



Liverpoolcity council
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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

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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.

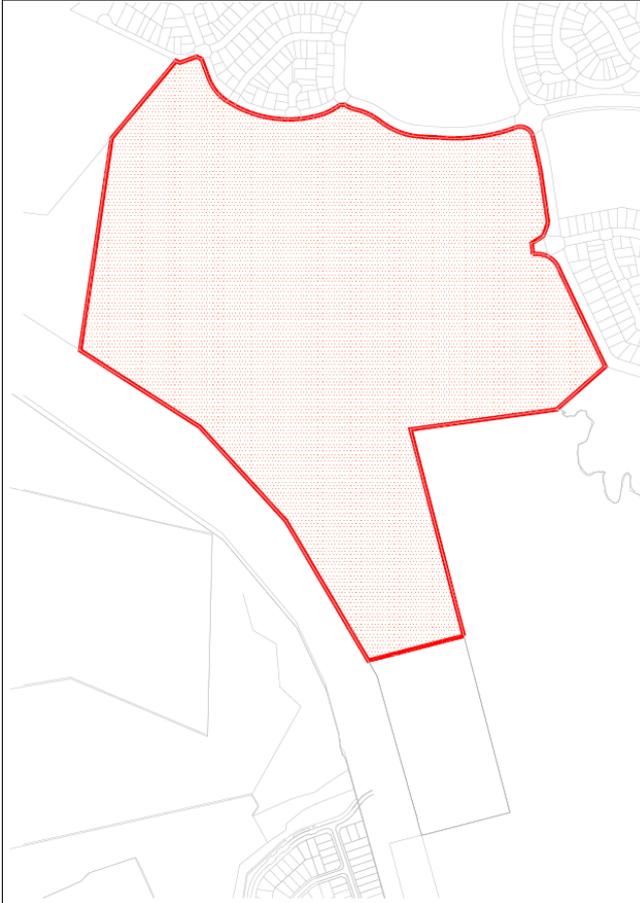


Figure 1: Land to which this Part applies

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.

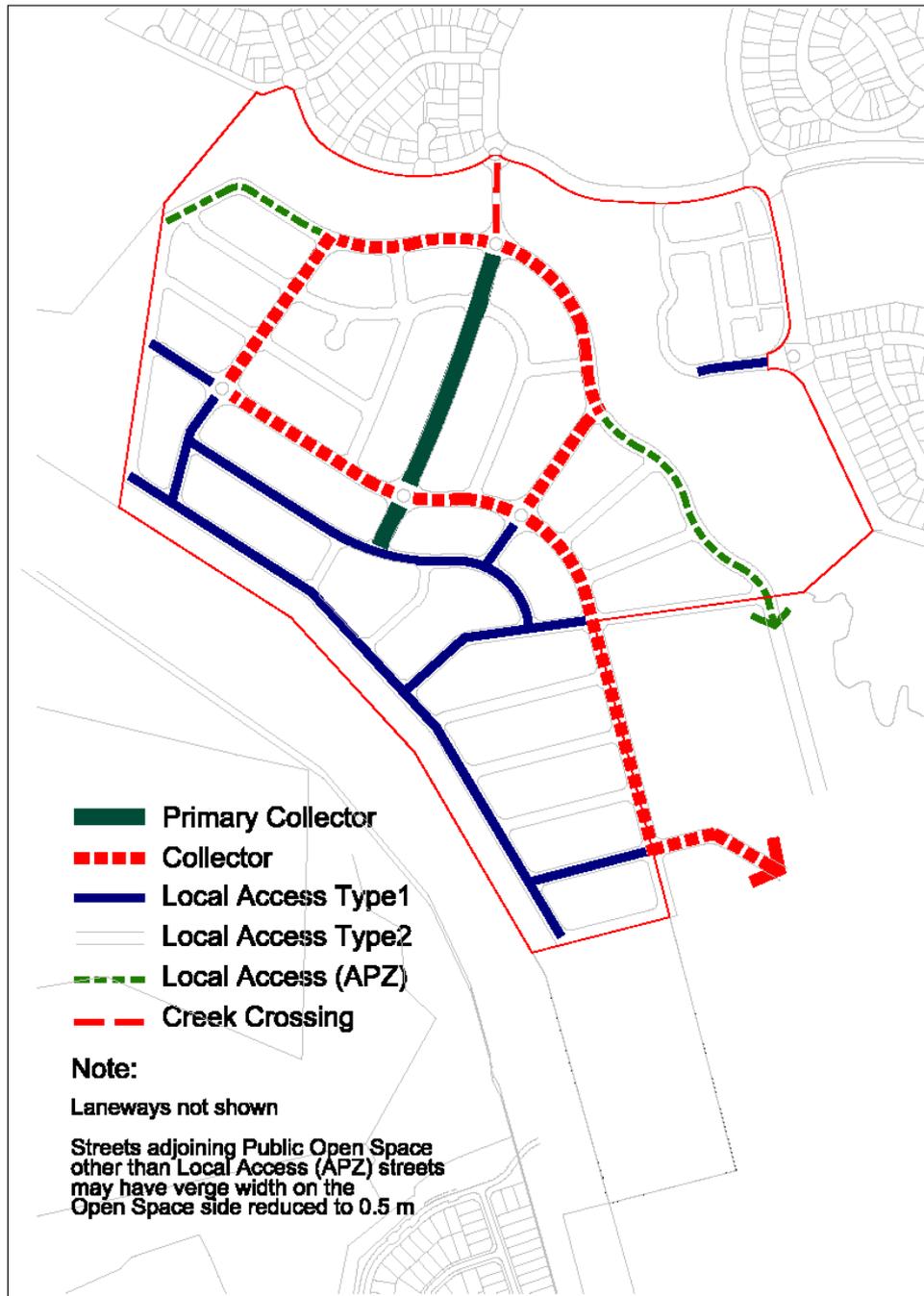


Figure 2: Street Design and Treatment

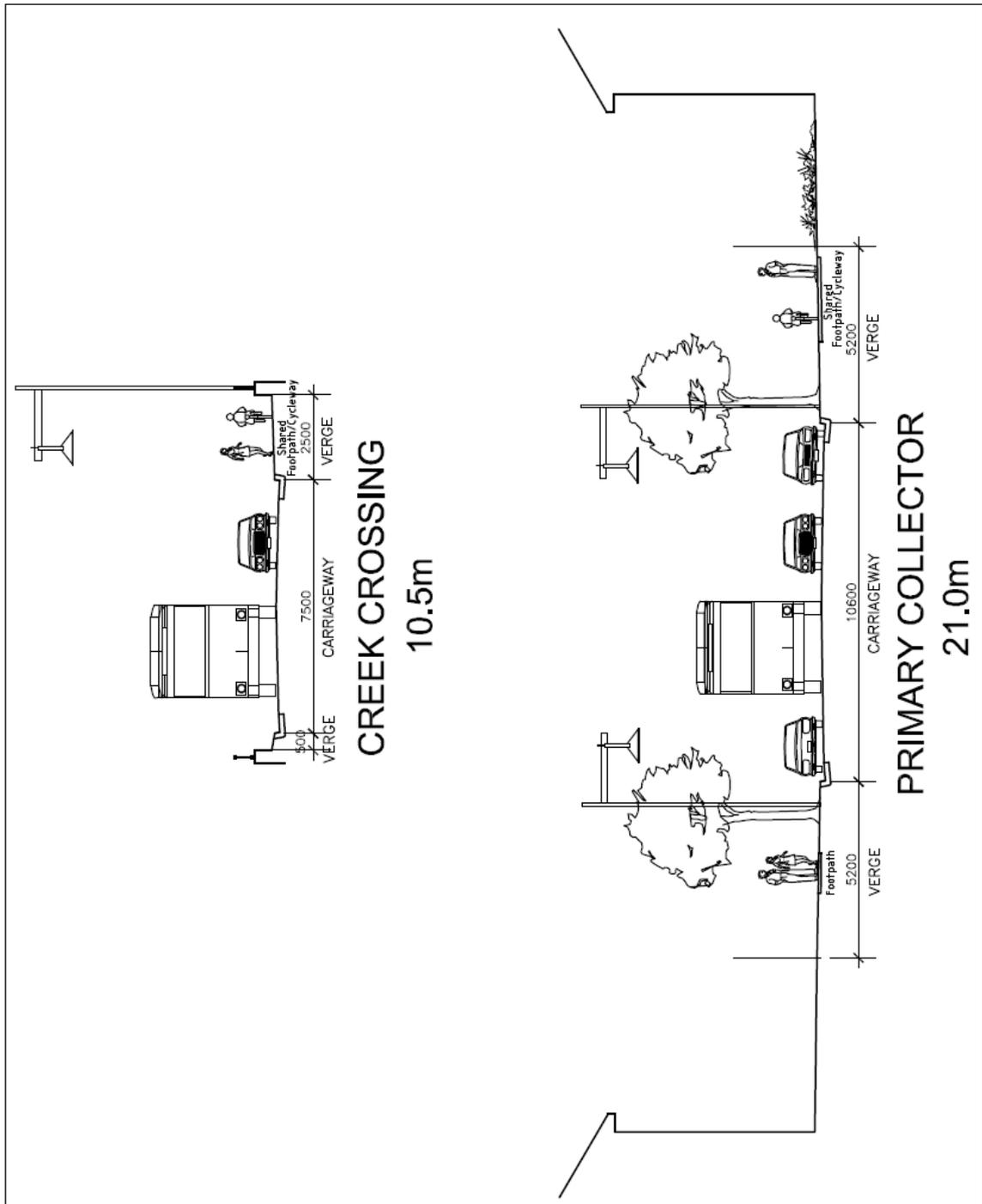


Figure 3: Street Sections

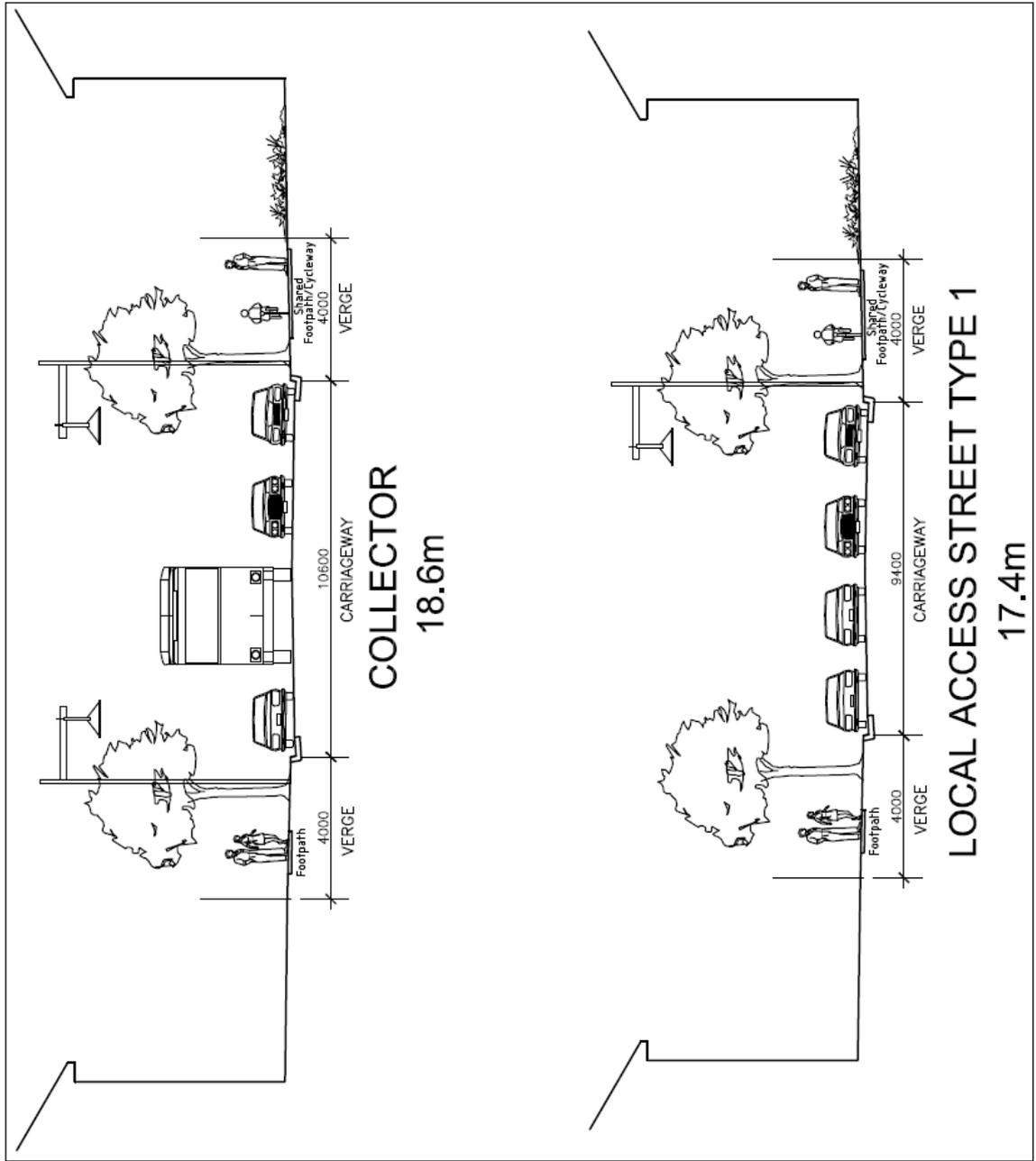


Figure 4: Street Sections

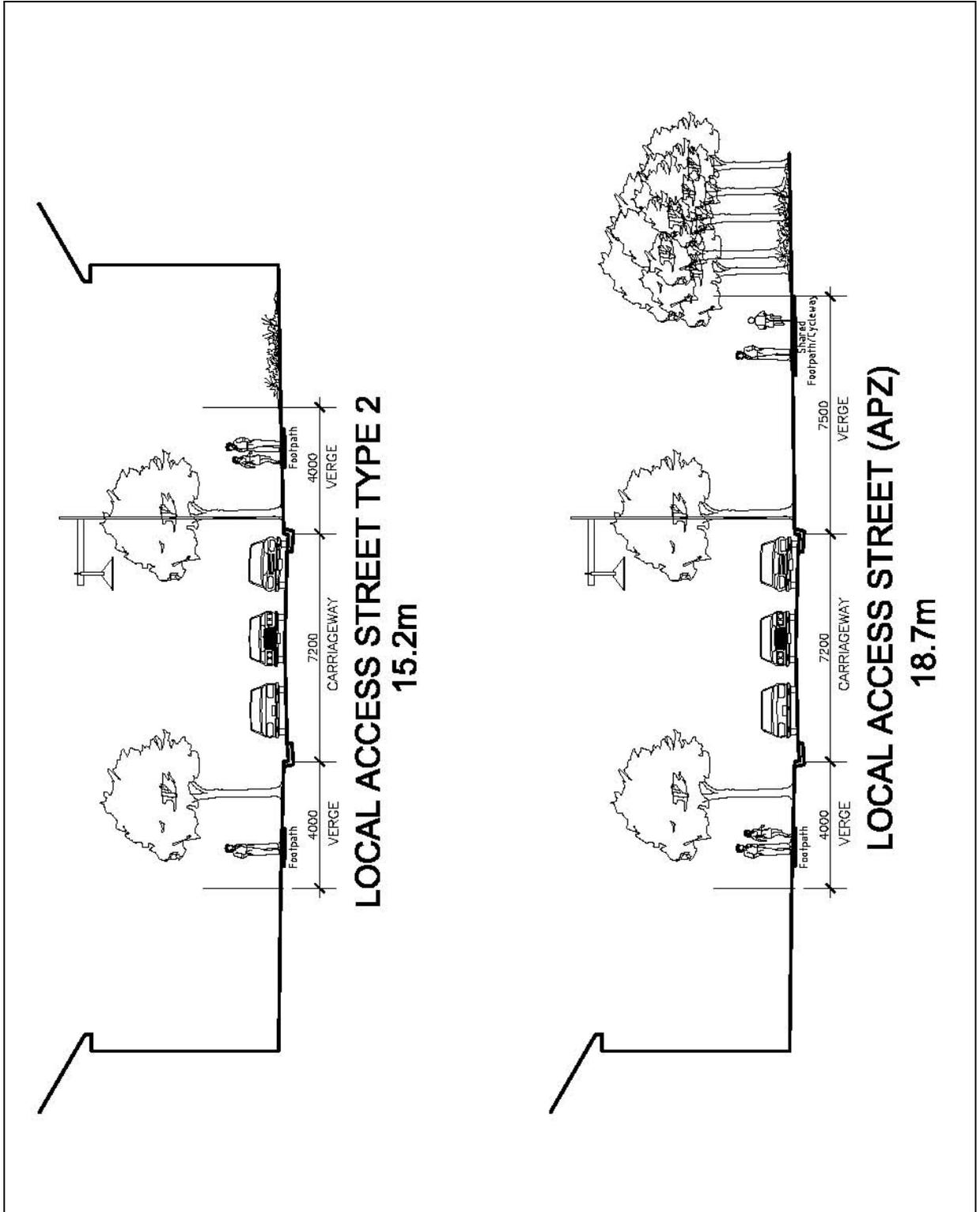


Figure 5: Street Section

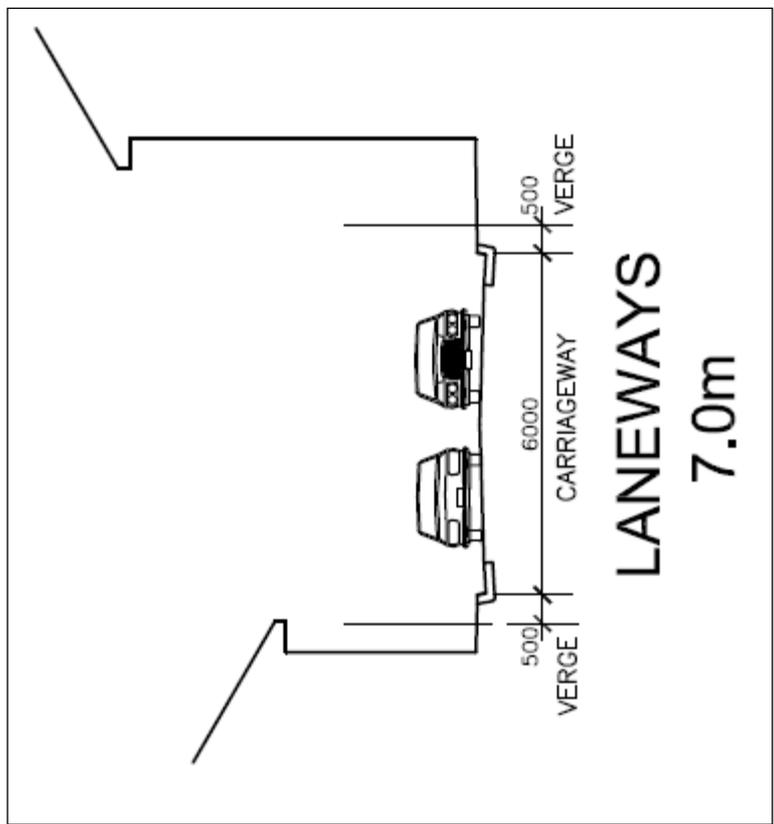


Figure 6: Street Sections

- **Note:** Buildings on opposite sides of a laneway must have a minimum separation of 8 metres.

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.

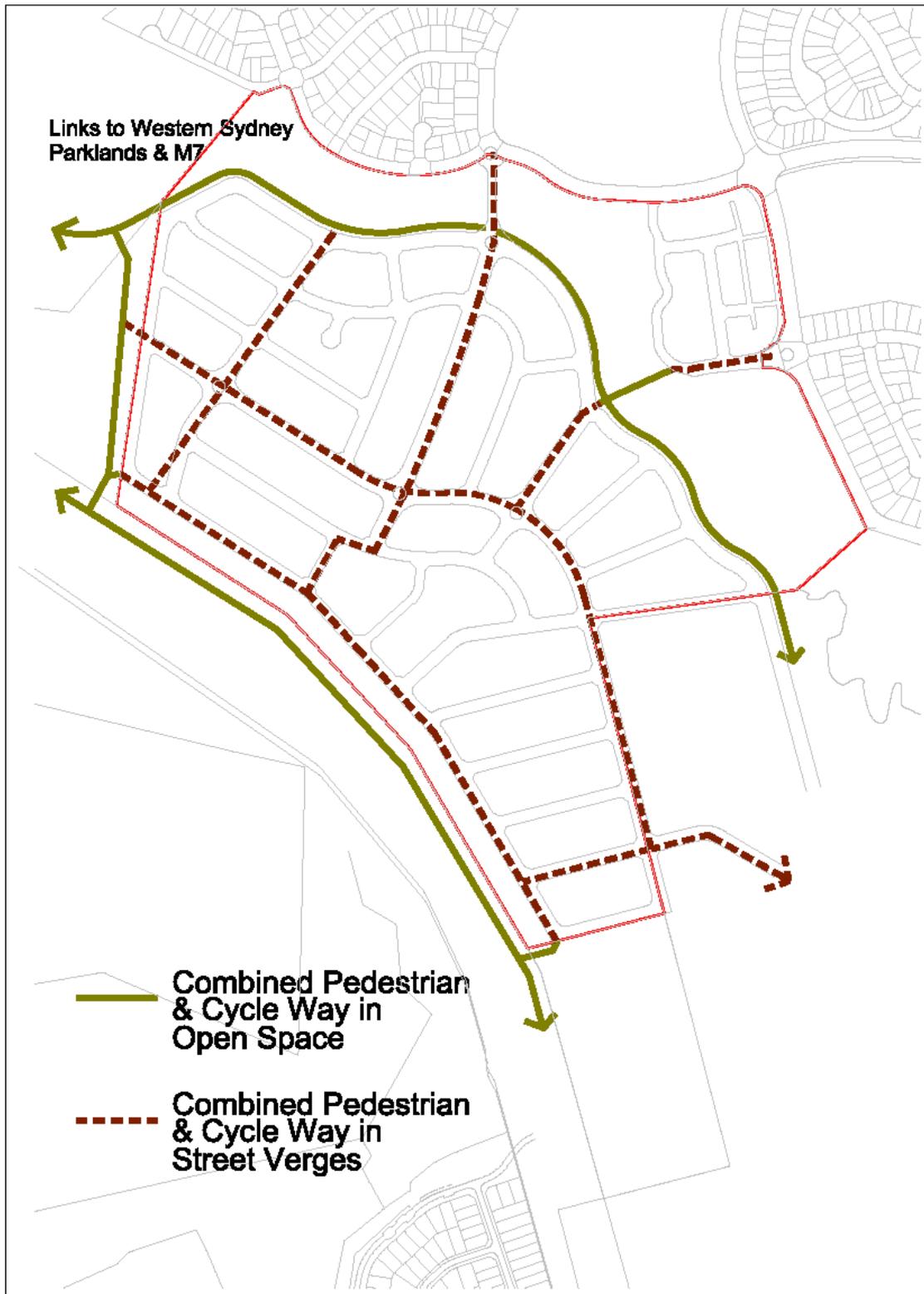


Figure 8: Cycle Paths

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).

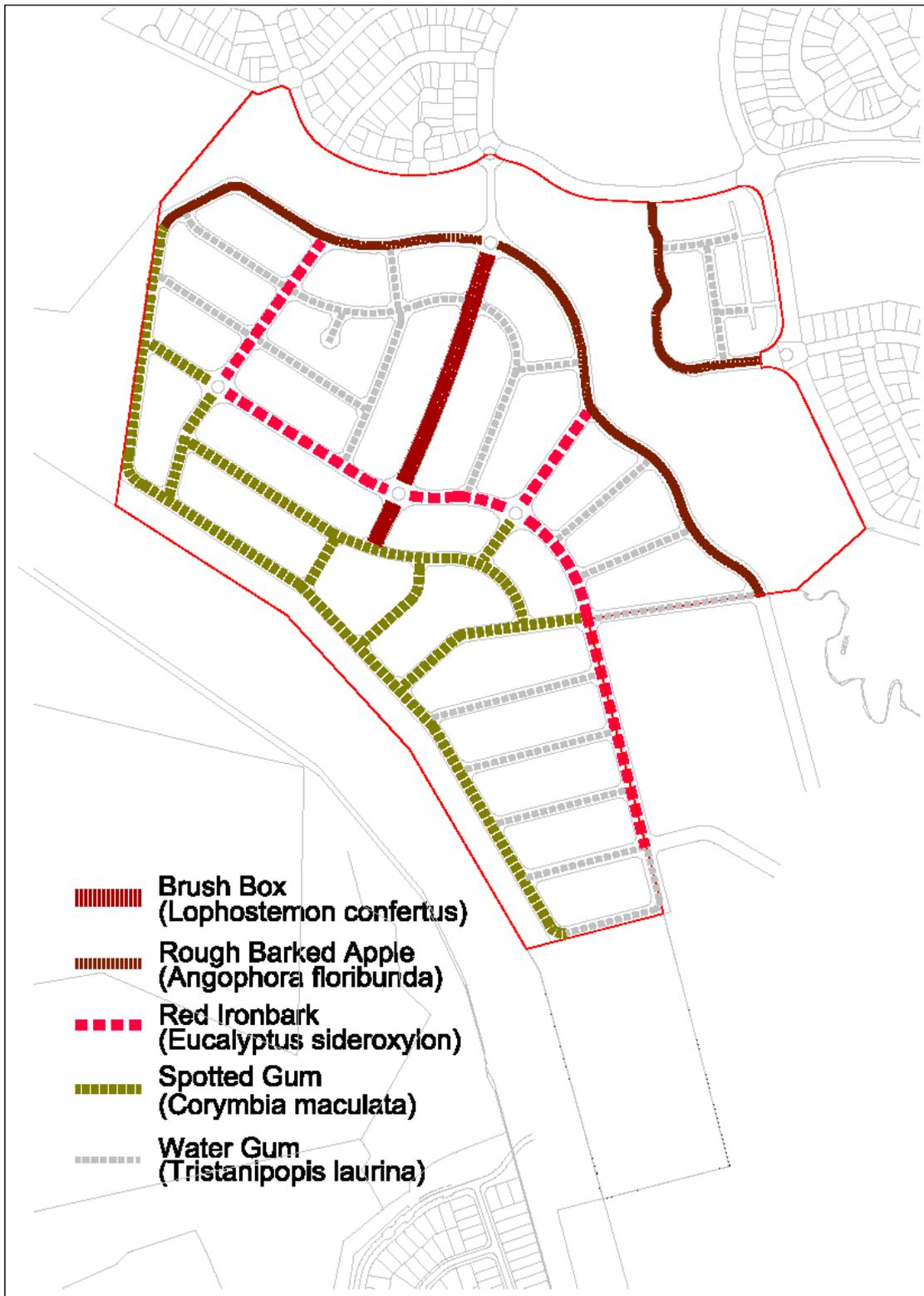


Figure 9: Street Trees

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.

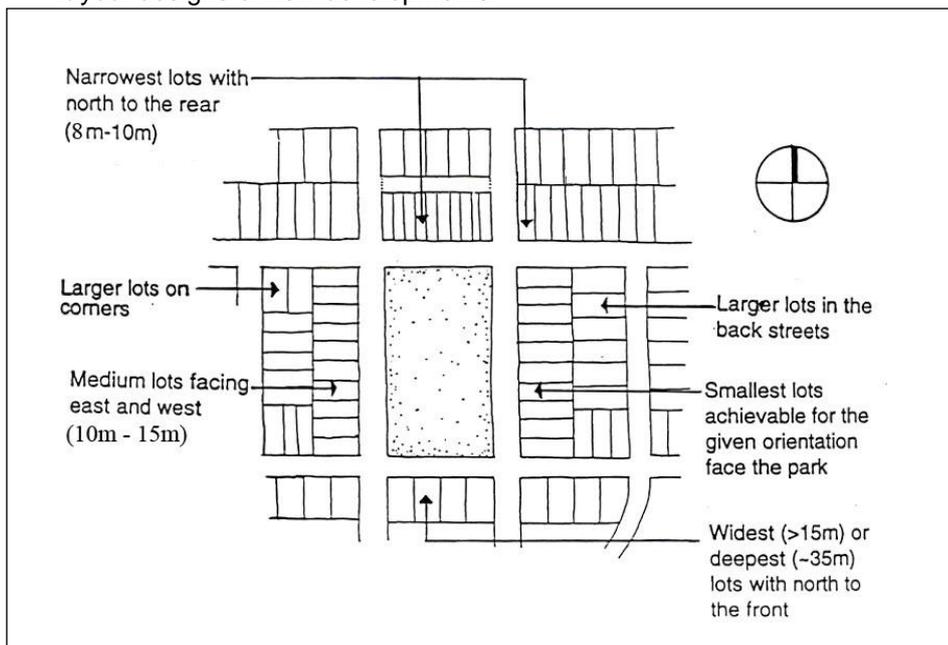


Figure 10: Lot Orientation

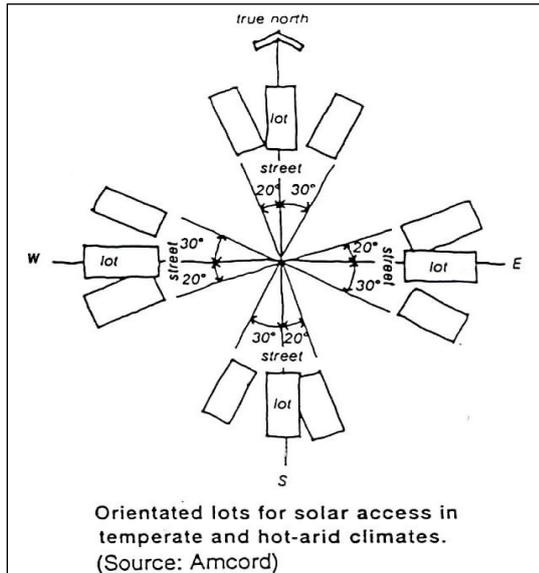


Figure 11: Lot Orientation

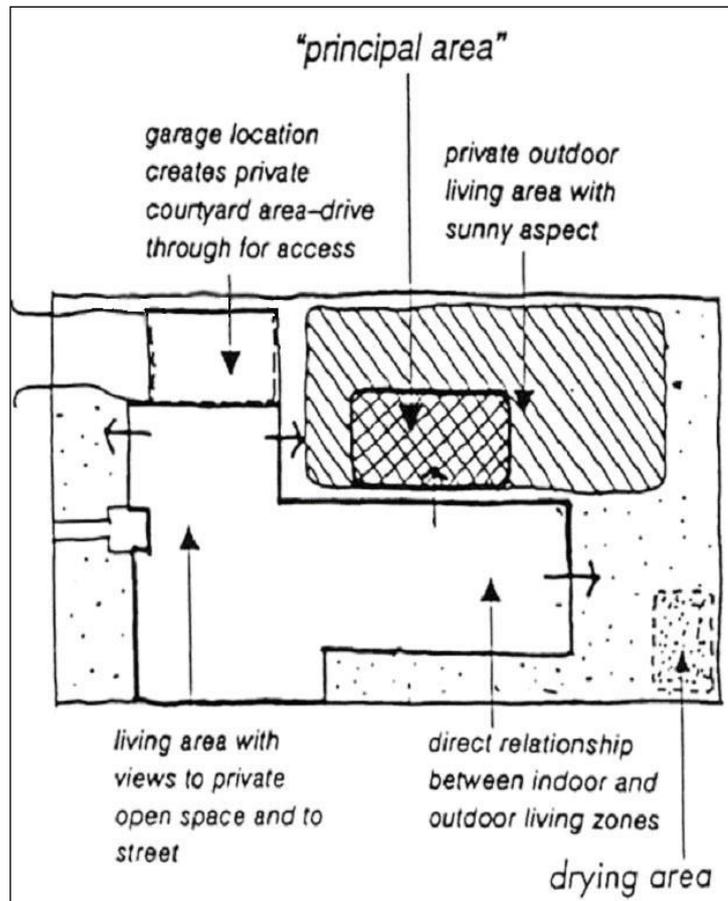


Figure 12: Private Open Space Considerations on an east-west lot

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.

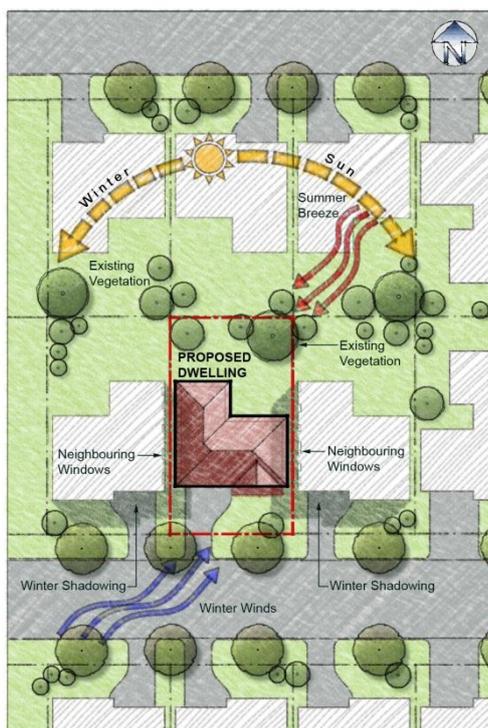


Figure 13: Example of a Site Analysis Plan

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.

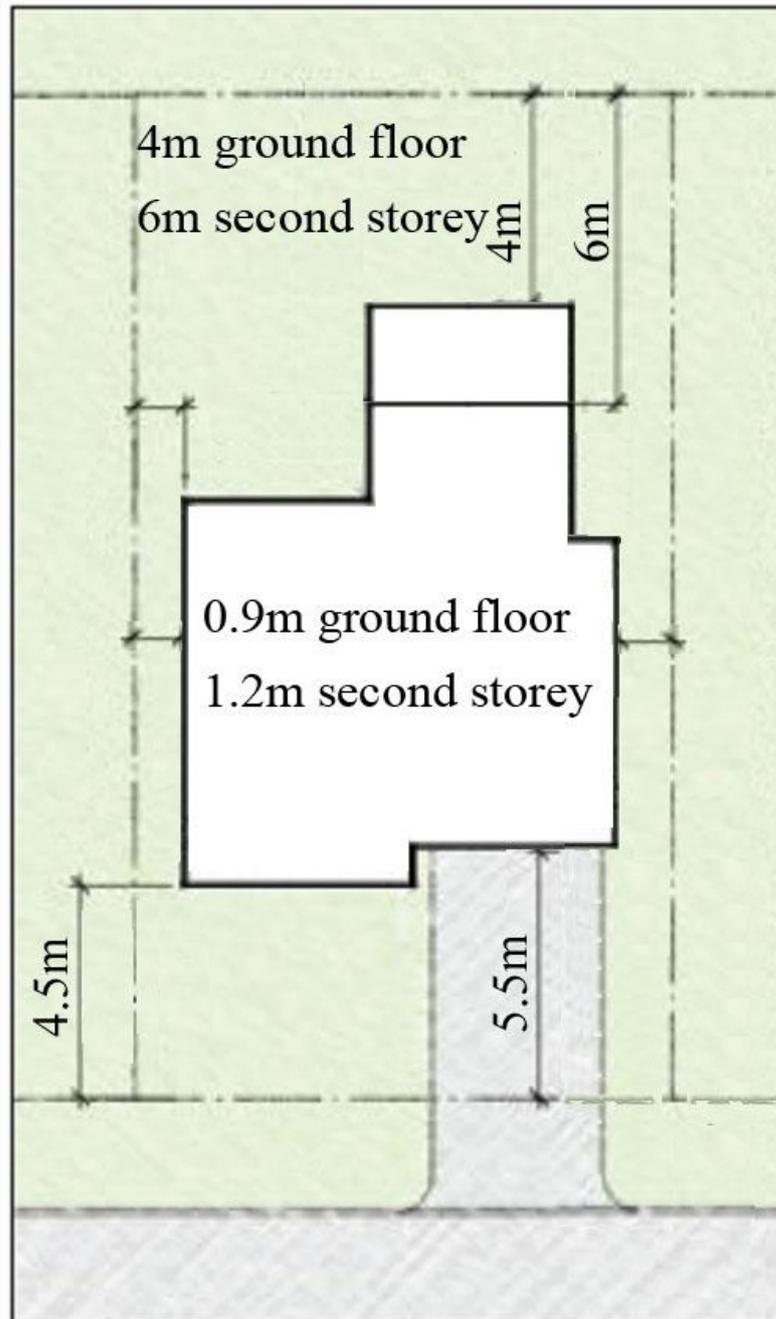


Figure 14: Example of Ground Floor & Second Storey Minimum Setbacks

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.

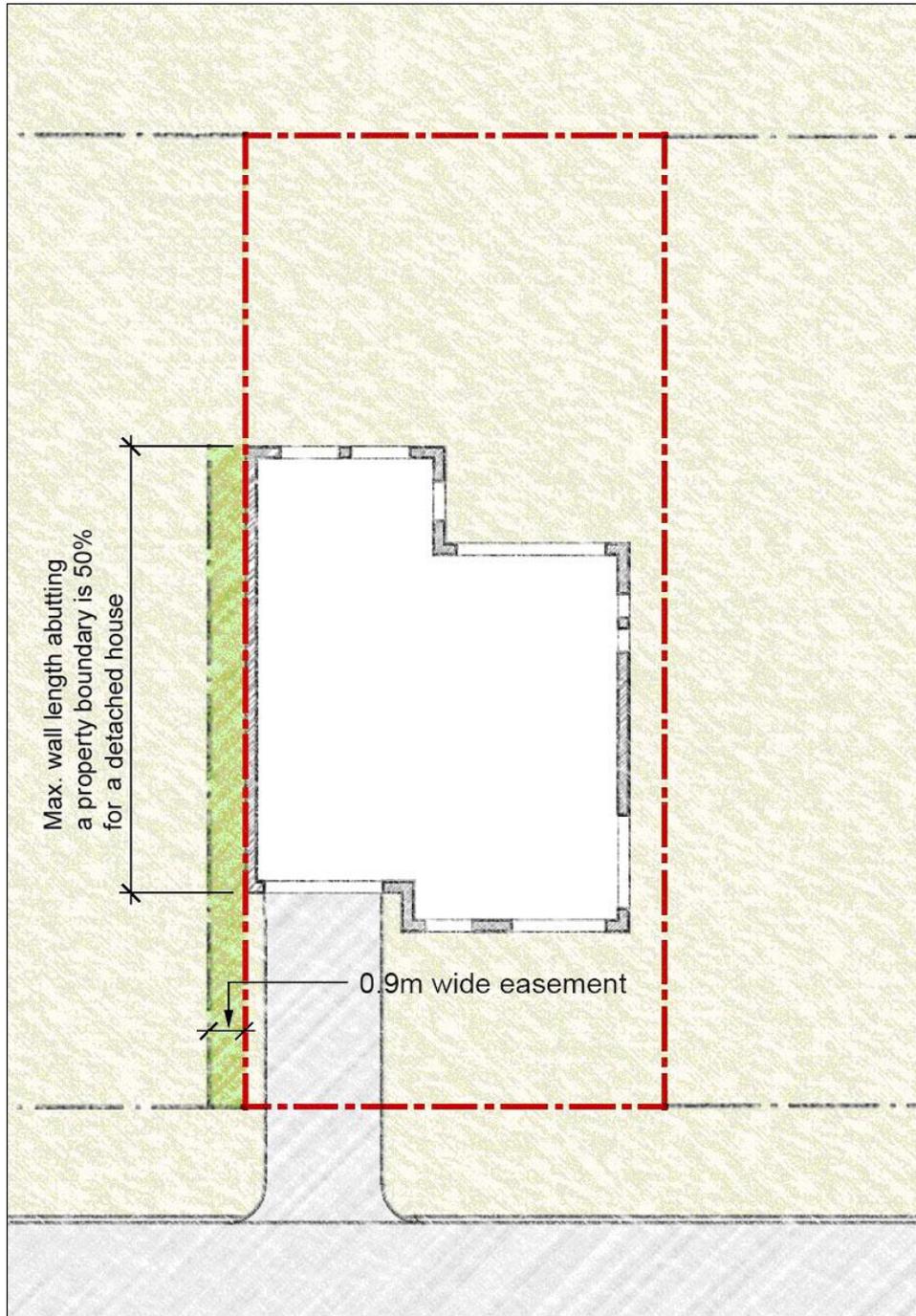


Figure 15: Zero Lot Lines

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.

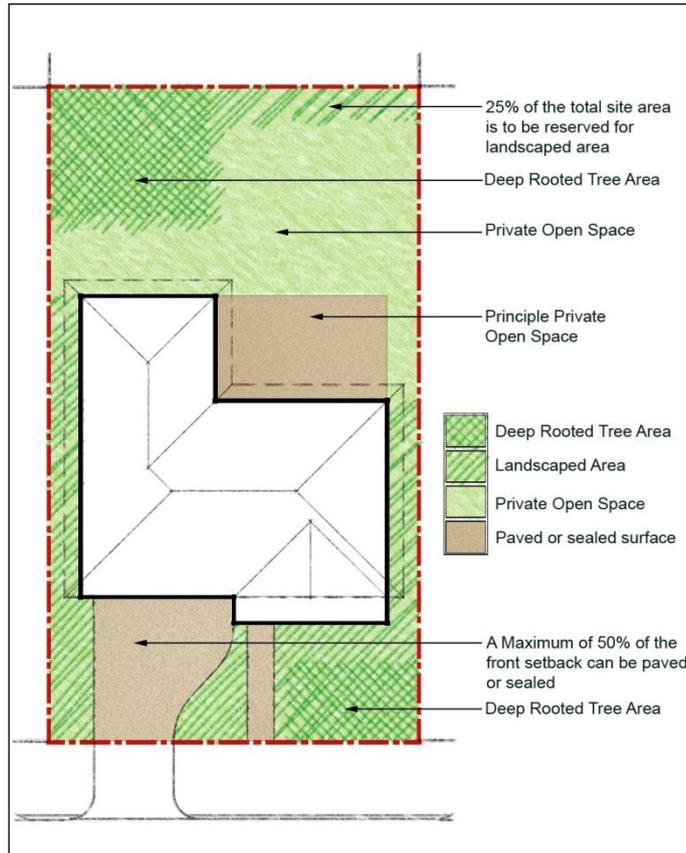


Figure 16: An Example of Landscaped Area & Private Open Space

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.

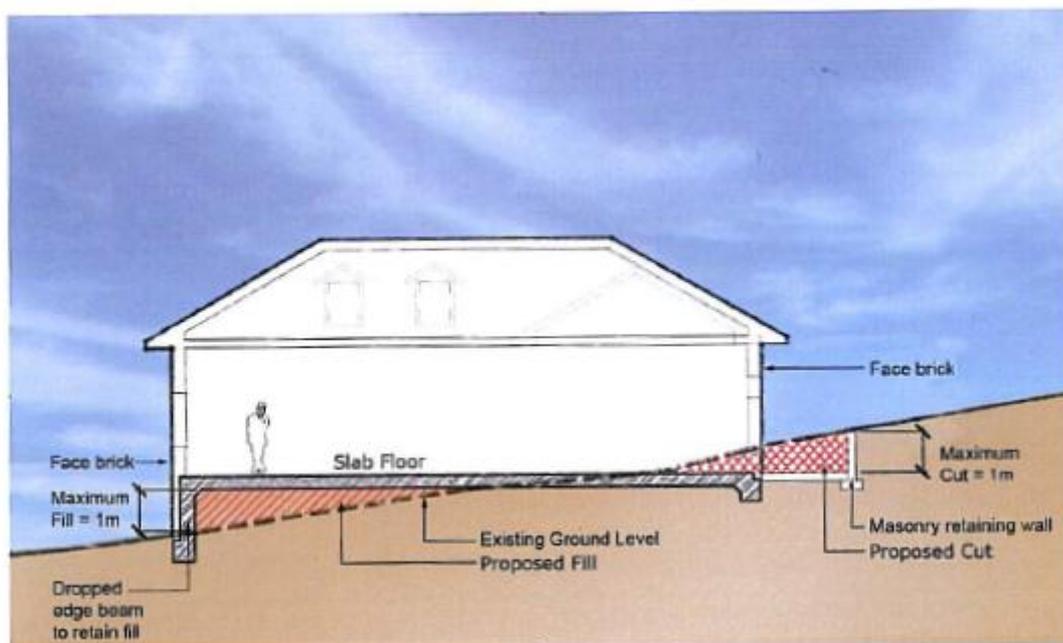


Figure 17: Cut & Fill Requirements

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)

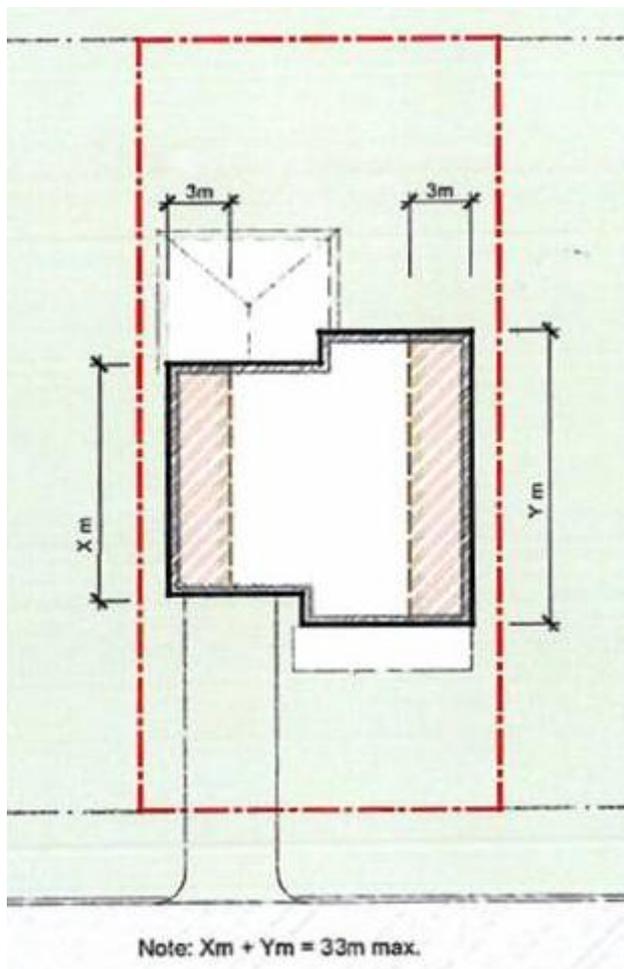


Figure 19: Maximum Total First Floor Wall Length of a Two Storey Dwelling

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.

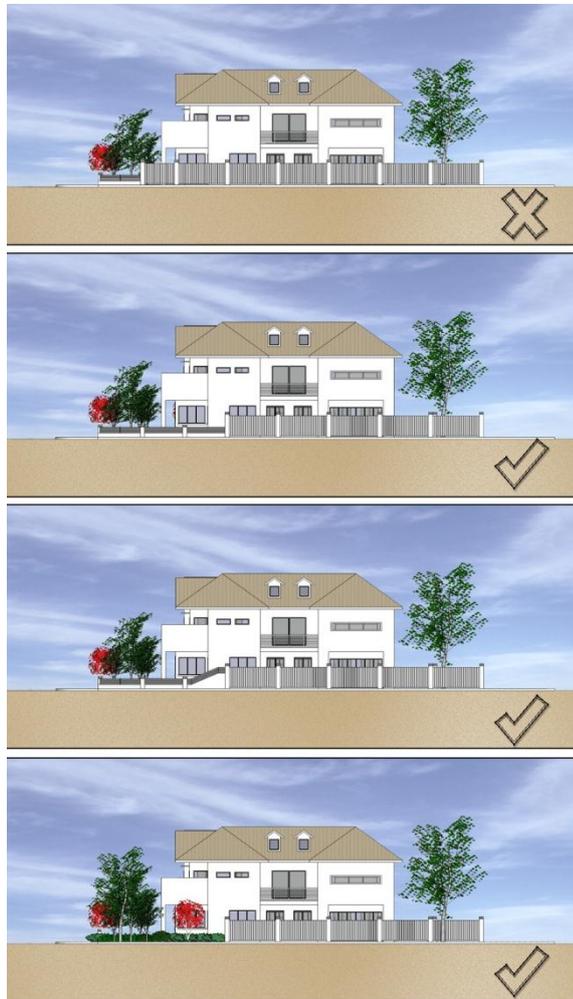


Figure 20: Fence Treatments on Secondary Frontage

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.

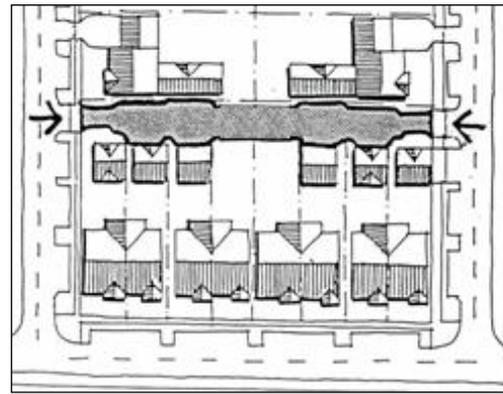
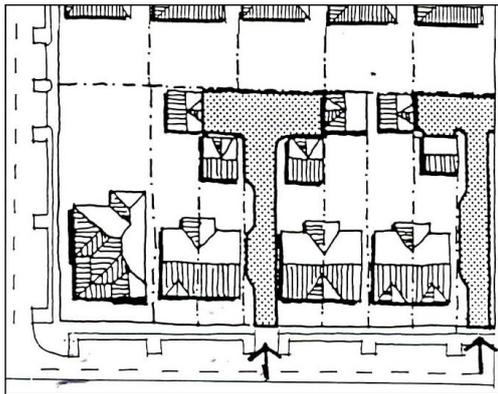
Private Driveways

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

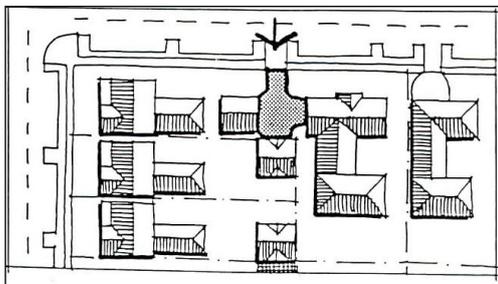
1. Private driveways shall have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
2. A lot on which an off-street car parking space is provided must have a driveway to a public road.
3. A driveway on a lot must be constructed in accordance with 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.

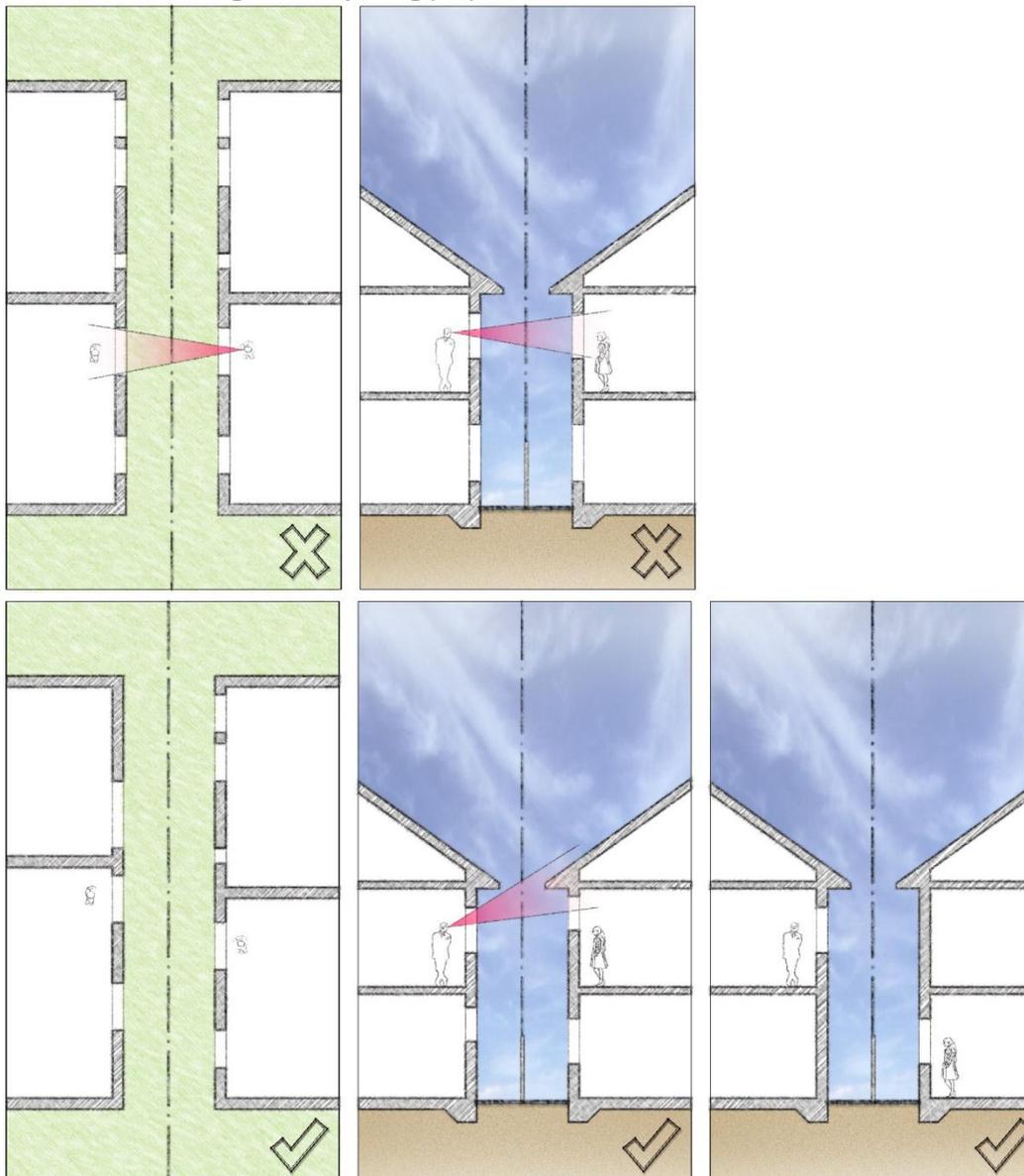


Figure 22: Privacy and Amenity

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.

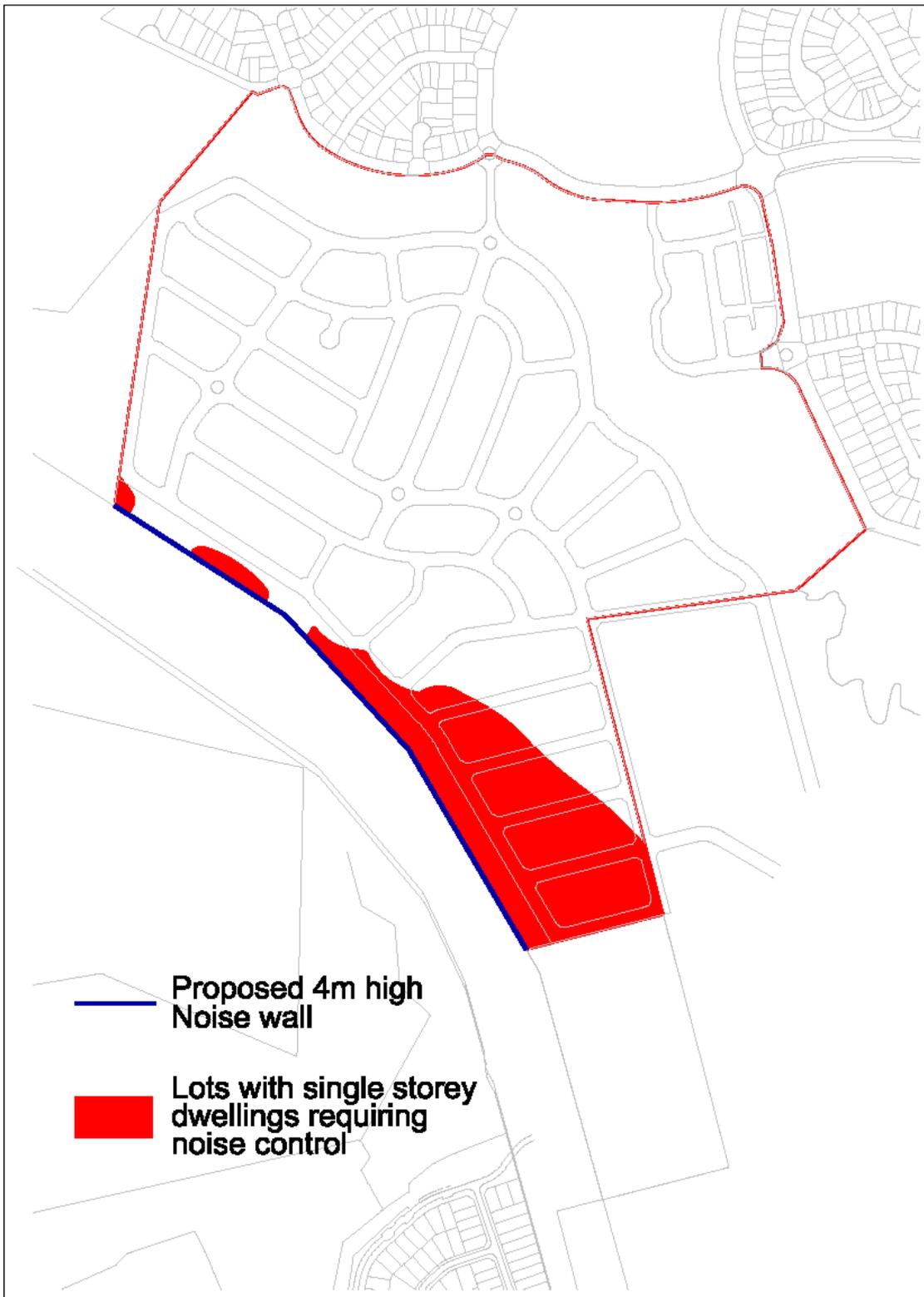


Figure 23: Single Storey Dwellings to Achieve Internal Acoustic Environment of Less than 50dB(a)

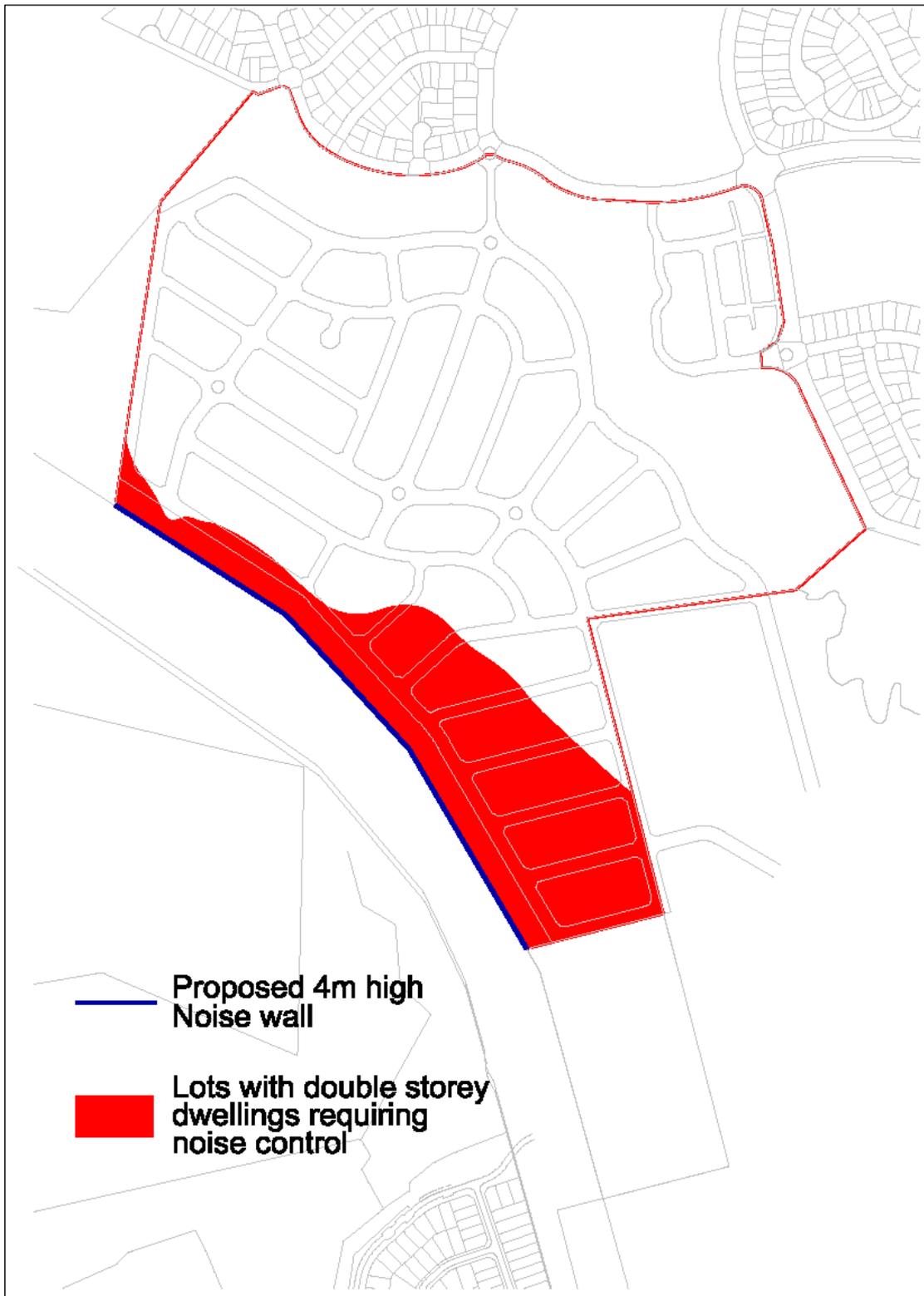


Figure 24: Double Storey Dwellings to Achieve Internal Acoustic Environment of Less than 50dB(a)



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