

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

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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.

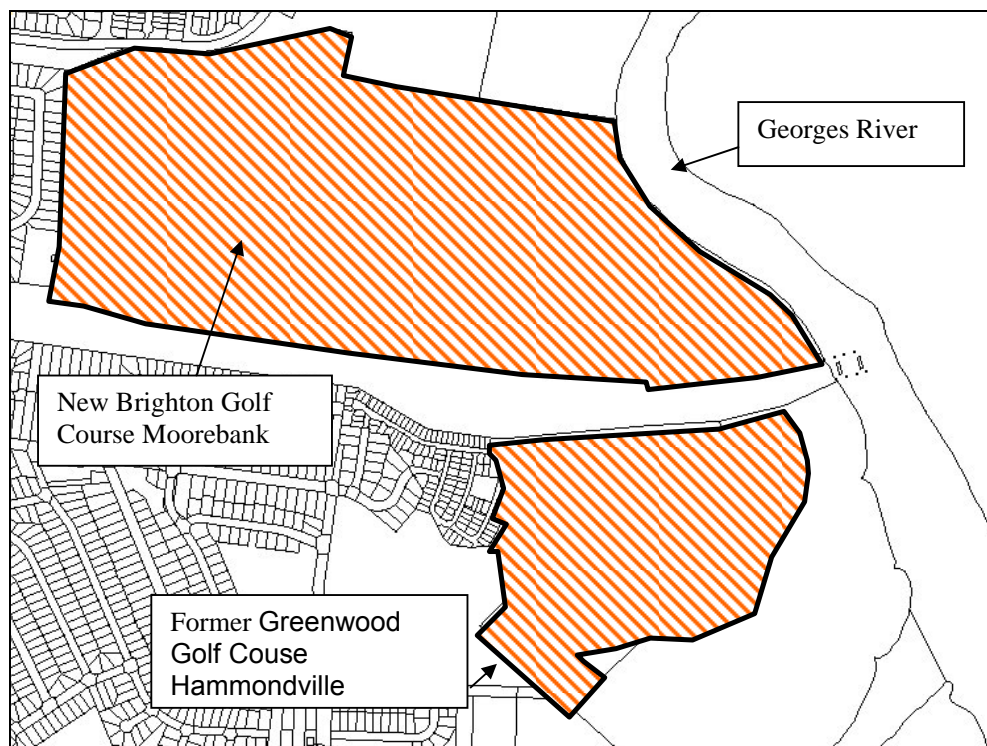


Figure 1: Land to which this Part applies

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.

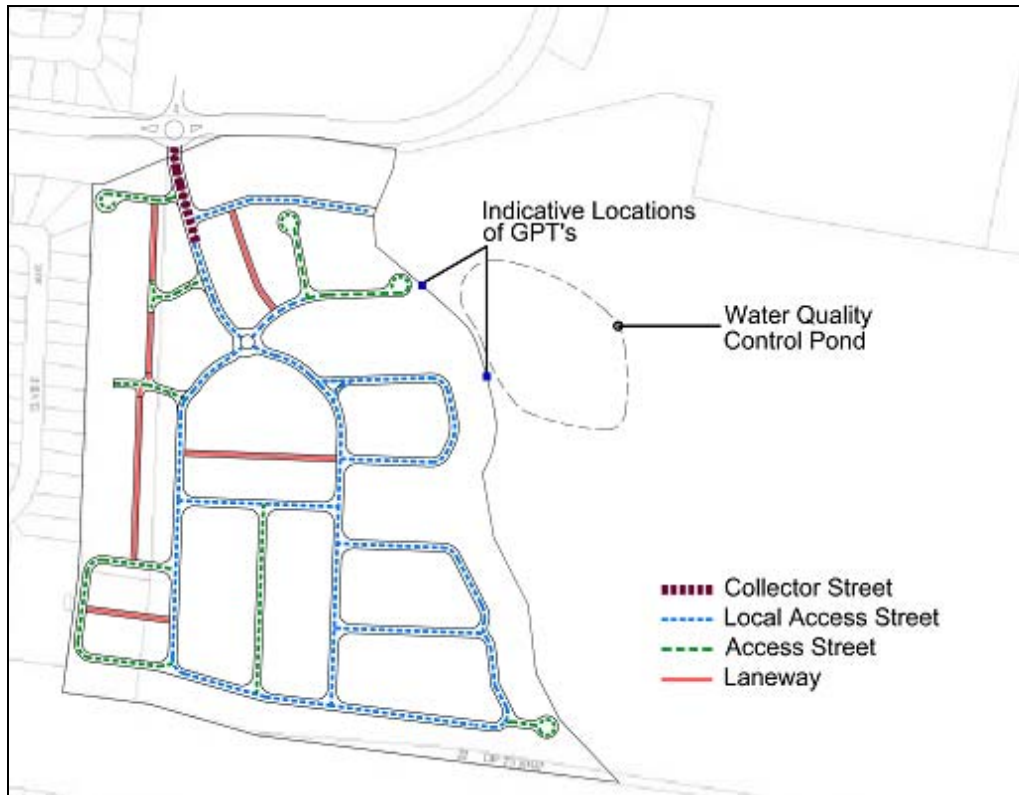


Figure 2: Street Design and Treatment

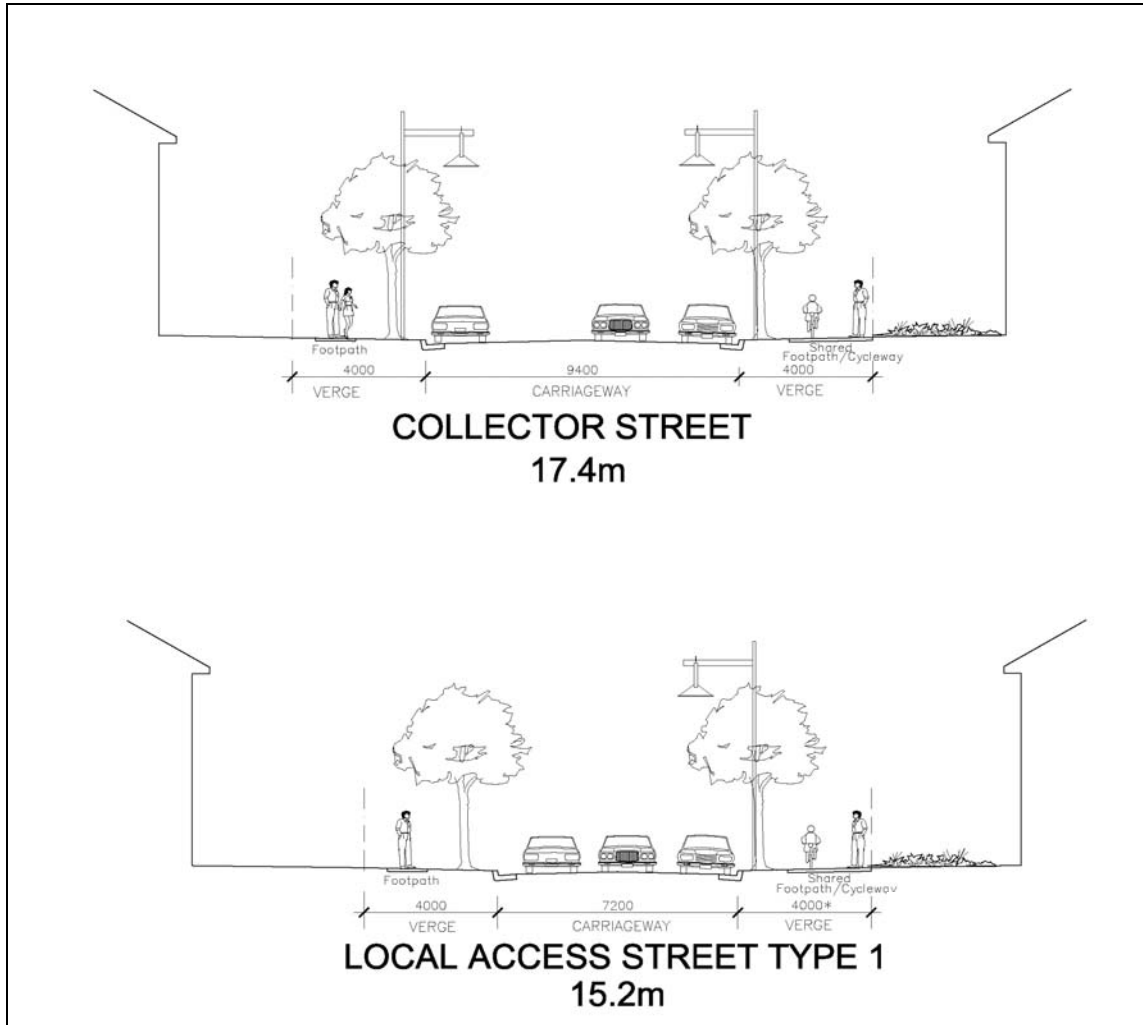


Figure 3: Street Sections

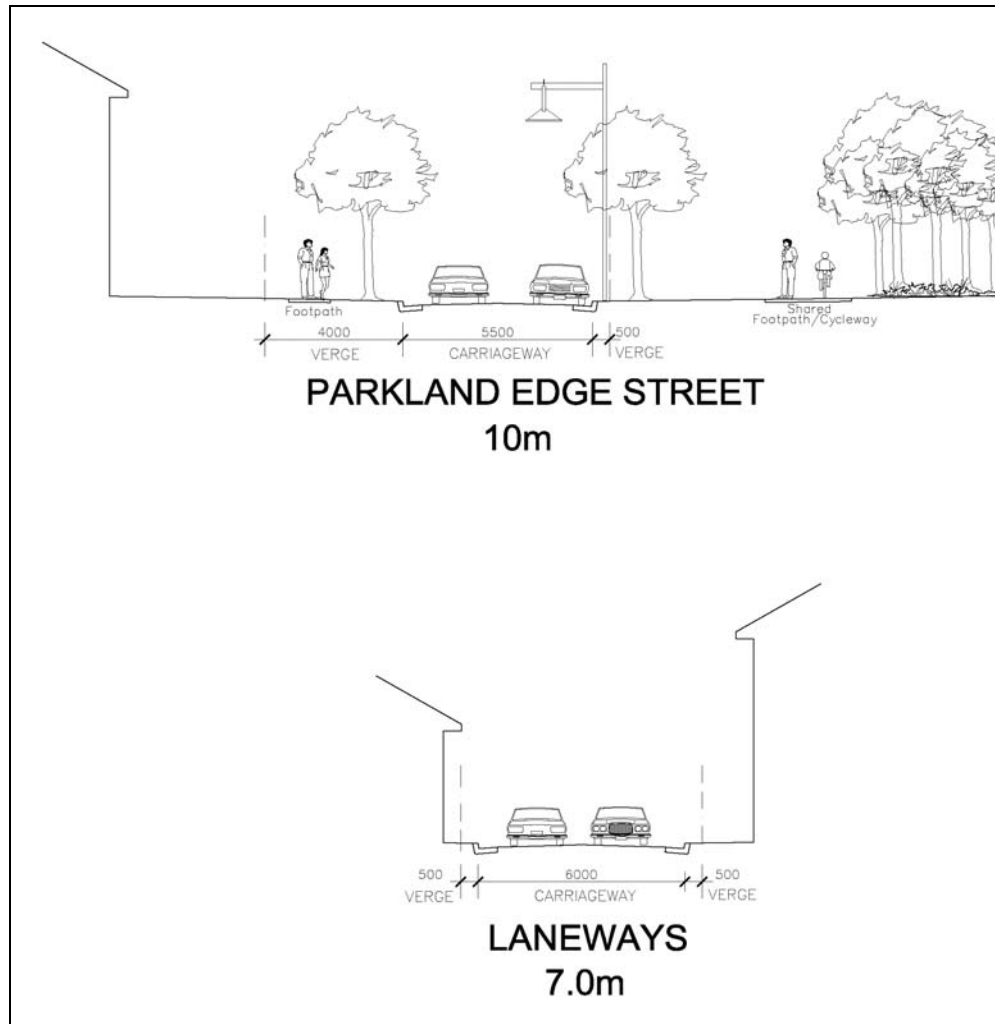


Figure 4: Street Sections

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.

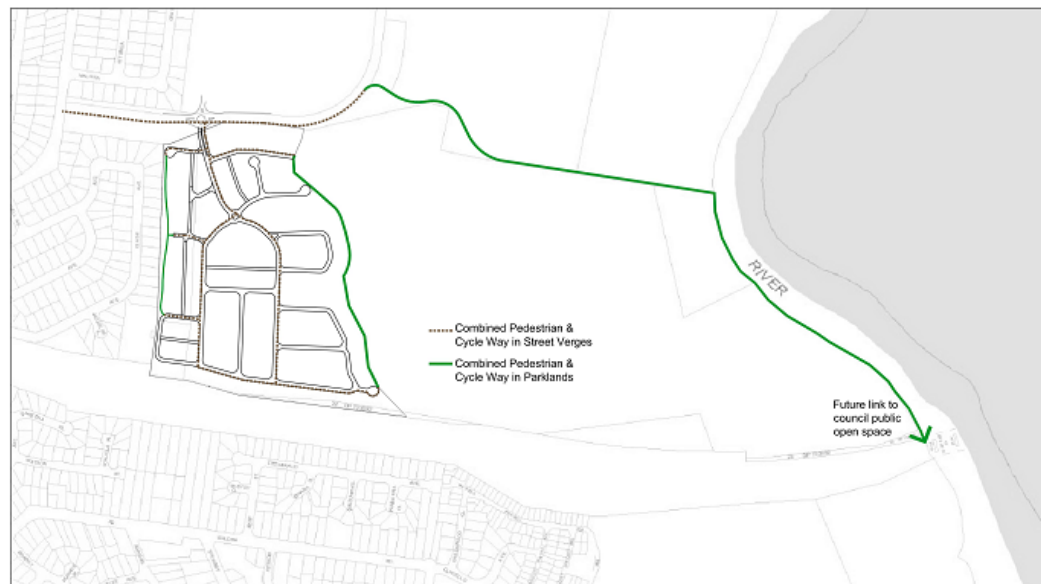


Figure 6: Cycle Paths

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.

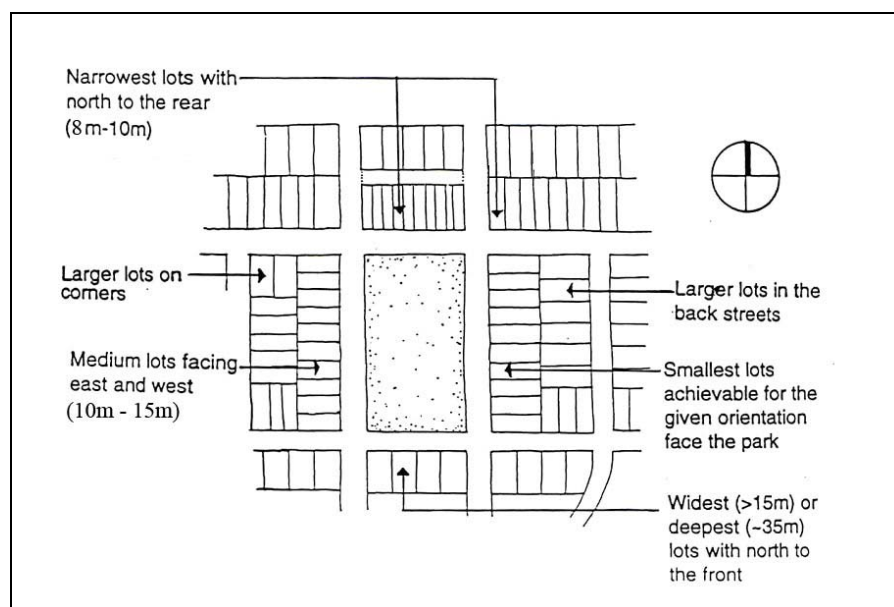


Figure 9: Lot Orientation

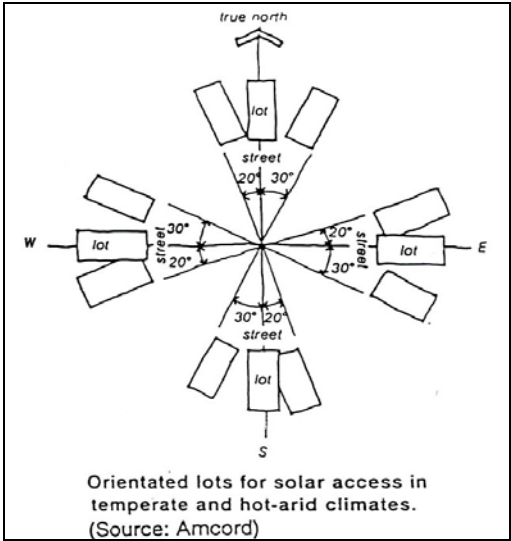


Figure 10: Lot Orientation

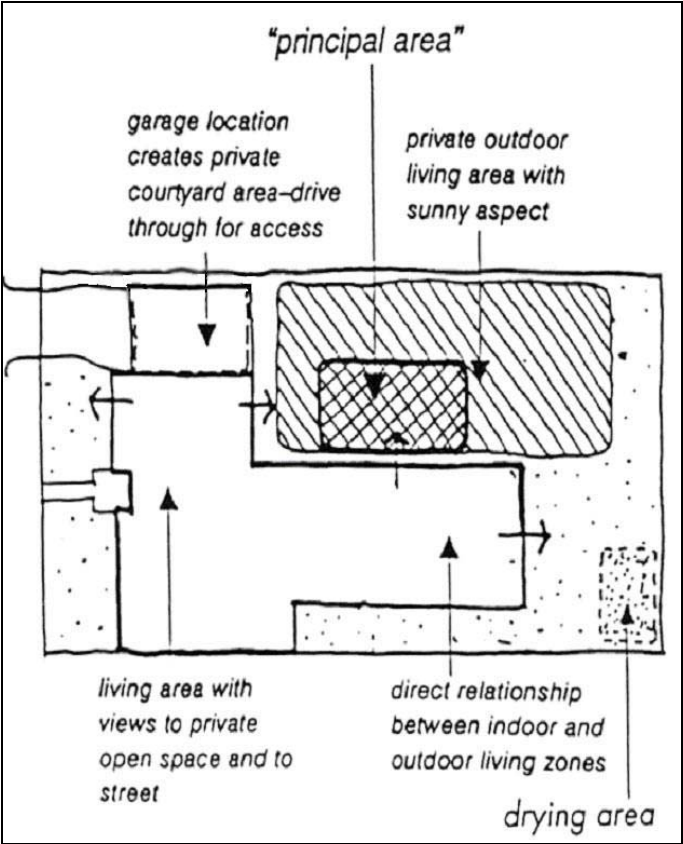


Figure 11: Private Open Space Considerations on an east-west lot

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.

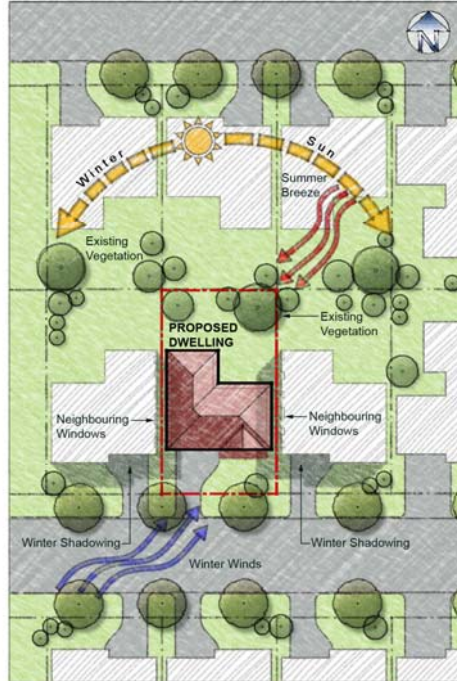


Figure 12 Example of a Site Analysis Plan

3.3 Setbacks

Objectives

- a) To set dwellings back from the street and adjacent properties to provide reasonable space for landscaping, private open 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.

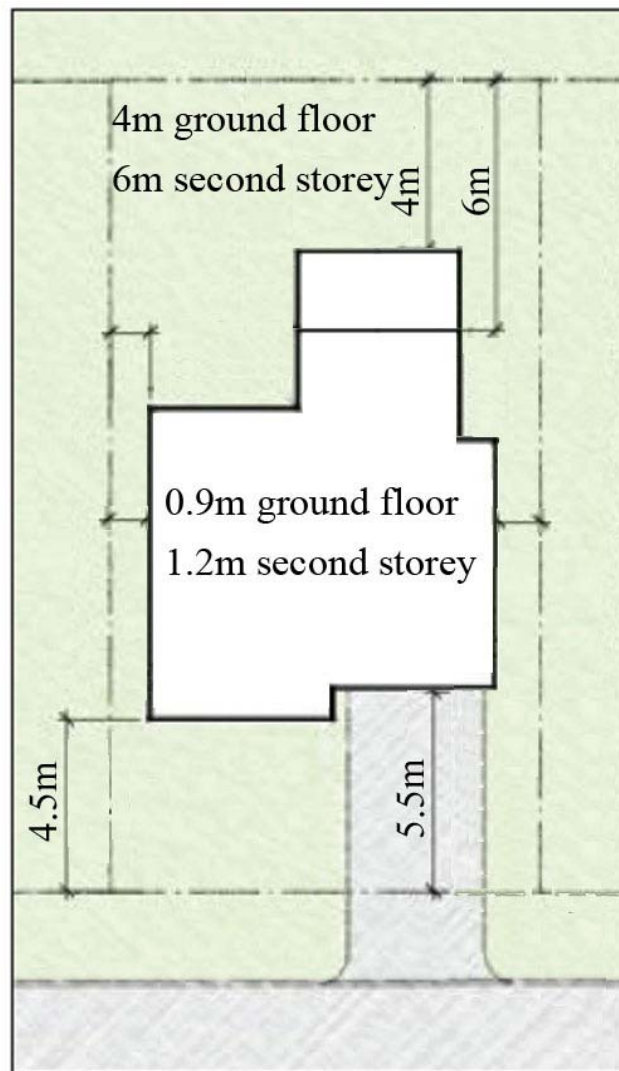


Figure 13: Example of Ground Floor & Second Storey Minimum Setbacks

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.

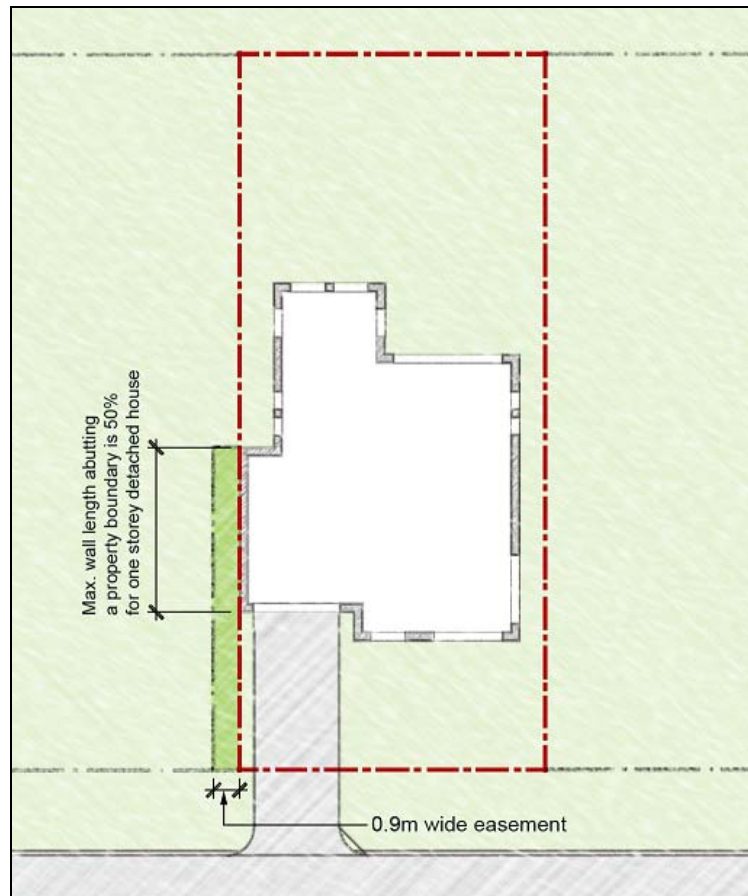


Figure 14: Zero Lot Lines

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.

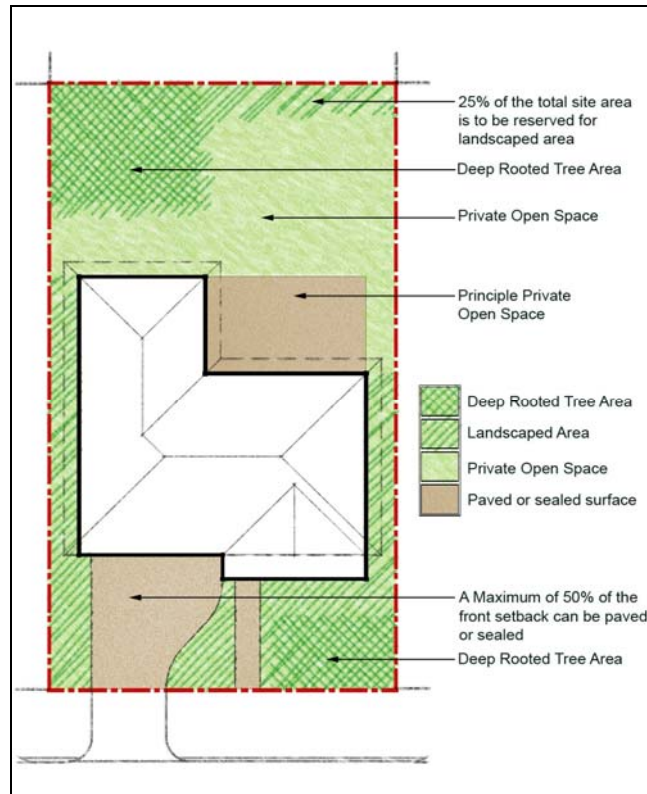


Figure 15: An example of Landscaped Area & Private Open Space

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.

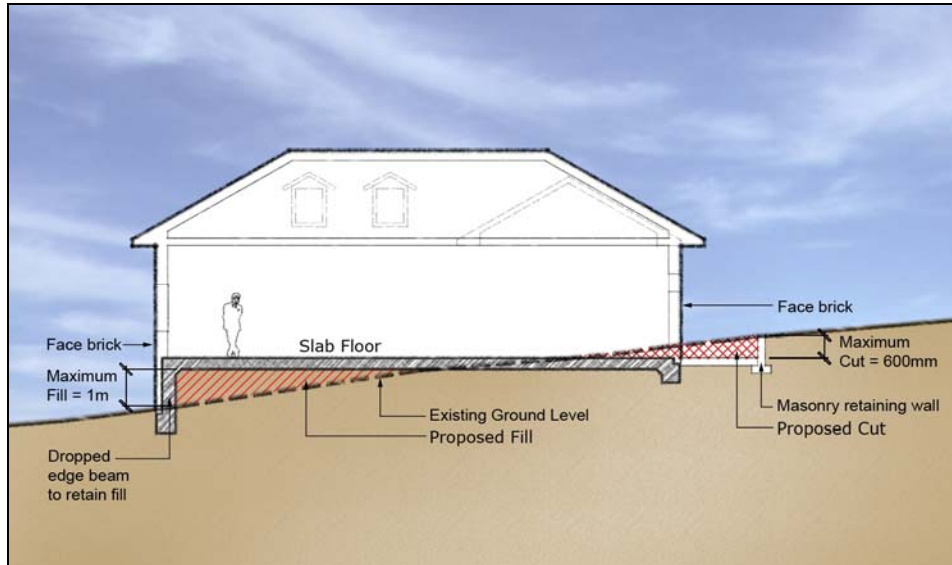


Figure 16: Cut & Fill Requirements

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

- 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.
- 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

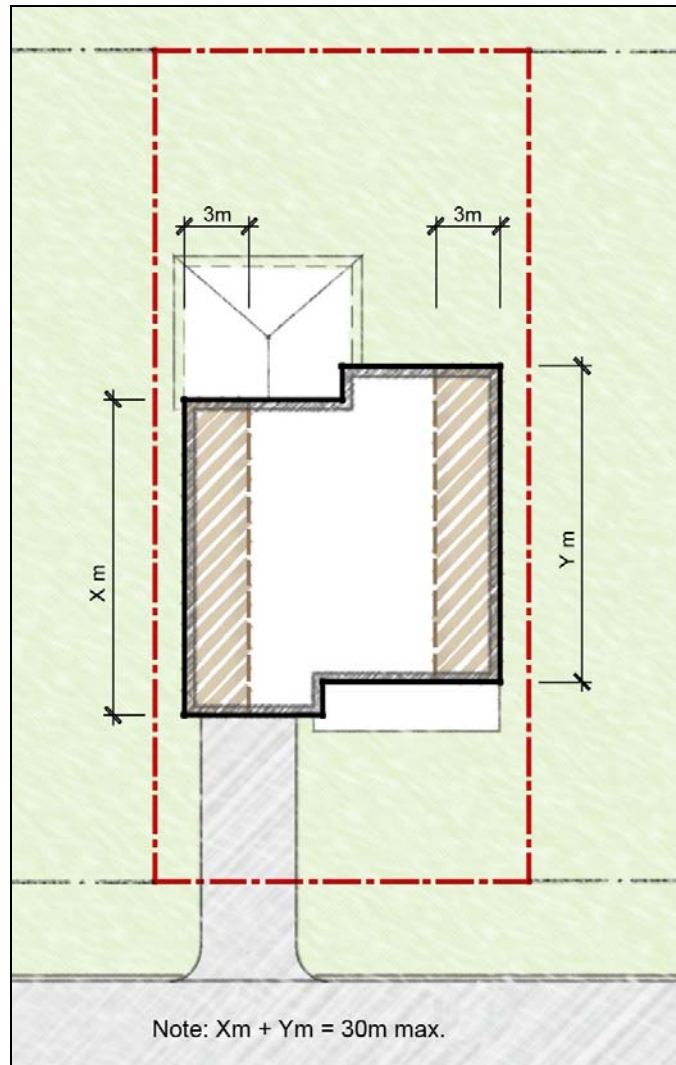


Figure 18: Maximum Total First Floor Wall Length of a Two Storey Dwelling

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.

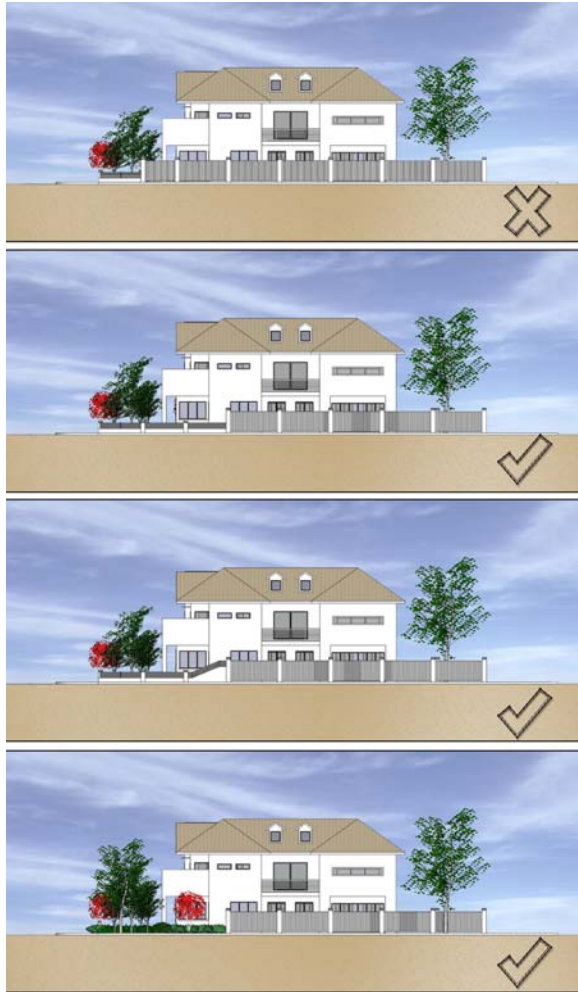


Figure 19: Fence Treatments on Secondary Frontage

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.

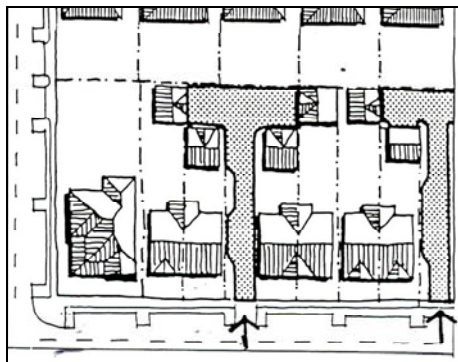
Private Driveways

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.

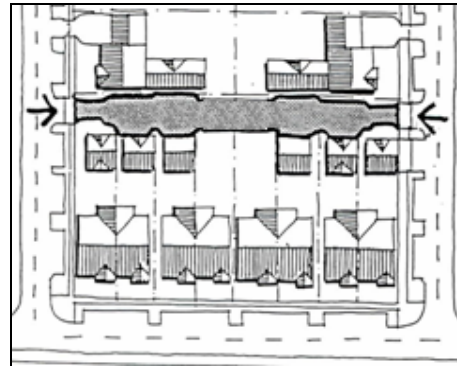
Controls

- 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.

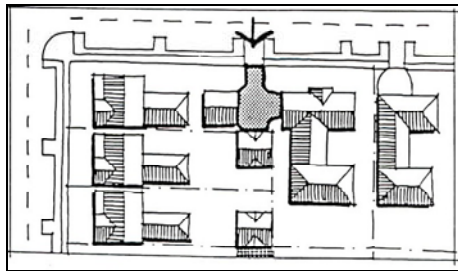


T-Shaped

- □ 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.

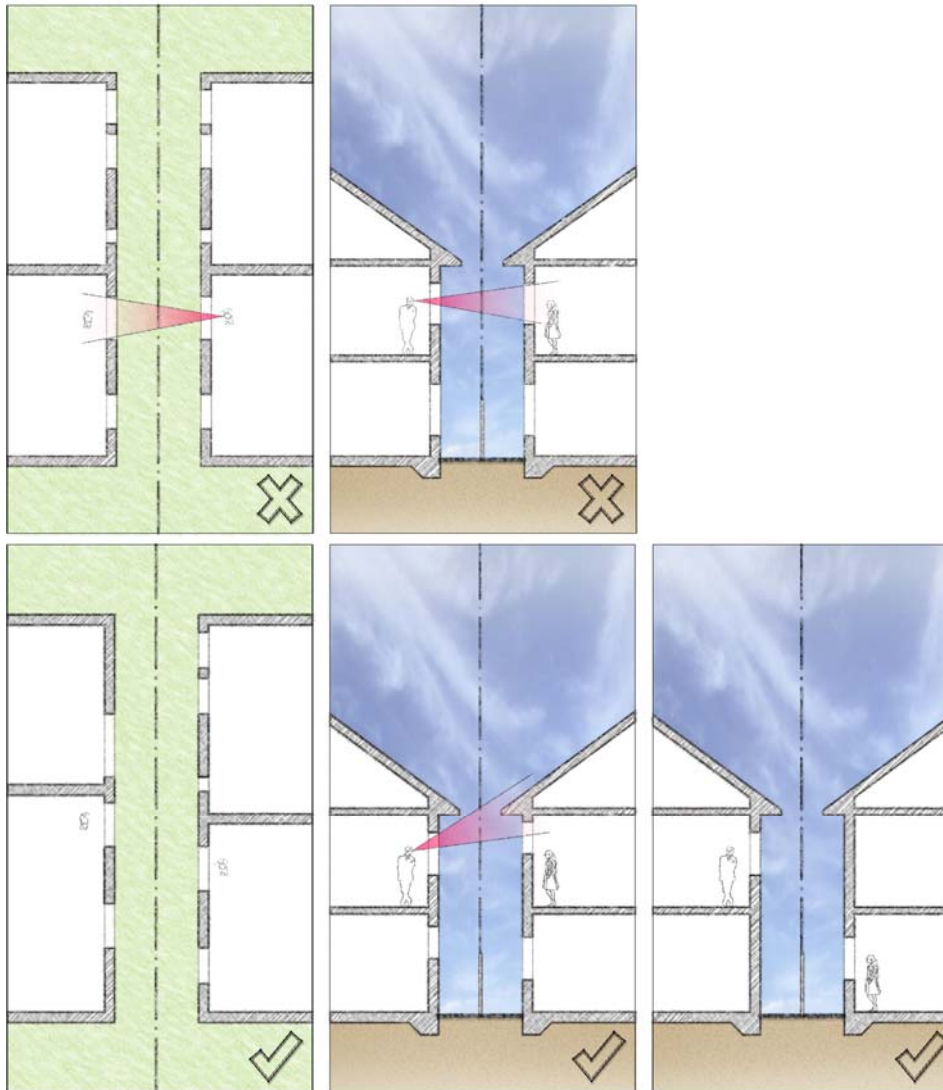


Figure 21: Privacy and Amenity

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 10car 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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