setback equal to the height of the additional floors.
2. Where there is no rear lane access and the site adjoins land that is in a residential zone, the building shall be setback from the rear boundary as follows:
 - 5m for non-residential component of building up to 10m high.
 - 8m otherwise for components of building up to 15m high.

Side Setbacks

1. Where the site adjoins land that is also in a business zone there is no setback requirement.
2. Where the side boundary of the site adjoins land that is in a residential zone, the building may be required to be setback from the side boundary or limited to one storey near the boundary. Any floors above the ground floor shall be setback equal to the height of the additional floors.

Neighbourhood Centres (B1 zones)

Front Setbacks

1. Setbacks for new development shall observe the setbacks for the existing Neighbourhood Centre.
2. Subject to point 1, any floors above the first floor shall be setback equal to the height of the additional floors.

Local Centres (B2 zones)

Front Setbacks

As each layout and location of each Local Centre is distinct the setback shall be determined as part of an urban design strategy. This strategy shall consider the following in determining the appropriate setbacks:

1. Opportunities for a public domain/public street frontage.
2. Need for car parking, bus stops and drop off points between the buildings and the public street.
3. Whether the street is a primary access to the Local Centre.
4. The location of adjacent residential development.
5. The range of adjoining uses, such as Health Consulting Rooms etc.

Business Development (B5 zones)

Front Setbacks

Buildings in the B5 zone shall be setback in accordance with Table 1.

Table 1: Business Development Setbacks

Street	Primary Setback (Ground Floor)	Secondary Setback
Classified Road	15m	10m
Road with residential opposite	15m	10m
All other roads	7.5m	5m

Enterprise Corridor (B6 zones)

Front Setbacks

Buildings in the B6 zone shall be setback in accordance with Table 2.

Table 2 Enterprise Corridor Setbacks

Street	Primary Setback (Ground Floor)	Primary Setback (First Floor)	Secondary Setback
Hume Highway (between Terminus Street & South Western Freeway)	2.5m	2.5m	2.5m
Elizabeth Drive			
Hume Highway (South Western Freeway & De Meyrick Street)	10m	7.5 m	7.5m
Other locations	15m	12.5m	10m

5. Landscaped Areas and Pedestrian Areas

Background

Active street and building frontages provide safety and security to a street or shopping centre by enabling casual surveillance. Having access from the street or public areas to as many uses as possible provides active and lively streets and public areas.

Pedestrian areas within Local Centres and Neighbourhood Centres can provide an attractive meeting place for residents and shoppers. It also has the potential to generate additional business for retailers by providing areas for outdoor eating, display of retailers merchandise and a place for local community group promotions. Public footpaths can also provide a place for outdoor eating.

Pedestrian access into shopping complexes is made easier where separate pedestrian and cycle way paths are provided. Bicycle storage also assists in attracting business.

Some centres are adjacent to open space. Linkages between centres and open space, whether immediately adjoining or across the street, have the potential to increase the usage of the open space and the centre.

Objectives

- a) To ensure active street frontages on public streets.
- b) To encourage provision of attractive pedestrian areas.
- c) To encourage linkages between centres and any adjacent public areas such as open space.

Controls

Neighbourhood Centres (B1 zones)

1. Pedestrian areas should minimise any changes in levels and allow wheelchair access to the shops from the car parking area and public footpaths.
2. Pedestrian areas should be separate from loading areas.
3. Sufficient area shall be provided to permit landscaping and tree planting within pedestrian areas and car parking areas.
4. Outdoor Eating Areas may be permitted in public footpath areas. Refer to the section on Outdoor Eating Areas.

Local Centres (B2 zones)

1. Redevelopment of a centre should incorporate shops having frontage to the exterior of the centre.
2. Usable pedestrian areas having frontage to shops should be provided and should be sufficiently wide in places to provide for outdoor eating areas.
3. Pedestrian areas should minimise any changes in levels and allow wheelchair access to the shops from the car parking area, bus stops, public footpaths and drop areas.
4. Pedestrian areas should link all major activity areas of the centre.
5. Pedestrian areas should be separate from loading areas.
6. Separate pedestrian access should be provided to adjoining public footpaths, community facilities and open space.
7. Sufficient area shall be provided to permit landscaping and tree planting within pedestrian areas and car parking areas.



Figure 1 Landscaping, Vehicular and Pedestrian Access

Business Development and Enterprise Corridor (B5 and B6 zones)

1. Pedestrian areas should minimise any changes in levels and allow wheelchair access to the shops from the car parking area and public footpaths.
2. Pedestrian areas should link all major activity areas of the centre.
3. Pedestrian areas should be separate from loading areas.
4. Separate pedestrian access should be provided to adjoining public footpaths, community facilities and open space.
5. Sufficient area shall be provided to permit landscaping and tree planting within pedestrian areas and car parking areas.

6. Building Form, Streetscape and Layout

Background

Centres are relatively small in area compared with other land uses in Liverpool. In most cases there is residential development in the immediate vicinity with potential impacts on nearby residential areas. Achieving a high amenity of urban design is greatly dependent on the design and appearance of individual buildings. Well-designed new buildings not only improve the character and appearance but also contribute to the coherence of the public domain. In particular:

Neighbourhood Centres in Liverpool LGA generally consist of groups of individual properties and any new development or redevelopment will probably take place on small lots incrementally. While the impact of development on adjoining areas will be gradual, it will be noticed over time.

The Local Centres are in large are often in one land parcel. There is usually residential development across the street from Local Centres. Redevelopment of these is may involve a substantial development. Given the size of the land parcels there may be a desire to carry out a substantial development, which has the potential to impact the surrounding area in one step.

Enterprise Corridor generally consists of groups of individual properties and any new development or redevelopment will probably take place incrementally. The impact of development on the highway environment will be gradual.

Objectives

- a) To ensure the height and scale of a development complements neighbouring development, and/or the desired character of a business centre.
- b) To provide adequate amenity to the occupants and residents of a development in terms of solar access, visual and acoustic privacy, and natural ventilation.
- c) To ensure a development does not detrimentally affect the amenity of nearby residential development.
- d) To ensure a development is integrated with the public domain and contribute to an active pedestrian-orientated environment.
- e) To maximise natural surveillance so that people feel safe at all times.
- f) To ensure pedestrian entrances and exits are clearly visible from the street.
- g) To promote high quality architectural design.
- h) To ensure corner sites are developed as visually significant elements in order to promote a strong and legible character.
- i) To ensure weather protection to pedestrians.
- j) To ensure roof forms contribute to the proposed character of the centre and residential areas.

Controls

Neighbourhood Centres, Local Centres and Enterprise Corridor

Building Form

- 1. Articulate building walls addressing the street to add visual interest.
- 2. Development adjoining open space shall address the open space and avoid blank walls.

Building Materials

1. Highly reflective finishes are not permitted above the ground floor.
2. Colour & materials of the buildings shall be consistent with the existing adjoining development.

Entrances

1. Orientate entrances to buildings towards the public street and provide clear lines of sight between entrances, foyers and the street.
2. The common lobby to a home unit development should face the street.
3. Where the ground floor of a business development, mixed-use development, and shop-top housing faces the street, the ground floor must incorporate shopfront style windows with clear glazing so that pedestrians can see into the premises and vice versa.

Street Frontage

1. Ground floor uses are to be at the same general as the footpath and be accessible directly from the street.
2. Provide predominately glazed shop fronts to all ground floor retail areas.
3. Developments on corner sites shall address the corner and the secondary street frontage.
4. Avoid blank or solid walls and the use of dark or obscured glass on street frontages.
5. Roller shutters that obscure windows are not permitted.
6. Provide opportunities for table seating along shop frontages.
7. Any Automatic Teller Machine (ATM) must be located at a highly visible location at street level, and must be well lit at night and incorporate mirrors or reflective materials so that users can observe people behind them.
8. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Awnings

1. Provide continuous street frontage awnings to all new developments.
2. Wrap awnings around corners on street corner buildings.
3. Awnings must be complementary to each other.
4. Canvas blinds along the street edge are permitted.

Roof Forms

1. Minimise the bulk and mass of roofs and the potential for overshadowing from roofs.
2. Provide eaves with a minimum length of 400mm in dwellings with pitched roofs.
3. Where flat roofs are proposed, lift overruns and rooftop plant and machinery are to be obscured from view by parapets or designed to be incorporated within rooftop activities/features.
4. Incorporate lift overruns and service plant etc into the design of the roof.
5. Wherever possible provide landscaped and shaded areas on roofs to serve as communal private open space for residents of the building.

Material and Finishes

1. Avoid expanses of any single material.
2. Utilise high quality and durable materials and finishes, such as face brick with / without coloured render; and plain glass windows.
3. Avoid large wall tiles, rough textured render, polished metal and curtain walls or reflective glass.

Dwellings above shops

1. Dwellings and balconies in upper storeys shall address the street, rear laneway and any adjacent open space.
2. Access to dwellings above shops must be from the front street.
3. Dwellings above shops should be designed to facilitate flow through ventilation.
4. Entrances shall be designed to accommodate movement of furniture.

Adjoining Residential Areas

1. Development should minimise impact of the privacy of adjoining and nearby dwellings.
2. Development should be compatible with any adjoining and nearby dwellings.

Links to nearby Community Facilities and Open Space

Developments should incorporate opportunities for pedestrian links to adjoining Community Facilities and Open Space.

Neighbourhood Centres (B1 zones)

The following illustration shows how redevelopment of a centre should address these items.



Figure 2 Neighbourhood Centre redevelopment with Shop Top Housing

Local Centres (B2 zones)

Public Transport Facilities

Redevelopment of a centre should consider the need to provide easier public transport access to a centre. This may include bus access through any car parking area to the pedestrian entrance to the centre. Covered pedestrian access from the bus stop should also be considered. Provision for timetable and route information should be provided.

Building Form

Developments should incorporate opportunities for pedestrian links. Redevelopment of local centres should attempt to enable a better transition between the indoor and outdoor locations of a centre, by enabling restaurants and cafes and similar businesses to have a dual frontage, internally and externally, to improve the amenity of the building. This outdoor space should be located within close proximity to bus stops and where pedestrians enter the centre.

Dwellings above shops Residential Development

Redevelopment of a centre may incorporate dwellings above the shops.

Car parking structures

1. Where car parking structures is provided above or below ground level its design shall be integrated into the design of the building.
2. Natural ventilation shall be provided to basement where possible using ventilation grills and structures.



Figure 3 Indoor/Outdoor Transition



Figure 4 Integration of public transportation

Integrating public transport into the local centre can improve accessibility and provide alternatives for those who do not want to use their cars to reach the local centres.

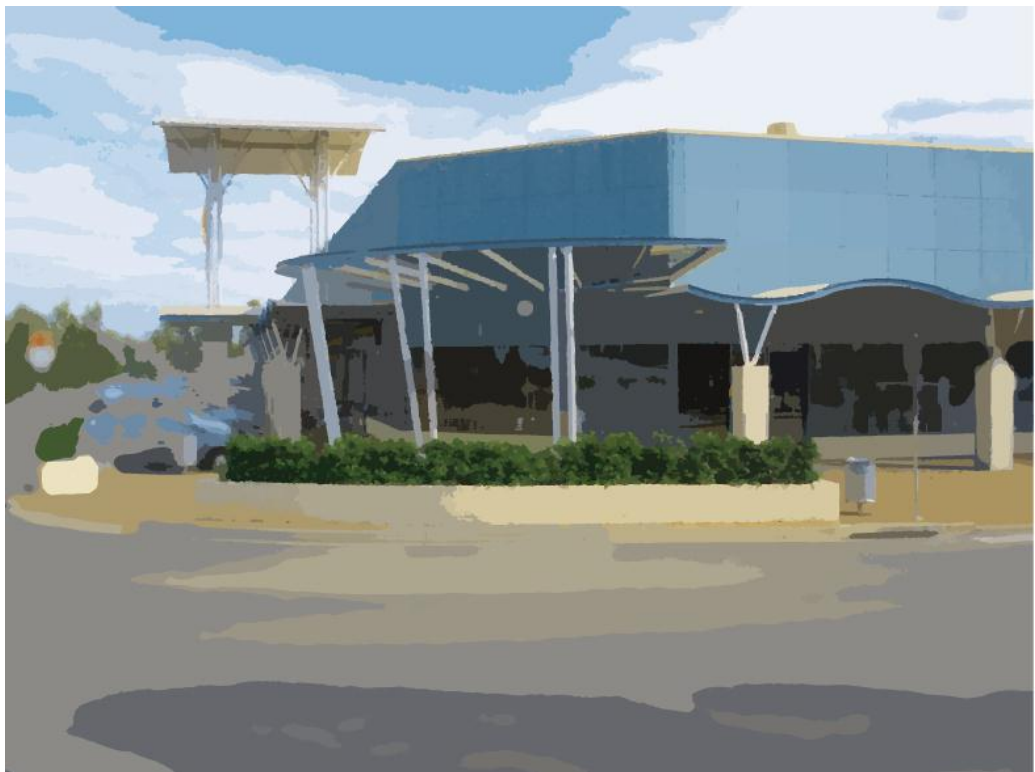


Figure 5 Corner Sites

Emphasis should be placed on corner sites to create focal points for the centre.



Figure 6 Shop Top Housing

If economically feasible local centres should look at shop top housing to increase the level of passive surveillance surrounding the centre to improve safety and security.

Business Development & Enterprise Corridor (B5 and B6 zones)

The following illustrations show how redevelopment of an enterprise corridor (Figures 7 and 8) and Business Development (Figure 9) should address these items.



Figure 7 Enterprise Corridor car parking

Buildings should attempt to minimise the visual impact of car parking from the road.

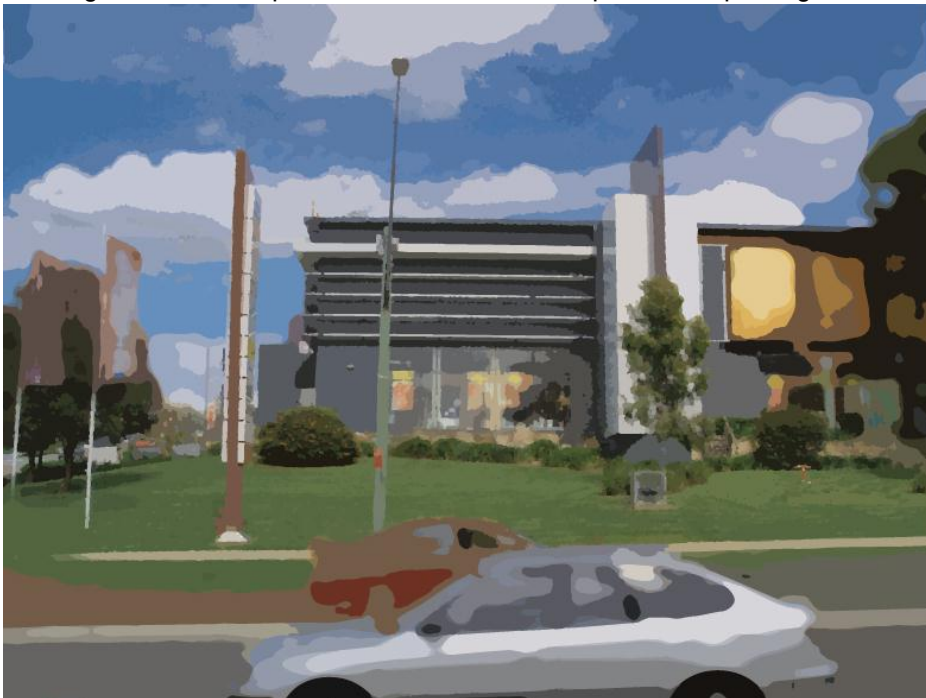


Figure 8 Building design

Buildings should use colour, different building materials and effects to make for an interesting architectural building, whilst remaining sympathetic to the surrounding buildings.



Figure 9 B5 Business Development & B6 Enterprise Corridor Pedestrian Access
Pedestrians should have easy access to the buildings, through clever design of car parking, or a clearly marked zebra crossing to the primary entry of the store.

7. Landscaping and Fencing

Background

Centres are relatively small in area compared with other land uses in Liverpool. In most cases there is residential development in the immediate vicinity with potential impacts on nearby residential areas.

Neighbourhood Centres in Liverpool LGA generally consist of groups of shops fronting a public street. Most buildings are located on the front boundary or setback to provide a wider footpath. Opportunities for landscaping may in many cases be limited.

The Local Centres are often in one land parcel. There is usually residential development across the street from Local Centres. Opportunities for landscaping generally involve any pedestrian areas and the car parking areas. Any redevelopment of these may involve a substantial development. Given the size of the land parcels and depending on the scope of the design there may be an opportunity to make substantial improvements to landscaping and the quality of the public domain.

Highway Business generally consists of groups of individual properties and any new development or redevelopment will probably take place incrementally. Opportunities for landscaping would probably involve the car parking areas along the street frontage.

Objectives

- a) To ensure appropriate landscaping in commercial centres; and
- b) To ensure the protection of existing trees on neighbouring residential zoned land.
- c) To ensure the visual impact of development is minimised and integrated into the streetscape.
- d) To improve the amenity of commercial centres.

Controls

1. Where trees are planted around high use facilities such as car park areas, children's play areas and walkways, they should have clean trunks to height of 1.8m.
2. Landscaping on any podium level or planter box shall be appropriately designed and irrigated.

Neighbourhood Centres, Local Centres, Business Development and Enterprise Corridor

Where landscaping is to be provided a detailed landscape plan shall accompany a development application. A suitably qualified Landscape architect must prepare all Landscape Plans submitted with the development application. Refer to Part 1 for requirements for Detailed Landscape Plans.

Neighbourhood Centres (B1 zones)

Landscaped areas within Neighbourhood Centres shall generally involve the provision of trees and shrubs in mulched garden beds around car parking areas and where pedestrian areas are provided. In particular the landscaping shall involve the following:

1. mulched garden beds shall incorporate ground covers that will cover the ground area;
2. large shrubs shall be used as screen planting where there is a need to screen certain areas such as outside storage;
3. Shrubs shall only be planted in mulched garden beds.

Local Centres (B2 zones)

Landscaped areas within the redevelopment of any Local Centres shall generally involve the provision of trees and shrubs in mulched garden beds. In particular the landscaping shall involve the following:

1. the trees shall provide a canopy for the streetscape and soften the appearance of the Business Environment, without unduly concealing approved on site signage;
2. mulched garden beds shall incorporate ground covers that will cover the ground area;
3. shrubs shall be used to soften appearance of the centre environment, but still allow viewing between the street and the development;
4. shrubs shall only be planted in mulched garden beds;
5. paving should assist in distinguishing the pedestrian areas from driveway areas;
6. paving should complement the pedestrian areas within a centre;
7. Seating should be provided in pedestrian areas, particularly at bus stops and waiting areas.

The following illustrates these requirements.



Figure 10 Landscaping around a Local Centre

Business Development and Enterprise Corridor (B5 and B6 zones)

Landscaped areas within Business Development and Enterprise Corridor zones shall generally involve the provision of trees and shrubs in mulched garden beds. In particular the landscaping shall involve the following:

1. The trees shall provide a canopy for the streetscape and soften the appearance of the Enterprise Corridor environment, without unduly concealing approved on site signage.
2. Mulched garden beds shall incorporate ground covers that will cover the ground area.

3. Shrubs shall be used to soften appearance of the area but still allow viewing between the street and the development.
4. Large shrubs shall be used as screen planting where there is a need to screen certain areas such as outside storage.
5. Shrubs shall only be planted in mulched garden beds.
6. Grassed areas may be considered in limited areas in conjunction with mulched garden beds.
7. Trees shall only be planted in grass where there is a border around the tree separating it from the grassed area.
8. The following illustrates these requirements.

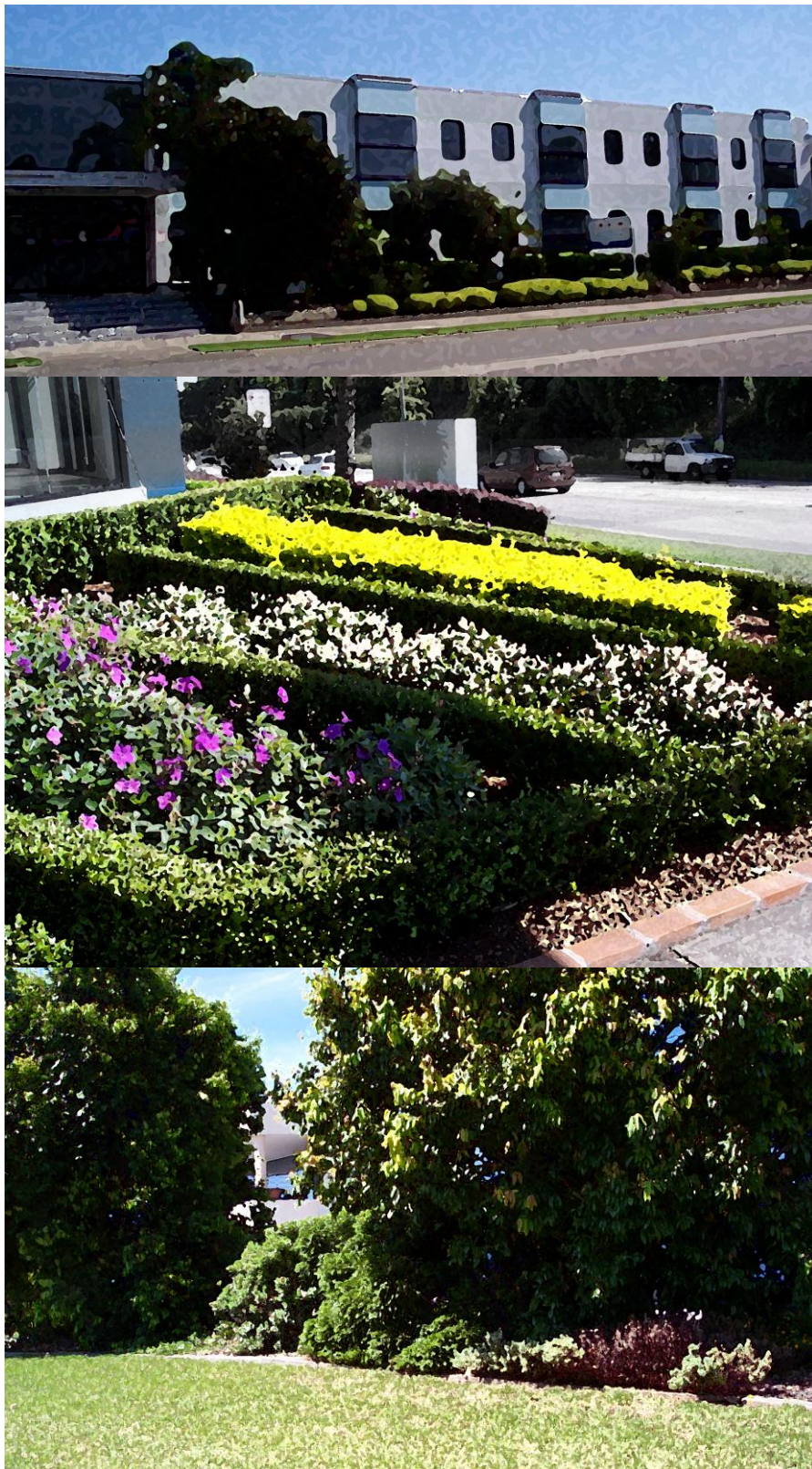


Figure 11 Landscaping around the Business Development and Enterprise Corridor zones

8. Car Parking and Access

Background

Car parking and safe access provision is fundamental for all sites in the business areas. The layout of car parking areas may in the case of Local Centres may reflect the street environment. Refer to Part 1 for additional information about car parking and access requirements.

Objectives

- a) To ensure the provision of appropriate off-street parking for business areas.
- b) To ensure car parking and loading facilities are in the most appropriate location given the urban design needs for the centre.
- c) To ensure that car parking areas that are attractive and don't dominate the streetscape.
- d) To locate loading in appropriate locations.

Controls

Neighbourhood Centres (B1 zones)

Car parking and loading areas shall be located off rear laneways where there is a rear laneway and existing car parking is located off the rear laneway. Council may consider the provision of car parking in front of a development if there is an existing car parking area provided in front of adjacent developments.

Local Centres (B2 zones)

As each layout and location of each Local Centre is distinct the location and design of car parking shall be determined as part of an urban design strategy. The design and location of car parking and loading areas shall incorporate the following:

- 1. Provide an interface between the shops and car parking that feels like a public street environment.
- 2. Provide access for bus stops and drop off points either within or adjacent to the development
- 3. Locate car parking where it will minimise on street car parking.
- 4. Pedestrians should have easy access to the buildings, through clever design of car parking, or a clearly marked zebra crossing to the primary entry of the development. (See Figure 13)



Figure 12 Reducing the visual impact of multi-storey car parking

Locate loading areas in less visible areas. Avoid locating loading areas facing residential areas, public open space or the public street. It is preferable to locate loading areas adjacent to other business areas.

Business Development and Enterprise Corridor (B6 zones)

Car parking shall generally be located toward the front of the site.



Figure 13 Pedestrian Access

Pedestrians should have easy access to the buildings, through clever design of car parking, or a clearly marked zebra crossing to the primary entry of the store.

9. Amenity and Environmental Impact

Background

Business Areas are centres of activity for residents, workers and visitors. The level of activity varies depending on size, location and land uses in the centre. This activity may take for long periods of the day each day of the week. They are also increasingly the location of residential development. While this presents opportunities to add to activity it also presents some potential amenity issues and impacts on transport.

Objectives

- a) To provide adequate amenity to the occupants of buildings and to neighbouring residential development in terms of solar access, and visual and acoustic privacy.
- b) To ensure buildings and businesses provide safe and easy access for people.
- c) To provide useable private open space for dwellings.

Controls

Neighbourhood Centres, Local Centres and Enterprise Corridor

Privacy

Development shall be designed to minimise overlooking of adjoining and nearby residential development.

Access to sunlight

Dwellings above shops shall be designed to maximise solar access.

Acoustic privacy

- 1. Where an allotment adjoins an Classified Road, dwellings must comply with *AS 3671 – Acoustics – Road Traffic Noise Intrusion*.
- 2. Dwellings should be located to minimise the impact of noise from car parking and loading areas.

Lighting

External lighting to a development must give consideration to the impact of glare on the amenity of adjoining and nearby residents.

10. Site Services

Background

There is a range of services that may need to be provided either on site or within the adjacent road reserve. Owners are required to provide some services and maintain some of the services on the site. Owners must also ensure that services provided on the site are protected from any potential damage.

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Neighbourhood Centres, Local Centres, Business Development and Enterprise Corridor

Letterboxes and House Numbering

1. A common letterbox structure must be located close to the main pedestrian entrance of a building.
2. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.

Frontage works and damage to Council assets

Where a footpath, road shoulder, new or enlarged access driveway or is required to be provided this shall be provided at no cost to Council.

Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

Waste management

1. Development involving dwellings shall provide at least two waste storage areas to separately cater for the dwellings and non-residential uses on an allotment.
2. A development must provide a waste storage area inside every food premises, and inside any shop that is capable of accommodating a food premises.
3. A development must locate a waste storage area inside the building, or adjacent to a lane where it is convenient and safe for residents, tenants, and waste collection trucks to access the waste storage area and the location and floor level are to the satisfaction of Council and Part 1.

Storage Facilities

A multi-unit development must provide a minimum storage area of 8 m³ to each dwelling. The storage area may be attached to the car parking space or spaces to each dwelling.

11. Non Business Uses

Background

Liverpool LEP 2008 permits a range of Non Business land uses within the business zones. These Non Business land uses may involve using an existing industrial development or construction of a new development. The following provisions are additional provisions for particular land uses. These land uses shall also comply with the other provisions of the DCP.

Objectives

- a) To ensure that the Non Business developments are compatible with the Business environment.
- b) To ensure that the Non Business developments do not unnecessarily restrict the operation of Business and related uses in Business areas.
- c) To ensure that Non Business developments are designed to operate without adverse impact from Business developments.

Controls

The following controls are in addition to those in Sections 1 – 9.

Site Planning

Site planning for a Non Business development shall give consideration to how minimise the impact of uses on the site and how to ensure that a proposed use would not unduly impose restrictions on existing or future nearby business uses.

Building Appearance, Streetscape and Layout

All developments in a business area shall present a shop front to the street. Closing in of windows or painting over windows shall not be permitted.

Amenity and Environmental Impact

- 1. Where the hours of operation are after sunset, the car parking areas and any other public areas shall be provided with lighting to provide a safe environment for users of the premises after hours.
- 2. A Noise Impact Assessment Statement prepared by a qualified Acoustics Engineer may be required to be submitted with the application depending on the scale and location of the proposed use to show that the use can operate satisfactorily in the business area.

12 Shop Top Housing

Background

Shop Top Housing is a relatively recent phenomena within Liverpool. Traditionally Shop Top Housing was housing for the use of the owner or tennant of the shop below, but with an increase in the size and uses of shops, shop top housing has branched out with multiple apartment dwellings above shops. Therefore it is very important to ensure privacy, adequate parking and outdoor entertainment areas for the dwellings.

Objectives

- a) To provide for an adequate outdoor entertainment space, as there is limited or no access to ground floor outdoor space.
- b) To provide for well used outdoor spaces by linking them to indoor living areas.
- c) To provide for adequate clothes drying spaces.

Controls

- 1. A minimum of 16sqm of open space in the form of a balcony shall be provided for each dwelling with a minimum width of 2.4m.
- 2. Private open space areas should be an extension of indoor living areas and be functional in size to accommodate seating and the like.
- 3. If there is little or no ground floor private open space, a minimum 4sqm fully or partially covered space (2 x 2m minimum) must be provided for clothes drying within the dwelling. This drying space must not be able to be clearly seen from the street, but have access to at least one large window if the space is fully covered, to provide for sufficient airflow for clothes drying. This drying space does not count towards the minimum 16 sqm of open space.

For balconies refer to Building Design, Streetscape and Layout for controls on their design.

12.1 Building Design, Streetscape and Layout

Building Appearance and Streetscape

Objectives

- a) To ensure an attractive streetscape, which is consistent with the environment of a centre.
- b) To promote high architectural quality in shop top housing.
- c) To ensure that new developments have facades which define and enhance the public domain and desired street character.
- d) To ensure that building elements are integrated into the overall building form and facade design.

Controls

- 1. Shop top housing shall comply with State Environmental Planning Policy No 65 – Design Quality of Shop top housing, and should consider the Residential Flat Design Code.
- 2. Building facades shall be articulated and roof form is to be varied to provide visual variety.
- 3. The pedestrian entrance to shop top housing shall be from the front of the site.

4. Driveway walls adjacent to the entrance of a basement car park are to be treated so that their appearance is consistent with the basement or podium walls.
5. A master antenna shall be provided for any development of more than three dwellings and be located so that it is not visible from the street or any public open space.
6. Consider the relationship between the whole building form and the facade and/or building elements. The number and distribution of elements across a façade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns.
7. Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. This may include but are not limited to:
 - Defining a base, middle and top related to the overall proportion of the building.
 - Expressing key datum lines in the context using cornices, a change in materials or building set back.
 - Expressing the internal layout of the building, for example, vertical bays or its structure, such as party wall-divisions.
 - Expressing the variation in floor-to-floor height, particularly at the lower levels.
 - Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.
 - Selecting balcony types which respond to the street context, building orientation and residential amenity.
 - Cantilevered, partially recessed, wholly recessed, or Juliet balconies will all create different facade profiles.
 - Detailing balustrades to reflect the type and location of the balcony and its relationship to the façade detail and materials.
8. Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation.
9. Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height.
10. Co-ordinate and integrate building services, such as drainage pipes, with overall facade and balcony design.
11. Co-ordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design



Figure 14 Shop Top Housing Designs



Figure 15 Shop Top Housing Designs

Roof Design

Objectives

- a) To provide quality roof designs, which contribute to the overall design and performance of shop top housing.
- b) To integrate the design of the roof into the overall facade, building composition and desired contextual response.
- c) To increase the longevity of the building through weather protection.

Controls

1. Relate roof design to the desired built form. This may include:
 - Articulating the roof, or breaking down its massing on large buildings, to minimise the apparent bulk or to relate to a context of smaller building forms.
 - Using a similar roof pitch or material to adjacent buildings, particularly in existing special character areas or heritage conservation areas.
 - Minimising the expression of roof forms gives prominence to a strong horizontal datum in the adjacent context, such as an existing parapet line.
 - Using special roof features, which relate to the desired character of an area, to express important corners.
2. Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. This includes the design of any parapet or terminating elements and the selection of roof materials.
3. Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access.
4. Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. These elements include lift over-runs, service plants, chimneys, vent stacks, telecommunication infrastructures, gutters, downpipes and signage.
5. Where habitable space is provided within the roof optimise residential amenity in the form of attics or penthouse dwellings.



Figure 16 Shop Top Housing Roof Design

Building Entry

Objectives

- a) To create entrances which provide a desirable residential identity for the development.
- b) To orient the visitor.
- c) To contribute positively to the streetscape and building facade design.

Controls

1. Provide as direct a physical and visual connection as possible between the street and the entry.
2. Achieve clear lines of transition between the public street, the shared private, circulation spaces and the dwelling unit.
3. Ensure equal access for all.
4. Provide safe and secure access by:
 - Avoiding ambiguous and publicly accessible small spaces in entry areas.
 - Providing a clear line of sight between one circulation space and the next.
 - Providing sheltered well-lit and highly visible spaces to enter the building, meet and collect mail.
5. Generally provide separate entries from the street for:
 - Pedestrians and cars.
 - Different uses, for example, for residential and commercial users in a mixed-use development.
 - Ground floor dwellings, where applicable.
6. Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces.



Figure 17 Ground Floor Entry to Shop Top Housing

Balconies

Objective

- a) To ensure that balconies contribute positively to the façade of a building.
- b) To ensure balconies are functional and responsive to the environment thereby promoting the enjoyment of outdoor living for dwelling residents.
- c) To ensure that balconies are integrated into the overall architectural form and detail of shop top housing.
- d) To contribute to the safety and liveliness of the street by allowing for casual overlooking and address.

Controls

1. Balconies may project up to 1m from the façade of a building.
2. Balustrades must be compatible with the façade of the building.
3. Ensure balconies are not so deep that they prevent sunlight entering the dwelling below.
4. Design balustrades to allow views and casual surveillance of the street.
5. Balustrades on balconies at lower levels shall be of solid construction.
6. Balconies should where possible be located above ground level to maximise privacy for occupants, particularly from the street.
7. Solid or semi solid louvres are permitted.
8. Noise attenuation measures on balconies facing a Classified Road should be considered.
9. Balconies should be located on the street frontage and boundaries with views.
10. Primary balconies should be:
 - Located adjacent to the main living areas, such as living room, dining room or kitchen to extend the dwelling living space;
 - Sufficiently large and well proportioned to be functional and promote indoor/outdoor living. A dining table and two chairs (smaller dwelling) and four chairs (larger dwelling) should fit on the majority of balconies in any development.
11. Consider secondary balconies, including Juliet balconies or operable walls with balustrades, for additional amenity and choice in larger dwellings, adjacent to bedrooms or for clothes drying, site balconies off laundries or bathrooms.
12. Design and detail balconies in response to the local climate and context thereby increasing the usefulness of balconies. This may be achieved by:
 - Locating balconies facing predominantly north, east or west to provide solar access.
 - Utilising sunscreens, pergolas, shutters and operable walls to control sunlight and wind.
 - Providing balconies with operable screens, Juliet balconies or operable walls/sliding doors with a balustrade in special locations where noise or high winds prohibit other solutions - along rail corridors, on busy roads or in tower buildings - choose cantilevered balconies, partially cantilevered balconies and/or recessed balconies in response to daylight, wind, acoustic privacy and visual privacy.
13. Provide primary balconies for all dwellings with a minimum depth of 2m.
14. Ensuring balconies are not so deep that they prevent sunlight entering the dwelling below.
15. Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. Design considerations may include:
 - Detailing balustrades using a proportion of solid to transparent materials to address sight lines from the street, public domain or adjacent development. Full glass balustrades do not provide privacy for the balcony or the dwelling's interior, especially at night.

- Detailing balustrades and providing screening from the public, for example, for a person seated looking at a view, clothes drying areas, bicycle storage or air conditioning units.
16. Operable screens increase the usefulness of balconies by providing weather protection, daylight control and privacy screening.

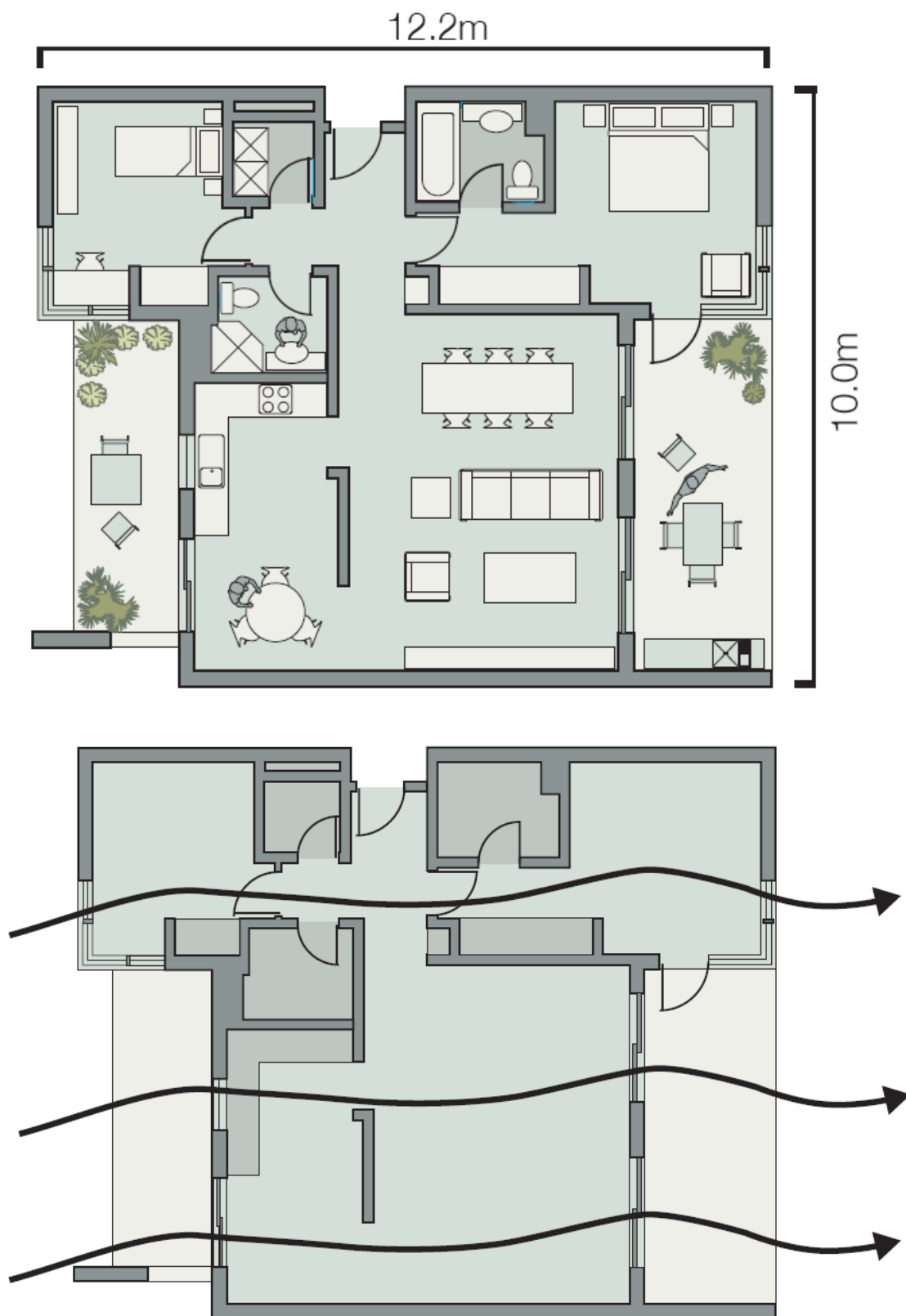


Figure 18 Solar Access and Air Circulation within Shop Top Housing

Daylight Access

Objectives

- a) To ensure that daylight access is provided to all habitable rooms.
- b) To provide adequate ambient lighting and minimise the need for artificial lighting during daylight hours.
- c) To provide residents with the ability to adjust the quantity of daylight to suit their needs.

Controls

1. Plan the site so that new shop top housing is oriented to optimise northern aspect.
2. Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer.
3. Optimise the number of dwellings receiving daylight access to habitable rooms and principal windows:
4. Ensure daylight access to habitable rooms and private open space, particularly in winter use skylights, clerestory windows and fanlights to supplement daylight access.
5. Promote two-storey and mezzanine, ground floor dwellings or locations where daylight is limited to facilitate daylight access to living rooms and private open spaces.
6. Ensure single aspect, single-storey dwellings have a northerly or easterly aspect - locate living areas to the north and service areas to the south and west of the development.
7. Avoid south facing dwellings.
8. Design for shading and glare control, particularly in summer:
 - Using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvres and planting.
 - Optimising the number of north-facing living spaces.
 - Providing external horizontal shading to north-facing windows.
 - Providing vertical shading to east or west windows.
9. Consider higher ceilings and higher window heads to allow deeper sunlight penetration.
10. On west facing windows, vertical louvre panels or sliding screens protect from glare and low afternoon sun.

11. On north facing windows, projecting horizontal louvres admit winter sun while shading summer sun.
 - Using high performance glass but minimising external glare off windows.
 - Avoid reflective films.
 - Use a glass reflectance below 20%.
 - Consider reduced tint glass.
 - Limit the use of lightwells as a source of daylight by prohibiting their use as the primary source of daylight in habitable rooms. Where they are used:
 - Relate lightwell dimensions to building separation, for example, if non-habitable rooms face into a light well less than 12m high, the lightwell should measure 6 x 6 m.
 - Conceal building services and provide appropriate detail and materials to visible walls.
 - Ensure light wells are fully open to the sky.
 - A combination of louvres provides shading for different times of the day.

Internal design

Objective

To ensure that the internal design of buildings provide a pleasant environment for the occupants and residents of adjoining properties.

Controls

1. All staircases should be internal.
2. Minimise the length of common walls between dwellings.
3. Basement car parking shall be located beneath the building footprint.
4. Where possible natural ventilation shall be provided to basement car parking.
5. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings.
6. Minimise the location of noise sensitive rooms such as bedrooms adjoining noisier rooms such as bathrooms or kitchens or common corridors and stairwells.
7. Where a site has frontage to a Classified Road, locate bedrooms away from the front of the site.
8. Where common walls are provided they must be carried to the underside of the roof and be constructed in accordance with *Part F5 of the Building Code of Australia*.
9. Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).

Ground Floor Dwellings

Objectives

- a) To contribute to the desired streetscape of an area and to create active safe streets.
- b) To increase the housing and lifestyle choices available in dwelling buildings.

Controls

1. Design front gardens or terraces, which contribute to the spatial and visual structure of the street while maintaining adequate privacy for dwelling occupants. This can be achieved by animating the street edge, for example, by promoting individual entries for ground floor dwellings.
2. Create more pedestrian activity along the street and articulate the street edge by:
 - Balancing privacy requirements and pedestrian accessibility.
 - Providing appropriate fencing, lighting and/ or landscaping to meet privacy and safety requirements of occupants while contributing to a pleasant streetscape.
 - Utilising a change in level from the street to the private garden or terrace to minimise site lines from the streets into the dwellings.
 - Increasing street surveillance with doors and windows facing onto the street.
3. Provide ground floor dwellings with access to private open space, preferably as a courtyard.

Security

Objectives

- a) To ensure that buildings are orientated to allow surveillance from the street and adjoining buildings.
- b) To ensure that entrances to buildings are clearly visible and easy to locate in order to minimise the opportunities for intruders.
- c) To ensure buildings are safe and secure for residents and visitors.
- d) To contribute to the safety of the public domain.

Controls

1. Entrances to buildings should be orientated towards the front of the site and facing the street.
2. The main entrance to dwellings or other premises should not be from rear lanes and should be designed with clear directions and signage.
3. Blank walls addressing the street frontage and other public places should be avoided.
4. Minimise the number of entry points to buildings.
5. Reinforce the development boundary to strengthen the distinction between public and private space by:
 - Employing a level change at the site and/or building threshold (subject to accessibility requirements).
 - Signage.
 - Entry awnings.
 - Fences, walls and gates.
 - Change of material in paving between the street and the development.
6. Optimise the visibility, functionality and safety of building entrances by:
 - Orienting entrances towards the public street.
 - Providing clear lines of sight between entrances, foyers and the street.

- Providing direct entry to ground level dwellings from the street rather than through a common foyer.
 - Direct and well-lit access between car parks and dwellings, between car parks and lift lobbies and to all unit entrances.
7. Improve the opportunities for casual surveillance by:
 - Orienting living areas with views over public or communal open spaces, where possible.
 - Using bay windows and balconies, which protrude beyond the main facade and enable a wider angle of vision to the street.
 - Using corner windows, which provide oblique views of the street.
 - Providing casual views of common internal areas, such as lobbies and foyers, hallways, recreation areas and car parks.
 8. Minimise opportunities for concealment by:
 - Avoiding blind or dark alcoves near lifts and stairwells, at the entrance and within indoor car parks, along corridors and walkways.
 - Providing well-lit routes throughout the development.
 - Providing appropriate levels of illumination for all common areas.
 - Providing graded illumination to car parks and illuminating entrances higher than the minimum acceptable standard.
 9. Control access to the development by:
 - Making dwellings inaccessible from the balconies, roofs and windows of neighbouring buildings.
 - Separating the residential component of a development's car parking from any other building use and controlling car park access from public and common areas.
 - Providing direct access from car parks to dwelling lobbies for residents.

Natural Ventilation

Objectives

- a) To ensure that dwellings are designed to provide all habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants.
- b) To provide natural ventilation in non-habitable rooms, where possible.
- c) To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Controls

1. Utilise the building layout and section to increase the potential for natural ventilation. Design solutions may include:
 - Facilitating cross ventilation by designing narrow building depths and providing dual aspect dwellings, for example, cross through dwellings and corner dwellings.
 - Facilitating convective currents by designing units, which draw cool air in at lower levels and allow warm air to escape at higher levels, for example, maisonette dwellings and two-storey dwellings.
2. Select doors and windows (that open) to maximise natural ventilation opportunities established by the dwelling layout.

3. Provide narrow building depths to support cross ventilation.
4. Avoid single-aspect dwellings with a southerly aspect.
5. Design the internal dwelling layout to promote natural ventilation by:
 - Minimising interruptions in air flow through a dwelling.
 - Grouping rooms with similar usage together, for example, keeping living spaces together and sleeping spaces together. This allows the dwelling to be compartmentalised for efficient summer cooling or winter heating.
 - Selecting doors and openable windows to maximise natural ventilation opportunities established by the dwelling layout.

Storage Areas

Objective

To provide for the need of residents to be able to store personal items adjacent to the car parking area.

Controls

1. A secure storage space is to be provided for each dwelling with a minimum volume 8m³ (minimum dimension 1sqm). This must be set aside exclusively for storage as part of the basement or garage.
2. Storage areas must be adequately lit and secure. Particular attention must be given to security of basement and garage storage areas.

12.2 Landscaping and Fencing

Objectives

- a) To ensure that the use of planting and landscape elements are appropriate to the scale of the development.
- b) To add value to residents' quality of life within the development in the forms of privacy, outlook and views.

Controls

Planting on Structures

Objectives

- a) To contribute to the quality and amenity of communal open space on podiums and internal courtyards.
- b) To encourage the establishment and healthy growth of trees in urban areas.

Controls

1. Design for optimum conditions for plant growth by:
 - Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established.
 - Providing appropriate soil conditions and irrigation methods.
 - Providing appropriate drainage.
 - Design planters to support the appropriate soil depth and plant selection by:
 - Ensuring planter proportions accommodate the largest volume of soil possible. Minimum soil depths will vary depending on the size of the plant. However, soil depths greater than 1.5m are unlikely to have any benefits for tree growth.

- Providing square or rectangular planting areas rather than long narrow linear areas.
- 2. The following are recommended as minimum standards for a range of plant sizes:
 - Large trees such as figs (canopy diameter of up to 16m at maturity)
 - Minimum soil volume 150m³.
 - Minimum soil depth 1.3m.
 - Minimum soil area of 10 x 10m or equivalent.
 - Medium trees (8m canopy diameter at maturity).
 - Minimum soil volume 35m³.
 - Minimum soil depth 1m.
 - Approximate soil area of 6 x 6m or equivalent.
 - Small trees (4m canopy diameter at maturity).
 - Minimum soil volume 9m³.
 - Minimum soil depth 0.8m.
 - Approximate soil area of 3.5 x 3.5m or equivalent.
 - Shrubs: Minimum soil depths 500 – 600mm.
 - Ground cover: Minimum soil depths 300 – 450mm.
 - Turf: Minimum soil depths 100 – 300mm.
 - Any subsurface drainage requirements are in addition to the minimum soil depths quoted above.

12.3 Car Parking and Access

Car Parking

Objectives

- a) To provide convenient, accessible and safe on site car parking for residents and visitors.
- b) To minimise driveway crossings to maximise on street parking and landscaped nature strips.
- c) To integrate the location and design of car parking with the design of the site and building without compromising street character, landscape or pedestrian amenity and safety.
- d) To integrate the location and design of car parking with the design of the site and the building.

Controls

1. Private car parking for shop top housing residents must be clearly identified and separated from regular business car parking.
2. Visitor car parking shall be clearly identified and may not be stacked car parking.
3. Visitor car parking shall be located between any roller shutter door and the front boundary.
4. Pedestrian and driveways shall be separated.
5. Driveways shall be designed to accommodate removalist vehicles.

6. Give preference to underground parking, whenever possible by:
 - Facilitating natural ventilation to basement and sub-basement car parking areas, where possible.
 - Integrating ventilation grills or screening devices of car park openings into the facade design and landscape design.
 - Providing safe and secure access for building users, including direct access to residential dwellings, where possible.
7. Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and street amenity by:
 - Avoiding exposed parking on the street frontage.
 - Hiding car parking behind the building facade. Where wall openings (windows, fenestrations) occur, ensure they are integrated into the overall facade scale, proportions and detail.



Figure 19 Car Parking at grade

Pedestrian Access

Objectives

- a) To promote shop top housing, which is well connected to the street and contributes to the accessibility of the public domain.
- b) To ensure that residents, including users of strollers and wheelchairs and people with bicycles, are able to reach and enter their dwelling and use communal areas via minimum grade ramps, paths, access ways or lifts where practical.

Controls

1. Utilise the site and its planning to optimise accessibility to the development.
2. Provide high quality accessible routes to public and semi-public areas of the building and the site, including major entries, lobbies, communal open space, site facilities, parking areas, public streets and internal roads.
3. Promote equity by:
 - Ensuring the main building entrance is accessible for all from the street and from car parking areas.
 - Integrating ramps into the overall building and landscape design.

12.4 Amenity and Environmental Impact

Privacy

Objectives

- a) To locate and design buildings to meet projected user requirements for visual and acoustic privacy and to protect privacy of nearby residents.
- b) To avoid any external impacts of a development, such as overlooking of adjoining sites.
- c) To provide reasonable levels of visual privacy externally and internally, during the day and at night.
- d) To maximise outlook and views from principal rooms and private open space.

Controls

1. Building siting, window location, balconies and fencing should take account of the importance of the privacy of on site and adjoining buildings and outdoor spaces.
2. Windows to habitable rooms should be located so they do not overlook such windows in other dwellings within the development or areas of private open space.
3. Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.
4. Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to dwellings by:
 - Balconies to screen other balconies and any ground level private open space.
 - Separating communal open space, common areas and access routes through the development from the windows of rooms, particularly habitable rooms.
 - Changing the level between ground floor dwellings with their associated private open space, and the public domain or communal open space.
5. Use detailed site and building design elements to increase privacy without compromising access to light and air by:
 - Offsetting windows of dwellings in new development and adjacent development windows.
 - Recessed balconies and/or vertical fins between adjacent balconies.
 - Solid or semi-solid balustrades to balconies - louvres or screen panels to windows and/or balconies.
 - Fencing.
 - Vegetation as a screen between spaces.

- Incorporating planter boxes into walls or balustrades to increase the visual separation between areas.
- Utilising pergolas or shading devices to limit overlooking of lower dwellings or private open space.

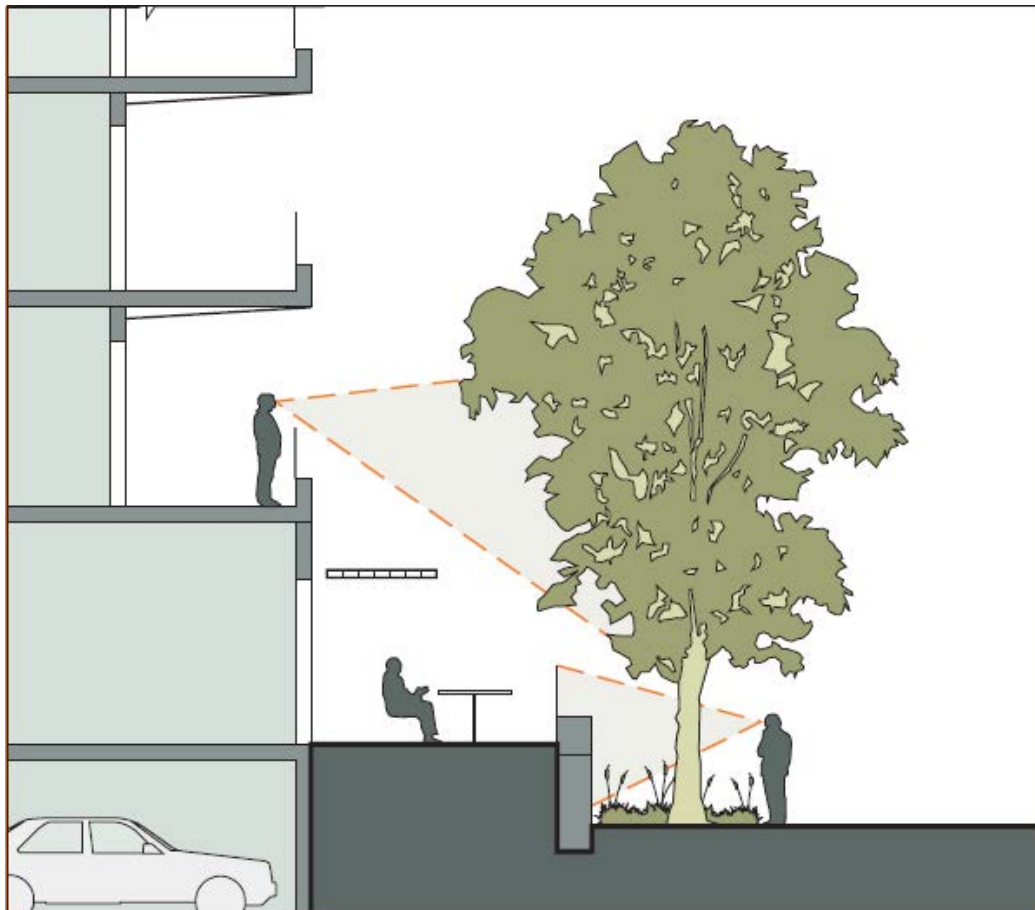


Figure 20 Balconies and Screening



Figure 21 Privacy, balconies and screening

Acoustic Impact

Objective

To ensure a high level of amenity by protecting the privacy of residents within shop top housing.

Controls

1. Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.
2. Buildings having frontage to a Classified Road or a railway and impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.
3. The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance.
4. Arrange dwellings within a development to minimise noise transition between dwellings by:
 - Locating busy, noisy areas next to each other and quieter areas next to other quiet areas, for example, living rooms with living rooms, bedrooms with bedrooms.
 - Using storage or circulation zones within a dwelling to buffer noise from adjacent dwellings, mechanical services or corridors and lobby areas.
 - Minimising the amount of common walls with other dwellings.

- Design the internal dwelling layout to separate noisier spaces from quieter spaces by grouping uses within a dwelling - bedrooms with bedrooms and service areas like kitchen, bathroom, and laundry together.

13. Restaurants/Outdoor Cafes

Background

There is an increasing trend to have outdoor eating in conjunction with restaurants and cafes. This contributes to the activity in business areas. There is however a potential conflict between the users of outdoor eating areas and users of the footpath areas.

Objectives

- a) To ensure that outdoor cafes enhance the economic viability for centres.
- b) To ensure that outdoor cafes enhance the streetscape to create attractive and vibrant surroundings.
- c) To preserve or enhance public amenity, safety and access.

Controls

These controls apply to outdoor eating areas on public footpaths. Other than Hours of operation, these controls do not apply to outdoor eating areas that may also take place on private land.

Building Form, Streetscape and Layout

6m wide footpaths or greater.

Locate outdoor cafe seating close to the kerb. This leaves space near the building frontage for pedestrian passage. See Figure 22.



Figure 22 Outdoor cafe seating on 6m wide footpath

- 1. There shall be no increase in the number of chairs and tables at each individual cafe site without further approval from Council.
- 2. Outdoor cafe furniture shall remain at least 3m away from any change in direction of kerb and gutter, as occurs at street corners and from any bus stop or taxi stand.

3. Outdoor cafe furniture shall remain at an appropriate distance from any pedestrian crossing, disabled parking spaces, post box, public telephone, street sign, street tree or other street structure.
4. Outdoor cafe furniture shall be arranged to avoid the standing of chairs within less than 1m of the back of the kerb (see Figure 22).
5. Outdoor cafe sites shall allow appropriate public access across the footpath between kerb and property boundary. This control does not apply within purpose built Council designed „al fresco“ dining areas.
6. The siting of outdoor cafe areas shall allow for pedestrian road crossing areas. Appropriate public access shall be provided along the footpath parallel to the boundary of the adjacent building or premises. A minimum of 2.5m of footpath shall be available to pedestrians at all time. (See Figure 23).



Figure 23 Placement of outdoor seating areas cannot interfere with pedestrian road access

Written Consent

Written consent from neighbouring tenants to establish outdoor cafe seating in front of other premises must be provided to council before such seating is permitted.

Car Parking and Access

No additional car parking is required for any outdoor eating area.

Amenity and Environmental Impact

The hours of operation shall be restricted to between 7:00 to 10:00 pm, unless otherwise varied by Council.

Operational matters

For further information on operational matters refer to the Appendix.

Landscaping

Planter boxes should be provided to enclose eating areas.

Site Services

1. If any of Council's street furniture or other items such as garbage bins, seats and planter boxes has to be removed for the installation of outdoor cafe seating, then that removal and any subsequent re-erection in the vicinity shall be at the permit holder's expense and shall be completed to Council's satisfaction.
2. Any additional lighting to normal street lighting shall be provided at the applicant's expense and shall be completed to the satisfaction of Council.
3. Any illuminations shall be appropriately managed during operations of the premises.

14. Child Care Centres

Background

There is an increasing need to have child care centres in close proximity to work places and places of residence. The need to locate child care centres in close proximity to work places and places of residence in business centres is balanced by the need to ensure that other business uses do not adversely affect the operation of a child care centre and vice versa. The Department of Community Services also regulates the standards and operations of child care centres.

Lot Sizes

The appropriate lot size is determined by the proposed number of children.

Objectives

- a) To maintain the amenity, streetscape and character of the area.
- b) To limit traffic and parking issues to the level found within the area.

Controls

- 1. The maximum number of children in any centre cannot exceed 45 for 0-5year olds, however Council may consider a maximum number of 60 children per centre of which 30% must be aged between 0-2.

The proposed child care centre must comply with open space requirements as set out in the Children Services Regulation 2004.

Licence Requirements

In order to operate a child care centre, the applicant needs to obtain the following:

- 1. A development consent from Council under the Environmental Planning and Assessment Act 1979.
- 2. A licence to operate from the NSW Department of Community Services (DOCS) under the Children and Young Persons (Care and Protection) Act 1998 and the Children's Services Regulation 2004.

It is strongly recommended that applicants arrange a meeting with Council prior to submitting a development application to ensure that all the pre-requisite documentation is in order. This will save time and money for the applicant.

Objectives

- a) To ensure that Child Care Centres are compatible with the business environment.
- b) To minimise any adverse impact of Child Care Centres on surrounding properties.
- c) To locate childcare centres where they would not have an adverse impact on the safety and health of children.

Controls

The following controls are in addition to those in Sections 1 – 9.

Site Planning

- 1. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.

2. The site layout should enhance the streetscape through the use of landscaping and built form.
3. Site planning should enable buildings to address streets and public open spaces.
4. The site layout should ensure that the external play area is maximised and enjoys solar access.
5. The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.
6. In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.
7. The site layout should ensure that the front entrance to the Child Care Centre is easily located and accessible.

The outdoor play space shall not be located within the setback to the street;

1. Buildings shall be designed to ensure that sunlight shall be available to 50% of the outdoor play area for a minimum of 3 hours between 9.00 am and 3.00 pm on June 21 or shall not create additional overshadowing;
2. The play area shall not be used as a stormwater detention basin.

Building Appearance, Streetscape and Layout

1. A Child Care Centre must provide at least 3.25sqm of unencumbered indoor play space per child.
2. Indoor Play Areas
3. A centre must provide at least 3.25sqm of unencumbered play space per child

Landscaping and Fencing

1. Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park;
2. Solid front fences and walls shall be a maximum of 1.2m in height;
3. Fences shall be constructed of materials compatible with the proposed building;
4. Gates shall be the same height, self-closing and be secure and fitted with a childproof lock.

Car Parking and Access

Access for the disabled including those with prams is to be provided from the car parking area to the building.

Amenity and Environmental Impact

Adjoining uses

Child Care Centres shall be designed and operated so that noise generated by the centre does not impact significantly upon adjoining properties.

Lead, Asbestos and other contaminants

1. Child Care Centres shall not be constructed on sites that are contaminated.
2. All buildings, whether to be built, extended, renovated or converted to a Child Care Centre shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.

Noise

Child Care Centres shall not be permitted in areas where aircraft noise levels exceed 25 *Australian Noise Exposure Factor (ANEF)*.

Site Services

Owners must provide their own waste management system. Area must be designated for the storage of waste on site.

15. Telecommunications Facilities

Background

There is a need to permit Telecommunications Facilities to allow sufficient coverage for uses of mobile telephones. This need is balanced by the need to consider the environmental impact of these on rural areas. Telecommunications towers are also managed by the Australian Communications Authority.

Objectives

- a) To ensure that Telecommunications Facilities are not within close proximity to dwellings or sensitive populations in order to minimise the potential of electro-magnetic radiation exposure.
- b) To ensure that the siting of Telecommunications Facilities is compatible with other permissible and adjoining land uses.
- c) To ensure that Telecommunications Facilities are sited with minimal intrusion.
- d) To minimise the number of Telecommunications Facilities by encouraging the co-location and sharing of facilities.

Controls

Site Planning

- 1. A Telecommunications Facility shall not to be located where it will detract the heritage significance or settings of a heritage item or heritage conservation area;
- 2. The selection of a site shall involve a site analysis of the existing streetscape;
- 3. The location of a Telecommunications Facility shall not be within a 300m "buffer" from an adjoining dwelling or sensitive population unless the annual average exposure limit does not exceed 0.2uW/cm²;
- 4. Telecommunications Facilities and associated ground facilities are not permitted on land below the PMF level;
- 5. The erection of any new Telecommunications Facility must be proven to be required only where no available alternative for co-location is possible;
- 6. The construction of any Telecommunications Facility must have the demonstrated potential for co-location of additional facilities and must be addressed as part of any development application proposal.

Building Design, Streetscape and Layout

- 1. Where possible a Telecommunications Facility should be integrated into the design of a building in the business zone to minimise its impact on the streetscape of a business area.

2. Where a tower is proposed to be used:
 - The shape, height and colour of the Telecommunications Facility needs to be addressed in order to ensure that visual amenity is maintained;
 - Wherever possible, Telecommunications Facilities should be of a slimline monopole construction;
 - Advertising signs of any type, including logos are not permitted on the Telecommunications Facility;
 - Night illumination is not permitted; except where a proposed Telecommunications Facility infringes the Obstacle Limitation Surface (OLS) for aircraft safety;
 - Landscaping is required where any existing vegetation will not adequately screen a Telecommunications Facility.

Amenity and Environmental Impact

1. All sites for Telecommunications Facilities and associated ground facilities must be enclosed by a minimum of 1.8m open mesh or similar fencing to prevent public access to the site in order to maintain public safety.
2. All sites must have warning and information signs displayed to minimise public risk.
3. The level of electro-magnetic radiation emitted from any Telecommunications Facility must not exceed the limit of 0.2uW/cm².
4. If at any one time a Telecommunications Facility is no longer needed, or no longer in operation, the carrier will, except otherwise agreed with Council, at its own cost remove the structure and facilities and restore the land to its natural state, within a three (3) month period. The carrier must also notify Council by letter prior to the removal of any Tower.
5. Once development has been completed on the site, the carrier must then restore the site to its previous state. Under the *Telecommunications Code of Practice 2008*, this work must commence within 10 working days after completion of the development.

16. Used Clothing Bins

Applies to

This section applies to charity bins located on either private or Council land.

Background

Used clothing bins are considered beneficial for the local community as they provide a means for residents to dispose of unneeded clothing items whilst providing an avenue for charities to obtain clothing donations from the public to provide goods, services and financial relief for disadvantaged people. Furthermore, clothing bins have the capacity to divert a substantial amount of recyclable material from landfill, thus ensuring the continued protection of the environment. The use of clothing bins is important as it supports both charitable causes and local residents in need.

Objectives

- a) To recognise used clothing bins form a legitimate and appropriate means of social support while encouraging the recycling of unneeded clothing.
- b) To allow for the operation of used clothing bins in a manner which limits adverse impacts upon visual amenity, health amenity, existing landscaping and the safety of pedestrians and vehicles.
- c) To control the number and location of used clothing bins within the Liverpool LGA.
- d) To regulate the size, appearance and maintenance of used clothing bins.
- e) To provide Council with legal protection from issues that may arise with regard to the placement and operation of used clothing bins.

General controls for all Used Clothing Bins

The following provisions are to be applied in conjunction with used clothing bin controls contained in Part 1 of the DCP.

1. Used clothing bins are permitted in all business zones, the private recreation zone and on compatible sites such as educational establishments and places of public worship.
2. A maximum of 8 square metres must be identified in each development application for retail/shopping centre, schools and places of public worship for the future placement of used clothing bins.
3. A maximum of 2 used clothing bins are permitted on each shopping centre site. The bins at each shopping centre location are to be operated by the one charity organisation. Council reserves the right to use its discretion in determining whether additional bins are appropriate, and whether the site is considered suitable.
4. A used clothing bin must clearly display the name and telephone number of the operator and not exceed the following dimensions:
 - Width: 1.2 metres
 - Depth: 1.3 metres
 - Height: 1.9 metres
5. The used clothing bin is to be placed on a concrete slab to allow all weather use.
6. Used clothing bin should be readily accessible and are not to be located in a designated car parking space and manoeuvring areas, nor in such a way that contravenes any condition of development consent applicable to the site.

7. A used clothing bin must not be located in a position where it could cause an obstruction to pedestrian and cycle paths, affect vehicular sightlines, on a road verge or in a manner which contributes to a potentially dangerous situation.
8. At no time will a used clothing bin be permitted on Council's footpaths, cyclepaths or nature strips.

17. Service Stations

Applies to

This section applies to Service Stations in Business zones.

Background

Service Stations are permitted in the B1 Neighbourhood Centre; B2 Local Centre; B4 Mixed Use; and B6 Enterprise Corridor zones (Refer to Liverpool Local Environmental Plan 2008). Service Stations provide convenient goods to surrounding localities and passing commuter traffic.

Objectives

- a) To preserve public amenity, safety and access.
- b) To limit the impacts upon adjoining land uses such as residential accommodation and business uses.

Controls

1. Car parking areas shall:
 - a) Be located to minimise conflict with vehicle movements for other uses on the site.
 - b) Be located as close as possible to the use generating the need for parking e.g. take away food and/or retailing component to minimise on street car parking.
 - c) Be provided in accordance with Part 1 of LDCP 2008.
2. Drive through areas should be located to minimise conflict with pedestrian movement and impacts on neighbourhood amenity.
3. Driveways must be appropriately designed and be located to ensure safe access and egress, particularly in reference to sight lines and pedestrian movements.
4. Buildings should be sympathetic to existing setbacks, heights and building envelopes of neighbouring properties.
5. Appropriate mitigation measures should be provided to limit noise, light overspill, visual impact and odour.
6. A Landscape Plan, prepared by a suitably qualified person, is to be submitted with any development application. Landscaping is to provide a visual and acoustic buffer to adjoining development.

18. Restricted Premises

Applies to

This section applies to „Restricted Premises“ (as defined by the Liverpool Local Environmental Plan 2008) in Business zones.

Objectives

- a) To ensure that the design and external appearance of restricted premises (including colour scheme and lighting) does not have an adverse impact on the architectural character of the surrounding built environment and streetscape appearance
- b) To ensure that the safety of all staff and visitors to restricted premises is maintained when approaching, entering and leaving the premises
- c) To ensure that restricted premises are provided with appropriate facilities in accordance with the relevant occupational health and safety provisions
- d) To ensure that adequate and suitable facilities are provided within restricted premises to ensure the privacy, comfort, safety and security of staff and patrons
- e) To ensure that advertising and signage associated with restricted premises is discreet, does not draw attention to the use and does not result in visual clutter or other adverse visual impacts on the surrounding area
- f) To minimise the potential for the operation of a restricted premises to cause a disturbance in the surrounding area because of its size, location, hours of operation, number of employees or clients, or proximity to other restricted premises or sex services premises
- g) To ensure the safe and adequate storage, handling and disposal of contaminated waste

Controls

Siting

1. Restricted premises shall not be located within 150m of any land zoned residential or any place of worship, school, community facility, child care centre, hospital, rail station, bus stop, taxi stand, licensed premises (i.e. hotel, club, restaurant), or any place regularly frequented by children for recreational or cultural pursuits.
2. Restricted premises shall not be located within 150m of any land for which a consent for the uses listed in item 1 above exists.
3. In determining an application to carry out development for the purpose of restricted premises, the consent authority must consider the following matters:
 - whether the operation of the restricted premises will be likely to cause a disturbance in the neighbourhood because of its size, location, hours of operation, clients or the number of employees and other people working in it,
 - whether the operation of the restricted premises will be likely to interfere with the amenity of the area, and
 - whether the operation of the restricted premises will be likely to cause a disturbance in the neighbourhood when taking into account other businesses operating in the neighbourhood offering similar goods and services and involving similar hours of operation.

Design of Premises

4. No part of the premises (other than an access corridor to the premises) shall be located at ground floor level, mezzanine, sub basement level or street level or be visible from a public place.
5. Restricted premises must be designed so that there is only one visible pedestrian entrance to the premises from the primary street frontage. In instances where there is no front access and/or front access is impractical, Council will consider a side or rear pedestrian access where adequate attention has been given to safety and security matters.
6. Rear or side pedestrian access is to be limited to one only, unless it can be demonstrated to Council's satisfaction that more than one access contributes to the amenity and functional efficiency of the restricted premises and surrounding uses and does not result in safety and security concerns or visual clutter via the need for additional signage.
7. The external appearance of restricted premises must respect the character and appearance of the streetscape, such that they do not become a prominent feature in the street. In this regard, the external colour scheme of these premises is to be consistent with surrounding colour schemes. Vivid and/or ostentatious colour schemes will not be permitted unless it can be demonstrated that the proposed colour scheme would be in keeping with the existing streetscape.
8. All entrances and exits of restricted premises must have appropriate lighting to ensure the safety of all staff and visitors as they arrive and leave the premises. Any flashing, intermittent etc. lighting used in conjunction with a restricted premises must not be visible from a public place.
9. No merchandising display relating to the sex services premises shall be erected, displayed or exhibited in any location which is visible from a public place or in an access corridor (including any stairwell to the premises).

Signage

10. Signage is to be discreet and is limited to a combination of the business name, address and phone number.
11. There is to be one sign, not exceeding 1.5sqm in area, per premises. A second sign may be permitted where pedestrian access is provided at the side or rear of the site.
12. The content, illumination and shape of the sign must not interfere with the amenity of the locality. In this regard, signs are not to include suggestive or offensive material, or include colours or designs that may distract passing motorists. Illumination of signs must not cause nuisance to any adjoining premises or interfere with the amenity of the area.
13. In addition to a business identification sign, a clearly visible street number is to be displayed on the premises.

Note: In addition to the above controls, applications for restricted premises must comply with the requirements of the *Crimes Act 1900 Section 578 (e)* and *Classification (Publications, Films and Computer Games) Enforcement Act 1995*.

Appendix – Outdoor Cafes

Furniture

Each establishment shall adopt its own consistent colour scheme and style for items such as seats, tables and umbrellas. The use of mismatched tables, chairs and umbrellas are not permitted.

1. Outdoor cafe furniture shall be of commercial quality to withstand the wear of outdoors commercial use.
2. Plastic tables and chairs are not permitted without approval of Council.
3. Selection, design and installation of outdoor cafe furniture shall be subject to Council approval.
4. Council must approve the colour and style of outdoor umbrellas within the CBD.
5. Outdoor cafe furniture including plants, containers and other items shall be approved by Council and maintained at all times in an appropriate aesthetic, structurally sound and hygienically clean condition by the permit holder.
6. Where footpath awnings are absent the permit holder shall provide removable outdoor umbrellas for the outdoor cafe.
7. Outdoor umbrellas are to be installed at such a height or in such a manner that there is no conflict with passing pedestrian traffic.
8. Outdoor umbrellas shall be a minimum height of 2.1m at the lowest point of overhang and shall be counterweighted or capable of being easily fastened to resist overturning. In some cases umbrellas can be inserted into permanent in-ground steel base fittings.
9. Outdoor chairs shall be capable of being easily stacked or folded for storage unless otherwise permitted by Council.
10. Outdoor cafe furniture and barricades shall be easily movable, so as to assist maintenance and cleaning of the pavement.
11. Outside of trading hours, outdoor cafe tables, chairs and umbrellas shall be removed from the footpath by the permit holder and shall be stored within the associated building premises.
12. Access to outdoor cafe seating shall be provided for people with disabilities.

Operation

The permit holder or delegated person in authority must observe the following requirements:

1. All business activities in the outdoor cafe area shall be conducted in a safe and clean manner.
2. All decisions of management shall reinforce the fact that the outdoor cafe area is a public place, which exists for the welfare of the public.
3. The outdoor cafe, and the area between the outdoor cafe and the associated business premises, shall be kept clean at all times, and any spilt food, liquid or other material likely to cause injury or offence shall be removed immediately by the permit holder or operator.
4. Food and drink preparation activities are not permitted in outdoor cafe areas.

5. All food scraps, eating utensils and waste material shall be removed from the outdoor cafe and taken into the associated business premises immediately after the completion of each meal.
6. Food waste disposal facilities must be provided within the associated business premises as required by Council.
7. Moveable barriers, tables, chairs, umbrellas and the like shall be removed from the footpath and stored in the associated business premises outside the approved trading hours. The leased area must be left clean at the end of the days trading. The operator is responsible for any damage sustained to Council property directly or indirectly associated with the outdoor cafe's operations.
8. No sound amplification equipment, jukeboxes or loud speakers shall be used in the outdoor cafe area for the purpose of announcements, broadcasts, playing of music (whether recorded or otherwise) or similar purposes.
9. Live entertainment may be provided at the outdoor cafe area with the prior written permission from Council.

Insurance

To provide adequate protection against claims that may arise as a result of the operation of the outdoor cafe, each operator shall have a current public liability risk insurance policy.

Council's public liability insurance requirements are as follows:

1. The applicant shall have a current liability risk insurance policy for the sum of not less than \$10,000,000, which covers public liability resulting from actions associated with the outdoor cafe.
2. The policy shall indemnify Liverpool City Council against any public liability claims within the area between the front property boundary of the subject premises and the kerb line of the street for the full frontage of the subject premises. Where the outdoor cafe is not directly adjacent to the subject premises, the area covered by the insurance policy shall include the outdoor cafe permitted area and the area between the outdoor cafe and the subject premises frontage. The policy shall also cover accidents involving staff employed and the public within the associated outdoor cafe seating areas.
3. The applicant shall keep the policy current at all times and shall provide Liverpool City Council with a copy of the policy prior to the issue of the „Permit for Outdoor Cafes“.

Footpath Permit Agreement and Insurance

Applicants will also need to provide public liability insurance for the outdoor cafe area and sign a permit agreement. The permit agreement is a legal document between the applicant and Council that allows the applicant to use the Council approved area for seating. As the insurance is renewed each year so is the permit agreement

Agreement and Enforcement

The Permit Agreement must be completed to Council's satisfaction and signed by the applicant.

Enforcement Measures for Non-Compliance

If non-compliance is noted, the permit holder will be given:

Step 1

A verbal warning and an explanation of the problem.

Step 2

A written notice to comply. If non-compliance continues, the permit holder will be given:

Step 3

An infringement notice and a maximum of up to five (5) penalty units.

Step 4

If there is continued non-compliance, Council reserves the right to revoke the permit. Any breach of safety must be rectified immediately, as non-compliance will result in instant loss of permit.

Site plans of the footpath area drawn to scale (1:100) including:

1. The dimensions and boundaries of the outdoor cafe.
2. The number and location of tables and chairs in the outdoor cafe area.
3. The kerb line of the street.
4. The width of the business premises frontage and location of entrances.
5. The width of the existing footpath adjacent to the business premises frontage and the remaining width of the footpath after allowing for outdoor cafe seating.
6. The location of pedestrian or vehicular entrances which serve the adjoining buildings premises or adjacent areas.
7. The design, material and location of any barriers intended to define any part or boundary of the outdoor cafe.
8. The location of any public utility structures such as power poles, bus stops, trees, street furniture, signposts or other items, which are adjacent to the site.
9. The area to be covered by the public liability insurance. This will include the permitted outdoor cafe area and the connecting area to the shop through which food and drink is delivered.
10. Provision of emergency vehicle access where required by Council so that such access always has priority over all outdoor cafe areas.
11. Details of the proposed colour, type and material of proposed chairs, tables, umbrellas, barricades and other items.
12. Details of proposed planter boxes, including plantings.
13. Details of proposed artificial lighting and/or heating.
14. Details of access, safety and other matters including those mentioned elsewhere in this DCP.

Step 5

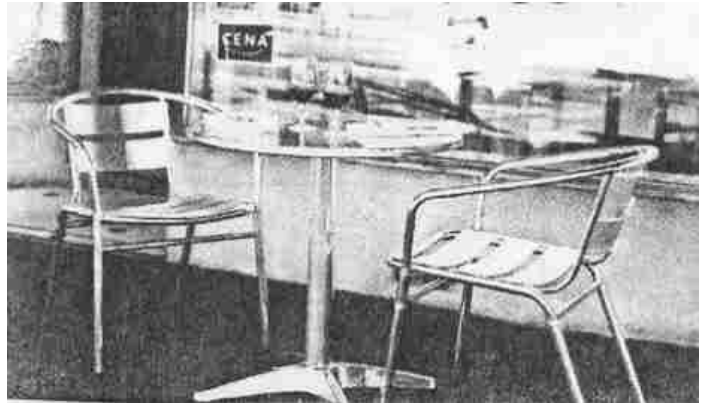
Signing of the Permit

If Council approves the Development Application, the applicant is required to accept the conditions, which apply to the Footpath Permit Agreement (See Appendix 3; Application for a Permit for Outdoor Cafes), by formally signing and receiving all relevant

documentation. Council will require a copy of the public liability insurance for the outdoor cafe and associated areas before the permit is issued.

Chairs and tables

Examples of Suitable Outdoor Furniture





Council Administration Centre Level 2, 33 Moore Street, Liverpool NSW 2170

Postal Address Locked Bag 7064, Liverpool BC NSW 1871

Customer Contact Centre 1300 36 2170

Fax 02 9821 9333

NRS (National Relay Service) 133 677

Email lcc@liverpool.nsw.gov.au

Website www.liverpool.nsw.gov.au

Liverpool Development Control Plan 2008

Part 7

Development in Industrial Areas

17 April 2019

Part 7 must be read in conjunction with Part 1
Check if any Locality Parts also apply

Liverpool Development Control Plan 2008

Part 7 Development in Industrial Areas

Table of Contents

1. Preliminary	4
2. Site Area	6
3. Site Planning	7
4. Setbacks	9
5. Landscaped Area	11
6. Building Design, Streetscape and Layout	13
7. Landscaping and Fencing	16
8. Car Parking and Access	19
9. Amenity and Environmental Impact	25
10. Site Services	29
11. Change of use of existing buildings	29
12. Non Industrial Developments	31
12.1 Ancillary Dwellings	31
12.2 Sex Service Premises	32
12.3 Child Care Centres	33
12.4 Telecommunication Facilities	35
12.5 Shops, Service Stations & Restaurants	37
12.6 Places of Public Worship	38
12.7 Crematoria	38

Table of Figures

Figure 1 Setback for an Industrial Building	10
Figure 2 Landscaping along frontage.	12
Figure 3 Character of Industrial Buildings.....	14
Figure 4 Landscaping in front of a fence.	16
Figure 5 Landscaping in front of a high fence.....	18
Figure 6 Landscaping between car parking spaces.	19
Figure 7 Lots with speed humps on service lane.....	22
Figure 8 Land without road access and land which must give Right of Way.....	22
Figure 9: Kurrajong Road and service road section	22
Figure 10 Lots which must dedicate easement	22
Figure 11 Potentially Contaminated land	27

List of Tables

Table 1 Setbacks	9
Table 2 Landscaped Area	11
Table 3 Right of Way	20

1. Preliminary

Applies to

1. Part 7 applies to land in industrial zones under *Liverpool LEP 2008*, except land at Shepherd Street, Liverpool and north of Newbridge and Bridges Road, Moorebank which is in Part 4. Liverpool City Centre.
2. Part 1 of the DCP also applies to the land.
3. Part 2.8 only applies to the Moorebank Defence Lands.

Background

There are several areas in Liverpool that are zoned industrial. The oldest industrial area in Liverpool is in Shepherd Street. The Warwick Farm and Moorebank areas began developing in the 1950's. The Chipping Norton area began developing in the 1960's. The area of Prestons east of Ash Road developed in the 1970's. Redevelopment has subsequently taken place in these areas.

The Prestons and the Cross Roads area began developing in the 1990's. The area around Anzac Road began developing in the 2000's.

Bulky Goods Retailing in Industrial Areas is centred on Warwick Farm and at Cross Roads. Over time additional non-industrial uses have taken place in the industrial areas.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the industrial areas of Liverpool. It does not just cover industrial development but also non-industrial development in industrial areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the industrial zones as well as provisions for specific forms of development in the industrial areas or for development on specific sites.

Objectives

- a) To provide urban design requirements for the range of uses permitted in the various industrial zones.
- b) To provide urban design requirements to ensure that the range of uses permitted in the various industrial zones are compatible with each other and with development permitted in adjoining zones.
- c) To provide design requirements to ensure development in the industrial zones are compatible with the natural environment.

- d) To provide design requirements to ensure that development in the industrial zones are compatible with the requirements of *Liverpool LEP 2008*.
- e) To provide design requirements to ensure that development in the industrial zones which is in the vicinity of land within a residential zone would be compatible with the character and amenity of the existing and likely future nearby residential areas in terms of:
 - Its scale, bulk, design, height, siting and landscaping.
 - Its operation.
 - Traffic generation and car parking.
 - Noise, dust, light and odour nuisance.
 - Privacy.
 - Stormwater drainage.
 - Hours of operation.
 - Overshadowing.

2. Site Area

Background

The subdivision of sites zoned for Industrial use is permitted within *Liverpool LEP 2008*. Subdivision of sites may only occur if the newly created site meets the required site dimensions. Any access handles or corridors, cannot be included as part of the site area.

Objectives

- a) To accommodate the needs of industry while ensuring that all allotments are of sufficient size to function efficiently
- b) To enhance the quality of the streetscape in industrial areas.

Controls

Minimum site area of an allotment: 2,000sqm.

3. Site Planning

Background

Industrial areas within Liverpool LGA are potentially a very intensive use of land. The extent of impervious area is often very high, which can have an impact not only on the adjoining land but also on the broader area. The layout of the proposed development will have a significant impact on the streetscape environment of industrial areas.

Objectives

- a) To ensure that the development considers the impact on adjoining properties.
- b) To consider the natural features of the site.
- c) To consider any other potential site constraints.

Controls

1. Where possible, site planning allows for the retention of significant trees and vegetation, particularly near the street frontage.
2. The development must be designed around the site attributes such as slope, existing vegetation and land capability.

Specific Controls for Prestons Industrial Area

Archaeologically Significant Sites

The following sites have been identified as having potential archaeological deposits and as such are required to lodge an archaeological investigation and heritage report prepared by a suitably qualified person with any Development Application for subdivision and/or development.

- Lot 10 DP 1070164 (Lot 10 Illaroo Road)
- Lot 1 DP 121122 (Lot 1 Kurrajong Road)
- Lots A, B, C, D DP 101475 (Kurrajong Road)

Bernera House Heritage Site

Lot 34, DP 2359 Yarrunga Road is identified as being the former location of Bernera House. Any DA for subdivision or development of this lot must be accompanied by an archaeological investigation and heritage report prepared by a suitably qualified person into the former house and outbuildings and any remnants or relics there of.

Land within Electricity Easements

The following general controls apply to any land affected by an electricity easement.

1. Buildings or other substantial structures or parts thereof shall not be erected within the easement area.
2. Minor structures, plant or equipment, shall not be erected or installed within the easement area without prior written approval of *TransGrid*.
3. Obstructions of any kind shall not be placed in the easement area within 15m of any part of a transmission line structure.
4. Vehicles, plant or equipment having a height exceeding 4.3m when fully extended shall not be brought onto or used within the easement without prior written approval of *TransGrid*.
5. Garbage, refuse or fallen timber shall not be placed within the easement area.
6. Flammable material shall not be stored within the easement area.

7. Trees and shrubs may be planted within the easement area provided that they are limited to types that will not grow to a height exceeding 4m.
8. Trailers and flammable material carriers shall not be parked within the easement area.

Servicing

1. *Integral Energy* has advised that until the rebuild of the Hoxton Park Zone Substation (2009/10), servicing capacity is limited within the Yarrunga Industrial Precinct. Council will refer any DA within this area (other than for subdivision or earthworks) to Integral Energy for their consideration. All DAs will be considered and development consents will be conditioned according to Integral Energy's response.
2. The Hoxton Park Recycled Water scheme provided by Sydney Water will service development within the Yarrunga precinct with non-potable water. Each Development Application must detail how dual reticulation is to be incorporated into development.

4. Setbacks

Background

The density and setbacks from the street frontage can have a significant impact on the general appearance of an industrial area. It can also impact on access to and from a site and on traffic circulation.

Objective

To ensure buildings do not adversely dominate the streetscape environment of industrial areas.

Controls

All buildings shall be setback in accordance with Table 1.

Table 1 Setbacks

Street	Primary Setback (Ground Floor)	Primary Setback (First Floor)	Secondary Setback
Classified Roads	18m	15m	15m
Any street fronting land in a residential zone			
Kurrajong Road	20m	20m	15m
Bernera Road , Governor Macquarie Drive and future link road across Hinchinbrook Creek to former Hoxton Park Airport	15m	12.5m	5m
All other street frontages	10m	7.5m	5m

Setbacks for land at Cowpasture Road (adjacent to future link road across Hinchinbrook Creek to former Hoxton Park Airport)

All buildings on land at Cowpasture Road (adjacent to future link road across Hinchinbrook Creek to former Hoxton Park Airport) shall be setback 5m from the rear and side boundary where this is not adjacent to the future link road.



Figure 1 Setback for an Industrial Building

Setbacks from Cabramatta Creek in Prestons

All development shall be set back from any land in the E2 Environmental Conservation zone along Cabramatta Creek in Prestons on the subject or adjoining properties by a minimum of 10m.

5. Landscaped Area

Background

The landscaping of a development has a major role in improving the streetscape of an industrial area. It also provides opportunities for staff recreation areas and absorption and detention of stormwater from the development. There is a need for sufficient area to be made available in order to provide sufficient landscaping.

Objectives

- a) To ensure that sufficient deep soil areas are provided for landscaping.
- b) To ensure that landscaping is provided to improve the streetscape environment of industrial areas.
- c) To ensure that landscaping is sustainable in terms of length of plant life and maintenance.

Controls

1. A minimum of 10% of the site is to be landscaped at ground level.
2. A development must provide a landscaped area along the primary and secondary frontages of an allotment in accordance with Table 2

Table 2 Landscaped Area

Allotment size	Minimum Landscape Width (primary setback)	Minimum Landscape Width (secondary setback)
Smaller than 3,999sqm	5m	3m
Greater than 4,000sqm	10m	5m

3. Land which is at Cowpasture Road (adjacent to future link road across Hinchinbrook Creek to former Hoxton Park Airport) shall be landscaped in the setback 5m from the rear and side boundary (where this is not adjacent to the future link road).



Figure 2 Landscaping along frontage

6. Building Design, Streetscape and Layout

Background

All developments have an impact on the streetscape of industrial areas. This impact can result from the location, design and height of buildings and structures. Streetscape is the urban environment created by the relationship of built elements to the public domain. The quality and scale of architecture, landscape elements, natural elements and works in the public domain determine the streetscape character.

Ancillary elements of development such as advertising, driveways and fencing are important elements of the streetscape. To make a positive contribution to the streetscape, new development needs to reinforce the scale and character of existing buildings and landscape elements.

Crime Prevention Through Environmental Design (CPTED) is an integral component of high quality urban design and must be considered holistically throughout the design and development processes.

Objectives

- a) To ensure the creation of an attractive streetscape character within each industrial area.
- b) To encourage a high standard of architectural design for industrial buildings.
- c) To ensure compatibility with any adjoining residential areas.
- d) To promote a high standard of urban design, particularly along Classified roads.
- e) To ensure buildings are orientated to allow surveillance from the street and adjoining buildings.
- f) To locate and design buildings and structures to restrict access by intruders.

Controls

Facade treatment

1. The facades to a development must adopt a contemporary architectural appearance.
2. A development must use architectural elements to articulate facades, and minimise large expanses of blank walls. Architectural elements may include but not be limited to:
 - Defining the base, middle, or top of a building using different materials and colours.
 - Incorporating horizontal or vertical elements such as recessed walls or banding.
 - Defining the window openings, fenestration, building entrances, and doors.
 - Using roof forms and parapets to create an interesting skyline.
 - Using sun shading devices.
 - Incorporating public art work.
 - Using a variation of unit designs in a building complex.
 - Any other architectural feature to the satisfaction of Council.
3. Where a development proposes a portal frame or similar construction, Council does not permit the “stepping” of the parapet to follow the line of the portal frame.
4. The street facade of a development on a corner allotment must incorporate architectural corner features to add visual interest to the streetscape.



Figure 3 Character of Industrial Buildings

Materials & Colours

1. Glazing shall not exceed reflectivity of 20%.
2. A development must use:
 - Quality materials such as brick, glass, and steel to construct the facades to a development.
 - Masonry materials to construct a factory unit within a building, and all internal dividing walls separating the factory units.

Building design

1. The front door to a building should face the street.
2. The administration office or showroom must be located at the front of the building.
3. Windows on the upper floors of a building must, where possible, overlook the street.
4. The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the location of the building.
5. Open style or transparent materials are encouraged on doors and/or walls of lifts and stairwells, where fire safety requirements allow.
6. Waiting areas and entries to lifts and stairwells should be close to areas of active use and be visible from building entrances.
7. Driveways must provide adequate sight distance for the safety of pedestrians using the footpath area.
8. Pathways should provide direct access and any edgework should be low in height or not reduce visibility of the pathway.

9. Entry to basement parking areas should be through security access via the main building. This access should be fitted with a one way door (allowing for fire safety provisions) and allow only authorised access from the foyer into the basement.
10. Blank walls in general that address street frontages or public open space are discouraged. Where they are unavoidable building elements or landscaping must be used to break up large expanses of walls. In some cases an anti-graffiti coating will need to be applied to the wall to a height of 2 metres.

Lighting

1. Lighting must be provided to the external entry path, common lobby, driveway, and car park to a building using vandal resistant, high mounted light fixtures.
2. The lighting in a car park must conform to *AS 1158.1, 1680, and 2890.1*.
3. External lighting to an industrial development must give consideration to the impact of glare on the amenity of adjoining residents.

Facilities

The siting of a telecommunication facility, aerial, satellite dish, plant room, lift motor room, mechanical ventilation stack, exhaust stack, and the like must integrate with the architectural features of the building to which it is attached; or be sufficiently screened when viewed from the street and neighbouring residential zoned land.

Service Areas

Service areas including waste, recycling areas and external storage areas are to be located away from principal street frontages and screened from view.

7. Landscaping and Fencing

Background

The landscaping of a development has a major role in improving the streetscape of an industrial area. All Industrial developments require landscaping to be provided. The landscaping must consider the existing streetscape character and the impact on neighbouring properties. The provided landscaping should make the site more attractive and soften the appearance of development.

Objectives

- a) To establish an attractive streetscape character within the industrial areas.
- b) To reduce the visual impact of industrial buildings & car parking areas.
- c) To protect existing trees on site and on neighbouring allotments.
- d) To provide outdoor amenity areas for use on industrial sites by employees.
- e) To ensure that landscaping is sustainable in terms of length of plant life and maintenance.
- f) To provide planting, which facilitates a habitat for native fauna.
- g) To allow fencing to provide security to industrial premises.
- h) To maximise surveillance using tall trees (lower branches above head height) and small shrubs and bushes.

Controls

The landscaped areas shall be landscaped to achieve that shown in the following illustration.



Figure 4 Landscaping in front of a fence

Landscape treatment in Industrial Areas

Landscaping within industrial areas shall generally involve the provision of trees and shrubs in mulched garden beds. In particular the landscaping shall involve the following:

1. The trees shall provide a canopy for the streetscape and soften the appearance of the industrial environment, without unduly concealing approved on site signage.
2. Mulched garden beds shall incorporate ground covers that will cover the ground area.

3. Shrubs shall be used to soften appearance of the industrial area but still allow line of sight between the street and the development.
4. Large shrubs shall be used as screen planting where there is a need to screen certain areas such as outside storage.
5. Shrubs shall only be planted in mulched garden beds.
6. Grassed areas may be considered in limited areas in conjunction with mulched garden beds.
7. Trees shall only be planted in grass where there is a border around the tree separating it from the grassed area.
8. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 -1.8m) especially along paths and close to windows and doors.
9. Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.
10. Planting along pedestrian pathways, around car parking areas should be selected to promote surveillance and minimise areas for intruders to hide. Low hedges and shrubs, creepers and ground covers, or high canopied vegetation would be appropriate.

Trees

1. Trees must be planted in the landscape area at a minimum rate of 1 tree per 30sqm of the landscape area.
2. The trees must be capable of achieving a mature height greater than 8m.
3. Where trees are planted around high use facilities such as car parking areas and walkways, they should have clean trunks to height of 1.8m.
4. Large trees and shrubs should not be located so they can be used to access buildings on the site or adjoining properties.

Fences at Front Boundary

1. Solid front fences must have a maximum height of 1.2m.
2. Front fences higher than 1.2m shall be consistent with the following:
 - Maximum height of 2m.
 - Transparent.
 - Dark colour.
3. Chain wire, metal sheeting, brushwood and electric fences are not permitted.
4. Fences should not prevent surveillance by the building's occupants of the main open or communal areas within the property or the street frontage.
5. Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.

Screen Fencing

Where fencing is considered necessary to screen areas such as outside storage it shall consist of the following:

- Maximum height of 2m.
- May be solid construction.
- Shall be located behind the landscaped area.

Detailed Landscape Plan

A detailed landscape plan shall accompany a development application. A suitably qualified Landscape architect must prepare all Landscape Plans submitted with the development application. Refer to Part 1 for requirements for Detailed Landscape Plans.

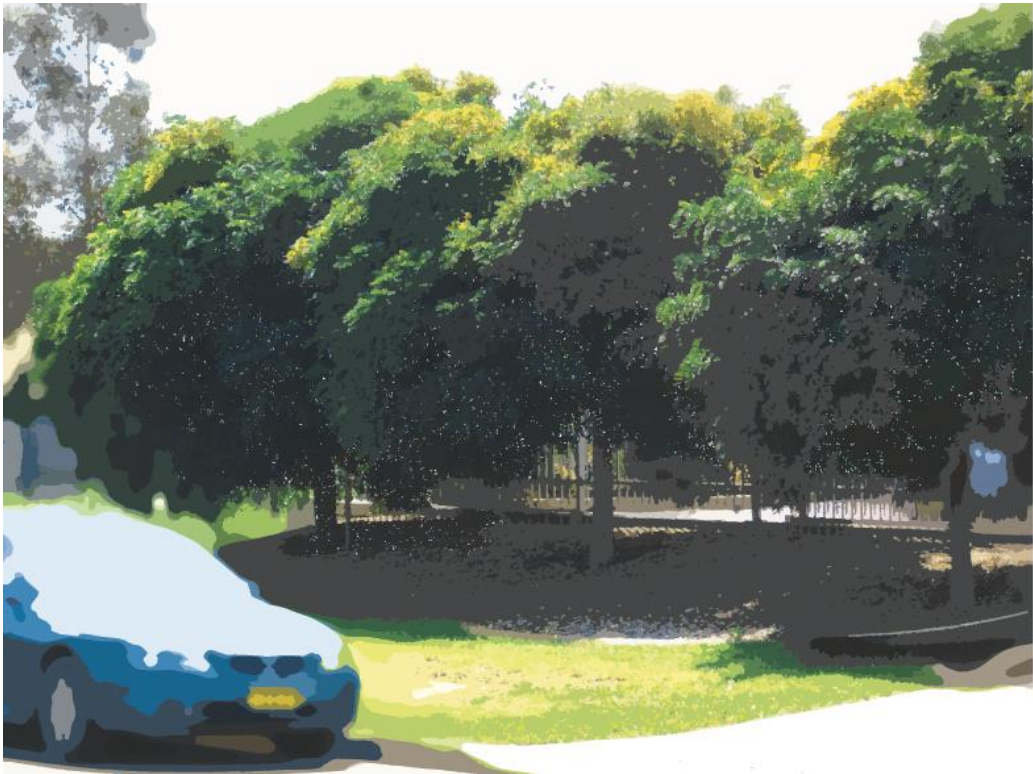


Figure 5 Landscaping in front of a high fence

8. Car Parking and Access

Background

Car parking and safe access provision is fundamental for all sites in the industrial areas. Refer to Part 1 for additional information about car parking and access requirements.

Objectives

- a) To provide adequate on site car parking to reduce the need for street car parking.
- b) To ensure safe and easy vehicle circulation within the site.
- c) To provide safe and easy access to and from the site for pedestrians and motorists.
- d) To minimise the impact of driveways and parking areas on existing landscaping, landform and streetscape.
- e) To ensure pavement or driveway materials are sympathetic to the streetscape and surrounding landscape character.

Controls

1. The layout of driveways to loading docks must enable heavy vehicles to:
 - Enter and exit the site in a forward direction.
 - Park within designated loading areas.
 - When possible, loading docks are to be located in areas that:
 - a. Are not exposed to public streets.
 - b. Are generally separate from and do not interfere with car parking areas.
2. Car parking areas are to be landscaped to provide shade and reduce the visual impact of parked cars.
3. Provide a 2.5m wide landscape bay between every 6 - 8 car spaces.



Figure 6 Landscaping between car parking spaces

Traffic and Site Access adjacent to Kurrajong Road, Prestons

1. There is to be no truck access to sites from Kurrajong Road. All truck access to these properties is to be gained via rear driveways or roads.

2. An internal service road is to be provided adjacent Kurrajong Road which allows for safe car movements and may accommodate parking. See Figure 7.
3. Where a cul-de-sac is required a turning head with a minimum of 13.5m radius may be required.
4. The Kurrajong Road Service road will be created as a privately owned access way. As such right-of-way must be granted across each property.
5. Speed humps are to be provided within the service road at 100m intervals are to be located on the following lots at the following rates:
 - 1 speed hump on Lot 11, DP 1185132
 - 1 speed hump on Lot 41 DP 2359
 - 1 speed hump on Lot A DP 416483
 - 1 speed hump on Lot B DP 416483
 - 2 speed humps on Lot 43 DP 2359
 - 1 speed hump on Lot 20 DP 1173483

The subject lots are shown highlighted on Figure 7 below.



Figure 7: Speed humps are to be provided within the service road to be located on the highlighted lots at 100m intervals.

Right of Way

1. This DCP limits truck access for development on certain allotments facing Kurrajong Road. Also one part allotment has no road access due to severance caused by the M7. These allotments are listed in Column 1 of table 3.
2. To remedy this situation, certain allotments must retain a right-of-way across the land giving truck access to certain other lots as shown in the corresponding row of the table below. These allotments are listed in column 2 of table 3.

Table 3 Right of Way

Land which fronts Kurrajong Rd or without road access.	Land which must give right of way to the adjoining land
Lot A and B DP 416483	Lot 41 DP 2359
Lot B DP 416483	Lot A DP 416483
Lot 43 DP 2359	Lot 34 DP 2359

Lot 39 DP 2359	Lot 11 DP 1185132
Lot 38 DP 2359	Lot 1 DP 119428
Pt Lot 2 DP 1045029	Lot 3 DP 1045029

3. The location of this right of way is to be clearly shown within any DA for development of all lots listed in both column 1 and column 2.



Figure 8: Land which fronts Kurrajong Rd or without road access and Land which must give right of way to the adjoining land.

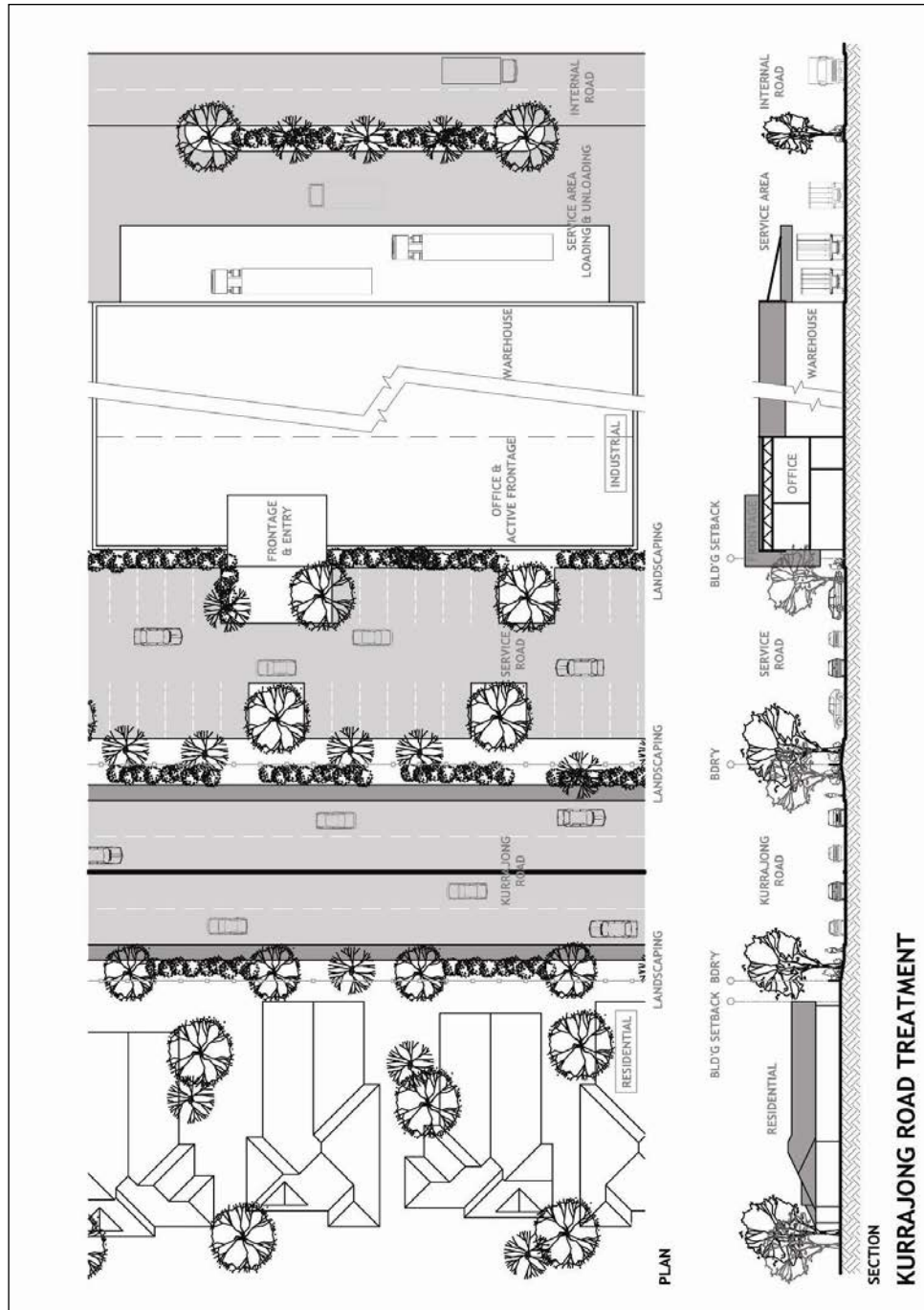


Figure 9 Kurrajong Road and service road section

Lots Fronting Bernera Road, Prestons

To minimise driveway access directly onto Bernera Road and to alleviate traffic impacts generated by turning movements:

1. Any lot that has frontage to Bernera Road in addition to a secondary street or planned future secondary street must utilise the secondary street for all vehicular access.
2. All allotments that address Bernera Road and have no alternate public road access may have only one driveway entry/exit point per existing allotment. This includes any allotment created after consolidation to achieve the minimum 65m
3. Pedestrian access is encouraged from Bernera Road.
4. Any DA for development of the following allotments must identify and dedicate a 14m wide easement along the Bernera Road frontage to accommodate drainage infrastructure:
 - Lot 1 DP 1045029
 - Lot 9 DP 1053060
 - Lot 10 DP 1053060
 - Lot 11 DP 1053060
 - Lot 6 DP 28729
 - Lot 7 DP 28729
 - Lot 8 DP 28729
 - Lot 9 DP 28729
 - Lot 33 DP 2359
 - Lot 20 DP 1173483

Subject allotments are illustrated in Figure 10 below.

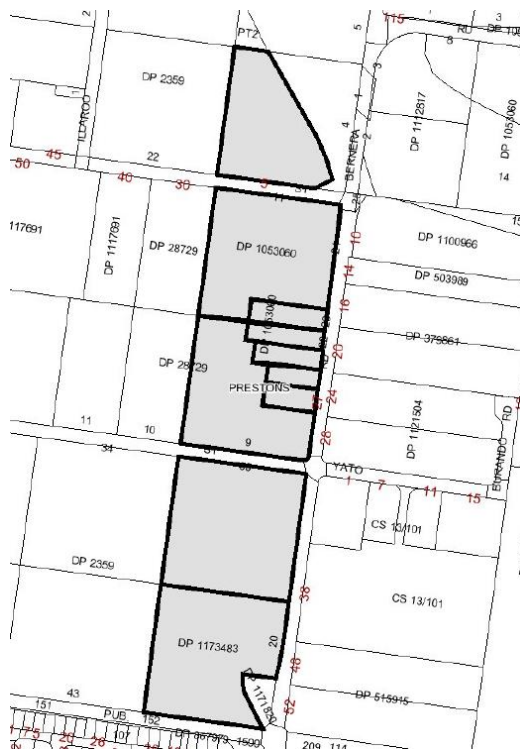


Figure 10: Allotments which must identify and dedicate a 14m wide easement along the Bernera Road frontage to accommodate drainage infrastructure

Traffic and Site Access for land at Cowpasture Road (adjacent to future link road across Hinchinbrook Creek to former Hoxton Park Airport)

1. Vehicular entry to the site from Cowpasture Road shall only be permitted if it consists of a deceleration lane from Cowpasture road, built to the satisfaction of Council.
2. Exit from the site shall be provided on the future link road across Hinchinbrook Creek to former Hoxton Park Airport).
3. Car parking must not be provided in the rear or side setbacks.

9. Amenity and Environmental Impact

Background

Industrial and related developments have potential to cause a significant environmental impact in terms of odours, noise and discharges. Some of these impacts are addressed by the *Protection of the Environment Operations Act 2008*. However the design and operation of development in industrial areas can contribute to avoiding these issues. The impacts may be on more sensitive land uses in nearby residential areas or on other uses within the industrial areas. As the range of uses permitted in the industrial areas is quite significant it is necessary to consider these impacts on land uses within the industrial zone.

Objectives

- a) To ensure that neighbouring properties are not adversely affected from any operation on site.
- b) To minimise the potential detrimental impact of pollution, dust, noise, odour and traffic.

Controls

External Industrial Activities

1. External processes in an industrial area and storage of materials will not be permitted along a Classified Road frontage or a road frontage opposite a residential area.
2. Storage and processing of motor vehicles, concrete, soil, glass and other similar components or materials shall be totally screened by fencing and dense landscaping (refer to Landscaping and Fencing and Section 4 Landscaping and Existing Trees in Part 1).
3. The maximum height of a stockpile for the recycling of motor vehicles, concrete, soil, glass and other similar components or materials shall be 6m.

Noise

In order to comply with the *Protection of the Environment Operations Act 2008* it may be necessary to construct external works. Mounding, planting and/or noise barriers may be permitted to reduce the impact of noise levels, provided that this does not compromise any other provision in the DCP. The following illustration gives examples of satisfactory treatments.

Hazardous materials and hazardous operation

Certain industrial processes are identified as *Designated Development* under the *Environmental Planning and Assessment Act 1979*. It will be necessary to contact the *NSW Department of Planning* for their requirements for the preparation of an environmental impact statement.

Hours of operation

Development which would have an adverse impact on adjoining or nearby residential areas will be limited to 7 am to 6 pm Monday to Friday and 7 am to 12 pm on Saturday and no work to be undertaken on Sundays.

Land in E2 Environmental Conservation zone at Prestons

- Where a proposal is likely to adversely impact on bushland on the E2 zoned land, a Vegetation management Plan (VMP) for the conservation of the bushland shall be submitted. The VMP shall be undertaken in accordance with the pertinent NSW Office of water Guidelines.

Contamination

Any DA for land identified as potentially contaminated by prior land use activities and shown in Figure 11, must be supported by a phase 1 contamination assessment.

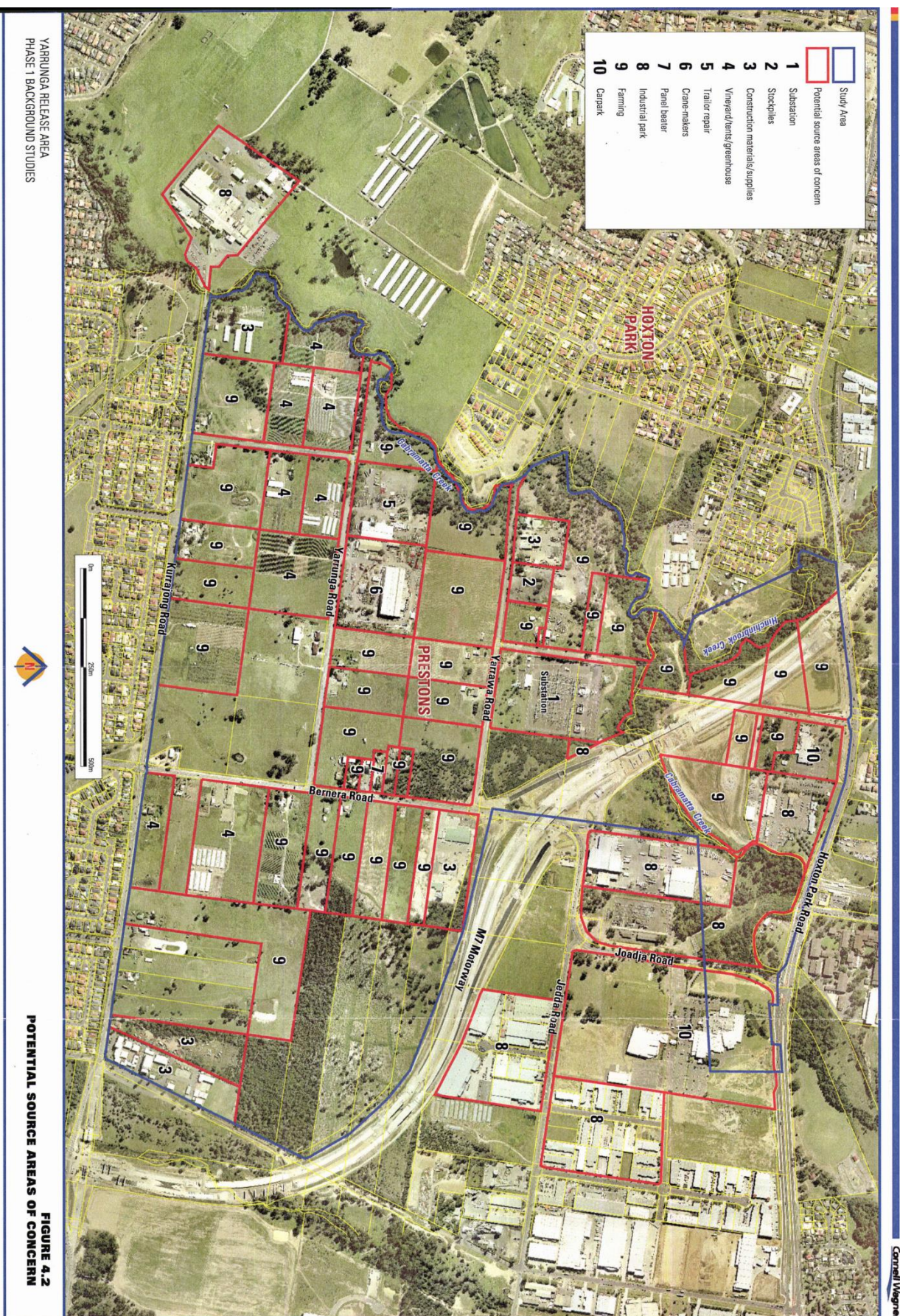


Figure 11 Potentially Contaminated land

10. Site Services

Background

There is a range of services that may need to be provided either on site or within the adjacent road reserve. Owners are required to provide some services and maintain some of the services on the site. Owners must also ensure that services provided on the site are protected from any potential damage.

Objectives

- a) To ensure that the required services are provided.
- b) To ensure that the services provided are easily protected or maintained.

Controls

Letterboxes and House Numbering

1. Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.
2. The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.

Waste management

Owners are to provide their own waste management services. These facilities will vary depending on the needs of the site. Any waste management equipment must not be visible from the street. Waste bins must be provided in a designated area that is easily and safely accessible for workers.

Frontage works and damage to Council infrastructure

1. Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council.
2. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure.

Electricity Sub Station

In some cases it may be necessary to provide an electricity sub station at the front of the development adjacent to the street frontage. This will involve dedication of the area as a public road to allow access by the electricity provider. The front boundary treatment used elsewhere on the street frontage shall be used at the side and rear of the area.

11. Change of Use of Existing Buildings

Background

Changes to the use of existing buildings in industrial areas may require upgrades. In some cases it will be from an industrial related use to a non-industrial use. It is necessary to ensure that the building will be suitable for the new use and that its use does not have an adverse impact on adjoining and nearby land uses.

Objectives

- a) To ensure that the existing building is appropriate for the new use.
- b) To ensure that any necessary upgrades or changes to the development are made.
- c) To ensure there are minimal adverse impacts on surrounding development.
- d) To ensure there are minimal adverse impacts on traffic on nearby streets.

Controls

Where a change of use is proposed to an existing development that will result in a significant impact on adjoining or nearby properties or on traffic movements may not be permitted.

Building Appearance, Streetscape and Layout

All buildings on site shall if needed be upgraded to comply with the *Building Code of Australia* relevant to the proposed use. Where this has an impact on the exterior of the building it shall comply with the requirements in this DCP.

Car Parking and Access

1. Where the new use requires more car parking than is currently provided, it shall where possible increase the car parking and loading provisions to meet the requirements of the DCP, subject to compliance with other provisions of the DCP.
2. Where a new use results in additional traffic generation it may be necessary to adjust the access driveways to suit the traffic generation. Refer to Part 1 of the DCP for details on access provisions.

Landscaping and Fencing

Where existing landscaping is below the standard identified in the DCP, the existing area of landscaping shall where possible be upgraded to the standard specified in the DCP.

Amenity and Environmental Impact

1. Any extension of hours outside the existing hours of operation or outside the hours of 6.00 am to 6.00 pm shall require consent from Council.
2. The new use shall not compromise the amenity of the locality in any greater, different or additional way than the existing use.

Site Services

Any adjustments required to any Council infrastructure in conjunction with the change of use shall be at no cost to Council.

12. Non Industrial Developments

Background

Liverpool LEP 2008 permits a range of Non Industrial land uses within the industrial zones. These are those uses which are ancillary to industrial businesses or which are compatible with an industrial environment.

These Non Industrial land uses may involve using an existing industrial development or construction of a new development. The following provisions are additional provisions for particular land uses. These land uses shall also comply with the other provisions of the DCP.

Some Non Industrial land uses have some specific controls. The rest are covered by general controls as follows:

Objectives

- a) To ensure that the Non Industrial land uses are compatible with the industrial environment.
- b) To ensure that the Non Industrial land uses do not unnecessarily restrict the operation of industrial and related uses in industrial areas.
- c) To ensure that Non Industrial land uses are designed to operate without adverse impact from industrial developments.

Controls

The following controls are in addition to those in Sections 1 – 10.

Site Planning

Site planning for a Non Industrial uses shall give consideration to how minimise the impact of industrial uses on the site and how to ensure that a proposed use would not unduly impose restrictions on existing or future nearby industrial uses.

Car Parking and Access

Car parking shall minimise on street car parking be able to operate separately from other land uses on the site which may be closed out of hours.

Amenity and Environmental Impact

1. Where the hours of operation are after sunset, the car parking areas and any other public areas shall be provided with lighting to provide a safe environment for users of the premises outside daylight hours.
2. A Noise Impact Assessment Statement prepared by a qualified Acoustics Engineer may be required to be submitted with the application depending on the scale and location of the proposed use to show that the use can operate satisfactorily in the industrial area.

12.1 Ancillary Dwellings

Background

There will from time to time be a need for an ancillary dwelling in conjunction with a development within an industrial area. This includes a caretakers dwelling.

Objectives

To ensure that the ancillary dwelling is provided with an adequate living environment for the occupants.

Controls

The following controls are in addition to those in Sections 1 – 10.

Building Appearance, Streetscape and Layout

A separate pedestrian access shall be provided from the front of the building to the dwelling.

Private Open Space and Landscaped Area

The dwelling shall be provided with a minimum private open space area of 80sqm.

Car Parking and Access

A separate car parking space shall be provided for the dwelling.

Amenity and Environmental Impact

1. The dwelling shall be located so that it does not suffer adverse impact from the operation of the business on site.
2. Ancillary dwellings must be designed in accordance with the *Department of Environment and Climate Change's Industrial Noise policy*.
3. The impacts of industrial development should be mitigated by providing protection for the dwelling from overshadowing and overlooking, noise, light, dust and odour nuisance. These impacts can be mitigated by provision of acoustic engineering, walls, screening, physical separation, site landscaping and maintaining appropriate hours of operation.

12.2 Sex Service Premises

Background

Since the mid-1990s Sex Service Premises have been legal in NSW. Council has chosen to permit these in industrial areas subject to certain restrictions.

Objectives

- a) To ensure Sex Service Premises are located at a reasonable distance from residential areas and other sensitive land uses.
- b) To prevent the concentration of Sex Service Premises in one area.
- c) To ensure safe access to Sex Service Premises for staff and patrons.

Controls

The following controls are in addition to those in Sections 1 – 10.

Site Planning

1. Sex Service Premises shall not be located within 150m of any land zoned residential or any place of worship, school, community facility, child care centre, hospital, rail station, bus stop, taxi stand, licensed premises (i.e. hotel, club, restaurant), or any place regularly frequented by children for recreational or cultural pursuits.
2. Sex Service Premises shall not be located within 150m of any land for which a consent for the uses listed in item 1 above exists.
3. Sex Service Premises shall not be located within 100m of the site of any other Sex Service Premises or any land for which a consent for Sex Service Premises exists.
4. Sex Service Premises shall not be located on a classified road or within 90m of a classified road if on a street intersecting a classified road.
5. No patron access is to be from a laneway.
6. Appropriate lighting must be provided to the pedestrian access and premises entry.

Amenity and Environmental Impact

As a condition of development consent a report shall be submitted annually to Council that demonstrates the Sex Service Premises is operating satisfactorily within the terms of the consent and not having an adverse impact upon the neighbourhood amenity. The report shall also provide confirmation from the NSW Police that the Sex Service Premises is operating satisfactorily.

Signage

1. Only one unobtrusive sign per premises, having a maximum size of 1.5sqm.
2. Sign wording must be limited to the trade name of the business operated and the address of the premises. No other characters, depictions, pictures or drawings are to be displayed on the sign.
3. The content, illumination, size, shape and location of the sign must not interfere with the amenity of the neighbourhood.

12.3 Child Care Centres

Background

There is an increasing need to have Child Care Centres in close proximity to work places. The need to locate Child Care Centres in close proximity to work places in industrial areas is balanced by the need to ensure that other industrial uses do not adversely affect the operation of a child care centre and vice versa. The *Department of Community Services* also regulates the standards and operations of Child Care Centres.

Lot Sizes

The appropriate lot size is determined by the proposed number of children.

Objectives

- a) To limit traffic and parking issues to the level found within the area.
- b) To maintain the amenity, streetscape and character of the area.
- c) To provide and maintain a safe and healthy learning and play environment for children;
- d) To ensure that the play areas are clearly defined and to enable children to play in a secure environment under supervision.

Controls

1. The maximum number of children in any centre cannot exceed 45 for 0-5 year olds, however Council may consider a maximum number of 60 children per centre of which 30% must be aged between 0-2.
2. The following controls are in addition to those in Sections 1 – 10.

Note: The proposed child care centre must comply with open space requirements as set out in the *Children Services Regulation 2004*.

Licence Requirements

1. In order to operate a child care centre, the applicant needs to obtain the following:
 - Development consent from Council under the *Environmental Planning and Assessment Act 1979*.
 - A licence to operate from the *NSW Department of Community Services (DOCS)* under the *Children and Young Persons (Care and Protection) Act 1998* and the *Children's Services Regulation 2004*.

2. It is strongly recommended that applicants arrange a meeting with Council prior to submitting a development application to ensure that all the pre-requisite documentation is in order. This will save time and money for the applicant.

Subdivision, Frontage and Allotment Size

Site Planning

The appropriate lot size is determined by the proposed number of children and meeting other requirements set out in this Part. The proposed child care centre must comply with open space requirements as set out in the *Children Services Regulation 2004*.

Site Location

Child Care Centres will not be permitted near or adjacent to the following uses:

- Extractive industries, Waste Depot or landfill site.
- Within 150m of a Sex Service Premises.
- Within 50m of mobile phone towers or antennas or transmission line easements or other similar electromagnetic radiation sources.

Site Planning

1. Site planning should be sensitive to site attributes, such as streetscape character, natural landform, existing vegetation, views and land capability.
2. The site layout should enhance the streetscape through the use of landscaping and built form.
3. Site planning should enable buildings to address streets and public open spaces.
4. The site layout should ensure that the external play area is maximised and enjoys solar access.
5. The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.
6. In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.
7. The site layout should ensure that the front entrance to the Child Care Centre is easily located and accessible.
8. Child Care Centres must be located and designed so as not to pose a health or safety risk to children using the centre.

Open Space and Landscaped Area

1. A Child Care Centre must have at least 7sqm useable outdoor play space per child.
2. The outdoor play space shall not be located within the street setback.
3. Buildings shall be designed to ensure that sunlight is available to 50% of the outdoor play area for a minimum of 3 hours between 9:00am and 3:00 pm on June 21 or shall not create additional overshadowing.
4. The play area shall not be used as a stormwater detention basin.

Building Appearance, Streetscape and Layout

A proposed child care centre must comply with the open space requirements as set out in the *Children Services Regulation 2004*.

Landscaping and Fencing

Landscaping

1. Where landscaping is used to provide privacy, species selected are to achieve these measures within three years.

2. All side and rear setback areas are to be planted with species in a way in which will provide privacy in maturity.
3. Advanced tree species are to be used for key elements within the landscape design to provide privacy screening.
4. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted.
5. Trees adjacent or within the play area are to provide shade and allow winter sun entry
6. Landscaping species must be appropriate to prevent injury to children from toxic, spiky or other hazardous plant species.

Fencing

1. Side (behind the building setback) and rear fencing shall be no more than 1.8m in height unless adjoining a park.
2. Fences shall be constructed of materials compatible with the proposed building.
3. In areas zoned industrial, Child Care Centres shall provide fencing to the outdoor play area which is snake proof and prevents access by children from the play area to unsafe areas on subject or adjoining properties.
4. Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park.
5. Solid front fences and walls shall be a maximum of 1.2m in height.
6. Gates shall be the same height, self-closing and be secure and fitted with a childproof lock.

Amenity and Environmental Impact

Contaminants

All buildings, whether to be built, extended, renovated or converted shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.

Adjoining uses

Child Care Centres shall be designed and operated so that noise generated by the centre does not impact significantly upon adjoining properties.

12.4 Telecommunication Facilities

Background

There is a need to permit Telecommunication Facilities to allow sufficient coverage for uses of mobile telephones. This need is balanced by the need to consider the environmental impact of these on industrial areas. The Australian Telecommunications Authority also manages Telecommunication Facilities.

Objectives

- a) To ensure that Telecommunication Facilities are not within close proximity to residential dwellings or sensitive populations in order to minimise the potential of electro-magnetic radiation exposure.
- b) To ensure that the siting of Telecommunication Facilities is compatible with other permissible and adjoining land uses
- c) To minimise any adverse impact of Telecommunication Facilities on surrounding properties.

- d) To minimise the number of Telecommunication Facilities by encouraging the co-location and sharing of facilities.

Controls

The following controls are in addition to those in Sections 1 – 10.

Site Planning

1. A Telecommunication Facility shall be located where the vegetation, landform or features of an open space location will adequately screen or reduce the impact of the Telecommunications Facility from public areas and reduce the impact of the Telecommunications Facility.
2. A Telecommunication Facility shall not be located where it will detract the heritage significance or settings of a heritage item.
3. The selection of a site shall involve a site analysis of the existing landscape.
4. The location of a Telecommunication Facility shall not be within a 300m “buffer” from an adjoining residential dwelling or sensitive population unless the annual average exposure limit does not exceed 0.2uW/cm².
5. Telecommunication Facilities and associated ground facilities are not permitted on land that is “Environmentally Significant” as identified in *Liverpool LEP 2008*.
6. Telecommunication Facilities and associated ground facilities are not permitted on land below the PMF level.
7. The erection of any new Telecommunication Facilities must be proven to be required where no available alternative for co-location is available.
8. The construction of any Telecommunication Facilities must have the demonstrated potential for co-location of additional facilities and must be addressed as part of any development application proposal.

Building Appearance, Streetscape and Layout

1. The shape, height and colour of the Telecommunication Facilities shall be addressed in order to ensure that visual amenity is maintained.
2. Wherever possible, Telecommunication Facilities should be of a slimline monopole construction.
3. Wherever possible Telecommunication Facilities may be incorporated into building roof areas but should be located to minimise visibility to public areas.
4. Advertising signs of any Telecommunication Facilities, including logos are not permitted on the Telecommunications Facility.
5. Night illumination is not permitted; except where a proposed Telecommunication Facilities infringes the *Obstacle Limitation Surface* (OLS) for aircraft safety.

Landscaping and Fencing

1. A Telecommunication Facility must be located a sufficient distance from any existing trees to allow access.
2. All sites for Telecommunication Facilities and associated ground facilities must be enclosed by a minimum of 1.8m open mesh or similar fencing to prevent public access to the site in order to maintain public safety.

Amenity and Environmental Impact

1. All sites must have warning and information signs displayed to minimise public risk.
2. The level of electro-magnetic radiation emitted from any Telecommunication Facility must not exceed the limit of 0.2uW/cm².
3. Any Telecommunication Facility, which is no longer needed, or no longer in operation shall be removed by the carrier at its own cost and restore the land to its natural state,

within a three (3) month period. The carrier must also notify Council by letter prior to the removal of any Telecommunication Facility.

4. All sites for Telecommunication Facilities and associated ground facilities must be enclosed by a minimum of 1.8m open mesh or similar fencing to prevent public access to the site in order to maintain public safety.
5. If at any one time a Telecommunication Facility is no longer needed, or no longer in operation, the carrier will, except where otherwise agreed with Council, at its own cost remove the structure and facilities and restore the land to its natural state, within a three (3) month period. The carrier must also notify Council by letter prior to the removal of any Telecommunications Facility.
6. Once development has been completed on the site, the carrier must then restore the site to its previous state. Under the *Telecommunications Code of Practice 2008*, this work must commence within 10 working days after completion of the development.

12.5 Shops, Service Stations & Restaurants

Background

These uses are permitted in industrial zones where they don't have a detrimental impact on the economic viability of commercial areas of the Liverpool LGA.

Objectives

- a) To service the existing land uses and workers in Liverpool's industrial areas.
- b) To ensure that this form of development maintains the existing streetscape character.
- c) To ensure that there is minimal detrimental impact on the economic viability of existing commercial areas within Liverpool LGA.

Controls

The following controls are in addition to those in Sections 1 – 10.

Landscaped Area

The area shall be generally consistent with those for industrial developments.

Building Form, Streetscape and Layout

Buildings should maintain the existing streetscape of the industrial areas by ensuring that their design remains consistent with the existing setbacks, heights, building envelopes and appearance of neighbouring properties.

Landscaping and Fencing

Landscaping and fencing shall be generally consistent with those for industrial developments.

Car Parking and Access

1. Car parking areas for a shop, service station or restaurant shall be located to:
 - Minimise conflict with vehicle movements for other uses on the site.
 - Be as close as possible to the shop, service station or restaurant to minimise on street car parking.
 - Be able to operate separately from other land uses on the site, which may be closed out of hours.
2. Drive through areas should be located at the rear or side of any related building.

12.6 Places of Public Worship

Background

Some places of public worship seek to operate in industrial areas. The prime hours of operation of places of public worship are often outside the normal working week times. This assists to minimise conflicts.

Objectives

- a) To ensure the amenity of the surrounding area is not adversely affected.
- b) To only permit Places of public worship where they will not suffer an adverse impact from a business within an industrial area.

Controls

The following controls are in addition to those in Sections 1 – 10.

Building Form, Streetscape and Layout

1. The entrance to a place of public worship shall be located at the front of the building.
2. Where possible public areas within the places of public worship shall overlook the car parking area and other public areas surrounding the building.

Car Parking and Access

1. Car parking areas for places of public worship shall be located:
 - Near the street frontage.
 - To minimise conflict with vehicle movements for other uses on the site.
 - To be as close as possible to the places of public worship to minimise on street car parking.
 - To be able to operate separately from other land uses on the site which may be closed out of hours.
2. Provision should be made for overflow car parking for special festival days.

Amenity and Environmental Impact

Where the hours of operation are after sunset, the car parking areas and any other public areas shall be provided with lighting to provide a safe environment for users of the premises.

12.7 Crematoria

Any proposed development for crematoria is to comply with the relevant conditions within the Liverpool Development Control Plan 2008 Part 5 – Section 9.13 *Cemeteries and Crematoria*.

**LIVERPOOL
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LIVERPOOL CITY COUNCIL

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Liverpool Development Control Plan 2008

Part 8

Dwelling houses & class 10 structures on
lots greater than 300m² but less than
900m² in the R1, R2, R3 zones

19 January 2017

Part 8 must be read in conjunction with Part 1

Check if any Locality Parts also apply

Liverpool Development Control Plan 2008
Part 8 - Dwelling houses & class 10 structures
on lots greater than 300m² but less than 900m²
in the R1, R2, R3 zones

Table of Contents

A.	Preliminary.....	1
1.	Development controls	3
2.	Additional controls for a dwelling house	5
3.	Additional controls for class 10a structures.....	7
4.	Swimming Pools	8

A. Preliminary

Applies to

1. Part 8 applies to Dwelling Houses & Class 10 Structures on lots greater than 300m² and less than 900m² in the R1 – General Residential, R2 – Low Density Residential and R3 – Medium Density Residential within the Liverpool Local Environmental Plan 2008 (LLEP 2008), except as provided below.
 - a) Part 8 only applies to Dwelling Houses or Class 10 structures that fully comply with the development standards within Part 8;
 - b) Part 8 does not apply to land that is zoned under State Environmental Planning Policy (Sydney Region Growth Centres) 2006 and under State Environmental Planning Policy (State Significance Precincts) 2005, or State Environmental Planning Policy (Western Sydney Parklands) 2009.
 - c) Part 8 does not apply to land that is affected by the following property constraints:
 1. Environmentally Significant Land (ESL)
 2. Medium and High Flood Risk
 3. BAL 40 or Flame Zone (Bushfire)
 4. Hatchet shaped allotments
 5. An allotment containing a heritage item or land within a heritage or draft heritage conservation area
 6. An allotment affected by ANEF contours
 7. An allotment affected by Class 1 Acid Sulfate Soil

Note 1: Developments that do not meet the above criteria must address the applicable part of the Development Control Plan applying to the land, and

Note 2: This DCP is to be read in conjunction with the electronic Fast Track application form

Lodgement of a Development Application (DA) under Part 8

A development application under Part 8 must be lodged:

- a) electronically via the Liverpool City Council ePlanning Portal at www.liverpoolplanning.com.au; and
- b) in the form prescribed by the Liverpool City Council FastTrack lodgement program.

Note: Liverpool City Council provides an online FastTrack lodgement form for all development applications lodged under Part 8 of this DCP. Council provides onsite lodgement services for applicants without access to the internet or a computer at 33 Moore Street, Liverpool NSW 2170.

Link to Liverpool LEP 2008

Liverpool LEP 2008 provides overall requirements and objectives for development in the residential areas of Liverpool. It does not just cover residential development but also non-residential development in residential areas.

Each zone provides objectives, which provide direction for the controls in the DCP. There are also general provisions for development in the residential zones as well as provisions for specific forms of development in the residential areas or for development on specific sites.

Objectives

- a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of the area.
- b) To minimise privacy impacts for residents and neighbouring properties.
- c) To provide for a variety of housing choice within residential areas within the Liverpool Local Government Area (LGA).

1. Development controls

Landscaping and trees

- 1.1. The proposed development provides a minimum landscaped area in accordance with Table 1:

Table 1 – minimum landscaped area (%)

Lot size	Minimum landscaped area
300m ² – 599m ²	25%
600m ² – 899m ²	30%

Note: Landscaped area is a part of a site used for growing plants, grasses and trees, but does not include any building, structure, pool or hard paved area.

- 1.2. At least 50% of the above area requirement must be located behind the building line.
- 1.3. The proposed development provides landscaped area within the front setback of the property in accordance with Table 2:

Table 2 – minimum landscaped area within front setback (%)

Street Frontage	Minimum landscape area within front setback
18m or less	25%
Greater than 18m	50%

- 1.4. Private open space of at least **4.0m x 6.0m** must be provided in the rear setback of the site.
- 1.5. Private open space must be readily accessible from at least one living area.
- 1.6. Any tree located further than **3.0m** from an existing or proposed dwelling house or class 10 structure and which has a height greater than **3.5m** is not to be removed (separate Council tree removal permit required).

Driveways, drainage and infrastructure

- 1.7. The driveway crossover is located **6.0m** from the corner (tangent point) of all street corners, roundabouts and conforms to Council's standard requirements for vehicle crossings as detailed in Council's Design and Construction Specifications.
- 1.8. The Driveway is clear of all street infrastructure and street trees, including power poles, gulley pits and drains.
- 1.9. All structures must be clear of any registered easement.

- 1.10. The subject property must be connected to reticulated water and sewer infrastructure.
- 1.11. The proposed development can lawfully drain to a street or via a registered drainage easement by gravity.

Built to boundary walls

- 1.12. Built to boundary walls are only permitted where a neighbouring access/maintenance easement with a width of no less than **0.9m** is provided on the adjoining property.
- 1.13. The maximum length of a built to boundary wall is no longer than **9.0m** with the remainder of the wall setback at least **0.9m** from the side setback.

Cut and fill

- 1.14. Cut or fill must not be more than **1.0m** in depth and all retaining structures must be located completely within the property boundary.

2. Additional controls for a dwelling house

Setbacks

- 2.1. The house and any attached garage must comply with the setback requirements identified by **Table 3 – dwelling house and attached garages**.

Table 3 - dwelling house and attached garages

Setback type	Ground floor	First floor	Attached garage	Balcony
Front setback	4.5m	4.5m	5.5m	4.5m
Classified road	7.0m	7.0m	8.0m	7.0m
Front articulation*	Articulation components may encroach into the front setback by 1.0m	1.0m	NA	Balcony components may encroach into the front setback by 1.0m
Secondary street setback	2.0m	2.0m	5.5m	2.0m
Side setback	0.9m	>450m ² - 1.2m ≤450m ² – 0.9m	0.9m	Refer to 2.4
Zero lot boundary	0.18m (no windows)	1.2m	0.18m (no windows)	Not permitted
Rear setback	4.0m	6.0m	4.0m	Refer to 2.4

***Note:** front articulation includes— verandas, balconies, windows, wall indents, changes in finishes, entries, front porches.

Car parking and attached garages

- 2.2. Two car parking spaces must be provided for each dwelling with at least one car parking space provided behind the front building line.
- 2.3. Doors to an attached garage must not form more than 50% of the front façade of a dwelling house where located on an allotment with a width greater than 12m. For lots narrower than 12m a maximum width of 4.85m is permitted

Balconies

- 2.4. Balconies are only to be located on elevations facing a street from which legal access is permitted or public land.

Privacy

- 2.5. All window sills in first floor habitable rooms (other than bedrooms) must be **1.5m** above finished floor level unless facing a street, parkland or reserve.

Streetscape and amenity

- 2.6. The dwelling addresses all street frontages by incorporating a mixture of verandas, balconies, windows, wall indents, changes in finishes, entries and front porches.
- 2.7. A dwelling, other than a dwelling on a battle-axe lot, must have a front door and a window to a habitable room in the building wall that faces a primary road.
- 2.8. Windows facing a street frontage must not be frosted glass.
- 2.9. The wall of a two storey dwelling must be articulated if the wall has a continuous length of over 14.0m for lots greater than 600m².
- 2.10. The house must not have any windows located on zero lot boundaries.
- 2.11. The finished ground floor level must not be greater than **1.0m** above the ground level (existing).

Fencing

- 2.12. If the fence is located on bush fire prone land—be constructed of non-combustible materials
- 2.13. Fencing located in front of the building line referred to in Table 3 is to have a maximum height of 1.2m above finished ground level with 30% transparency.
- 2.14. A fence on a sloping site that is required to be not more than 1.2m above finished ground level must not be more than 1.5m above finished ground level at each step with 30% transparency.
- 2.15. Fencing located behind the building line referred to in Table 3 is to have a maximum height of 1.8m above finished ground level.
- 2.16. A fence behind the building line on a sloping site that is required to be not more than 1.8m above finished ground level must not be more than 2.2m above finished ground level at each step
- 2.17. A fence to the frontage with a secondary road shall be behind the building line and comply with points 2.12, 2.15 and 2.16 above as applicable – refer to Figure 1.

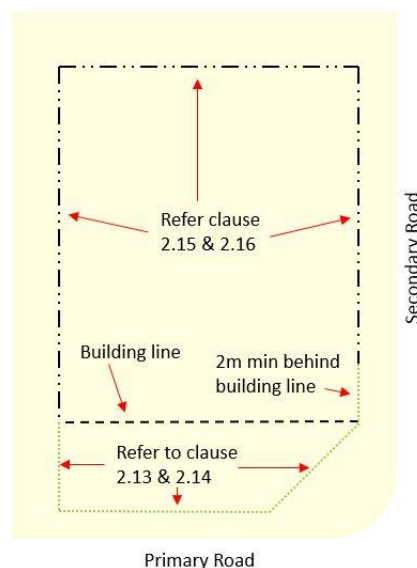


Figure 1

3. Additional controls for class 10a structures

Setbacks

- 3.1. All Class 10a structures must comply with the setback requirements identified by **Table 4 – class 10a structure setbacks**

Table 4 - class 10a structure setbacks

Setback type	Sheds	Carport in front of building line	Carport behind building line	Garages	Awnings at ground level	Awnings over deck
Front setback	15.0m	1.5m	5.5m	5.5m	4.5m	4.5m
Secondary street setback	2.0	2.0m	2.0m	2.0m	2.0m	2.0m
Side setback	0.9m	0.9m	0.5m for up to 6m in length and 0.9m for part greater than 6.0m in length	0.5m	0.9m	1.0m for deck heights up to 0.9m 2.0m for deck heights up to 1.5m
Zero lot boundary	Between 0.05m – 0.18m	0	0	Between 0.05m – 0.18m	0	0
Rear setback	1.0	NA	0.9m	0.9m	0.9m	4m
Max Floor Area	36sqm	36sqm	36sqm	36sqm	45sqm	40sqm
Max Height (from ground level (existing))	Flat or skillion 2.7m Pitched 3.6m	3.6m	Flat or skillion 2.7m Pitched 3.6m	Flat or skillion 2.7m Pitched 3.6m	Flat or skillion 2.4m Pitched 3.6m	2.4m to ceiling or roof pitching point

Carports

- 3.2. Carports that are located forward of the building line must comply with the following—
- 3.2.1. The carport has a pitched roof or roof design that matches the existing dwelling;
 - 3.2.2. Posts or columns are constructed of masonry;
 - 3.2.3. The carport is not enclosed by walls, doors or screens;
 - 3.2.4. The carport incorporates a ceiling.

4. Swimming Pools

Setbacks

- 4.1. The Class 10b structure (swimming pool) must comply with the setback requirements identified by **Table 5 – swimming pool setback**.

Table 5 - swimming pool setback

Setback type	Ground floor
Front setback	4.5m
Side setback	0.5m
Rear setback	0.5m

Location and design

- 4.2. Pools are only located in a front setback where there is a secondary street frontage.
- 4.3. For resuscitation purposes, there is a space measuring **2.0m x 2.0m** clear of all obstructions within the pool area and located adjacent to at least one pool access point.
- 4.4. Where backwash water is produced, the filtration equipment discharges to sewer.
- 4.5. The pool excavation is located outside the zone of influence of any adjacent structure, or a structural engineer has certified that there are no structural impacts to adjoining properties.
- 4.6. Where the pool is located less than **1.0m** from a boundary, the pool coping is designed to collect water spilling from the pool.
- 4.7. No decking is proposed that is more than **0.6m** above ground level.

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