menanglepark

Development Control Plan

Part 7 – Menangle Park

October 2016

campbelltown city council

UrbanGrowth NSW

VOLUME 2

PART 7: MENANGLE PARK

TABLE OF CONTENTS

1.1 APPLICATION

This Part sets out controls for the land within Menangle Park as shown in Figure 1.1.

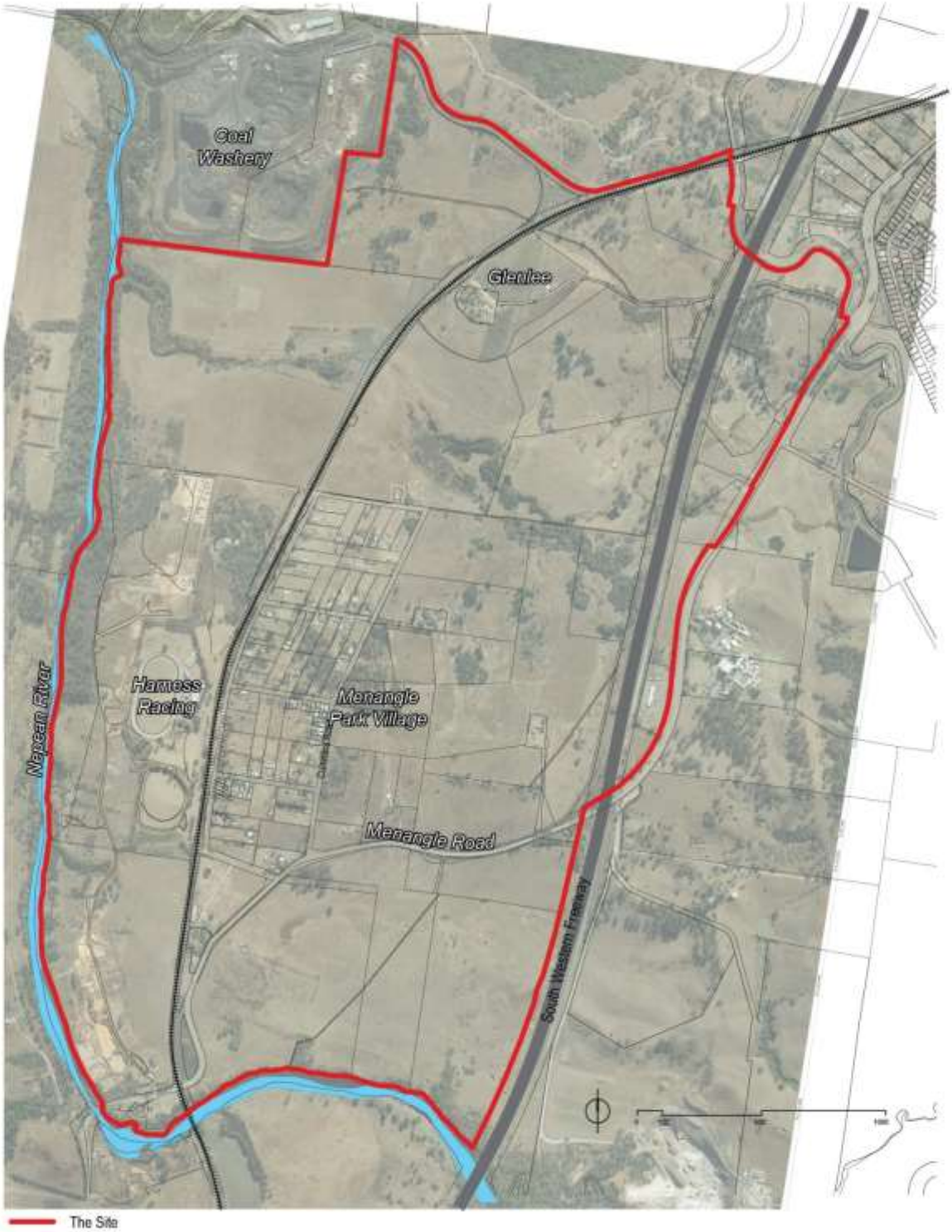


Figure 1.1: Menangle Park

1.2 PURPOSE OF THIS PART

The purpose of this Part is to identify the planning, design and environmental objectives and controls against which Campbelltown City Council will assess future development applications in Menangle Park.

This Part is also intended to promote high quality urban design outcomes for the release area within the context of environmental, social and economic sustainability.

1.3 RELATIONSHIP TO OTHER PARTS OF CAMPBELLTOWN (SUSTAINABLE CITY) DCP

The controls applicable to development of land within Menangle Park are generally detailed in this Part. When a development control is not specified in this Part, development should be consistent with all other relevant controls of Volume 1 Campbelltown (Sustainable City) DCP. Where there is an inconsistency between Part 7 and any other part of this Development Control Plan, Part 7 applies to the extent of the inconsistency.

Campbelltown City Council Engineering Design Guide for Development applies to development specified in this Part.

1.4 VISION AND OBJECTIVES

Menangle Park will be an attractive residential community set against a natural landscape backdrop. Its historic connections to the Menangle Park Paceway, Glenlee Homestead and the Nepean River will provide important cues in establishing the character of the future residential community.

Menangle Park will provide for a mix of housing types, ranging from mixed use, medium density and small lot housing in and around the town centre through to medium and large lot dwellings elsewhere. Particular care will be taken with the lot layout and siting of dwellings in areas of high visual and environmental sensitivity.

The town centre will be located in the heart of Menangle Park, providing local shops and services, and acting as a focus for community activities. Local employment opportunities will be offered within the Town Centre and the Menangle Park Employment Area. An integrated transport, cycle and pedestrian network will facilitate improved access within Menangle Park and to surrounding areas, particularly the Macarthur Regional Centre and Campbelltown City Centre.

Menangle Park will also play an important role as the Southern Gateway to Campbelltown. Particular consideration will be given to establishing an attractive tree canopy, especially as part of the streetscape, to soften the visual impact of future urban development and respect the earlier rural character of the area.

Key Development Objectives for Menangle Park are:

1. To facilitate urban development that meets environmental sustainability objectives.
2. To ensure all development achieves a high standard of urban and architectural design quality.
3. To promote housing that provides a high standard of residential amenity.
4. To ensure high quality landscaping, particularly within streetscapes.
5. To ensure housing targets are met through the provision of a range of housing types that offer diversity and affordability.
6. To offer opportunities for local employment and business.
7. To create walkable neighbourhoods with good access to public transport.
8. To create a vibrant, successful and attractive town centre.
9. To provide social infrastructure that is flexible and adaptable.
10. To maximise opportunities for future residents to access and enjoy the outdoors.
11. To protect and enhance riparian corridors, wetlands, significant trees and vegetation.
12. To ensure the timely delivery of critical infrastructure.
13. To ensure that conservation of heritage items, and that any development within the vicinity of heritage items takes into consideration the significance of such items.

1.5 URBAN STRUCTURE

The Urban Structure Plan at Figure 1.2 illustrates the general level development outcomes for Menangle Park. It outlines the development footprint, land uses, different housing lot types, open space and riparian corridors, major transport linkages and general location of community facilities and schools.

The residential densities to be achieved across the site are identified on the plan. Medium density residential development areas have been identified in locations which are in and around the town centre and adjacent to open space. Low density residential development is identified for those areas of high environmental and/or visual sensitivity.

Objectives:

- Ensure development of the precinct is undertaken in a co-ordinated manner consistent with the Menangle Park Urban Structure Plan at Figure 1.2.
- Minimise the visual impact of new urban development when viewed from distant vantage points.
- Ensure the urban structure of Menangle Park meets the following principles:
  - roads follow a grid-like pattern of interconnected streets, deflecting to avoid steep slopes
  - the town centre is located at the centre of Menangle Park and on a public transportation route
  - higher density (such as small lots) is located adjacent to the town centre
  - visually sensitive areas, such as along the freeway, Menangle and Glenlee Roads, retain a semi-rural character by the presence of larger lots or (in the case of the highly visible southern freeway approach, as private open space)
  - flood prone land is retained as open space or rural land.

Controls

1. All development is to be undertaken generally in accordance with the Urban Structure Plan at Figure 1.2 and the objectives and development controls set out in this Part.
2. Where variation from the Urban Structure Plan is proposed, the applicant is to demonstrate that the proposed development is consistent with the Vision and Development Objectives for the release area set out in clause 1.4.

Figure 1.2: Urban Structure Plan

1.6 RESIDENTIAL DWELLING TARGETS

Objectives

- Achieve a yield for Menangle Park of approximately 3,500 dwellings
- Ensure the residential minimum lot sizes and density targets identified in Table 1.1 are achieved
- Ensure that higher density residential development is provided around the town centre
- Provide a range of residential development densities and dwelling types for a wide variety of demographic and socio-economic groups
- Maintain a sense of the rural character of the area by providing larger lots away from the town centre

Controls

1. Residential development is to be generally undertaken in accordance with the lot size ranges shown in the Urban Structure Plan at Figure 1.2.
2. Where it is proposed to subdivide land for residential purposes or to carry out residential development in the Town Centre, the applicant must demonstrate to Council that the average lot size or net density per hectare, as shown in Table 1.1, will be achieved.

Table 1.1: Lot Sizes and Density Requirements

Lot Category (as shown in Figure 1.2)	Min Lot Size	Net Density/ha*	Total Minimum Yield
Small lot	300m^2	22	420
Standard lot	420m^2	13	2,281
Traditional lot	950m^2	8	544
Large lot	2,000m^2	4	14
Town centre	N/A	30	160†

*The net density refers to the ratio of the number of dwellings to the land they occupy including internal public streets plus half the width of adjoining access roads that provide vehicular access to dwellings.

†Indicative yield

1.7 STREET NETWORK AND DESIGN

Objectives

- Create a hierarchy of streets, each street type having a distinctive character based on street tree planting.
- Create a legible and functional road network that provides good connections with the surrounding areas.
- Ensure that the street network facilitates the efficient provision of bus services and waste services within the release area.
- Use streets to define the edges between development and open spaces and to provide passive surveillance opportunities of the open space.
- Provide a safer intersection of Glenlee Road and Menangle Road by realigning Glenlee Road.

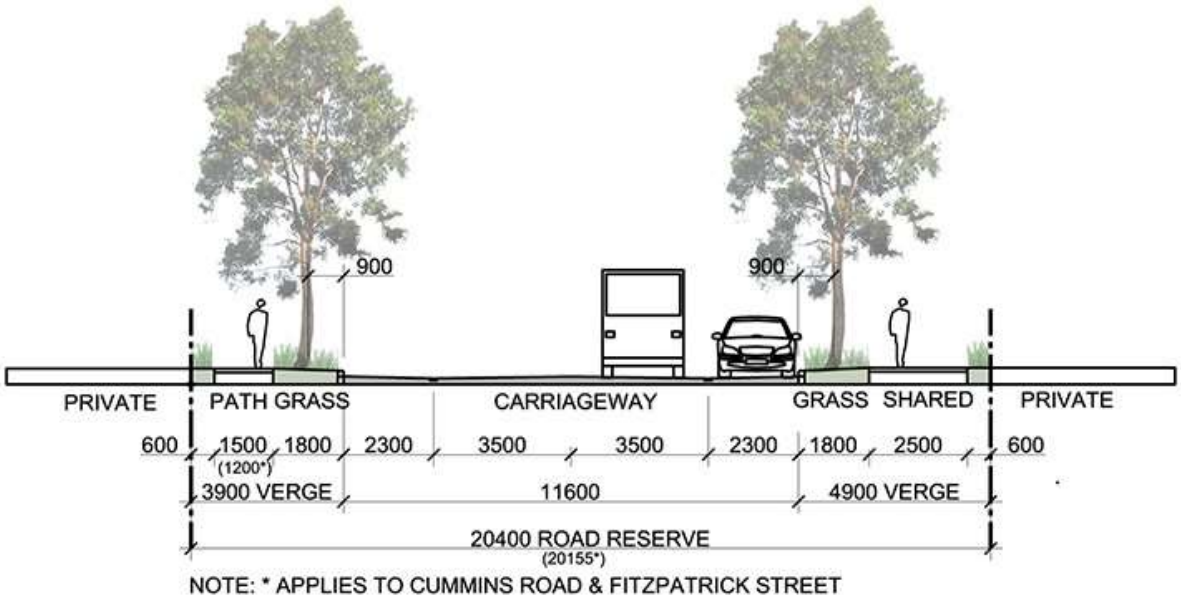
Controls

1. Development applications for subdivision incorporating roads should generally comply with the proposed street network shown in the Indicative Street Layout Plan at Figure 1.3 and sections at Figure 1.4.
2. Individual road design, construction and landscaping are to be in accordance with the street types in Figure 1.4 which replace road network design requirements set out in Table 3.1 of Volume 3 of the DCP, where applicable.
3. Street planting is to be coordinated with subdivision layout, traffic plan and services layouts to ensure appropriate configuration with vehicle crossovers, sight lines, drainage swales, lighting and other services and be generally in accordance with the Menangle Park Streetscape Master Plan (Appendix 1).
4. A landscape plan is required for all development applications for subdivision showing streetscape planting. Streetscapes should be designed as set out in Table 1.2 and the Menangle Park Streetscape Master Plan at Appendix 1.
5. Street lighting should be a “full cut-off light fixture”, i.e. a type of fixture that does not allow light (includes dispersed light or glare) to be emitted above a 90-degree, horizontal plane measured from the base of the fixture.
6. The construction of the proposed realignment of Glenlee Road and its intersection with Menangle Road must be completed before the release of any new residential lots within the northern precinct of the Menangle Park Urban Release Area.

Table 1.2: Streetscape Character

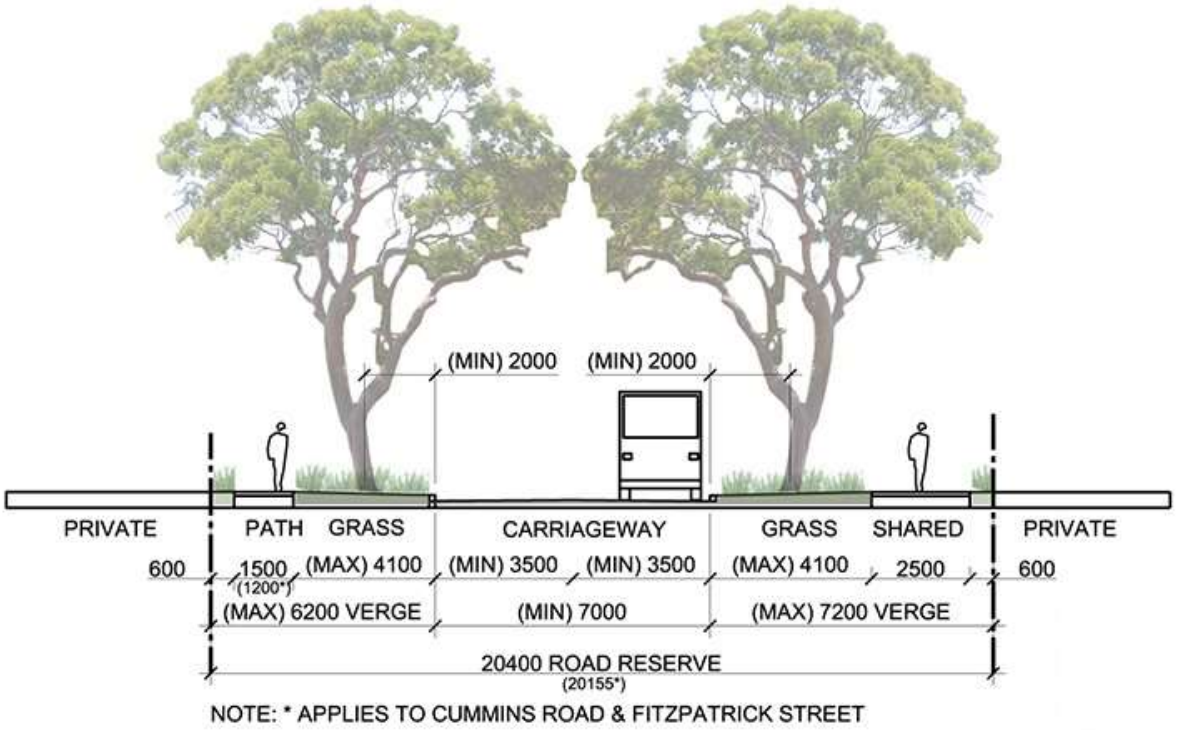
STREET TYPE	STREETSCAPE CHARACTER
Town Centre Boulevard	Distinctive avenue effect framing views to the west towards Menangle Park Paceway. Large native and deciduous trees.
Collector Street	Pedestrian friendly streets, shaded tree canopies, mixture of deciduous and native species.
Collector Streets adjacent to open space	Generous informal character, overhanging shade, native tree species.
Local Streets	Intimate character with regular street tree planting, mixture of native and deciduous species, concrete footpaths, minimise impact of driveways.
Local Streets adjacent to open space, riparian corridors	Open informal character, canopy trees to blend in with character of open space/riparian corridor.
Shared zones	Shaded overhanging canopies, trees planted in roadway to slow traffic, mixture of deciduous and native trees.
Glenlee Road	Retain rural character through street tree planting.
Menangle Road	Retain the existing *Araucaria bidwillii* located on the elevated section of Menangle Road near the Glenlee intersection. Landscape setbacks and vegetation treatments should be provided to effectively screen new residential development along Menangle Road. In the south, new roadside vegetation/landscape embellishments should be provided on the embankments above and below Menangle Road as it travels westward through the proposed area of low density residential development.
Spring Farm Parkway	Provide screen vegetation along the route of the new SFP arterial to ameliorate the impact on views and vistas to and from Glenlee House.

Figure 1.3: Indicative Street Layout Plan



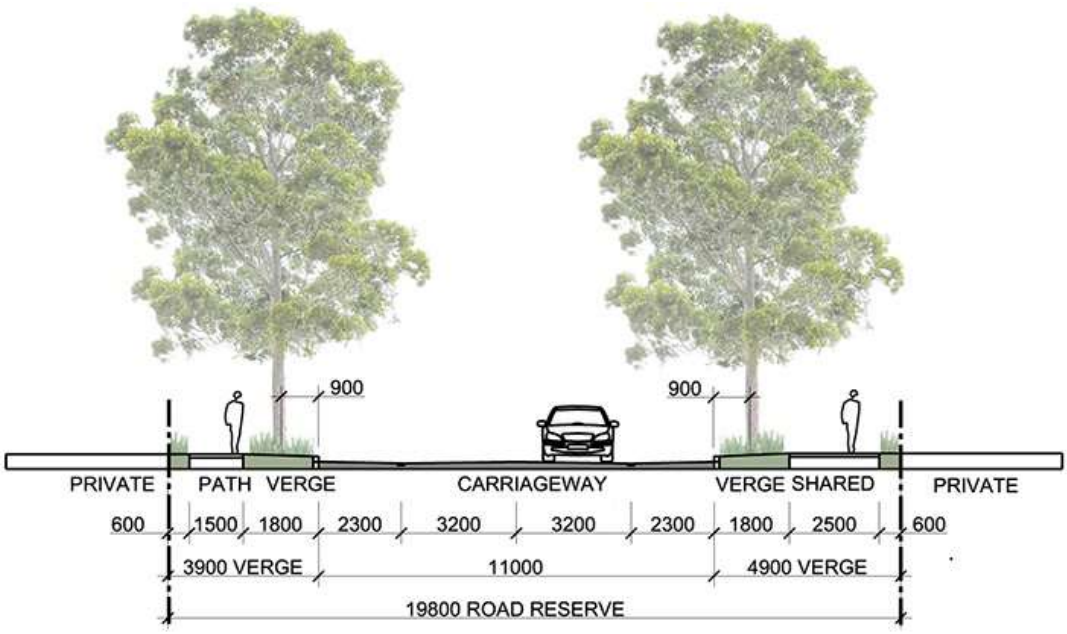
L01 A SECTION - COLLECTOR ROAD - BUS ROUTE

Note: Carriageway to be locally widened at bus stops to 12.0m to allow for 2.5 bus bay

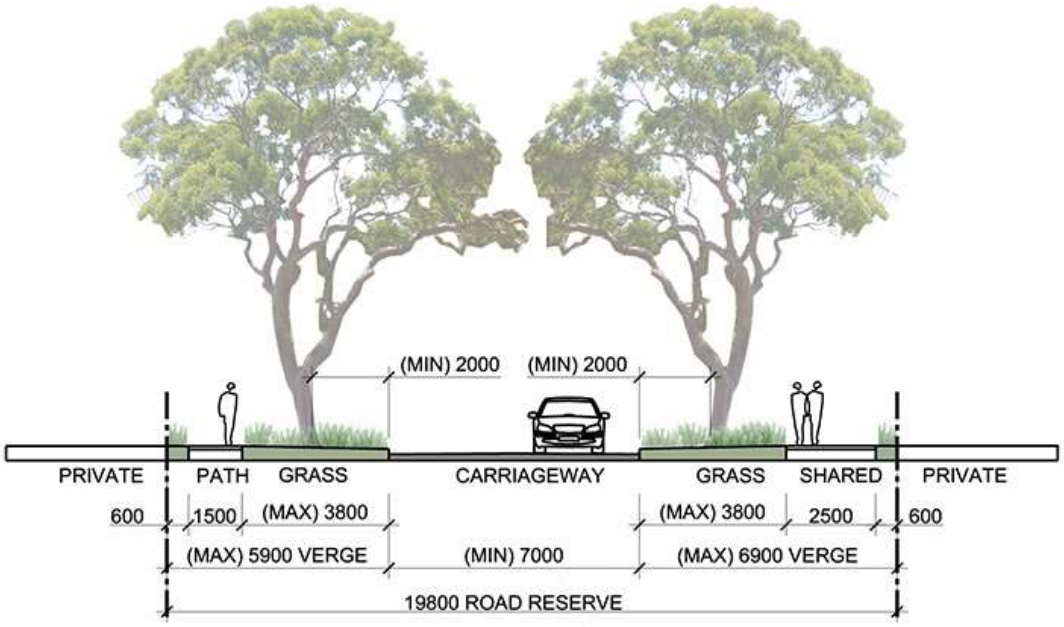


L01 B SECTION - COLLECTOR ROAD (BLISTER) - BUS ROUTE

Figure 1.4a: Road Sections – Collector Road (Bus Route)



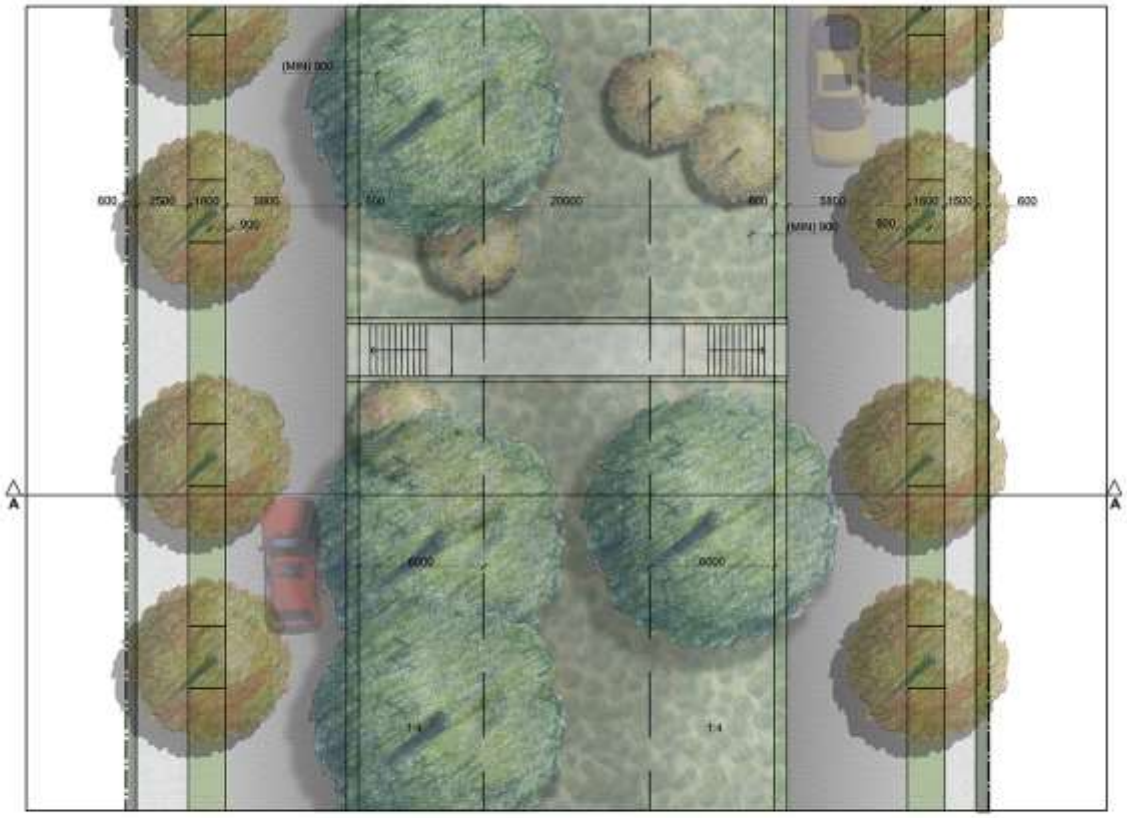
L02 A SECTION - COLLECTOR ROAD - NON BUS ROUTE



L02 B SECTION - COLLECTOR ROAD (BLISTER) - NON BUS ROUTE

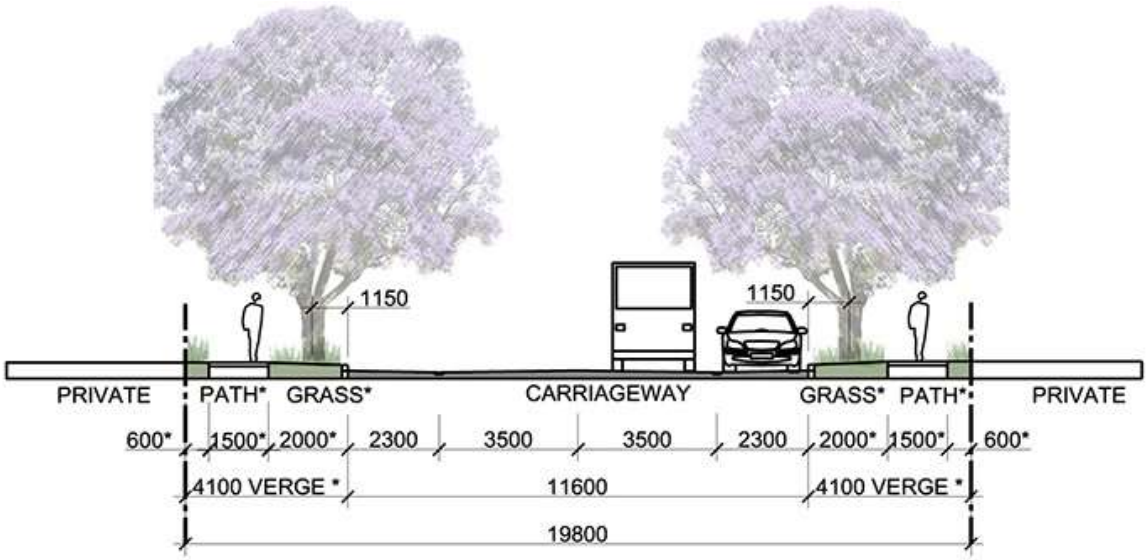
Figure 1.4b: Road Sections – Collector Road (Non Bus Route)

L03 A SECTION - SPLIT COLLECTOR

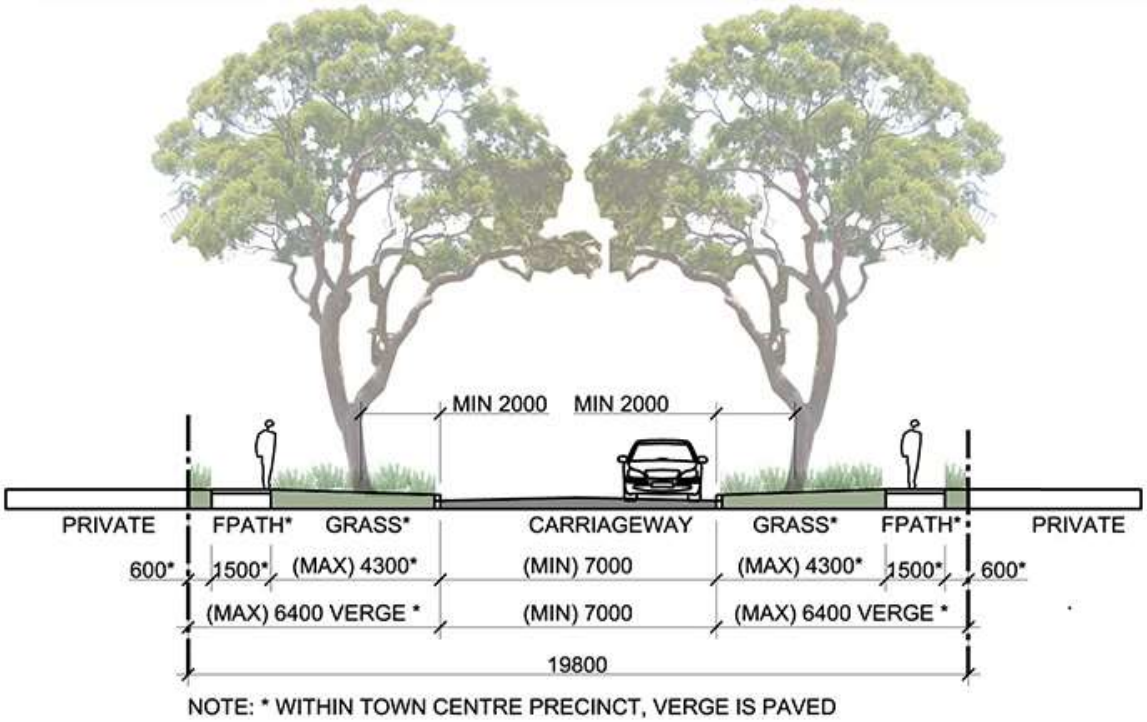


L03 PLAN - SPLIT COLLECTOR

Figure 1.4c: Road Sections – Split Collector Road

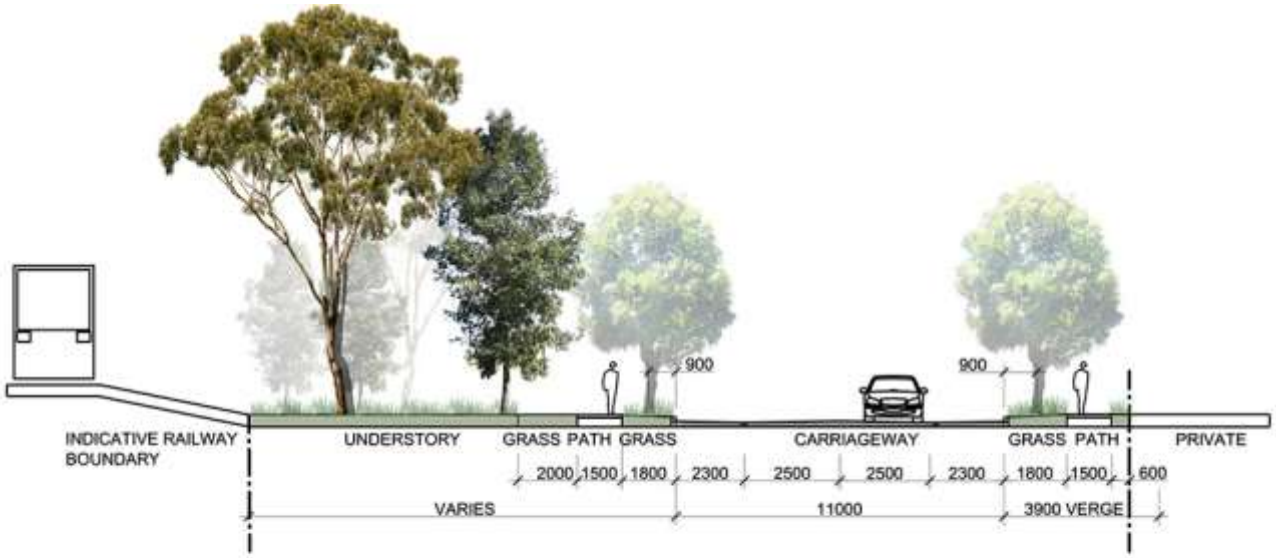


L04 A SECTION - TOWN CENTRE BOULEVARD

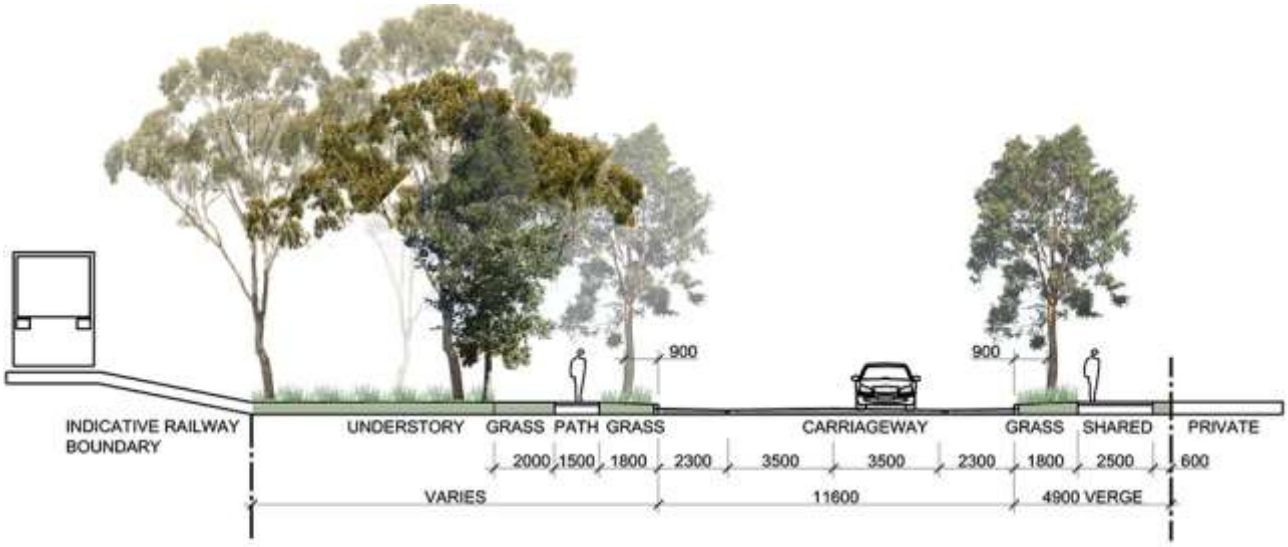


L04 B SECTION - TOWN CENTRE BOULEVARD

Figure 1.4d: Road Sections – Town Centre Boulevard

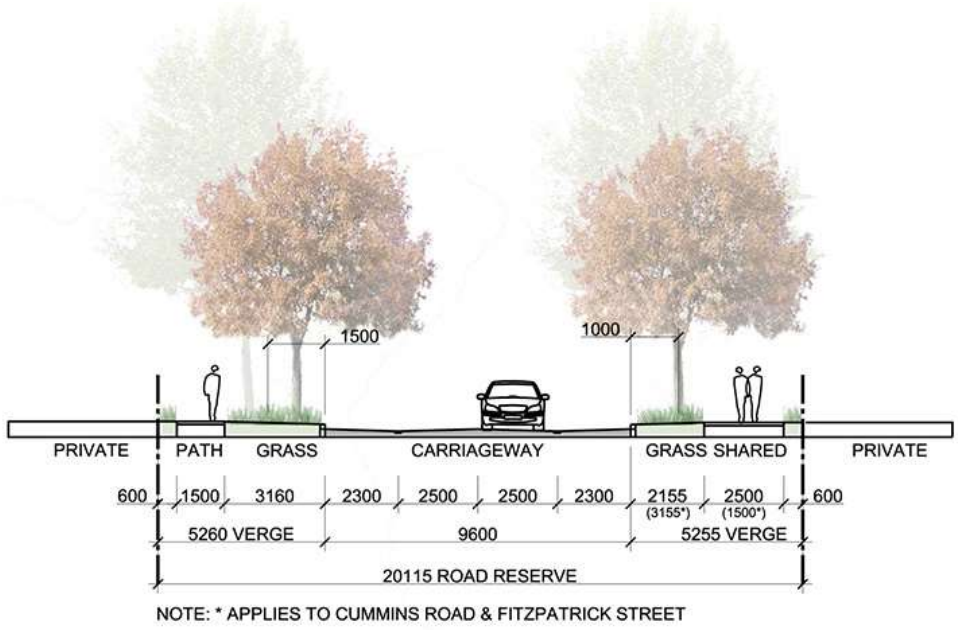


L05 SECTION - RACECOURSE AVENUE (LOCAL)



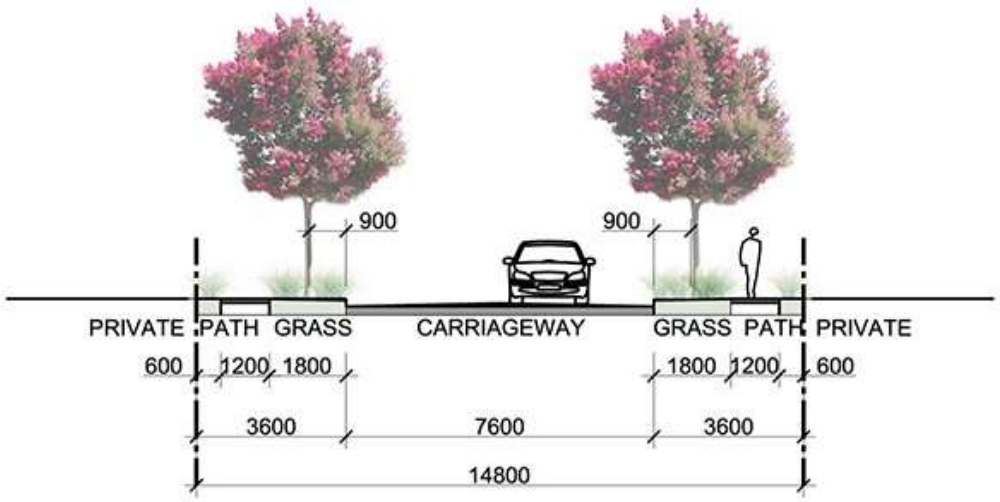
L05 A SECTION - RACECOURSE AVENUE (COLLECTOR)

Figure 1.4e: Road Sections – Racecourse Avenue



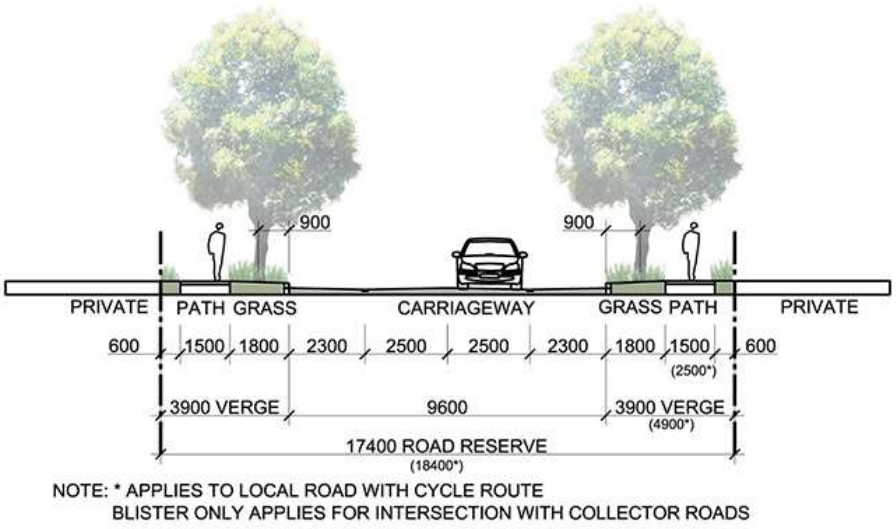
L06 A SECTION - EXISTING ROAD (PAYTEN, TABER*, STATION* STREET)

Figure 1.4f: Road Sections – Existing Road (Payten, Taber, Station Street)

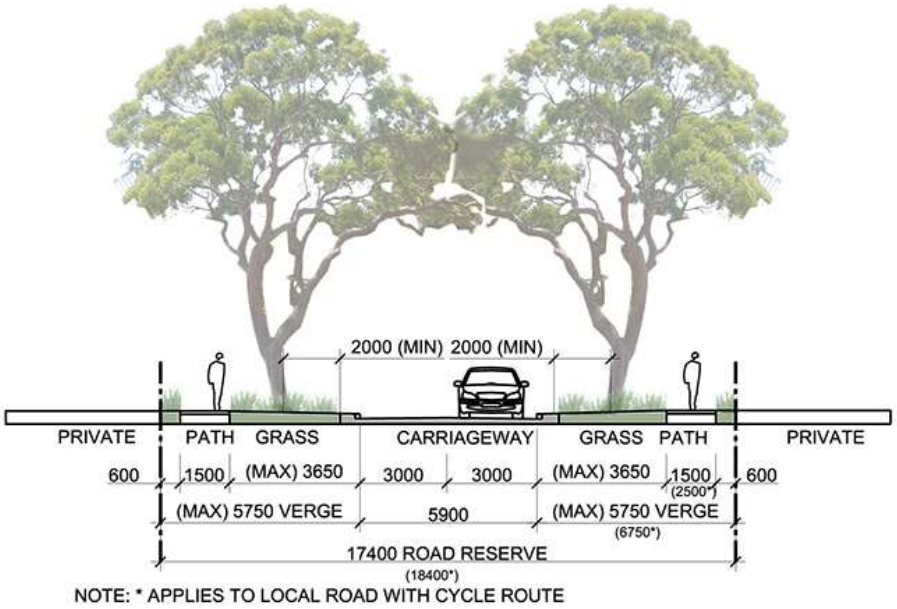


L08 A SECTION - MINOR LOCAL ROAD

Figure 1.4g: Road Sections – Minor Local Road



L07 A SECTION - LOCAL ROAD



L07 B SECTION - LOCAL ROAD (BLISTER)

Figure 1.4h: Road Sections – Local Road

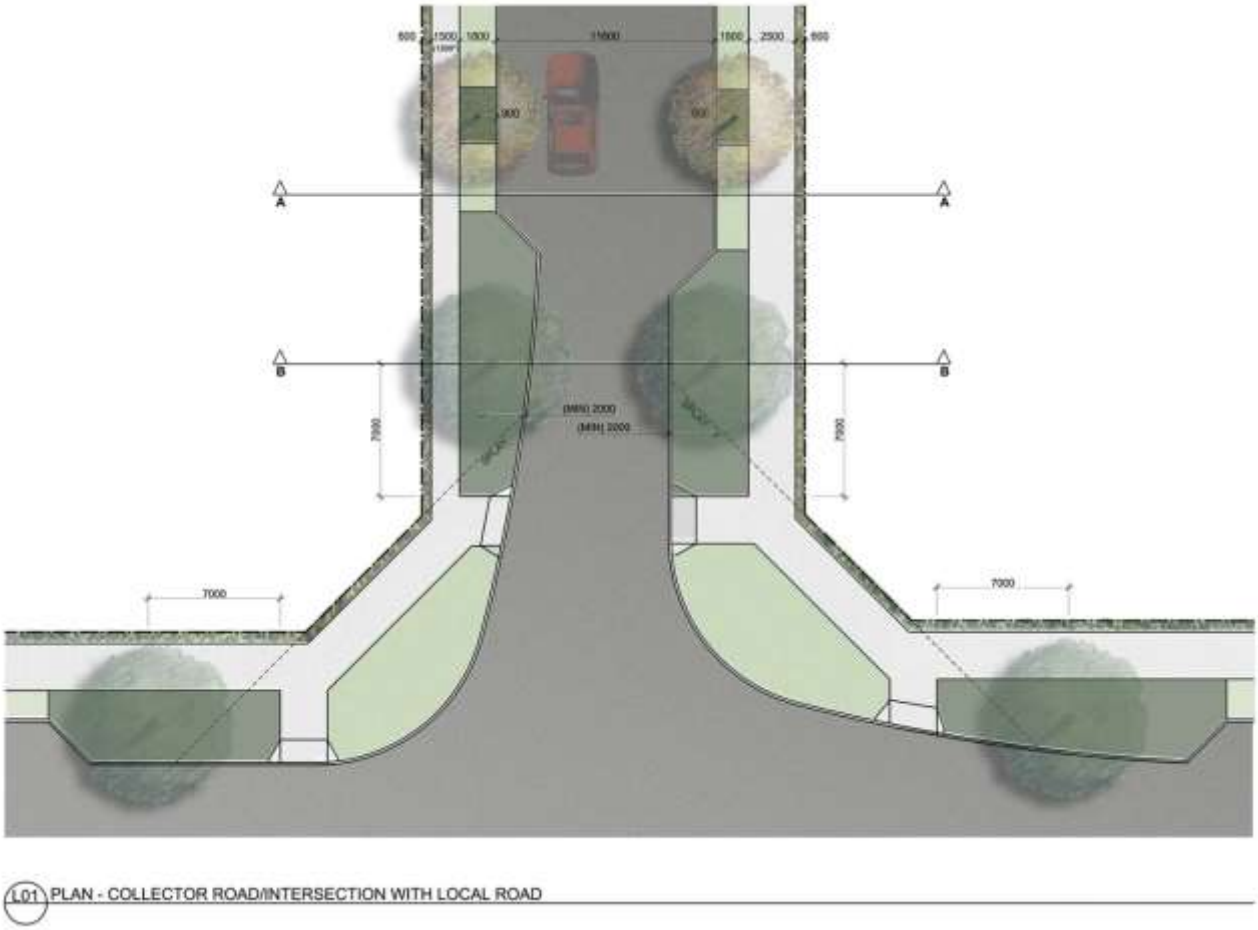


Figure 1.4i: Road Sections – Local to Collector Road Intersection

1.8 PEDESTRIAN AND CYCLE NETWORK

Objectives

- Provide a convenient, efficient and safe network of pedestrian and cycleway paths for the use of the community, within and beyond the site.
- Encourage residents to walk or cycle, in preference to using motor vehicles, as a way of gaining access to the schools, shops, and local community and recreation facilities.
- Promote the efficient use of land by allowing pedestrian pathways and cycleways to be located within parks and corridors wherever practical.

Controls

1. Key cycleway routes are to be provided in accordance with Figure 1.5.
2. The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m except where located within open space areas where the minimum width is to be 3m.
3. All pedestrian and cycleway routes and facilities are to be designed and constructed in accordance with section 3.18, Volume 3 of the DCP.
4. Pedestrian and cycle pathways are to be constructed as part of the infrastructure works for each residential stage to be submitted with development applications.

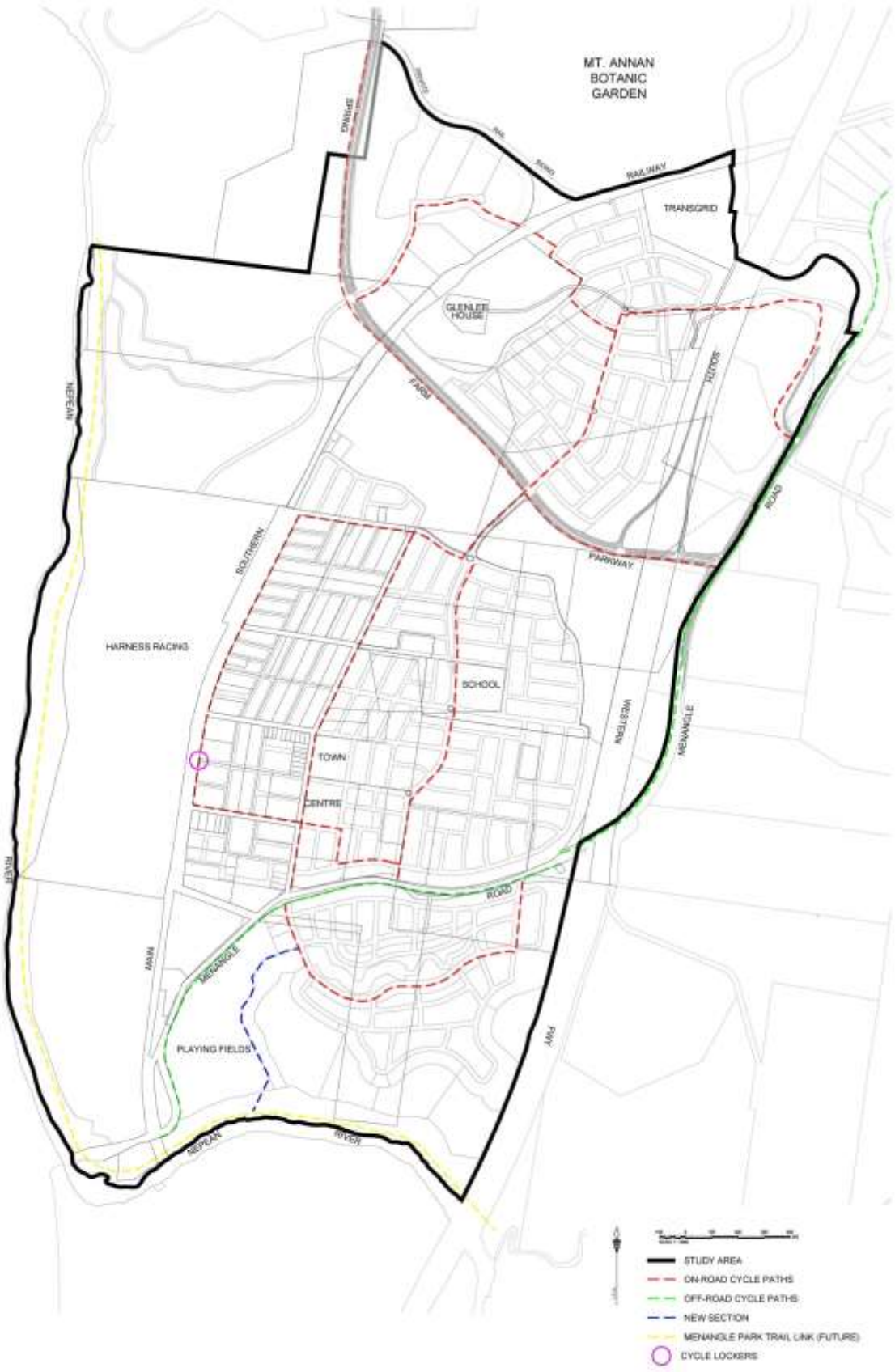


Figure 1.5: Key Cycle Routes

1.9 PUBLIC DOMAIN, LANDSCAPE AND OPEN SPACE

Objectives

- Create a network of open spaces, focal points and recreation and community facilities which meet the needs of the future residents and workers of Menangle Park.
- Establish quality public domain spaces which add to the visual and environmental amenity of the site, and which are designed to maximise safety and security.
- Incorporate water sensitive urban design and other sustainable development practices in the creation of the public domain.
- Build on the existing character of Menangle Park to create a distinctive and high quality public domain.

Controls

1. Development applications for subdivision must ensure open space is provided generally in accordance with Figure 1.2.
2. The minimum provision of open space and facilities including embellishment is to be consistent with the Menangle Park Contributions Plan.
3. A development application for subdivision incorporating open space should be accompanied by a landscape plan where the park is to be constructed as "works-in-kind".
4. The following principles are to be taken into consideration in the location of public parks:
   a) parks are be located as focal points within residential neighbourhoods. All dwellings should be located no further than 400m from a public park,
   b) where possible, parks should be co-located with community and education facilities, be highly accessible and linked by pedestrian and / or cycle routes,
   c) parks should be located and designed to accommodate remnant vegetation and where appropriate, should be linked to and integrated with riparian corridors, and
   d) parks should be generally bordered by streets on all sides with houses oriented towards them for surveillance.
5. The detailed design of public parks is to consider:
   a) the need for a range of play spaces and opportunities and cater for a range of ages,
   b) the provision of adequate parking, lighting and waste management facilities,
   c) the inclusion of interpretative signage detailing local history, Aboriginal cultural values, environmental education themes and the like, and
   d) the provision of amenities such as seating and shade structures, drinking fountains, street lighting, street and information signs, planter boxes, feature fencing and the like.
6. Existing trees and native vegetation located within park areas should be retained where practical.

7. Incorporate planting of indigenous species and vegetation communities to enhance native fauna habitats where appropriate.
8. Reduce water usage by using indigenous and low water tolerant species where appropriate, as well as efficient irrigation systems.
9. Salinity risk should be reduced by planting deep root native plants.
10. A report prepared by a suitably qualified professional shall be provided with any development application detailing measures to be taken to ensure tree protection during construction.
11. Provide shade trees and establish windbreaks where possible from southerly and westerly winter winds.

1.10 HERITAGE

1.10.1 ABORIGINAL HERITAGE

Objectives:

- Ensure that a representative sample of intact Aboriginal landscapes and a range of human responses (represented by the archaeology) are protected.
- Ensure that areas of Aboriginal heritage significance are managed into the future on the basis of their Aboriginal (and scientific) heritage and environmental values.
- Ensure that sites and/or landscapes with high archaeological potential or Aboriginal significance are retained and protected.

Controls

1. Development within areas shown in Figure 1.6 as:

   a) zone 1, and
   b) cultural areas

   is subject to the controls for indigenous heritage in clause 2.11.1 of Volume 1 of this DCP.

2. Development within areas of Zone 2 as shown in Figure 1.6 may also be subject to the controls for Aboriginal heritage in clause 2.11.1 of Volume 1 of this DCP. Please contact Council prior to the lodgement of any development application for land within Zone 2 to verify whether the controls in clause 2.11.1 of Volume 1 apply.

1.10.2 NON-INDIGENOUS HERITAGE

Objectives

- Ensure that new development is undertaken in a manner that is sympathetic to, and does not detract from, the heritage significance of heritage items and their settings.
- Promote the protection or conservation of those resources where possible.
- Ensure the impacts of development on significant views to and from Glenlee House are minimised as far as possible.

Controls

1. The controls for non-indigenous heritage in clause 2.11.2 of Volume 1 of this DCP apply to Menangle Park.
2. An archaeological assessment must accompany any application for development of land (including subdivision involving the creation of allotments for further (future) development) containing a known or potential archaeological site. Known and potential archaeological sites at Menangle Park are shown in Table 1.3. The archaeological assessment should be undertaken in accordance with *Assessing Significant Historical Archaeological Sites and 'Relics'* (Heritage Branch, NSW Department of Planning, 2009).
3. In recognition of the heritage significance of Glenlee House and its curtilage it will be necessary to delineate its boundary. Thus, any development applications for the subdivision of land adjoining Glenlee House will only be considered where a road is provided on the eastern and northern boundaries of this property, which is listed under the *NSW Heritage Act 1977*.

4. Screen vegetation should be provided along the route of the proposed Spring Farm Parkway to ameliorate the impact on views and vistas to and from Glenlee House.
5. Development applications for subdivision in the vicinity of the Sydney Catchment Authority Upper Canal are to consider the potential impact of any stormwater runoff on the Canal and ensure that any impacts are appropriately mitigated. Refer to clause 2.18 Work on Land Adjacent to the Upper Canal Corridor Volume 1 of this DCP.

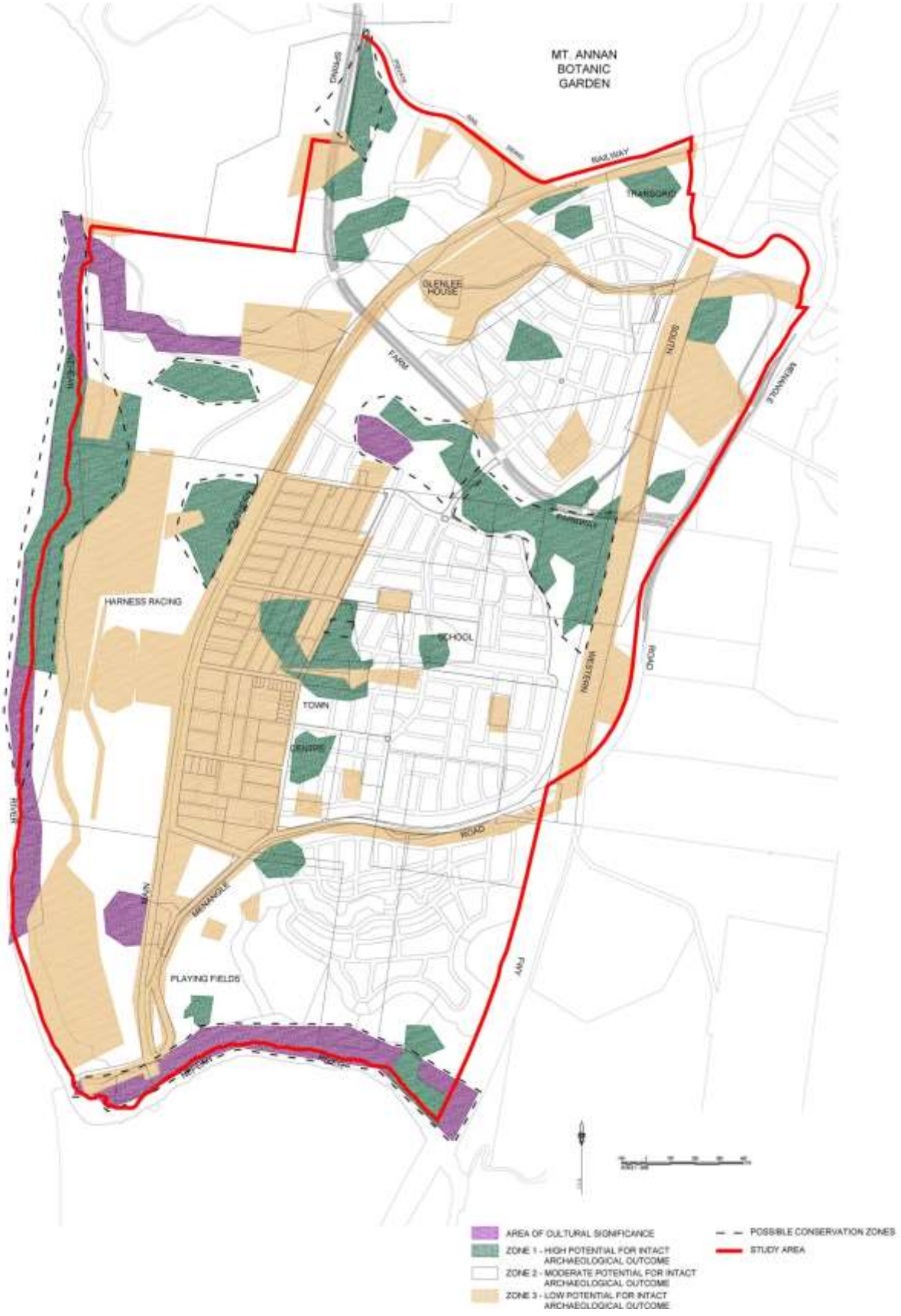


Figure 1.6: Areas of Aboriginal Heritage Sensitivity

Table 1.3: List of known and potential archaeological sites

Site No	Name	Property Description	Significance
S1	Brien's farm and house site	Lot D DP 19853	Local
S3	Thomas Vardy's estate, including house and stable	Lot 1 DP 249393	Local
S4	Grazier's Inn	Portion 29 Parish Manangle (in road reserve Menangle Road)	Local
S5	Mt Pleasant	Lot 2 DP 598067	Local
S6	Noone's farm	Lot 32 DP 1101983	Local
S7	House and shed of Chinese market gardener	Lot D DP 19853	Local
S8	Railway Hotel (Edrop estate)	Lot 1 DP 877582	Local
S9	North Menangle railway station site	Lot 1 DP 877582	Further assessment required
US10	Thomas Taber's original homestead site	Lot 10 DP 122204 (previously Portion 16 Parish Manangle)	Local
S11	Madden's Hill house site	Lot 3003 DP 802845	Local
S12	Ward's house site	Lot 4 DP 249530	Local
US13	Railway sites, stone quarry, tramway, site of workers tent town	Lot 1 DP 249393 Lot 3 DP 236059	Local
US14	Original Edrop homestead, dairy and worker's cottages	Lot 3 DP 236059	Local
US15	Archaeological sites, Menangle Park Paceway	Lot 10 DP 1022204	Further assessment required
US16	Doyle's property	Lot 7 DP 787284	Further assessment required
US 17	Tyson's estate	Lot 2 DP 790254 (previously Portion 27 Parish Narellan)	Further assessment required

NB: The location of some of these sites is unknown and can only be more closely identified through further research and survey work.
(Source: *Non-Indigenous Heritage Study Menangle Park NSW*, Casey & Lowe Pty Ltd, March 2010)

1.11 ENVIRONMENTAL MANAGEMENT

1.11.1 RIPARIAN CORRIDORS

Objectives

- Protect, restore and enhance the environmental qualities of water courses, in particular Nepean River and Howes Creek.
- Allow the use of riparian corridor buffers for low impact recreation activities such as walking and cycling.
- Manage riparian corridors, wherever possible, in single ownership and as a continuous corridor.

Controls

1. The location of access ways to and within a riparian buffer is not to compromise the ecological integrity of any existing riparian vegetation, the streambed or bank stability.
2. The impact of pedestrian and cycleways, general access points to riparian corridors and road crossings is to be minimised by using ecologically informed design principles.
3. The impact of salinity on the landscape and watercourses shall be managed in accordance with the Local Government Salinity Initiative series of booklets provided by the NSW Office of Environment and Heritage.
4. All core riparian zones are to be rehabilitated and revegetated with appropriate native vegetation having regard to their drainage function and vegetation management for bushfire protection. A works plan is to be submitted to Council for development applications on land containing a riparian corridor or for subdivision of land adjacent to a riparian corridor. The works plan is to:
    a) identify existing trees to be retained,
    b) be consistent with NSW Department of Primary Industries Office of Water guidelines, and
    c) indicate the location, type and size of all new plant species.
5. Where wetlands are proposed, a vegetation management plan outlining ownership, ongoing management, annual maintenance costs and initial development costs shall be submitted with any development application.

1.11.2 FLORA AND FAUNA CONSERVATION

Objectives

- Improve biodiversity values, over time, throughout the Menangle Park precinct.
- Maintain, through time, a 'no net loss' of native vegetation cover.
- Ensure examples of vegetation communities found on site are included in the open space network (which includes the offset areas).
- Conserve 'high value' ecological features in the open space network (and offset areas).

Controls

1. The general controls detailed in Part 2, section 2.6 of Volume 1 of the DCP relating to flora and fauna conservation apply in Menangle Park.
2. Removal, rehabilitation and regeneration of native vegetation should be undertaken in accordance with an offsetting strategy that has been prepared to the satisfaction of Council.
3. Lands within Menangle Park identified for possible use for offset planting are shown in Figure 1.7. The developer shall submit an offset proposal as part of their development application that:
    a. demonstrates where offset planting will be undertaken, and the appropriateness of the site,
    b. includes any "in principle" agreements reached with affected land owners to demonstrate their capacity to implement the offset proposal, and
    c. includes provisions to secure the future management in perpetuity of the proposed offset revegetation areas.
4. Before construction activities commence within or adjacent to areas of "vegetation to be removed" or in areas of "potential offset lands", as identified in Figure 1.7, a Vegetation Management Plan should be prepared to clearly describe all rehabilitation components of the offset, performance objectives, implementation framework, and monitoring and reporting requirements.

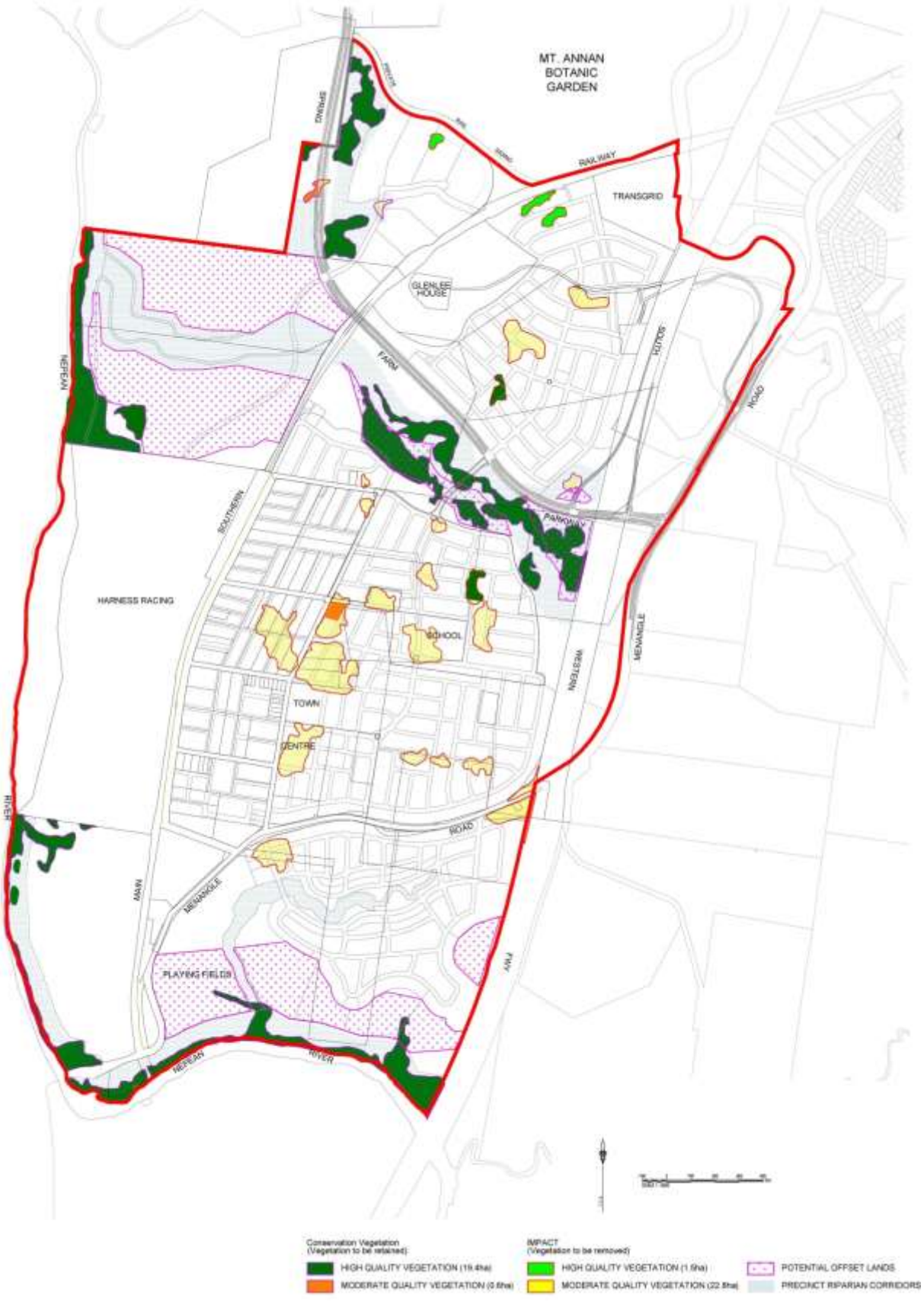


Figure 1.7: Potential Offset Revegetation Locations

1.12 BUSHFIRE MANAGEMENT

Objectives

- Prevent loss of life and property due to bushfires by providing for development compatible with bushfire hazard.
- Encourage sound management of bushfire-prone areas.

Controls

1. Where land is subject to bushfire risk the development shall be constructed to satisfy the requirements of *Planning for Bushfire Protection*, as produced by the NSW Rural Fire Service.
2. The location and widths of Asset Protection Zones (APZs) are to be provided generally as shown in Figure 1.8. Final APZs will be determined at development application stage in consultation with the NSW Rural Fire Service.
3. APZs should not be located in riparian land or other areas where vegetation is being retained or regenerated for biodiversity protection purposes.
4. Where an allotment fronts and partially incorporates an APZ it shall have an appropriate depth to accommodate a dwelling with private open space and the minimum required APZ. The APZ will be identified through a Section 88B instrument.
5. Temporary APZs, identified through a Section 88B instrument, will be required where development is proposed on allotments next to undeveloped land. Once the adjacent stage of development is undertaken, the temporary APZ will no longer be required and shall cease.
6. Where sufficient room is available within the road reserve and the front yard of private lots, the APZ may be located wholly within these areas.

Figure 1.8: Asset Protection Zones

1.13 AIR QUALITY

Objectives

- Minimise land use conflicts between residential land uses and other potentially incompatible land uses through the establishment of appropriate buffers.
- Minimise the potential for adverse air quality impacts from current/future industrial activities on residential development.
- Provide adequate buffers to ameliorate anticipated air quality impacts as a result of industrial activities.

Controls

1. A buffer distance of at least 200 metres is to be provided between any operating coal seam gas well and new residential development. The consent authority may however consider a reduced buffer where evidence is provided that residential amenity will not be adversely impacted in terms of noise and/or air quality impacts as a result of the coal seam gas operations.
2. A buffer distance of at least 200 metres is to be provided between any sand extraction and new residential development within the Menangle Park, unless it has been demonstrated that suitable dust management practices can be put in place to reduce this buffer.

1.14 NOISE MANAGEMENT

Objectives

- Limit environmental noise levels due to road traffic and railway noise.
- Minimise noise intrusion through the design and management of subdivisions.
- Achieve an acceptable residential noise environment whilst maintaining well designed and attractive residential streetscapes.

Controls

The following controls apply where residential and other noise sensitive development is proposed within areas affected by road and rail noise as shown in Figure 1.9.

1. A noise assessment report which includes acoustic treatment requirements for dwellings is to be prepared by a suitably qualified professional for all subdivision and development proposals within the area of the site affected by road and/or rail noise as shown in Figure 1.9. Design standards and setbacks required by the relevant government road and rail authorities are to be addressed in the report and in the subdivision design process.

See Table 1.4 for examples of possible acoustic treatment options.

Table 1.4: Acoustic Treatment Options

Acoustic Treatment Options	Application
Orientation of residences	Residences may be situated within lots along the site boundary so that they provide acoustic shielding for residences at greater distance from highway, reducing the number of residences requiring noise treatment.
Orientation of rooms and windows	Less noise sensitive rooms such as garages, bathrooms and laundries can be oriented towards the noise source, shielding more noise sensitive areas of the dwelling. Similarly, buildings can be constructed to minimise the number of doors and windows exposed to the noise source.
External walls	Masonry (particularly double brick) or concrete facades provide greater transmission losses than weatherboard or other light-weight structures.
Doors	External doors which open into habitable rooms should be heavy solid-core doors with effective acoustic seals.
Acoustic insulation	Acoustic insulation such as polyester or rockwool/glasswool batts placed between the wall studs of brick veneer and timber framed buildings will reduce the noise entering the building by an additional 5dB(A).
Architectural treatment	Such as double-glazing or provision, enclosed balconies.

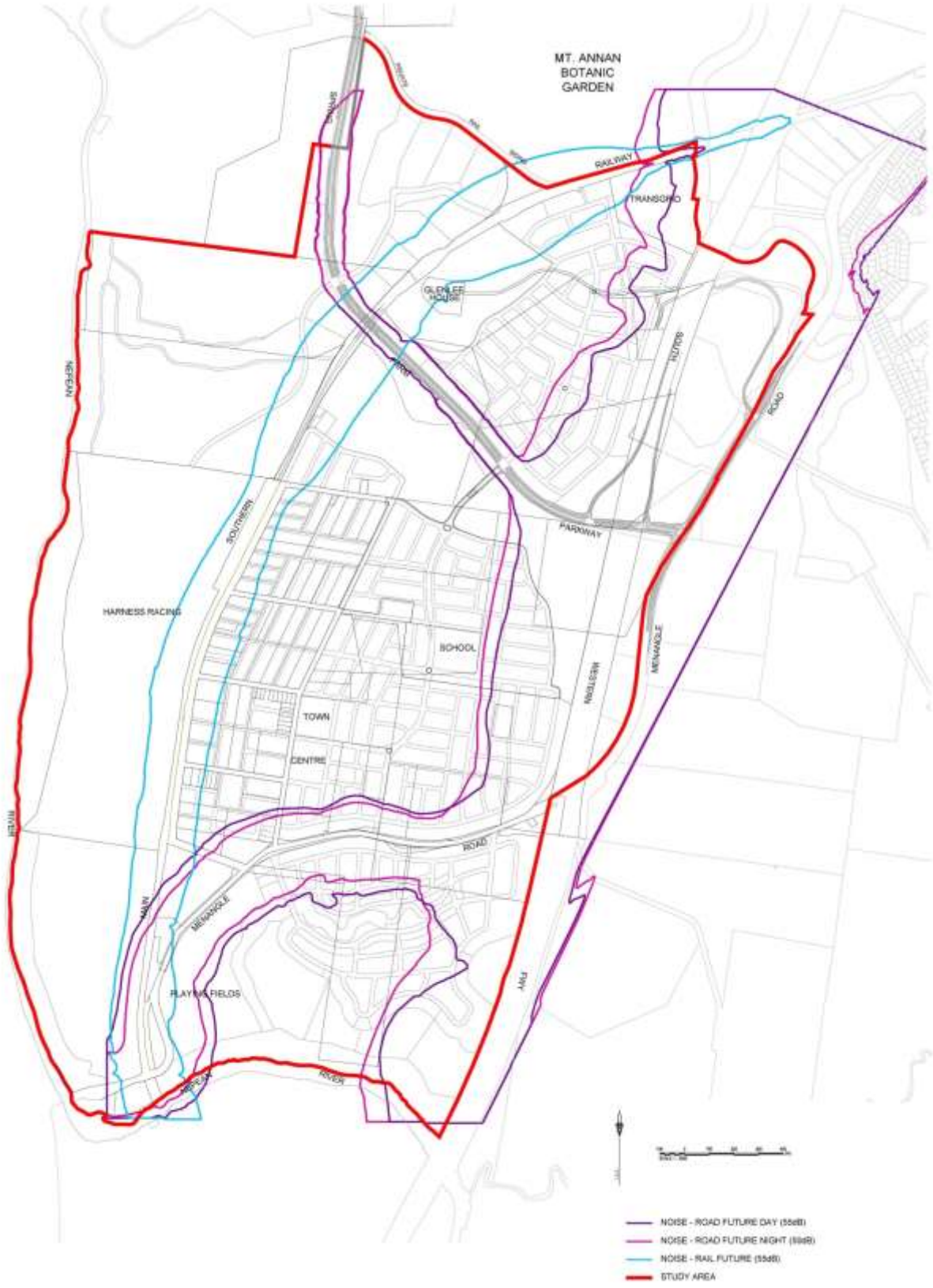


Figure 1.9: Road and Rail Noise Affectation

1.15 NIGHT SKY PROTECTION

Menangle Park currently affords good night sky visibility, unlike the urban areas of Sydney where ambient light significantly diminishes the ability to see the night sky. As far as practicable, Council wants to ensure that the night sky experience at Menangle Park can remain for future residents.

Objectives

- Ensure that the quality of the night sky is not significantly diminished.

Controls

1. Street lighting should be a “full cutoff light fixture”, i.e. a type of fixture that does not allow light (includes dispersed light or glare) to be emitted above a 90-degree, horizontal plane measured from the base of the fixture.
2. Accent lighting, if approved, shall be directed downward on to the building or object and not toward the sky or on to adjacent properties.
3. Direct light emissions are not to be visible above the roof line or beyond the building edge.
4. Spotlighting on landscaping and foliage is to be limited to 150 watts incandescent. The lamp is to be shielded and not create disabling or nuisance glare.

RESIDENTIAL CONTROLS

1.16 RESIDENTIAL SUBDIVISION

Objectives

- Establish a subdivision layout that utilises the development areas efficiently, maximises the natural attributes of the site and clearly defines and reinforces the public domain.
- Provide for a range and mix of lot sizes and house types.
- Ensure lots are orientated to achieve appropriate solar access.
- Ensure that subdivision responds to the physical characteristics of the land, its landscape setting, orientation, landmarks and key vistas to and from that land.
- Ensure that subdivision promotes walking and cycling as a mode of travel.

Controls

1. The general requirements for subdivision detailed in clause 3.8.1 of Volume 1 of this DCP apply to residential subdivision in Menangle Park.
2. Subdivision layout is to create a legible and permeable street hierarchy that responds to the natural site topography, the location of existing significant trees and solar design principles.

1.17 RESIDENTIAL DEVELOPMENT

1.17.1 DESIRED FUTURE CHARACTER

Objectives

- Promote well-designed buildings that make a positive contribution to the streetscape and amenity of the neighbourhood.
- Encourage a variety of forms of housing including higher density forms in and around the town centre.
- Ensure development makes the best use of a site's natural and other positive features, and considers amenity, streetscape and energy efficiency at the outset.

Controls

1. Residential development is to be consistent with the above objectives. In particular, residential subdivisions should be designed to provide reasonable opportunity for tree planting within both private lots and the public domain.

2. Housing that backs onto Menangle Road should be designed to address that road or have dual frontage to both Menangle Road and any access road.

1.17.2 SMALL LOT HOUSING (300m^2-450m^2)

Objectives:

- Encourage quality-designed dwelling houses that make a positive contribution to the streetscape and amenity of the neighbourhood.
- Promote housing choice/variety/ affordability.
- Provide higher density dwellings on collector roads and bus routes, around parks, adjacent to the town centre and close to community facilities.

Controls:

1. Small lot housing shall comply with the requirements set out in Table 1.5 below.

Table 1.5: Development Standards for Small Lot Housing (300-450m^2)

CRITERIA	CONTROLS
Minimum lot size	300m^2
Minimum allotment width	10m
Setbacks (Min/m) (to wall)	
Primary Front	4.5m or average. Articulation zone may be incorporated within front setback where the dwelling has a primary road setback of at least 3m
Primary Front (Garage)	5.5m
Side	0.9m where dwelling height is up to 4.5m 1.2m where dwelling height is above 4.5m
Rear	3m where dwelling height is up to 4.5m 8m where dwelling height is above 4.5m
Side and Rear (Garage)	Zero (this does not constitute a zero lot dwelling)
Maximum site coverage	55%
Minimum landscaped area	15%
Maximum floor area	270m^2
Minimum Private Open Space (POS)	24m^2
Minimum width of POS	4m – directly accessible from living areas
Maximum height	8.5m
Minimum No of Car Parking Spaces	1
Maximum Garage Door Width	3.2m where lot width is 10-12m 6m where lot width is >12m
Outbuilding Max Floor Area	45m^2
Outbuilding Side & Rear Setback	0.9m
Outbuilding Max Height when Setback	4.8m
Outbuilding to rear laneway Max Floor Area	60m^2
Outbuilding to rear laneway Max Height	6m
Zero Lot Lines	Easement required for maintenance of the zero lot line wall (and any services along the side of the dwelling) on the adjoining property. No overhanging eaves or services will be permitted within the easement.

1.17.3 STUDIO APARTMENTS

For the purposes of this development control plan a studio apartment is considered to be defined as a type of dual occupancy.

Studio Apartment means a room or suite of rooms occupied or used, or so constructed or adapted as to be capable of being occupied or used as a separate secondary domicile on the land, which is located above a garage, car port or the like, which is intended to, or is capable of being separately strata subdivided from the principal dwelling house on the land.

Principal dwelling means the largest dwelling house on the land measured by gross floor area.

Objectives:

- Provide housing choice/diversity for families;
- Provide the opportunity for rental accommodation for single occupants; and
- Provide casual surveillance over rear access points.

Controls:

1. Studio apartments are to comply with the requirements set out in Table 1.6 below.
2. Studio apartments may only be developed within the “Small Lot” area as shown on the Urban Structure Plan at Figure 1.2 around the town centre.

Table 1.6: Development Standards for Studio Apartments

STUDIO
Floor Area of Studio (excluding balcony, car space and stairs)
Maximum floor area = 50m^2
On-Site Parking for Studio
One additional dedicated on-site car space. Car parking space not to be located in front building setback of principal dwelling. Car parking space not to be in a stacked configuration.
Private Open Space for Studio
Balcony accessed directly off living space having minimum size of 6 m^2. plus; Minimum 10 m^2 ground level service yard with space for clothes drying facilities. or; All ground level private open space for all dwellings on the land (including principal dwelling) to be part of 'common property'.
Location of Studio
Studio to be located above the garage, carport or like structure for the principal dwelling .
Subdivision of Studio
Strata title subdivision only from the principal dwelling.

STUDIO
Access to Studio
Access to studio to be separate from principal dwelling and to front a public street or shared private access-way.
Services and Facilities for Studio
Provision for separate services and an on-site garbage storage area for studio.
Privacy for Studio
Location of windows, doors and balcony of studio not to impact upon privacy of the principal dwelling on the land or any dwelling on an adjoining allotment.

1.17.4 FENCING

Objectives:

- To ensure boundary fencing is of a high quality and does not detract from the streetscape.
- To ensure fences fronting streets contribute to the streetscape and create a clear distinction between public and private domain.
- To ensure that rear and side fencing will assist in providing privacy to private open space areas.
- To maintain a sense of openness and rural character in areas proposed for large lot residential development.

Controls:

1. All fencing is to be provided in accordance with the Menangle Park Streetscape Master Plan, see Appendix 1.

TOWN CENTRE AND NON RESIDENTIAL DEVELOPMENT

1.18 MENANGLE PARK TOWN CENTRE

Objectives

- Create a vibrant, mixed use centre that provides a range of retail, business, residential and community uses to serve the needs of the people who live and work in Menangle Park.
- Ensure that the detailed design of the town centre is undertaken in a coordinated manner in order to achieve a high quality urban design outcome.
- Ensure a high standard of public domain and pedestrian amenity.
- Encourage high quality, high density mixed use development within close proximity to public transport and business centres, which is innovative and responsive to the site's environmental characteristics and setting.
- Ensure a high level of amenity for the occupants of mixed use development within the Town Centre.

Controls:

Master Plan

1. A master plan is to be prepared for the town centre. The master plan should specify the following:
   a) indicative street pattern
   b) key pedestrian and cycle linkages
   c) land use distribution
   d) built form parameters.
2. The master plan is to be accompanied by sustainability based performance indicators for the future development of the town centre, including indicators for reducing energy consumption, water consumption, and the generation of waste. Opportunities for cogeneration/trigeneration technology to be used in the town centre should also be identified.
3. Development should not occur in the town centre until the master plan and sustainability performance indicatives have been adopted by Council.

Function and uses

1. Provide for a maximum 20,000m^2 GFA of retail premises.
2. Incorporate a range of retail, commercial, accommodation, entertainment, services and community uses to serve the needs of the community.
3. Incorporate mixed use and shop top housing.
4. Concentrate intensive retail uses along and fronting the main boulevard.
5. Provide a mix of uses that promote an active and vibrant town centre.
6. Emphasise sight lines to local features, particularly along the boulevard looking westwards.
7. Locate a bus interchange within easy walking distance of the main street and retail core.
8. Consider potential future noise and amenity conflicts in the layout and location of town centre uses.
9. Provide for parenting room/s in shopping precincts.

10. Provide for out of building public smoking areas that are not located within the pedestrian ingress/egress areas of the building.

Building form

1. Maximum building height four storeys.
2. Establish a 'sense of place' and contemporary character for the town centre through a high quality built form and energy efficient architectural design.
3. Avoid blank walls visible from principal streets and the public domain. Large format retail premises are to be sleeved, where appropriate, with active uses.
4. Building design is to take into account view lines and solar access to the public domain.

Pedestrian amenity

1. Provide high amenity pedestrian streetscapes to and within the town centre.
2. Equal priority is to be given to walking and cycling linkages leading to and within the town Centre alongside vehicular traffic circulation areas.
3. Provide continuous weather protection for pedestrians where possible.
4. Provide adequate solar access to key pedestrian areas.

Public domain

1. Incorporate the principles of Crime Prevention Through Environmental Design (CPTED) and Safer by Design (NSW Police) into the design of the public domain.
2. Provide a high quality landscape design including a co-ordinated package of public art, street furniture and lighting that enhances the character of the town centre.
3. Provide street tree and open space planting to provide generous shade for pedestrians.
4. Design site servicing and loading facilities, waste storage and other infrastructure to minimise visual impact.
5. Provide high amenity, pedestrian streets with generous footpath widths.
6. Design all signage and advertising in a coordinated manner.

Parking and access

1. Locate at grade parking areas generally behind building lines and screened from streets and public open space.
2. Provide parking in accordance with section 5.4 Car Parking and Access of Volume 1 of this DCP.
3. Provide on-street parking for convenience and to contribute to street life and surveillance.
4. Where possible, lanes should be used to provide access to parking areas, loading docks and waste collection areas. Lanes will need to accommodate heavy vehicles where access to loading areas and waste collection is required.

Mixed use development

1. Mixed use development in the town centre shall be undertaken in accordance with section 4.5 Mixed Use Development of Volume 1 of this DCP (including relevant provisions in section 4.4 Residential Apartment Buildings).

1.19 Menangle Park Employment Area

The Menangle Park employment area is identified in Figure 1.2. Development within this area is to be undertaken in accordance with the development controls for Industrial Development as outlined in Part 6 of Volume 1 of this DCP.

APPENDIX 1 – MENANGLE PARK STREETSCAPE MASTER PLAN

JMD design

campbelltown city council

UrbanGrowth NSW

September 2016

Menangle Park

Streetscape Master Plan

James Mather Delaney Design Pty Ltd
Landscape Architects
ABN 30 128 554 638

190 James Street
Redfern NSW 2016
Australia

T +61 2 9310 5644
F +61 2 9319 4858
info@jmddesign.com.au
www.jmddesign.com.au

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Appendix

1 Introduction

JMD Design has been commissioned by Landcom and Campbelltown City Council to prepare this DCP Landscape Planning Report for the proposed Menangle Park development.
This report describes the proposed landscape treatment for the Menangle Park streetscape which seeks to make a positive contribution to establishing the long term character of the new Menangle Park suburb through the embellishment of the public domain including street tree planting and fencing.

Landcom and Campbelltown City Council have developed the following vision for Menangle Park:

> *"As an impressive southern gateway to the Sydney Metropolitan Region, Menangle Park will become a unique urban community characterised by sustainable design, accessibility and a vibrant town centre. As part of the broader Macarthur community, Menangle Park's urban form will capitalise on the existing economic resources, existing natural and cultural heritage qualities and the adjacent Nepean River".*

The landscape character of the development will be strongly influenced by the surrounding rural landscape, the Nepean River corridor, ridgelines and numerous views across the site, to and from historic houses as well as distant views towards Menangle, the Nepean River and Mount Annan Botanic Garden.

Figure 1: Cumberland Plain Woodland adjacent to Menangle Road

2 Analysis

2.1 Site Condition

Study Area:

The Menangle Park site is located on the outskirts of Southwestern Sydney, approximately 60 kilometres from the Sydney Central Business District (CBD) is bounded by the Nepean River to the south and the west, the Hume Highway (F5 freeway) and Menangle Road to the east and the Mount Annan Botanic Garden. The site is located in the Campbelltown Local Government Area (LGA), part of the Macarthur Region. Menangle Park is approximately 5.5 km south west of the Campbelltown CBD. Menangle Park falls within the catchment of the Nepean River. (Menangle Park Structure Plan by Urbis2010)

Character:

In the south and west of Menangle Park the landscape is predominantly rural in character being pasture and the Paceway. It also contains extensive areas of natural bushland (remnant Cumberland Plain Woodland, River Flat Eucalypt Forest, Sydney Freshwater Wetlands). A substantial portion of this land will remain unchanged in character.

In the north of Menangle Park around Glenlee House; the central existing village area comprising large rural residential allotments as well as Menangle House, Riverview and the Pines and the southern area adjacent to Menangle Road will be redeveloped with a mix of residential allotment sizes. It is this area that is addressed within this document.

The Menangle Park suburb will be of mixed residential development in three precincts divided by riparian zones or existing infrastructure. The remnant heritage items and the ample riparian corridors that dissect the residential development will influence the future character of the three precincts. As the dwellings will be a product of market forces it is the public domain that becomes the element with the potential to provide both legibility and unity to the suburb. The functional and operational restrictions placed on the public domain leads to the adoption of a strategic approach in the identification of the areas where the most impact may be made by the elements of the public domain. The critical areas within the precincts and the streetscape have been highlighted to maximise the potential outcomes delivered by the public domain strategy.

Figure 2: View South-West from Glenlee Road

Figure 3: Cummins Road corner Menangle Road, view South-West

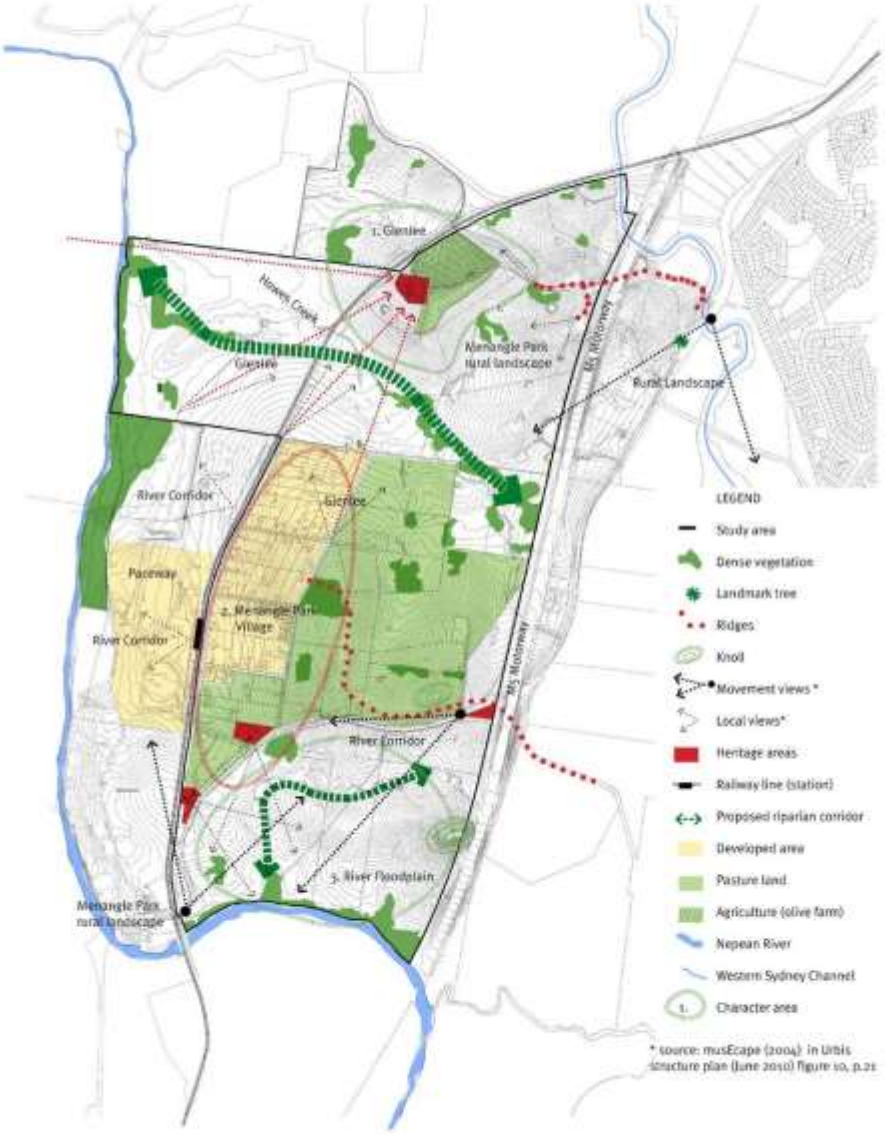


Figure 4: Landscape Character Assessment

2.2 Character Areas / Precincts

Generally
The existing rural character of Menangle Park will substantially change with its development as a residential suburb. However there are some essential character making elements which will remain in the public domain such as heritage items and their associated cultural plantings, knolls and riverine landscapes. It is essential for the long term character and visual amenity of the suburb as a 'rural town' that these elements be conserved and/or reinforced. Other character making elements may be conserved and reinforced using the elements to be delivered in the streetscape strategy. Such elements as ridgelines or important vistas can be reinforced by the planting of significant scale trees.

2.2.1 Glenlee Precinct

The northern precinct of Menangle Park will be lower density and rural style development located on the slopes to the east of Glenlee Estate.

The major character building elements in this precinct are the presence of Glenlee House and its curtilage and the backdrop of Mount Annan rising to the north. Historic Glenlee Road is aligned on a ridge descending from Menangle Road to the prominent location of the historic Glenlee estate, positioned on the spur of the ridge with a vista across the Nepean River floodplain and towards the Great Dividing Range and Camden Park estate ridgeline. Glenlee is visible from a range of locations within and from outside the suburb.

This precinct is screened from the SW Freeway by a vegetation buffer and grade separation.

Essential Landscape Character Elements

- Reinforce cultural rural landscape of Glenlee House knoll.
- Preserve and enhance views to rural cultural landscape of Glenlee Knoll across riverine.
- Reinforce Glenlee Road Ridge and entry to the area.

2.2.2 Village Precinct

The central area of the site between the SW Freeway and the Main Southern Railway contains gentle west facing slopes and includes the existing Menangle Park Village. This precinct is the focus of the majority of the new residential development and will consist of a range of allotment sizes ranging from smaller medium density lots concentrated around the town centre standard lots in the majority of the precinct and a limited number of larger lots flanking Menangle Road.

Essential Landscape Character Elements

- Reinforce cultural rural landscape and view sheds of Menangle House, The Pines and Riverview.
- Reinforce ridgelines, entries and nodes to create unity and legibility within the precinct
- Define and reinforce Menangle Road and screen elevated urban fence line

2.2.3 Riverview Precinct

The southern precinct of Menangle Park is dominated by low lying rural land which is largely flood affected. The proposed residential allotments are mixed in size with larger size lots framing the prominent knoll located adjacent to the SW Freeway in the south east of the site and flanking Menangle Road; smaller lots facing the open space creek in the centre of the precinct and standard lots in between.

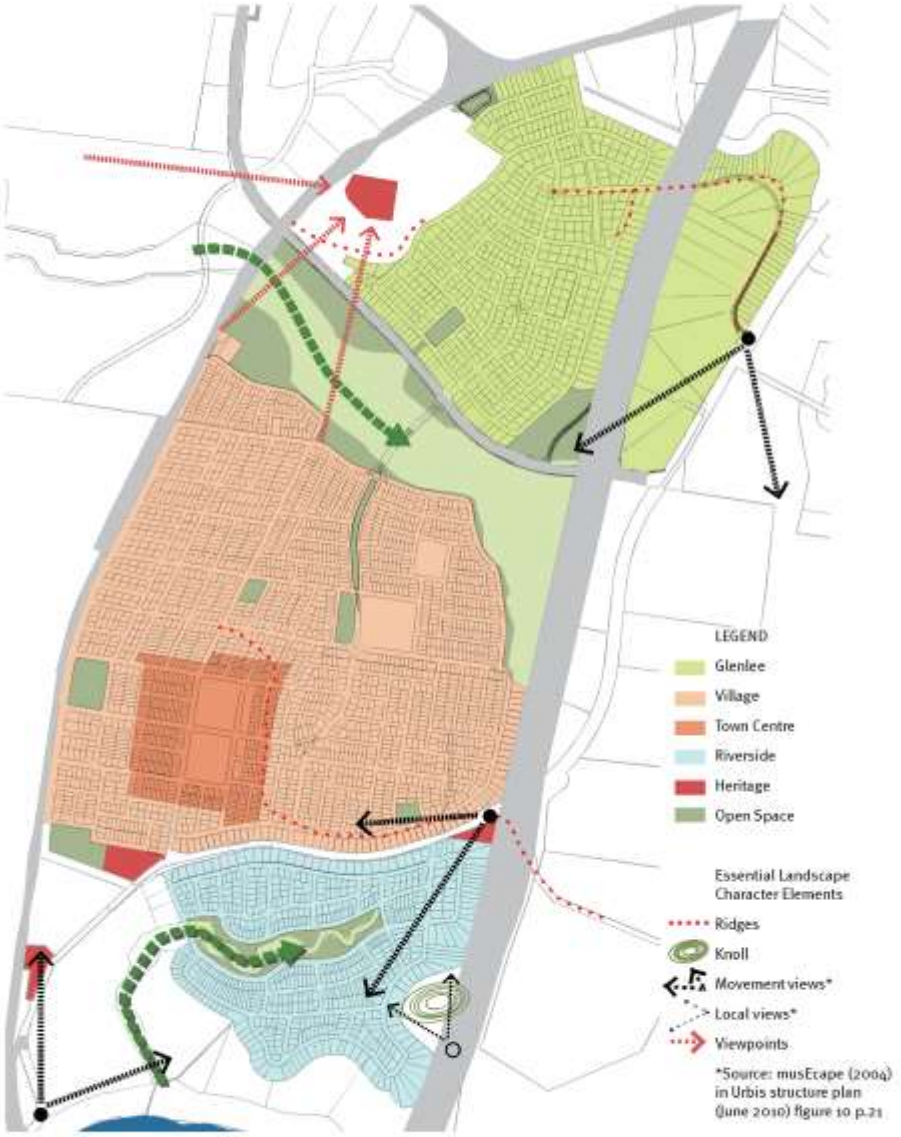


Figure 5:Precincts

Essential Landscape Character Elements

- Preserve and enhance view from cultural rural landscape of Riverview and its views down Menangle Road
- Reinforce the riverine character, prominent knoll & nodes
- Define and reinforce Menangle Road and screen development backing onto Menangle Road whilst preserving important views to River corridor

3 Streetscape Strategy

The landscape character of the street is created by well defined front gardens, street trees and the visibility of backyard trees beyond the house. The streetscape is a major contributor to the quality of the overall neighbourhood.
(Built Form Guidelines for Landcom Projects May 2008)

Generally
The character building principles adopted for the streetscape strategy are to invest legibility to the urban landscape and respond to the remnant heritage items, the cultural landscape and visual amenity, therefore the following principles should be included:

- Reinforce the character of heritage items and their curtilages.
- Frame important views and screen less desirable elements
- Reinforce ridgelines and spur lines which then reduce the apparent scale of the suburban development and to minimise the silhouetting of roof lines on the horizon which has the effect of emphasising the built form.
- Provide strong repetitive elements of appropriate character and in scale with the residential development to create a unity for the suburb.
- Highlight gateways and nodes to provide legibility within the suburb
- Promote solar access through the use of deciduous trees

3.1 Streetscape Hierarchy

The Urbis Menangle Park Structure Plan (2010) sets out the street hierarchy for the suburb with the objectives being to:

- Establish a logical street hierarchical pattern.
- Facilitate easy accessibility within the site by building and augmenting where necessary, the existing street layout and hierarchy.
- Reinforce connections to existing road patterns adjoining the site.

This master plan has been amended by SMEC Urban (2011) to add an additional street type (Minor Local) to the hierarchy.

The landscape overlay is intended to reinforce the street hierarchy as part of the public domain streetscape strategy.

The strengthening of the recognition of the suburb collector road and the entry nodes is of major importance in creating a unity and legibility for the area.

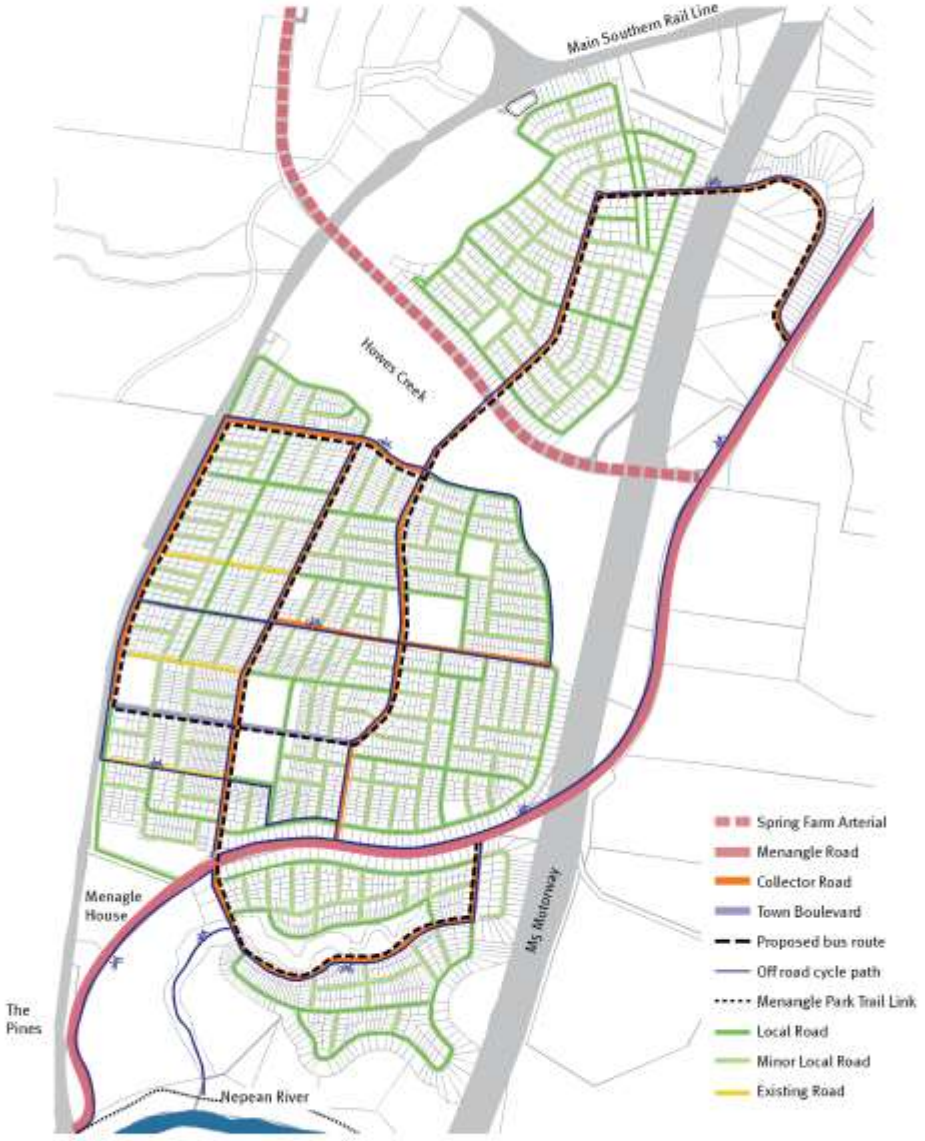


Figure 6: Street Typology

3.2 Gateways and Nodes

3.2.1 Location:

A series of gateways and nodes have been identified:

- Gateway to Menangle Park/Views:
  - Menangle Road coming north from Campbelltown (after crossing Sydney Water Supply Upper Canal),
  - Menangle Road coming south after railway viaduct

    "Southern portion of the site has visual significance as a 'gateway' to Sydney as first instances of urban land on approach from the south is visible". (Urbis Structure Plan Report)
- Site entrances from Menangle Road:
  - to Glenlee Precinct via Glenlee Road
  - to Village Precinct and to Riverview Precincts
- Site entrance to Glenlee and Village from new Spring Farm Parkway
- Nodes along Collector Roads

3.2.2 Design Principles:

- Define and reinforce site entrances by introducing landmark planting
- Reinforce legibility of street hierarchy by defining node typology, facilitate orientation/navigation across the site by reinforcing nodes / intersections along Collector Roads (landmark planting)
- Preserve and enhance views, reinforce gateways to Menangle Park

3.2.3 Landmark planting:

Landmark planting can be used to signal a point of arrival, a nodal point and to break up the monotony of long stretches of roads. Landmark planting highlights the gateways and nodal points and provides legibility within the suburb.

Site Markers:
Historically Fig & Araucaria species were frequently planted in 19th Century gardens in the Campbelltown Region their scale making them dominate visually in the landscape. It is the intention that where space allows these species will be used as landmark planting.

Species: Araucaria cunninghamiana, Ficus rubiginosa

Nodes - Roundabouts:
Where roundabouts occur at nodes significant evergreen trees will be planted
Species: Lophostemon confertus

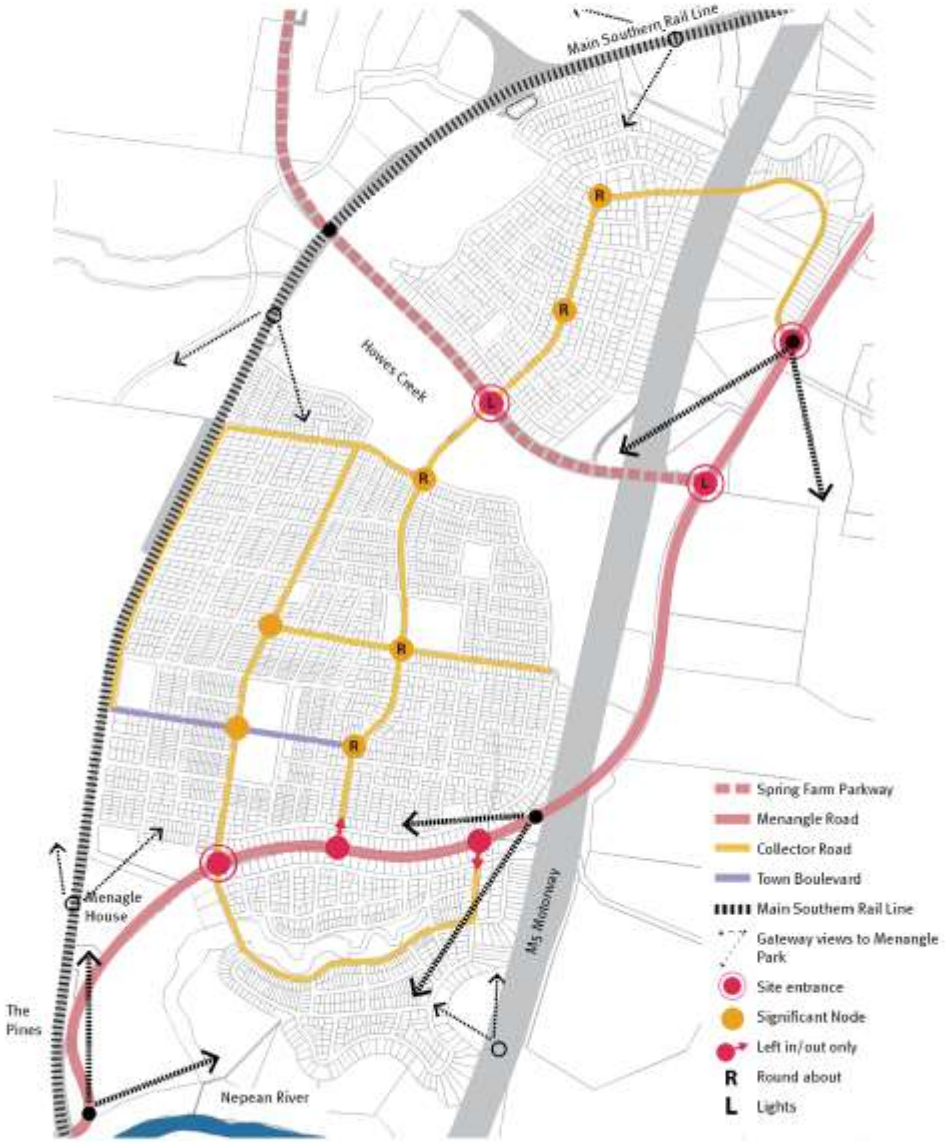


Figure 7: Nodes and Gateways

Nodes - Blisters:
Landmark planting for nodes could consist of planting large feature trees in blisters. The blisters serve multiple purposes such as improving pedestrian connectivity, traffic calming and to achieve streetscape amenity benefits.

- Large native evergreen species with special interest and/or recognisable features (bark, habit, flower)
- Two feature trees to both sides of the intersecting road at approx. 6-7m spacing at collector/collector intersection (total of 16 trees per intersection)
- One feature tree to both sides of the intersecting road at collector/local road intersection (total of 8 trees per intersection)
- One feature tree to both sides of the local road when intersecting with collector road in a T-junction (total of 2 trees per intersection)
- Trees to have a 1.8m clear, straight trunk at the time of planting and should be maintained at this height throughout the maintenance period.
- Species: Angophora costata, Angophora subvelutina, Eucalyptus punctata

NOTE: To create a distinctive avenue effect and improve the legibility of the street as a continuum no landmark planting is proposed for Town Boulevard & Racecourse Avenue at intersections with other collector and local streets.

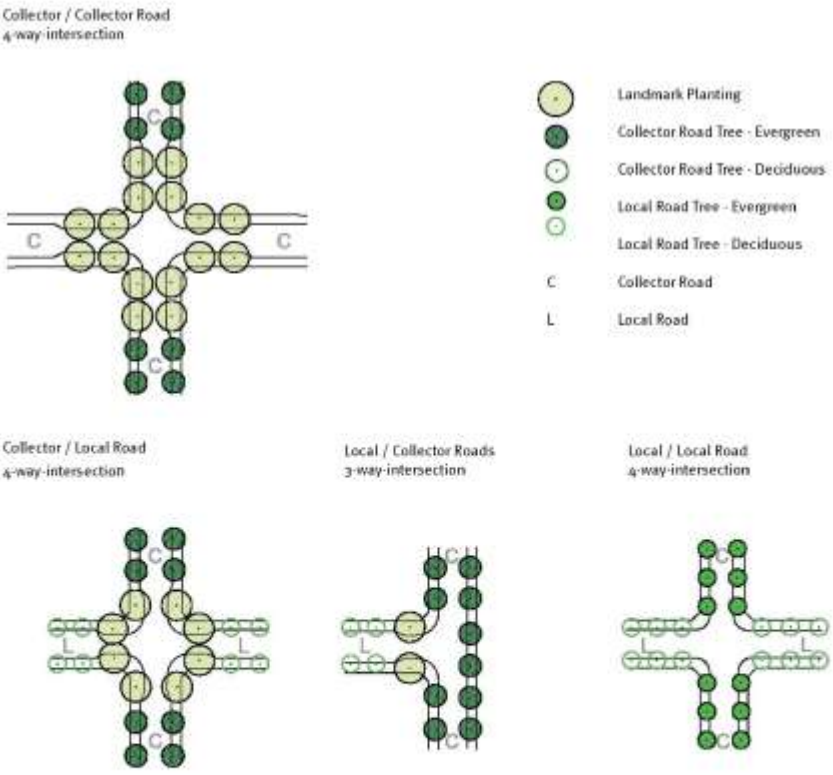


Figure 8: Nodal Points Principles

3.3 Street Tree Principles

Principles and technical guidelines of street tree planting used throughout Menangle Park are:

Design principles

- Solar Access: to increase solar access and temperature control deciduous trees have been located on east west road axis and evergreen species on north south road axis. This ensures solar penetration into north facing lots during winter days. Deciduous species would be alternating with evergreen species to provide year-round interest.
- Nodes & Gateways: where space allows in the road verge such as at road intersections and corners larger scale evergreen trees are utilised to provide an emergent tree canopy over and above the general roofline of housing to give Menangle Park a vegetated appearance when viewed from a distance.
- The length of road determines the diversity of species and sizes. Short stretches will be planted with one single species. Long stretches could be broken up by alternating species or introducing landmark planting
- Symmetry of streetscape determining whether the configuration of the street tree planting is more likely to be formal or informal.
- Heritage Trees: On site evidence of Figs, Araucaria, White Cedar (Melia), Stone Pine has been found. These species shall be retained as landmark planting. Heritage planting from 1850 to 1900 across Australia includes Flindersia, Tristania, Pistacia, Ulmus, Zelkova, Jacaranda, Brachychiton, Acmena, Angophora, Harpullia and Backhousia. Where appropriate these species will be used as street trees or landmark planting to promote the cultural history of Menangle Park.

Technical Guidelines:

- All street tree plantings will be under planted with a range of ground cover plantings within a timber edge for road verge planting or concrete edge for street tree pits.
- Refer to Detail D01 (appendix) for protection of street tree pits by tree guards.
- Spacing of trees is to depend on the scale of the species: small trees @ min. 8m centres, medium trees @ min. 10m centres, large trees @ min. 12m centres, large trees in blisters @ 10m centres, copsed planting @ min. 3m centres
- Ensure sufficient soil volume, soil depth, drainage and water for street trees – ensure absolute minimum of 25m³ per tree by 1000mm depth;
- All street trees are to be planted at minimum 800mm of the face of kerb and minimum 800mm from pathway.
- Campbelltown City Council requires that root control barriers are installed where the root ball of any tree planted in a public area is within 1 metre of a Council asset (eg kerb and gutter, footpath, retaining wall, building, stormwater line, etc).
- Where existing significant trees are located within the verge areas consider detailed grading to maintain existing ground levels and allow retention of trees .

3.4 Street Tree Strategy

> *"Trees in streets are essential for a high quality streetscape."*
> *"Healthy, established urban trees provide a long term legacy for the community. Many of the most memorable streets and localities can attribute their noteworthy status to the presence of large healthy trees. At the regional scale street trees contribute to the overall percentage canopy cover which in turn delivers a variety of environmental benefits." (Street Tree Design Guidelines for Landcom Projects May 2008)*

Street tree planting at Menangle Park responds to:

- the precincts: Glenlee, Village, Riverview
- scale of the subject road
- visual prominence
- natural habitat

- the requirement to provide visual amenity, shade and temperature control

Strategy 1: Tree Species to reinforce road hierarchy and legibility.
Single or two species are associated with a specific road type to create unity and facilitate navigation within the suburb.

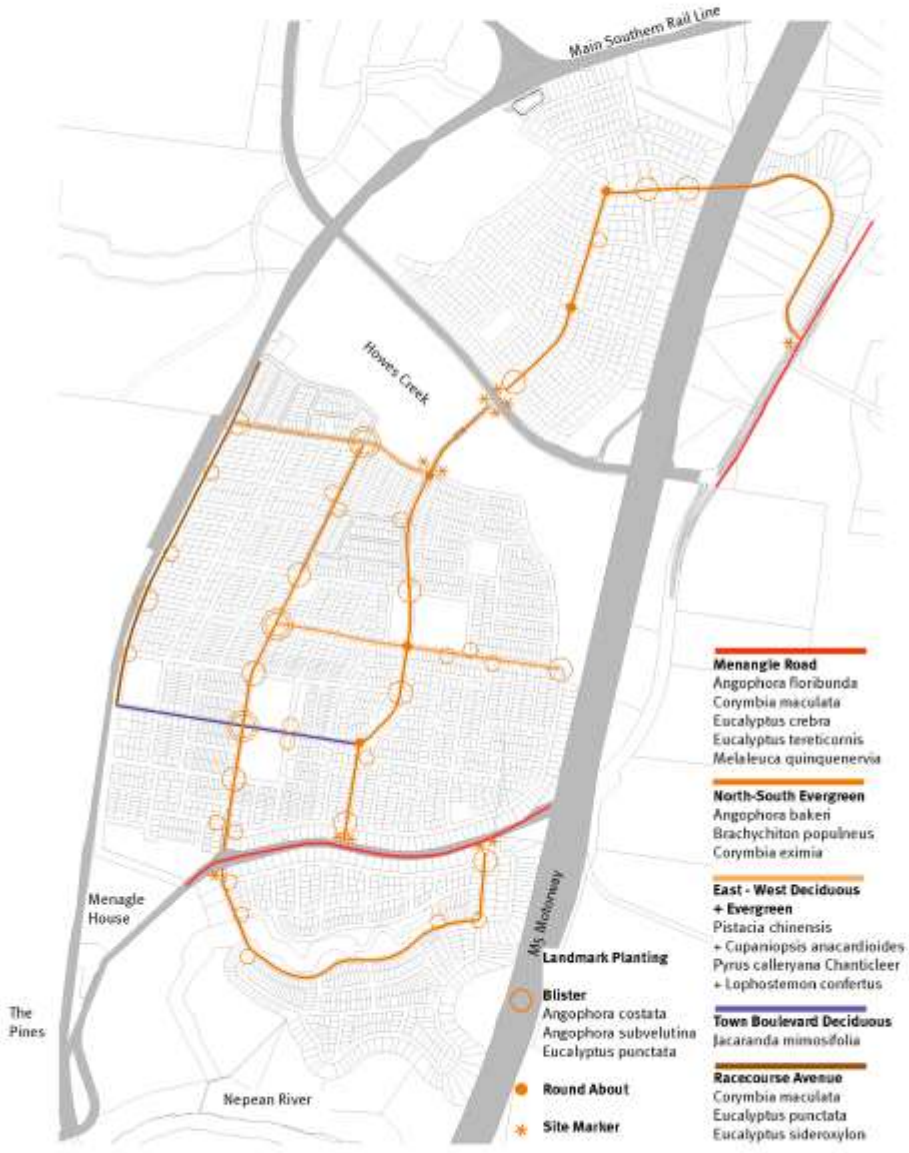


Figure 9: Strategy 1 - Reinforce legibility

Applies to: Collector Roads, Menangle Road, Gateways and Nodes

Strategy 2: Tree Species to promote sense of place (precinct species)
To provide a point of difference between the precincts each precinct will be dominated by two to three deciduous and evergreen species.

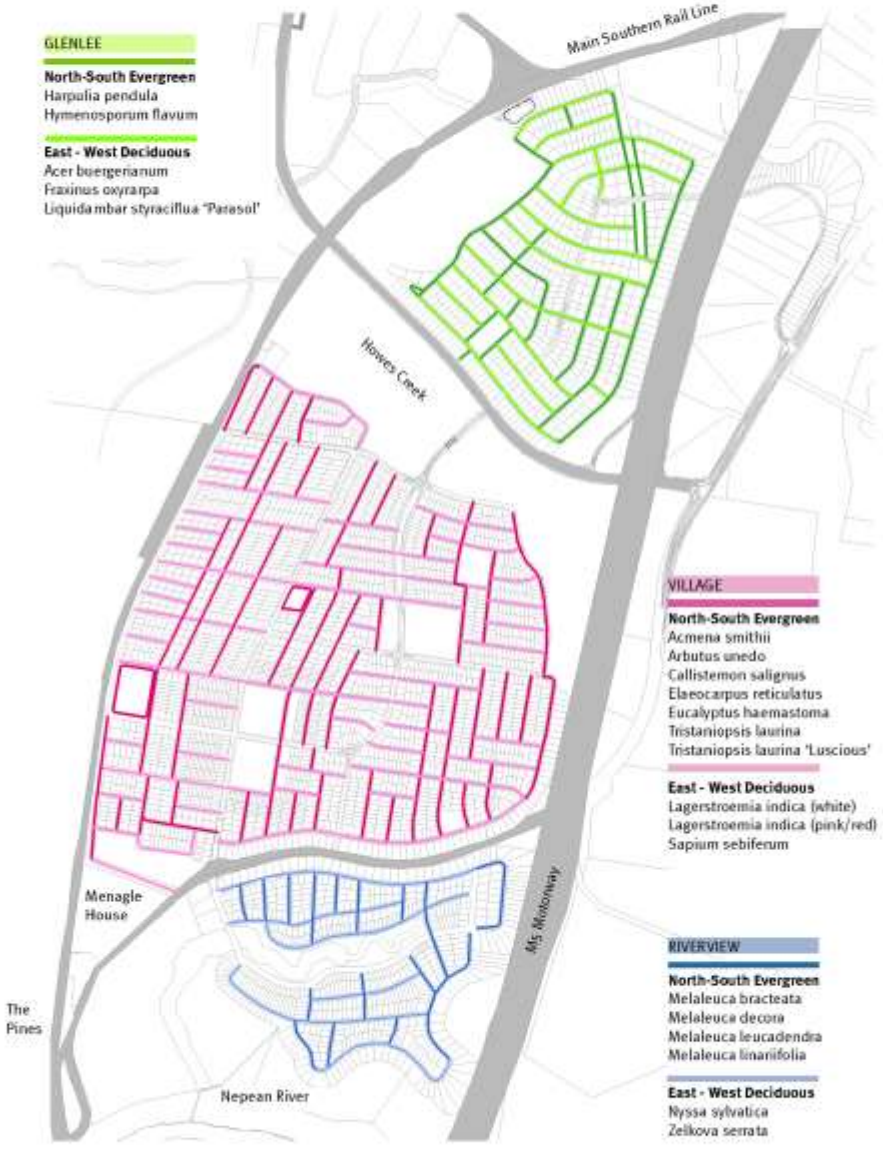


Figure 10: Strategy 2 - Promote sense of place

Applies to: Local Roads, Minor Local Roads

Strategy 3: Promote planting of large scale tree to break up the silhouetting of roof lines on the horizon.

"The creation of a significant tree canopy connection across the site is recommended and will be most achievable in the areas of low density development where trees can be incorporated in private gardens as well as in the public domain."

Figure 11: Strategy 3 - Promote planting of large scale trees

(Visual Assessment Study 2010)

Opportunities for large scale tree planning:

- within riparian corridors and open spaces
- where verge (footpath and planting areas) are at minimum five metre wide (refer to street sections)
- in blisters

Applies to: Collector Roads, Racecourse Avenue, Existing Roads, Menangle Road, Gateways and Nodes

3.5 Streetscape & Street Tree Typology

The street hierarchy has been adopted from the Structure Plan and utilising the above stated principles a series

Type	Road Reserve	Verge			Road				Verge		
		Nature Strip	Path	Street Tree	Lane1	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Menangle Road	varies	varies			varies, between 14.65m -15.44m				varies		
		landscape buffer varies*			min 3.5m	3.5m	3.5m	min 3.5m	2.0m*	2.5m	varies
Collector Bus Route	20.4m	3.9m			11.6m				4.9m		
		0.6m	1.5m	1.8m	2.3m	3.5m	3.5m	2.3m	1.8m	2.5m	0.6m
Cummins Rd Fitzpatrick St	20.155m	3.6m			11.6m				4.9m		
		0.6m	1.2m	1.8m	2.3m	3.5m	3.5m	2.3m	1.8m	2.5m	0.6m
Collector No Bus	19.8m	3.9m			11.0m				4.9m		
		0.6m	1.5m	1.8m	2.3m	3.2m	3.2m	2.3m	1.8m	2.5m	0.6m
Split Collector	42.6m	3.9m			12.8m Road + 20.0m Median				4.9m		
		0.6m	1.5m	1.8m	2.3m	3.5m	20.0m 0.6/0.6	3.5m 2.3m	1.8m	2.5m	0.6m
Town Centre Boulevard	19.8m	4.1m			11.6m				4.1m		
		0.6m	1.5m	2.0m	2.3	3.5m	3.5m	2.3m	2.0m	1.5m	0.6m
Existing Roads	20.115m	5.26m			9.6m				5.255m		
Payten St		0.6m	1.5m	3.16m	2.3m	2.5m	2.5m	2.3m	2.155m	2.5m	0.6m
Station& Tabor St.		0.6m	1.5m	3.16m	2.3m	2.5m	2.5m	2.3m	3.155m	1.5m	0.6m
Local Road Typical	17.4m	3.9m			9.6m				3.9m		
		0.6m	1.5m	1.8m	2.3m	2.5m	2.5m	2.3m	1.8m	1.5m	0.6m
Local Road Cycleway	18.4m	3.9m			9.6m				4.9m		
		0.6m	1.5m	1.8m	2.3m	2.5m	2.5m	2.3m	1.8m	2.5m	0.6m
Minor Roads	14.8m	3.6m			7.6m				3.6m		
		0.6m	1.2m	1.8m					1.8m	1.2m	0.6m

* on RTA road no street tree planting within 5m clear zone

3.5.1 Menangle Road

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lanes	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Menangle Road										
varies	varies			varies, between 14.65m -15.44m				varies		
	landscape buffer varies*			min 3.5m	3.5m	3.5m	min 3.5m	2.0m*	2.5m	varies

* on RTA road no street tree planting within 5m clear zone

Character & Design Principles

- Reinforce gateways and vistas along Menangle Road.
- Frame important views to Riverview and the River corridor.
- Reinforce ridgelines and spur lines which then reduce the apparent scale of the suburban development and to minimise the silhouetting of roof lines on the horizon which has the effect of emphasising the built form.
- Provide landscape setbacks and vegetation treatment to effectively screen new residential development along Menangle Road.
- Define and reinforce site entrances of Menangle Road (i.e. landmark planting).
- Retain existing Auracaria bidwilli located on the elevated section of Menangle Road near the Glenlee intersection, subject to upgrade requirements for road.
- Maintain traditional rural character by proposing large native tree planting in informal configuration (i.e. copsed planting).
- Compliance with RTA guidance, Note: design guide 'hazard' separation requirements – 80km/h road with tree planting at 5 m from face of kerb

Street Tree Planting

- Strategy 2: Reinforce legibility
- Strategy 3: promote large scale tree planting

Consider:

- mix of medium and large scale indigenous species
- trees to be planted at minimum 5m distance of face of kerb to comply with RTA guidelines for 80km/h roads
- copsed planting, spacing @ min.3m

Species:
Angophora floribunda
Corymbia maculata
Eucalyptus crebra
Eucalyptus tereticornis
Melaleuca quinquenervia

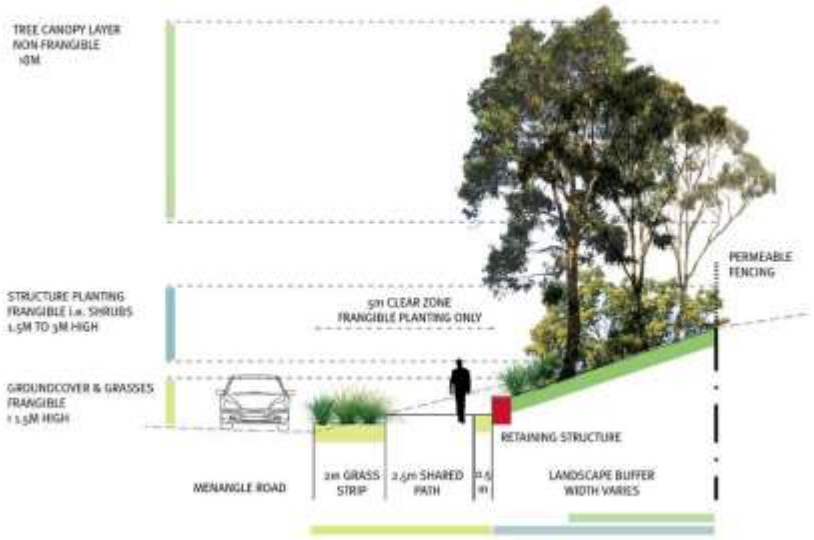


Figure 12: Menangle Road (between Hume Highway and Cummins Street) - Northern Verge

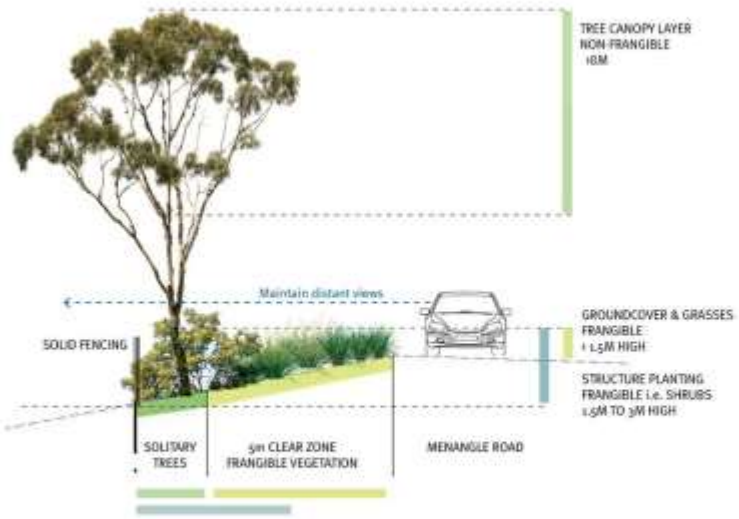


Figure 13: Menangle Road (between Hume Highway and Cummins Street) - Southern Verge

3.5.2 Collector Road

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lanes	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Collector (Bus Route)										
20.4m (20.115m*)	3.9m (3.6m*)			11.6m				4.9m		
	0.6m	1.5m (1.2m*)	1.8m	2.3m	3.5m	3.5m	2.3m	1.8m	2.5m	0.6m
Collector (No Bus Route)										
19.8m	3.9m			11.0m				4.9m		
	0.6m	1.5m	1.8m	2.3m	3.2m	3.2m	2.3m	1.8m	2.5m	0.6m

* applies to Cummins Rd, Fitzpatrick St.

Character & Design Principles

- Reflect road function as neighbourhood arrival street and main connector within the suburb
- Reinforce legibility to facilitate orientation/navigation
- reinforcing nodes / intersections (landmark planting)
- provide environment that is pleasant for pedestrians (i.e. shaded tree canopy), improve the amenity of collector streets with substantial planting
- calm vehicle speed and promote pedestrian connectivity (i.e. blisters)

Street Tree Planting

- Strategy 2: Reinforce legibility
- Strategy 3: Promote large scale tree planting

Consider:

- mixture of medium to large species
- medium scale trees where verge smaller than 5m
- large scale trees where verge wider than 5m and to blisters
- evergreen native species to North -South Roads
- deciduous species to East- West Roads for solar access during winter, either single species or alternating with evergreen species to provide year-round interest (species indicated in brackets)
- informal / formal configuration of trees in verge
- formal configuration of large trees in blister at regular intervals and junctions, landmark planting, refer to 3.2.3 Landmark Planting
- spacing: medium scale @ min. 10m centres, large scale @ min. 10-12m centres

Species:

North-South Evergreen	East - West Deciduous	(+ Evergreen)	Landmark Planting
Angophora bakeri	Pistacia chinensis	(+ Cupaniopsis anacardioides)	Angophora costata
Brachychiton populneus	Pyrus calleryana Chanticleer	(+ Lophostemon confertus)	Angophora subvelutina
Corymbia eximia			Eucalyptus punctata

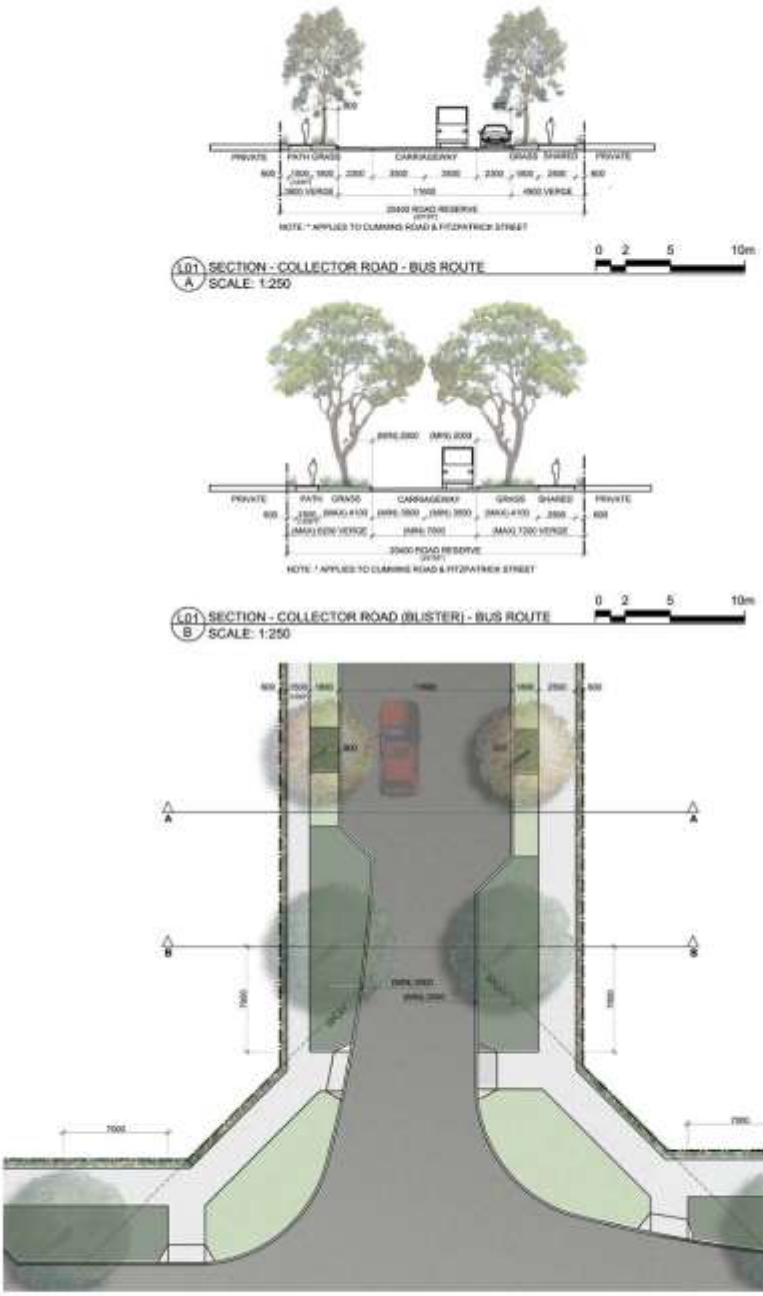


Figure 14: Collector Road (Bus route)

3.5.3 Split Collector / Floodway

Road Reserve	Verge			Road					Verge		
	Nature Strip	Path	Street Tree	Lane	Lane	Median	Lane	Lane	Street Tree	Path	Nature Strip
Split Collector / Floodway (Bus route)											
42.6m	3.9m			12.8m + 20.0m Median					4.9m		
	0.6m	1.5m	1.8m	2.3m	3.5m	0.6+20+0.6	3.5m	2.3m	1.8m	2.5m	0.6m

Character & Design Principles

- Reflect function of floodway (i.e. flood tolerant tree planting)
- Reflect road function as neighbourhood arrival street and main connector within the suburb, facilitate orientation
- Promote connection to Riparian Corridor (i.e. mixed scale native planting)
- Minimise maintenance requirements (i.e. native understorey planting (groundcovers and grasses)
- Maintain connectivity across median, create pedestrian crossing points (i.e. causeway, bridges), refer to Street Tree Masterplan L100 for location of pedestrian crossings

Street Tree Planting

- Strategy 2: Reinforce legibility
- Strategy 3: Promote large scale tree planting

Consider:

- Verge and median tree planting to contrast in species, size and configuration
- Verge: Medium scale, native evergreen species in formal configuration, spacing @ min. 10m centres
- Median: mix of native, flood tolerant, medium to large tree species in informal configuration, planted in groups or copsed

Species:

North-South Evergreen

refer to Collector (3.5.2)

Median Species

Angophora subvelutina
Melaleuca decora
Melaleuca linariifolia
Melaleuca quinquenervia
Melaleuca leucadendra

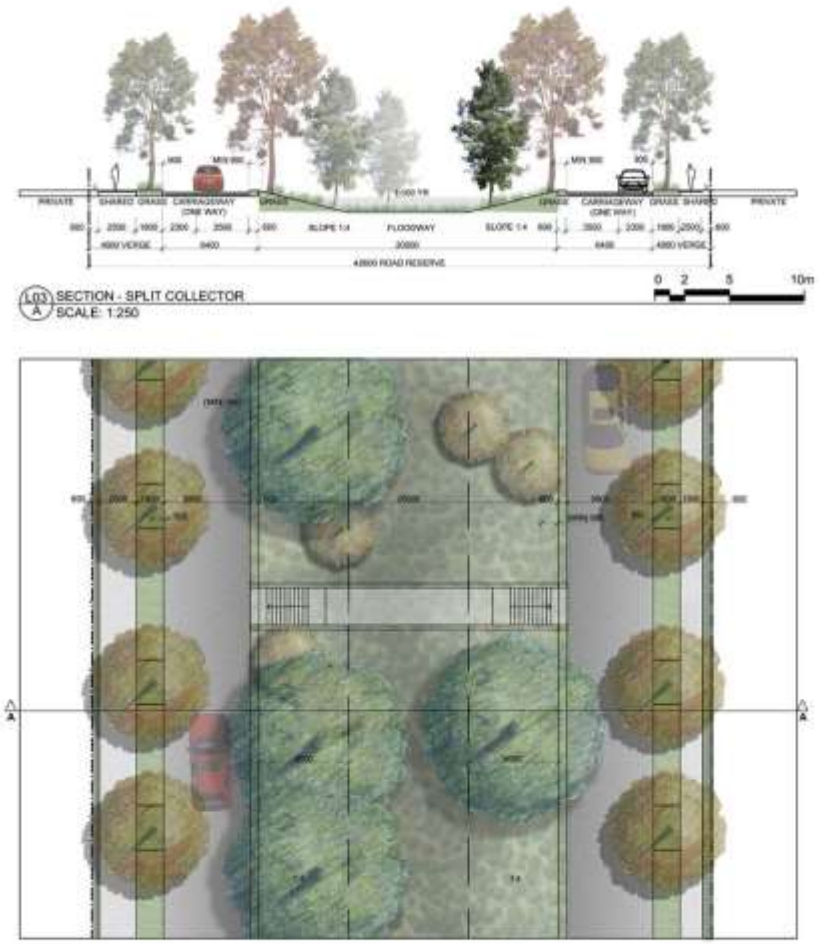


Figure 15: Split Collector / Floodway

3.5.4 Racecourse Avenue

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lanes	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Racecourse Avenue (Collector, Bus Route)										
min. 20.4m	3.9m			11.6m				4.9m		
	varies	1.5m	1.8m	2.3m	3.5m	3.5m	2.3m	1.8m	2.5m	0.6m
Racecourse Avenue (Local)										
min. 17.4m	3.9m			11.6m				4.9m		
	varies	1.5m	1.8m	2.3m	2.5m	2.5m	2.3m	1.8m	2.5m	0.6m

Character & Design Principles

- Integration of existing landscape elements and planting, i.e. landscape buffer with Eucalyptus sideroxylon along Railway
- Reflect road function either as collector or local road
- Reinforce legibility to facilitate orientation/navigation

Street Tree Planting

- Strategy 1: Promote sense of place / precinct
- Strategy 2: Reinforce legibility
- Strategy 3: Promote large scale tree planting

Consider:

- mixture of medium to large species
- medium scale trees where verge smaller than 5m
- large scale trees where verge wider than 5m and in blisters
- spacing: medium scale @ min. 10m centres, large scale @ min. 12m centres
- medium scale trees where verge smaller than 5m
- evergreen native species to North -South Roads
- formal configuration of trees in verge, informal configuration of trees in landscape buffer along railway
- trees in landscape buffer along railway to be under planted with native grasses, allow min.2m wide strip of turf between native understorey and footpath
- spacing: medium scale @ min. 10m centres, large scale @ min. 10-12m centres

NOTE: To improve the legibility of the street as a continuum no landmark planting is proposed for Racecourse Avenue at intersections with other collector and local streets.

Species:

North-South Evergreen

refer to Collector (3.5.2)
refer to Local (3.5.6)

Landscape buffer to railway

Corymbia maculata
Eucalyptus punctata
Eucalyptus sideroxylon

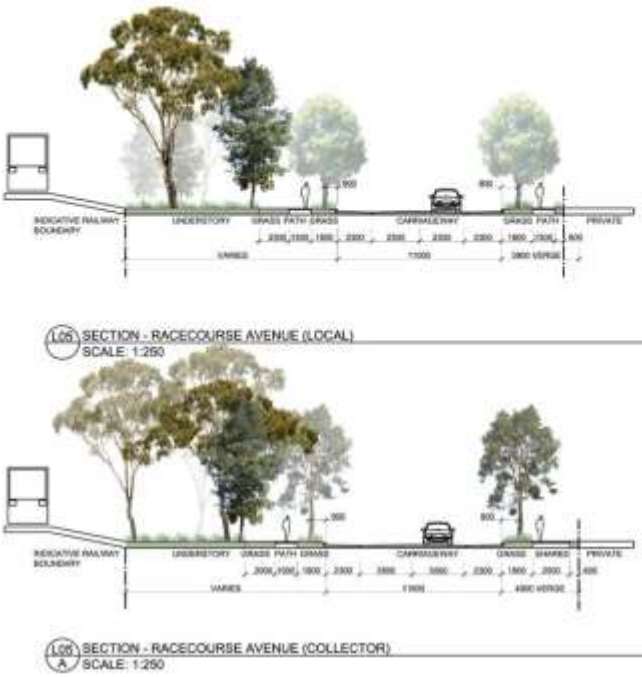


Figure 16: Racecourse Avenue (Collector)

3.5.5 Town Boulevard

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lanes	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Town Boulevard (Collector, Bus Route)										
19.8m	4.1m			11.6m				4.1m		
	0.6m	1.5m	2.0m	2.3m	3.5m	3.5m	2.3m	2.0m	1.5m	0.6m

Character & Design Principles

- Promote sense of place
- Create distinctive avenue effect with year round interest and framing views to the west towards Menangle Park Paceway
- High quality landscape treatment (pavement, street furniture, boundary treatment)
- Promote traffic calming measures, such as pavement variations (blisters), street furniture, pedestrian crossing points and sign posting.
- Landscape treatment to reflect change in character along its length, varying from a more formalised, harder edged character in the civic precinct to a softer appearance in the residential areas (similar to local road)
- Streetscape design to encourage day and night usage year round (i.e. lighting)

Street Tree Planting

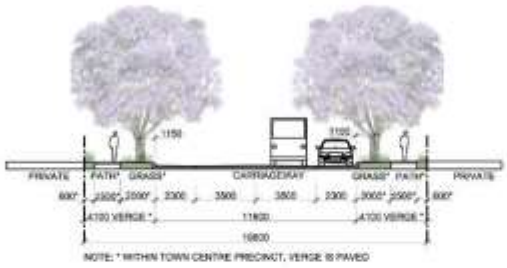
- Strategy 2: Reinforce legibility
- Strategy 3: Promote large scale tree planting

Consider:

- Avenue planting, predominantly large, deciduous street trees in formal configuration
- Landmark planting of large native trees in blister only at significant node with Cummins Avenue
- spacing @ min. 10m

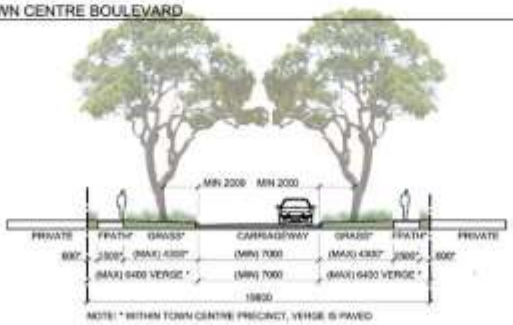
Species:

- Jacaranda mimosifolia



L04 A SECTION - TOWN CENTRE BOULEVARD
SCALE: 1:250

0 2 5 10m



L04 B SECTION - TOWN CENTRE BOULEVARD (BLISTER)
SCALE: 1:250

0 2 5 10m

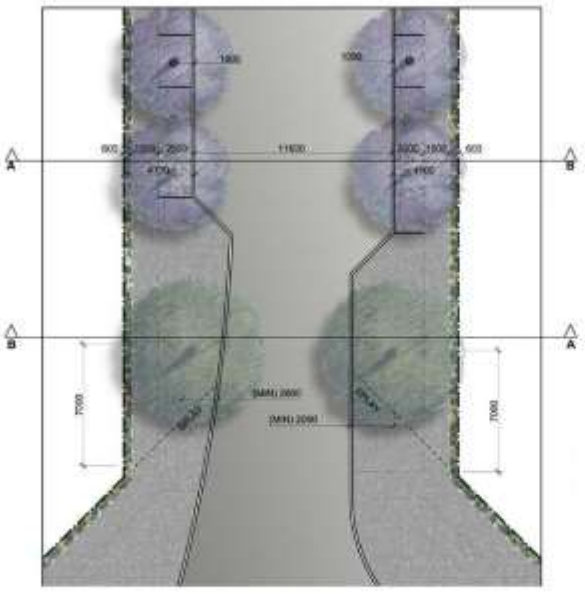


Figure 17: Town Boulevard

3.5.6 Local Road

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lanes	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Local Road (Typical)										
17.4m	3.9m			9.6m				3.9m		
	0.6m	1.5m	2.3m	2.3m	2.5m	2.5m	2.3m	2.3m	1.5m	0.6m
Local Road (with off-road cyclepath)										
18.4m	3.9m			9.6m				4.9m		
	0.6m	1.5m	2.3m	2.3m	2.5m	2.5m	2.3m	2.3m	2.5m	0.6m

Character & Design Principles

- Promote intimate character, smaller scale streetscape with regular street tree planting
- Create a sense of place, reinforce precinct character through distinctive street trees and front fencing
- Promote priority of pedestrian by providing a pleasant environment that encourages walking and social interaction
- Introduce blisters at intersection with collector road to calm vehicle speed and promote pedestrian connectivity

Street Tree Planting

- Strategy 1: Promote sense of place / precinct
- Strategy 3: Promote large scale tree planting (at intersections with collector road)

Consider:

- predominantly medium species, small species to short stretches
- large size trees in blisters
- evergreen native species to North -South Roads
- deciduous species to East- West Roads for solar access during winter, on longer stretcher alternating with evergreen species to provide year round interest
- informal / formal configuration of medium trees in verge

Species:

Glenlee Precincts

North-South Evergreen
Harpulia pendula
Hymenosporum flavum

East - West Deciduous
Acer buergerianum
Fraxinus oxyrarpa
Liquidambar styraciflua 'Parasol'

Village Precinct

North-South Evergreen
Acmena smithii
Arbutus unedo
Callistemon salignus
Elaeocarpus reticulatus
(Eucalyptus haemastoma)
Tristaniopsis laurina
Tristaniopsis laurina 'Luscious'

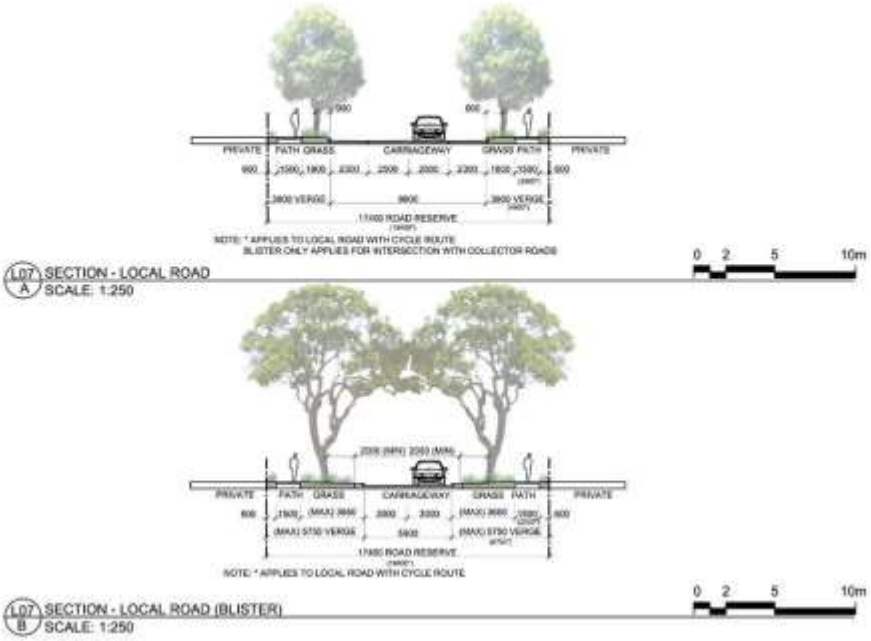
East - West Deciduous
Lagerstroemia indica (white)
Lagerstroemia indica (pink/red)
Sapium sebiferum

Riverview Precincts

North-South Evergreen
Melaleuca bracteata
Melaleuca decora
Melaleuca leucadendra
Melaleuca linariifolia

East - West Deciduous
Nyssa sylvatica
Zelkova serrata

Landmark Planting
Angophora costata
Angophora subvelutina
Eucalyptus punctata



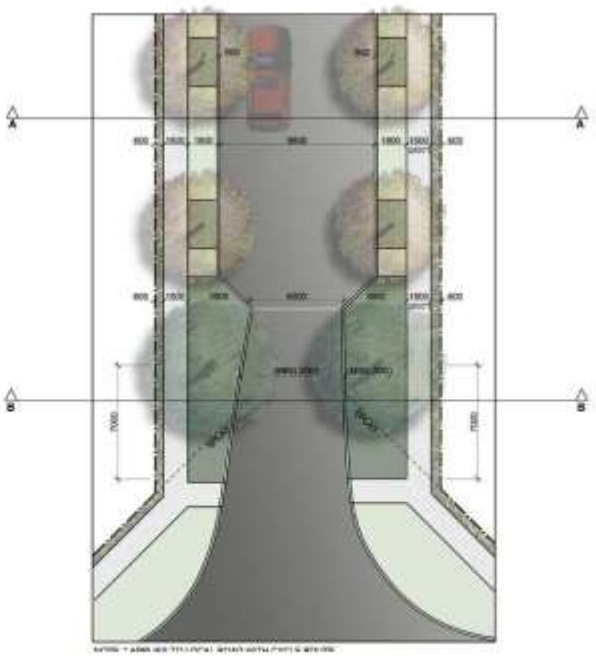


Figure 18: Local Road
Blister with large trees only at intersection with Collector Road

3.5.7 Existing Road

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lane 1	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Existing Road (Local)										
20.115m	5.26m			9.6m				5.255m		
Payten St	0.6m	1.5m	3.16m	2.3m	2.5m	2.5m	2.3m	2.155m	1.5m	0.6m
Station St Tabor St	0.6m	1.5m	3.16m	2.3m	2.5m	2.5m	2.3m	3.155m	2.5m	0.6m

Character & Design Principles

- Character needs to reflect function as local road (i.e. promote intimate character and Create a sense of place / precinct, priority of pedestrian and cyclist)
- Existing road reserve with wider verge facilitates planting of larger trees
- Introduce blisters at intersection with collector road to control vehicle speed and promote pedestrian connectivity
- Integration of existing landscape elements and planting
- Provide solar access by planting deciduous trees alternating with evergreen trees to offer year round interest

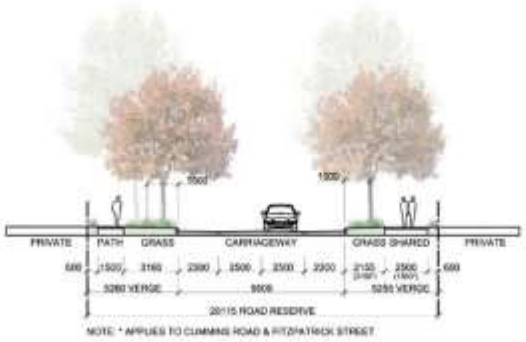
Street Tree Planting

- Strategy 2: Reinforce legibility
- Strategy 3: Promote large scale tree planting

Consider:

- mixture of medium to large species to both sides of the road (verge wider than 5m)
- Provide continuity by carrying over medium scale tree planting when extending existing roads to new local roads
- Large scale tree planting at irregular intervals
- predominantly deciduous species to provide solar access along East-Western Stretches alternating with native evergreen species to provide year-round interest
- spacing: medium scale @ min. 10m centres, large scale @ min. 12m centres

Species:
Refer to Local Roads, Item 3.5.6 for medium scale, deciduous trees
Refer to Collector Road, Item 3.5.2 for large scale, deciduous trees



L06 A SECTION - EXISTING ROAD (PAYTEN, TABER*, STATION* STREET)
SCALE: 1:250

0 2 5 10m

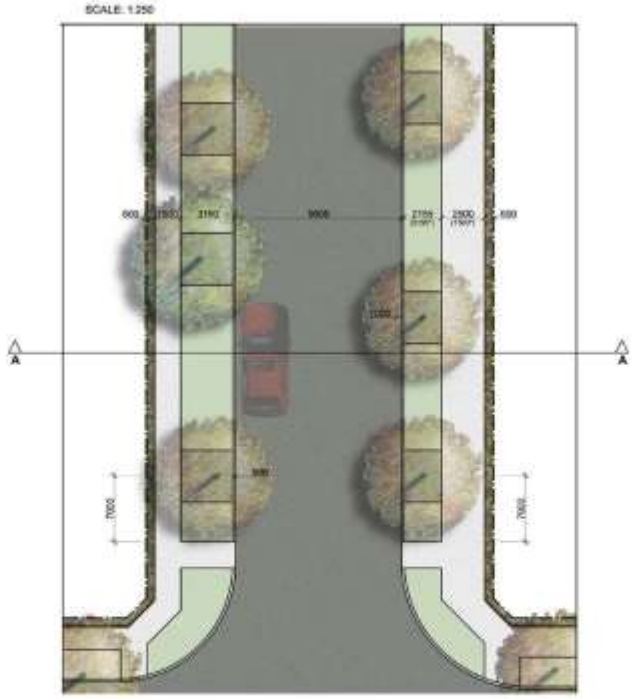


Figure 19: Existing Road

3.5.8 Minor Local Roads

Road Reserve	Verge			Road				Verge		
	Nature Strip	Path	Street Tree	Lanes	Lane 2	Lane 3	Lane 4	Street Tree	Path	Nature Strip
Minor Local										
14.80m	3.6m			7.6m				3.6m		
	0.6m	1.2m	1.8m					1.8m	1.2m	0.6m

Character & Design Principles

- Promote intimate character, smaller scale streetscape with regular street tree planting
- Create a sense of place, reinforce precinct character through distinctive street trees and front fencing
- Promote priority of pedestrian by providing a pleasant environment that encourages walking and social interaction

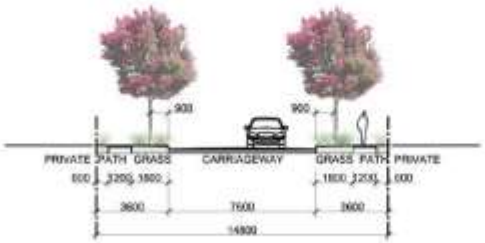
Street Tree Planting

- Strategy 1: Promote sense of place / precinct

Consider:

- predominantly small and medium species
- evergreen native species to North -South Roads
- deciduous species to East- West Roads for solar access during winter, on longer stretcher alternating with evergreen species to provide year round interest
- informal / formal configuration trees in verge

Species:
Refer to Local Roads, Item 3.5.6



L08 A SECTION - MINOR LOCAL ROAD
SCALE: 1:250

0 2 5 10m

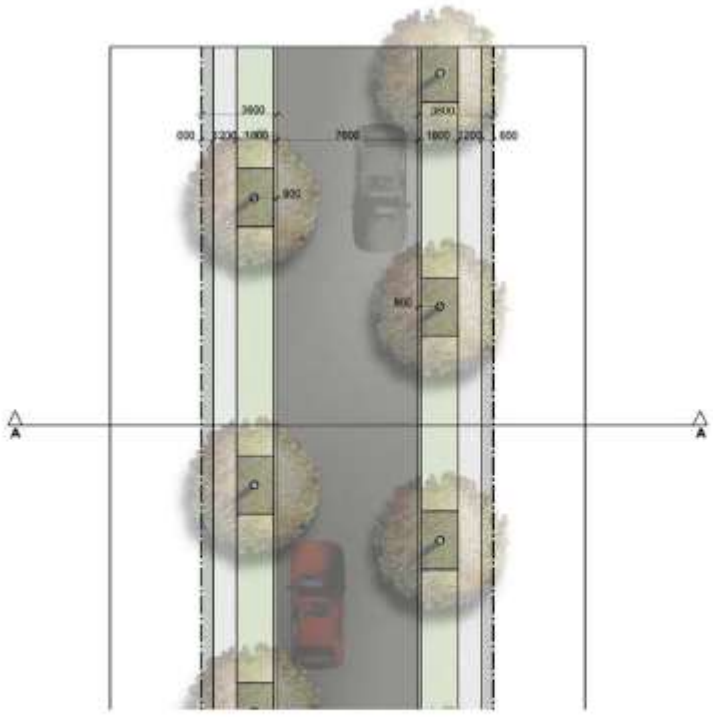


Figure 20: Minor local Road

3.6 Indicative Species List

Species	Common name			Height	Comments
SMALL					
Arbutus unedo	Irish Strawberry Tree	E	exotic	H:6-8m	Native to the Mediterranean region and Western Europe, White flower, fruit
Callistemon salignus	Willow Bottlebrush	E	native	H:6-8m	Forest and Woodlands, usually damp places, White to yellow flower
Elaeocarpus reticulatus	Blueberry Ash	E	native	H:6-8m	from rainforest-like environment, moist areas around watercourses, Tall Eucalypt Forests
Lagerstroemia indica	Crepe Myrtle	D	exotic	H:6-8m	often multi-stem, bark is prominent feature, prefers subtropical environment, Purple flower, autumn colour
Melaleuca decora	White Feather Honey Myrtle	E	native	H:6-8m	Periodic inundation, "River Flat Eucalypt Forest", White ornamental flowers
Melaleuca linariifolia	Paperbark	E	native	H:6-8m	"Sydney Freshwater Wetlands", White flowers


Arbutus unedo


Callistemon salignus - rubra


Elaeocarpus reticulatus


Lagerstroemia indica


Melaleuca decora


Melaleuca linariifolia


Acer buergerianum


Acmena smithii

Species	Common name			Height	Comments
MEDIUM					
Acer buergeranum	Trident Maple	D	exotic	H:8-10m	From Eastern China and Korea, cool climate, Autumn colour
Acmena smithii	Lillypilly	E	native	H:8-12m	temperate to tropical climate, adequate summer moisture
Angophora bakeri	Narrow-leaved Apple	E	native	H:10-12m	Good ornamental tree, well drained soils
Brachychiton populneum	Kurrajong	E	native	H:10-15m	well drained soils
Corymbia eximia	Yellow Bloodwood	E	native	H:10-12m	Temperate to subtropical
Cupaniopsis anacardioides	Tuckeroo	E	native	H:8-12m	Coastal, temperate to subtropical
Eucalyptus haemastoma	Scribbly Gum	E	native	H: up to 15m	Dry sclerophyll woodland, shallow infertile soils
Fraxinus oxycarpa	Desert Ash	D	exotic	H:12-14m	Only on rich soils
Harpulia pendula	Tulipwood	E	native	H:8-12m	Coastal rainforest tree, needs moisture, no exposition to wind
Hymenosporum flavum	Native Frangipani	En	native	H: 8-10m	Coastal Bush Forest of Eastern Australia


Angophora bakeri


Brachychiton populneum


Corymbia eximia


Cupaniopsis anacardioides


Eucalyptus haemastoma


Fraxinus oxycarpa


Harpulia pendula


Hymenosporum flavum

Species	Common name			Height	Comments
Jacaranda mimosifolia	Jacaranda	D	exotic	H:12-15m	Prefers a warm sheltered position, late deciduous
Liquidambar styraciflua 'Parasol'	Parasol Sweet Gum	D	exotic	H:12-14m	autumn colour
Lophostemon confertus	Brushbox	E	Native	H:12-15m	
Melaleuca quinquenervia	Broad-leafed Paperbark	E	native	H:8-12m and more	Textured bark, prefers heavy soil along watercourses and swamps, "Sydney Freshwater Wetlands"
Melaleuca leucadendra	Broad Leaf Paperbark	E	native		
Melaleuca bracteata	Black tea-tree	E	native		On heavier inland soils in depressions
Nyssa sylvatica	Tupelo	D	exotic	H:12-15m	Slow growing, cool temperate, performs well on elevated sites, Autumn colour
Pistacia chinensis	Chinese Pistachio	D	exotic		Autumn colour


Jacaranda mimosifolia


Liquidambar styraciflua


Lophostemon confertus


Melaleuca bracteata


Melaleuca leucadendron


Melaleuca quinquenervia


Nyssa sylvatica


Pistacia chinensis

Species	Common name			Height	Comments
Pyrus calleryana 'Chanticleer'	Callery Pear	D	exotic	H:10-12m	Cool temperate to temperate, free draining soils, Autumn colour
Sapium sebiferum	Chinese Tallow Tree	D	exotic	H:8-12m	Temperate climate, prefers well drained soils, Autumn colour
Tristaniopsis laurina 'Luscious'	Water Gum	E	native	H:10-12m	
Zelkova serrata	Japanese Zelkova	D	exotic	H:10-12m	From western Asia, cool moist temperate, Autumn colour


Pyrus 'Chanticleer'


Sapium sebiferum


Tristaniopsis


Zelkova serrata

Species	Common name			Height	Comments
LARGE					
Angophora floribunda	Rough-barked Apple	E	native	H:16-18m	Prefers well drained soils and sheltered situation, "River flat Eucalypt Forest"
Angophora costata	Smooth -bark Apple	E	native	H:18-20m	Impressive, landmark tree
Angophora subvelutina	Red Apple	E	native	H:18-20m	
Corymbia maculata	Spotted Gum	E	native	H:25-30m	
Eucalyptus crebra	Narrow-leaved Ironbark	E	native	H:16-18m	"Cumberland Plain"
Eucalyptus punctata	Grey Gum	E	Native	H:18-20m	
Eucalyptus sideroxylon	Mugga Ironbark	E	Native	H:16-18m	Large tree
Eucalyptus tereticornis	Forest Red Gum	E	Native	H:20-25m	"River flat Eucalypt Forest"

3.7 Street Tree Masterplan

Refer to attachment L100


Angophora costata


Angophora floribunda


Angophora subvelutina


Corymbia maculata


Eucalyptus crebra


Eucalyptus punctata


Eucalyptus sideroxylon (Site Evidence)


Eucalyptus tereticornis

4 Fencing Strategy

Allotment front fencing serves to define front gardens and in doing so also defines the public domain. As the allotment frontages decrease and the relative building mass increases the combination of the building façade and the front fence combine to create the urban character of the neighbourhood. Conversely the wider the frontage the less dominant the building mass within the allotment and the greater the capacity of the combined public domain and private front gardens to contribute to, and dominate, the character of the streetscape.

The Menangle Park Fencing Strategy responds to these differences of the new suburb in terms of historic context, urban form and the rural character of the area.
Particular focus has been put on the heritage and character objectives for Glenlee Road, Menangle Road, Glenlee House, medium density and town centre allotments.

The inclusion of fence types for standard lots has been provided as a guide for developers and home owners should they wish to erect a front fence.

The following considerations have directed the strategy:

- To develop a sense of place;
- Reinforcement of, and respond to, the predominant character to be preserved and or engendered;
- Delineation of public and private domains;
- Provide focal points where appropriate;
- Consider the availability, mix, durability and cost effectiveness of materials;
- Provide options and flexibility where possible with sufficient detail to capture the key characteristics (look, feel, form) of each fencing style;

4.1 Principles

Key Principles:

- Reinforce the character of the urban form
  i.e. more visually apparent and contemporary materials for urban areas to amplify the urban character and visually recessive to highlight more garden character in traditional and rural areas.
- Consistency in street frontage where possible
  i.e. column spacing, materials and heights
- To avoid monotony in the front fence a number of options are available for brick colours (to be selected in relation to architectural brick selection) and for infill between columns
- Where a dwelling is located adjacent to open space, boundary fencing is to be of a high quality material and finish. The design of the fencing is to encourage casual surveillance of the open space and provide the dwelling with outlook towards the open space.

Landcom Fencing Principles (in italics) from" Built Form Guidelines for Landcom Projects" May 2008:

Front Fences
Front fences are to provide a subtle transition or barrier between private (front yard) and public (street) space

- Front fencing should be designed to look like part of the street, rather than an extension of the dwelling.
- Front fencing will clearly define the lot boundary, the street edge and the private space. This will help encourage use of the front garden as well as increasing surveillance and activation of the street. Letterboxes should be incorporated into the design of the front fence.
- Front fencing should be constructed from predominantly lightweight materials, with the design allowing at least 50% openings.
- Metal sheet fencing is not permitted except where regulation require.
- Fencing material finishes should be consistent with the character of the street.

Side Fences

- Side and rear fences are important in achieving privacy and security. They are also visible from many areas of the house.
- Front side fences to 2m back from the front facade should match the front fence in height and design.
- Side fences starting 2m back from front facade may be up to 1.8m in height.
- On the side boundaries of sloping sites fences should be stepped to ensure the height is no greater than 1.8m above ground level at any point. (Side fencing combined with retaining walls can otherwise result in excessively high walls and overshadowing for the lower side property).

Corner Lots

- On corner lots the front fence should continue around the corner to the secondary street and along that street for a minimum of 30% of the lot length.
- On corner lots the 1.8m fence on the secondary street to be a maximum of 50% of the lot length and of a similar look and character as the front fence.

Rear Fences
Rear fences where visible to the public realm are to provide visual barrier that respects the visual and aesthetic context of the adjoining land use.

4.2 Typology

Overall fence types form a fencing suite with each type responding to different conditions and/or character types.

- Type 1 Front Fence Collector Roads & Town Centre
- Type 1A Front Fence Town Centre
- Type 2 Front Fence Local Roads
- Type 3 Rear Fence & Buffer Planting

Figure 21: Fencing Strategy

- Corner lots

4.2.1 Type 1 Front Fence – Brick Pier + Infill

Character:

Type 1	**Town Centre Medium Density, Collector Roads**
Location:	• Medium density lots (street frontage 6500mm-12500mm) within town centre precinct • General residential lots (street frontage 18500 -20000mm) on collector roads
Construction type:	• Front and front side fence with bagged or rendered brickwork piers • The brickwork blade piers shall be no more than 1050mm high (1800mm on corner lots at 2m behind building line), 230mm wide with a solid capping. Piers accommodating post boxes shall be 470mm square. • Minimum 3 brick piers will be required per lot – one on each side boundary, one adjacent to the driveway containing the letter box, • lots with a street frontage larger than 10000mm may have intermediate brick piers (350mm square) at regular spacing
Panels:	Hedging: Hedging should be no more than 1m above footpath level in height & shall be contained wholly within the lot boundary
	Contemporary Picket fence: posts (125x125mm) at regular spacing, post to be max. 900 mm high and in line with underline of brick pier capping, rails (nominal 75 x 50mm) to be housed through centreline of each post, pickets to be 800mm high and in line with underline of brick pier capping stone and top of post, picket fence to rake with slope of land existing ground. Material: • Powder coated aluminium / steel • Treated pine (painted)
	Horizontal Slat Screen: (preferable for town centre lots) horizontal slat screen panel with nominal 38mm slat & 19mm spacing and fixed to brickwork, top of panel to be in line with underline of brick pier capping, to increase transparency alternate upper slats could be omitted. Material: • powder coated aluminium slats • timber slats

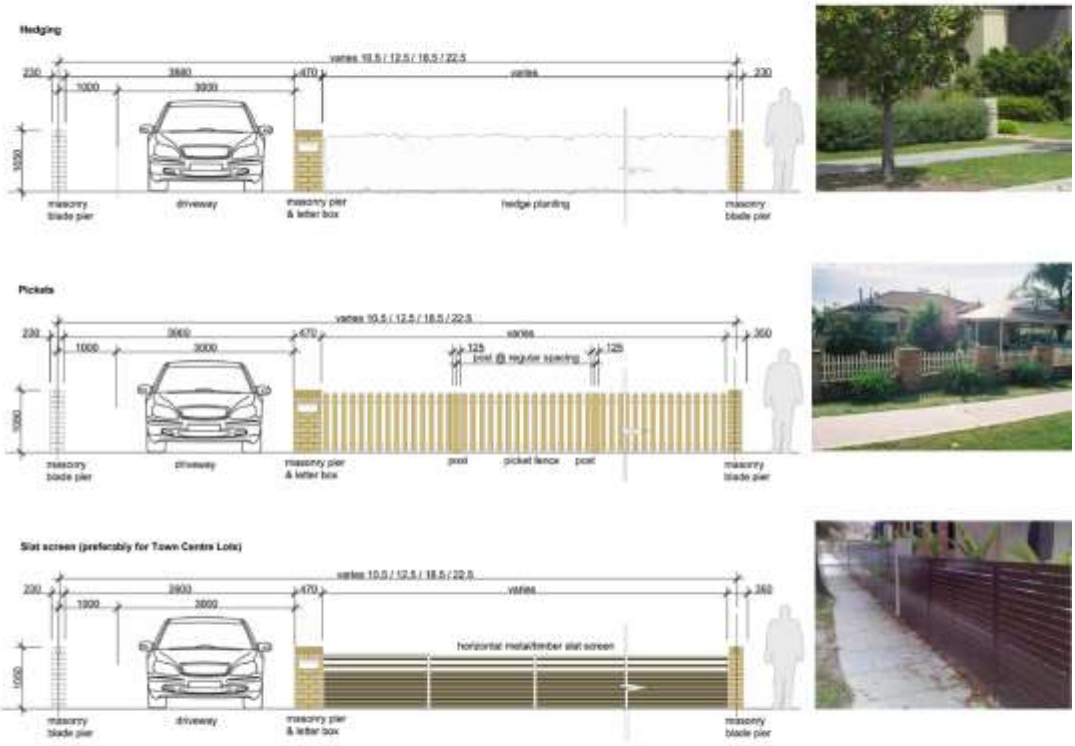


Figure 22: Type 1 Front Fence

- Reinforce legibility of road hierarchy by providing repetitive urban element.
- Continuous non solid definition of private and public domain on lot corners (brick pier) and driveways
- Provide more open, recessive character in line with the character of standard lot sizes.

4.2.2 Type 1A Front Fence – Brick Pier + Plinth + Infill

Character:

Type 1A	**Town Centre**
Location:	Medium density lots within town centre precinct
Construction type:	• Front and front side fence with bagged or rendered brickwork piers and plinth • The blade brickwork piers shall be no more than 1050mm high (1800mm on corner lots at 2m behind building line), 230mm wide with a solid capping. Piers accommodating post boxes shall be 470mm square. • Depending on the lot width 3-4 brick piers will be required – one on each side boundary, one adjacent to the driveway or pedestrian entrance containing the letter box and one intermediate pier (350m wide) for lots widths of 10m and 12.5m. • The brickwork plinth shall be 3 courses of brick and 1 course caping brick
Panels:	Option Hedging: Hedging planted to grow above brick fence wall should be no more than 1m above footpath level in height & shall be contained wholly within the lot boundary
	Horizontal Slat Screen: horizontal slat screen panel with nominal 38mm slat & 19mm spacing and fixed to brickwork, top of panel to be in line with underline of brick pier capping, to increase transparency alternate upper slats could be omitted. Material: • powder coated aluminium slats • timber slats

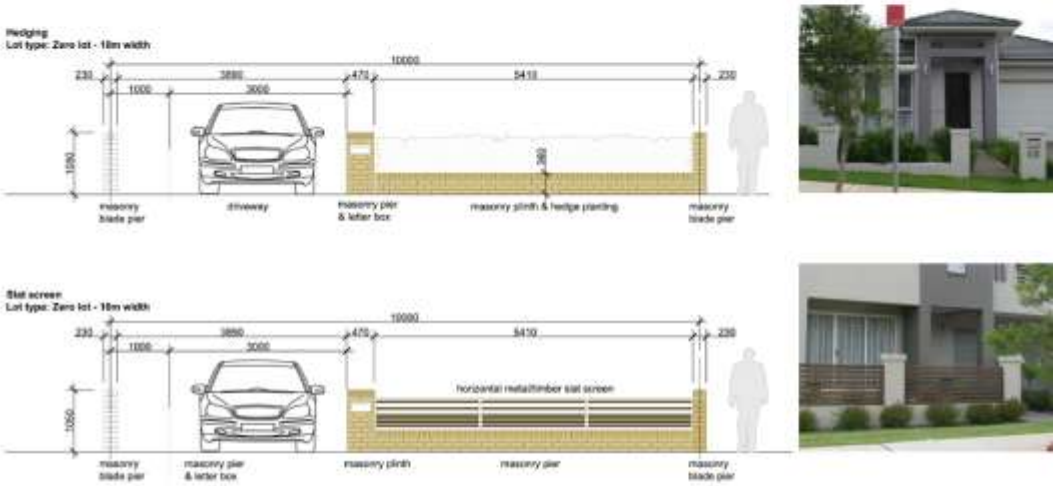


Figure 23: Type 1A Front Fence

- Reinforce urban character of the town centre
- Provide visual definition and high quality materials and finishes
- Continuous definition between private and public domain (brick pier and brick plinth)

4.2.3 Type 2 Front Fence – Timber Post + Infill

Character:

- Reinforce 'rural town' character for standard size lots on local streets
- Provide demarcation of lot boundary with post
- Provide variety of infill options: hedging, crimped wire panels, picket fence, post & rail fence

Glenlee Road:

- Retain visual significance of Glenlee Road and maintain experience of approach to Glenlee House
- Minimise visibility of the new land use in the streetscape and within private land adjacent to Glenlee Road
- Buffer planting on the inside boundary of private lots to provide intermittent screening of the site along its

Type 2	**Local Roads inlcuding Glenlee Road**
Location:	General residential
Construction type:	• 3 Posts will be required, one on each side boundary, one adjacent to the driveway, the letter box will be attached to the post next to the driveway • the post shall be no higher than 1050mm • depending on the type of panel intermediate posts at regular spacing will be required • fence to rake with slope of land existing ground
Panels:	Hedging: Hedging should be no more than 1m above footpath level in height & shall be contained wholly within the lot boundary
	Contemporary Picket Fence: intermediate posts are to be max. 900mm high, rails (nominal 125 x 50mm) to be housed through centreline of each post, pickets to be 800mm high and in line with underline of brick pier caping stone and top of intermediate post (intermediate posts visually not expressed) Material: • Powder coated aluminium / steel • Treated pine (painted)
	Post & Rail: rails (nominal 75 x 50) to be housed into post & fixed through through centreline of each post, top rail shall be no higher than 900mm, (intermediate posts visually expressed) Material: • Powder coated aluminium / steel • Treated pine (painted)
	Crimped Wire: frame (nominal 75 x 50) with crimped wire infill fixed to the inside face, panels shall be no higher than 900mm, (intermediate posts visually expressed)
Buffer Planting Glenlee Road	2m wide and min. 2m high planting buffer shall be planted at the inside fence, as a reference to the cultural heritage native and exotic ornamental grasses, groundcovers and shrubs shall be planted

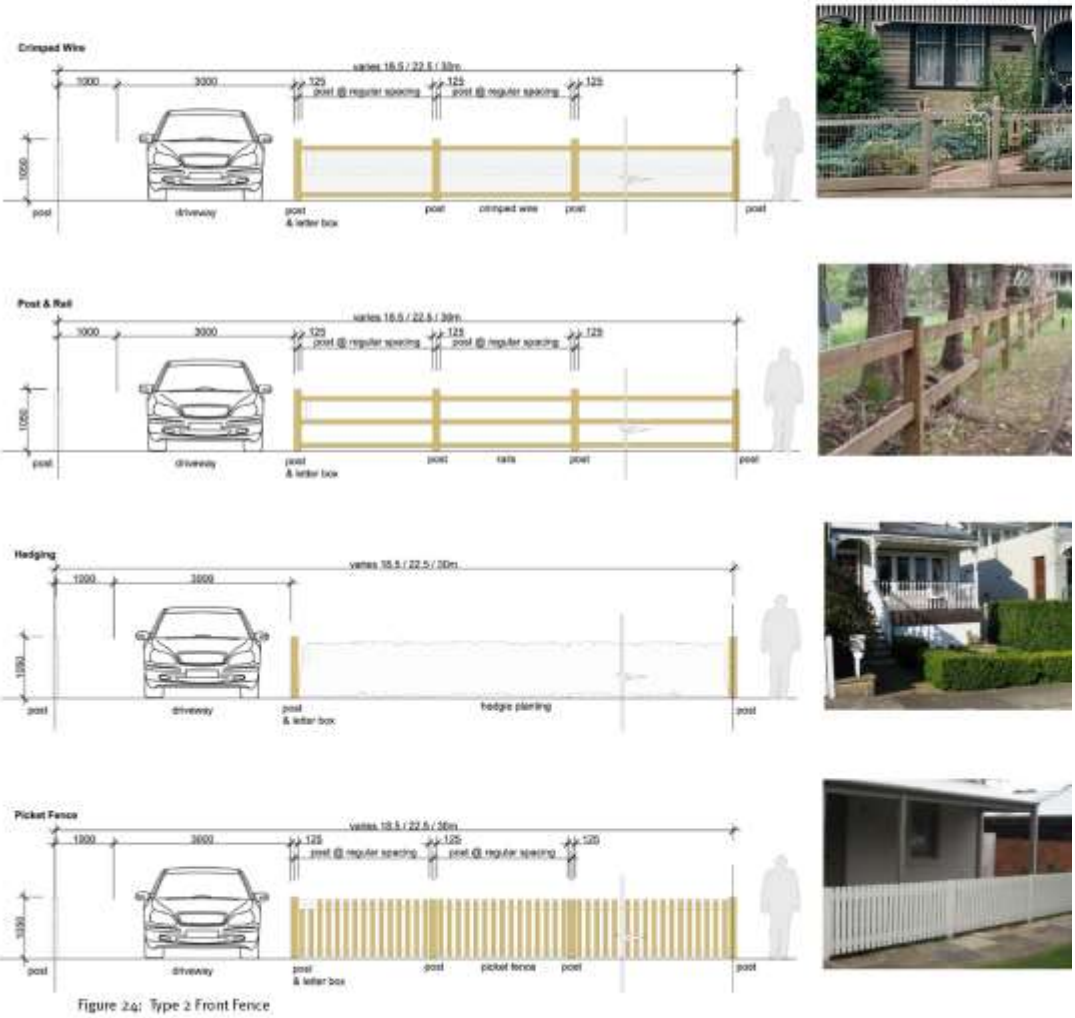


Figure 24: Type 2 Front Fence

alignment

4.2.4 Type 3 Rear Fence

Character:

- Manage the interface of the new development along Menangle Road and maintain rural character.
- Provide visual screening to and from Menangle Road, SW Freeway and Glenlee Estate and proposed adjoining development.
- Provide planting buffer in front of boundary treatment or/and on the inside boundary of private lots to maintain rural character
- Roadside planting along Menangle Road to provides screening of the site along its alignment

This fencing type seeks a balance between the stated desire for 'rural town' character and ensuring privacy for future land owners. A complementary upper and mid storey and/or hedge planting is introduced to achieve privacy goals.

Type 4	**Rear Fence and Buffer Planting**
Location:	Lots backing onto Glenlee Estate Lots backing onto SW Freeway Lots backing onto Menangle Road
Lapped &Capped:	• 2 Post (nominal 125 x 125) will be required – one on each side boundary • post shall be no higher than 1950mm • Infill lapped & capped fence: fence capping nominal 125mm wide x 50mm thick, railings to be 100 x 50mm, intermediate posts @ 2500 centres to be nominal 100 x 100 x 4 SHS, palings to be nominal 100x15x1800mm long overlap palings min 30mm each side
Chain wire	• 2 Post (nominal 125 x 125) will be required – one on each side boundary, one adjacent to the driveway • posts shall be no higher than 1950mm • Intermediate posts @ 2500 centres to be 40mm NB capped galvanised tube • galvanised cable tension wire (double twisted) tensioned beween posts at top, intermediate, bottom • 1800mm Chain wire
Buffer Planting:	A planting buffer shall be planted in front of fence (on public land). Where chain wire fencing is used buffer planting shall be planted at the inside boundary (private lots), the planting buffer shall be nominal 3m high and 2m wide. Native grasses, groundcovers and shrubs shall be used.

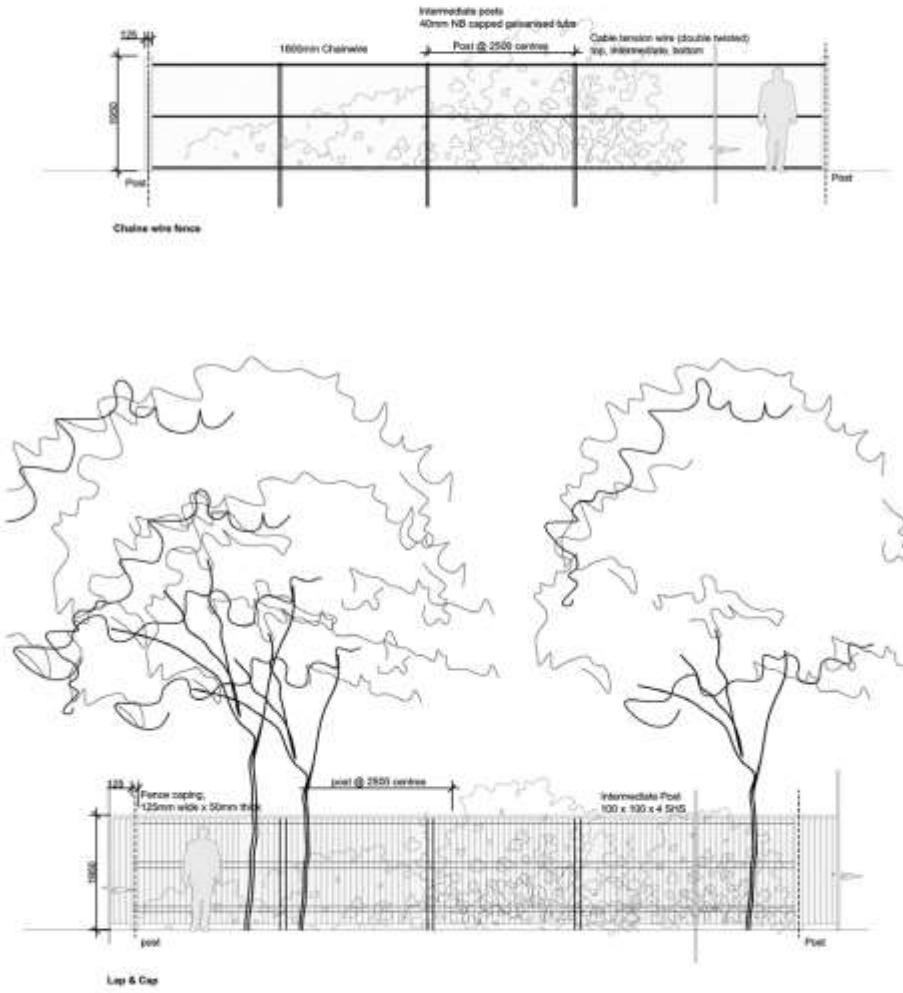


Figure 25: Type 3 Rear Fence & Buffer Planting

4.2.5 Corner lots

This type applies to fencing on the secondary street frontage enclosing the rear private open space. This fencing type shall utilise the same construction details as type 1.4, however behind the building line may have solid infill panels.

Where retaining wall is not required the maximum height shall be 1.8m above ground level.
Where a retaining wall is required this wall shall be a maximum height of 0.9m and the fence shall be a maximum of 1.8m. The combined height of retaining wall and fencing shall be a maximum of 2.4m above ground level.

Solid infill panels shall be lapped & capped timber paling or timber batons.
This type of fencing shall provide a harmonious continuity of appearance. Timber colours should be natural, & chosen to blend into the background. All fencing finishes would be matt and non reflective.

Where no retaining wall is required an edge strip should be used.

July 2013

Appendix

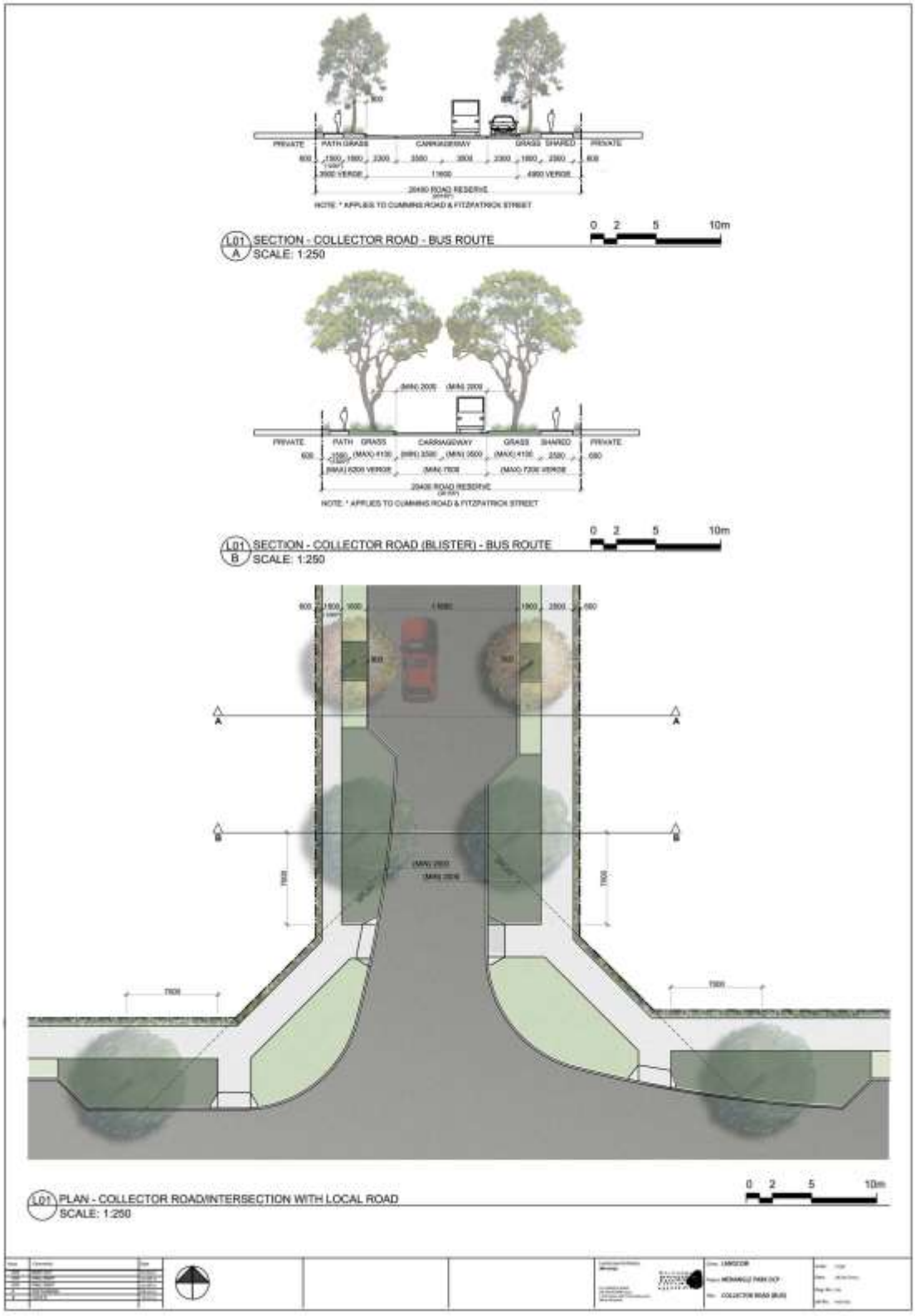
Menangle Park DCP Landscape Planning

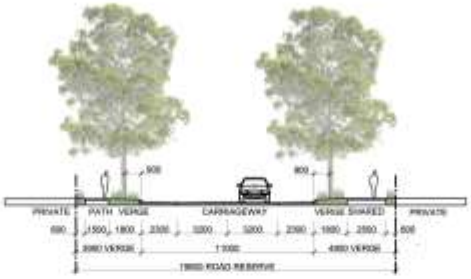
James Mather Delaney Design Pty Ltd
Landscape Architects
ABN 30 128 554 638

190 James Street
Redfern NSW 2016
Australia

T +61 2 9310 5644
F +61 2 9319 4858
info@jmddesign.com.au
www.jmddesign.com.au

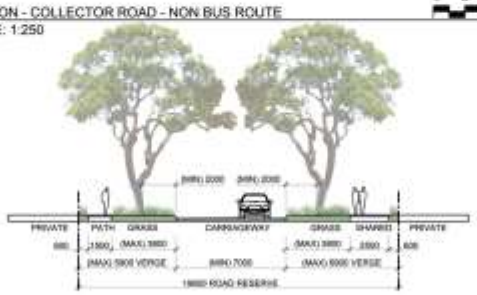

MENANGLE ROAD
LANDMARK PLANTING
RACECOURSE AVENUE
EVERGREEN
COLLECTOR EAST - WEST
DECIDUOUS
EVERGREEN
COLLECTOR NORTH - SOUTH
EVERGREEN
GLENLEE PRECINCT
EVERGREEN
DECIDUOUS
VILLAGE PRECINCT
EVERGREEN
DECIDUOUS
RIVERVIEW PRECINCT
EVERGREEN
DECIDUOUS
Landmark Tree planting Round about
Landmark Tree Planting Site Marker
Landmark Tree Planting Blister (evergreen)
Collector Road Tree Planting (evergreen)
Collector Road Tree Planting (deciduous)
Local Road Tree Planting (evergreen)
Local Road Tree Planting (deciduous)
JMD design
Project
MENANGLE PARK
Drawing Title
STREET TREE MASTER
Date
30.09.2016
Scale
1:10 000
L-100
C


PRIVATE
PATH
GRASS
CARRIAGEWAY
GRASS
SHARED
PRIVATE
20480 ROAD RESERVE
NOTE: * APPLIES TO CUMMINS ROAD & FITZPATRICK STREET
L01 A SECTION - COLLECTOR ROAD - BUS ROUTE
SCALE: 1:250
0 2 5 10m
PRIVATE
PATH
GRASS
CARRIAGEWAY
GRASS
SHARED
PRIVATE
20400 ROAD RESERVE
NOTE: * APPLIES TO CUMMINS ROAD & FITZPATRICK STREET
L01 B SECTION - COLLECTOR ROAD (BLISTER) - BUS ROUTE
SCALE: 1:250
0 2 5 10m
A
A
B
B
L01 PLAN - COLLECTOR ROAD/INTERSECTION WITH LOCAL ROAD
SCALE: 1:250
0 2 5 10m



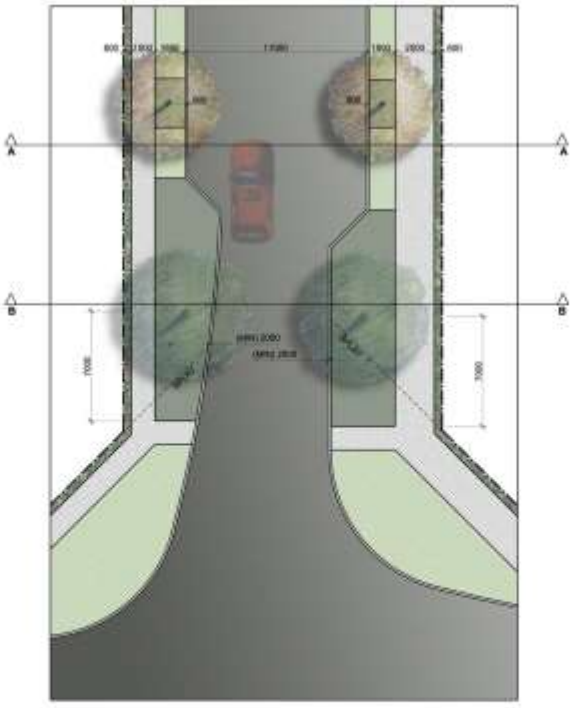
L02 A SECTION - COLLECTOR ROAD - NON BUS ROUTE
SCALE: 1:250

0 2 5 10m



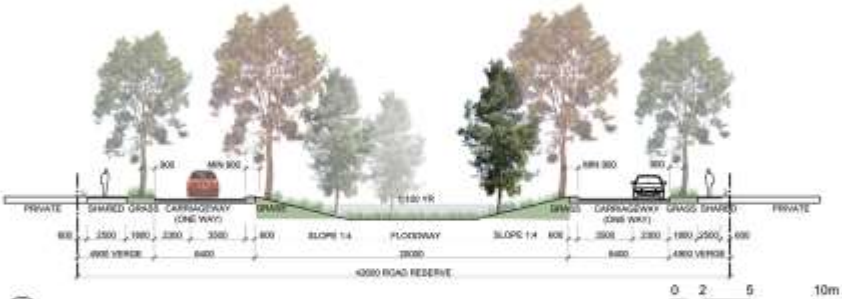
L02 B SECTION - COLLECTOR ROAD (BLISTER) - NON BUS ROUTE
SCALE: 1:250

0 2 5 10m



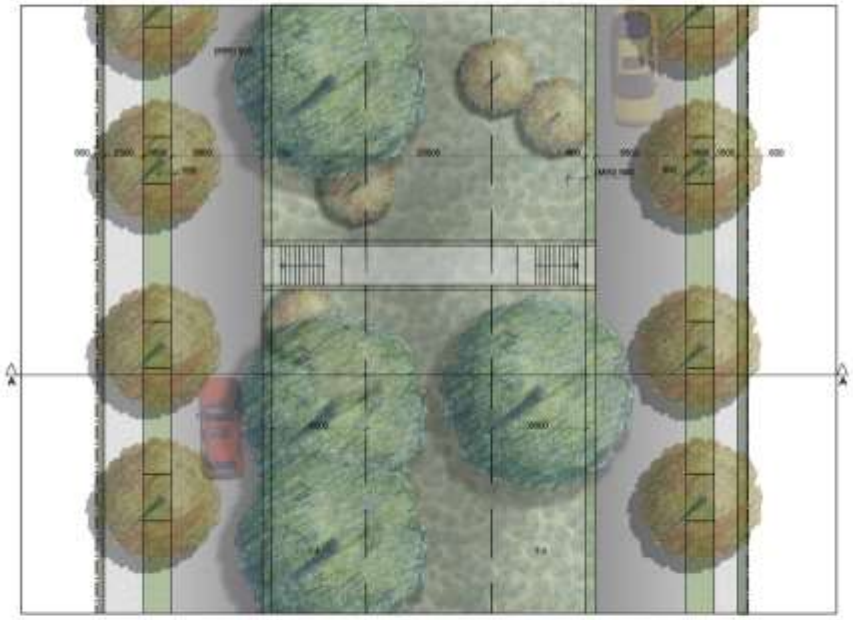
L02 C PLAN - COLLECTOR ROAD - NON BUS ROUTE / INTERSECTION WITH COLLECTOR ROAD
SCALE: 1:250

0 2 5 10m



L03 A SECTION - SPLIT COLLECTOR
SCALE: 1:250

0 2 5 10m



L03 PLAN - SPLIT COLLECTOR
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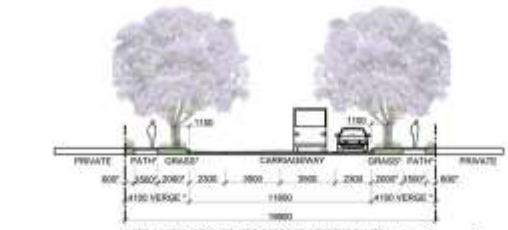
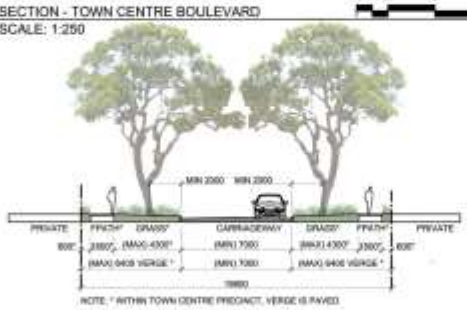
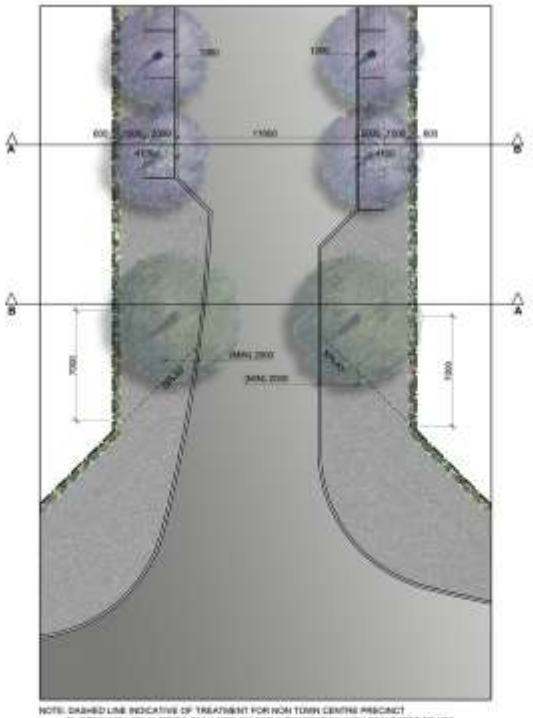


104 A SECTION - TOWN CENTRE BOULEVARD
SCALE: 1:250





104 PLAN - TOWN CENTRE BOULEVARD / INTERSECTION WITH COLLECTOR ROAD
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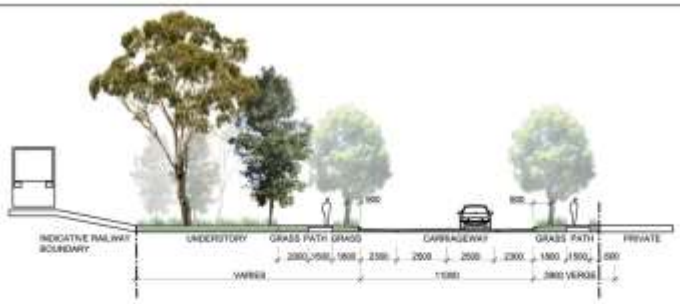
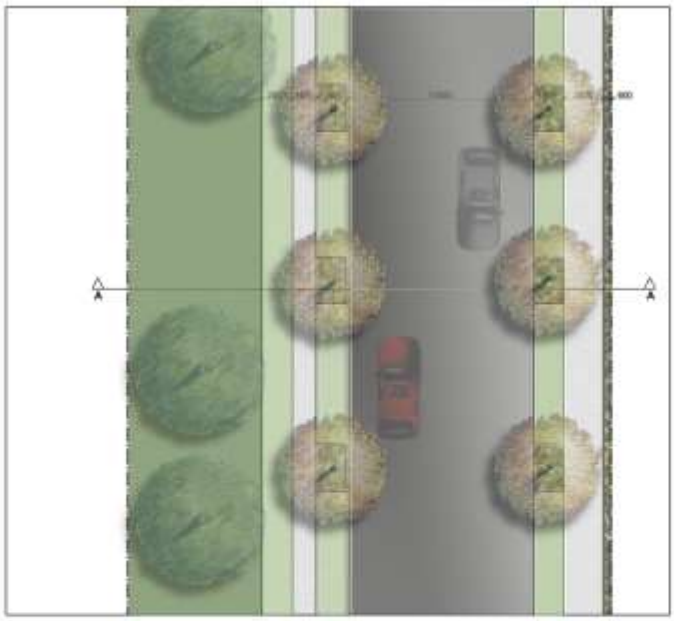


L05 SECTION - RACECOURSE AVENUE (LOCAL)
SCALE: 1:250

0 2 5 10m

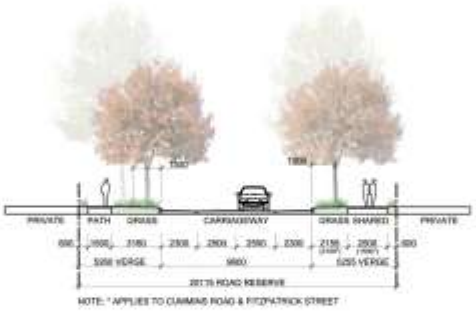
L05 A SECTION - RACECOURSE AVENUE (COLLECTOR)
SCALE: 1:250

0 2 5 10m



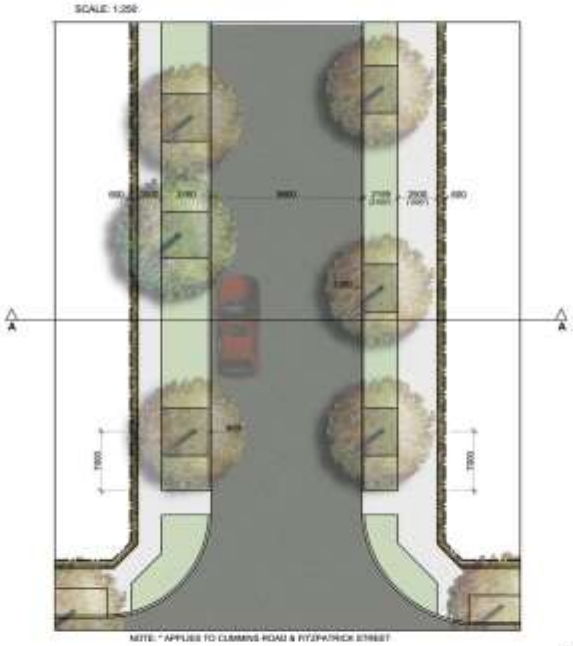
L05 PLAN - RACECOURSE AVENUE (COLLECTOR ONLY)
SCALE: 1:250

0 2 5 10m



L06 A SECTION - EXISTING ROAD (PAYTEN, TABER*, STATION* STREET)
SCALE: 1:250

0 2 5 10m



L06 SECTION - EXISTING ROAD (PAYTEN, TABER*, STATION* STREET)
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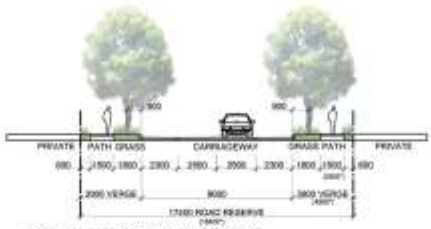
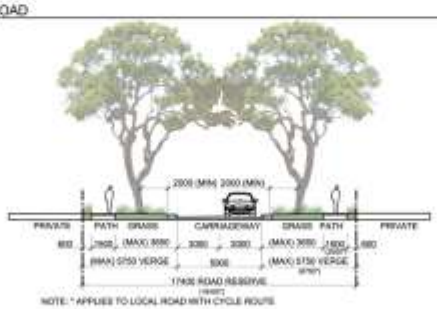
0 2 5 10m



NOTE: * APPLIES TO LOCAL ROAD WITH CYCLE ROUTE
BLISTER ONLY APPLIES FOR INTERSECTION WITH COLLECTOR ROADS

L07 A SECTION - LOCAL ROAD
SCALE: 1:250

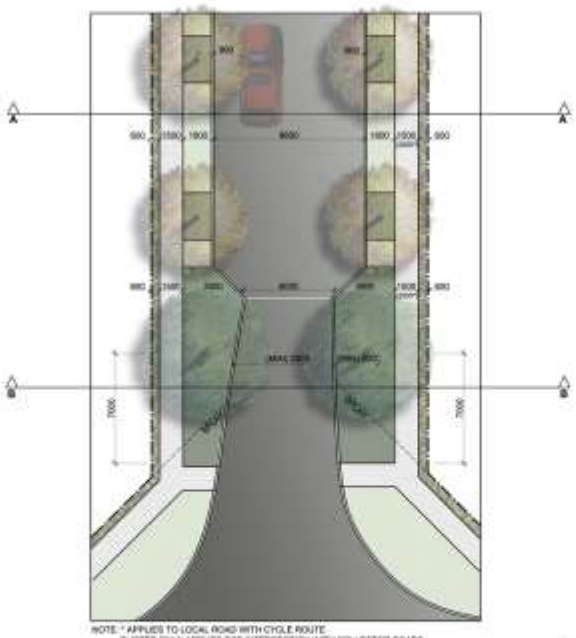
0 2 5 10m



NOTE: * APPLIES TO LOCAL ROAD WITH CYCLE ROUTE

L07 B SECTION - LOCAL ROAD (BLISTER)
SCALE: 1:250

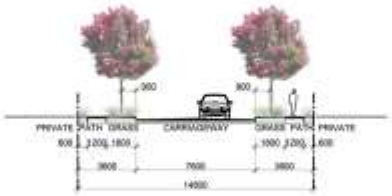
0 2 5 10m



NOTE: * APPLIES TO LOCAL ROAD WITH CYCLE ROUTE
BLISTER ONLY APPLIES FOR INTERSECTION WITH COLLECTOR ROADS

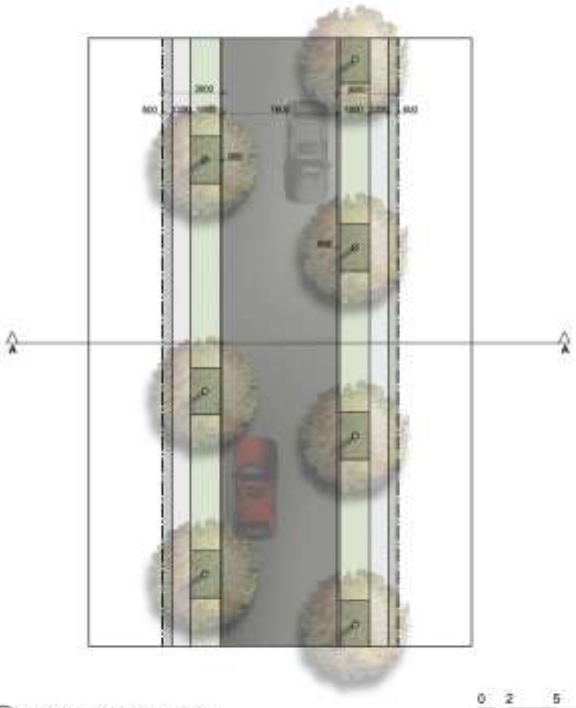
L07 PLAN - LOCAL ROAD
SCALE: 1:250

0 2 5 10m



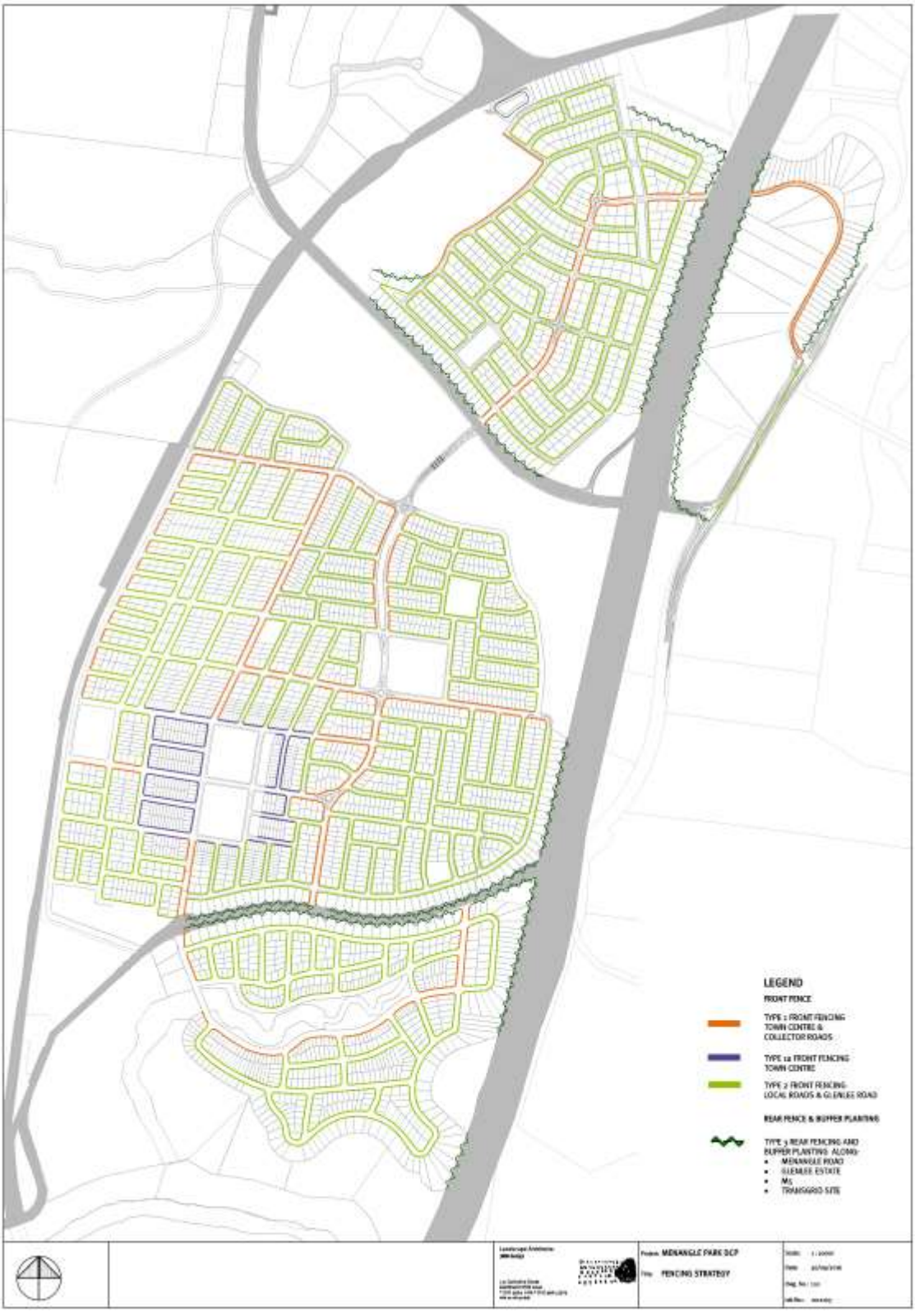
L08 A SECTION - MINOR LOCAL ROAD
SCALE: 1:250

0 2 5 10m



L08 PLAN - MINOR LOCAL ROAD
SCALE: 1:250

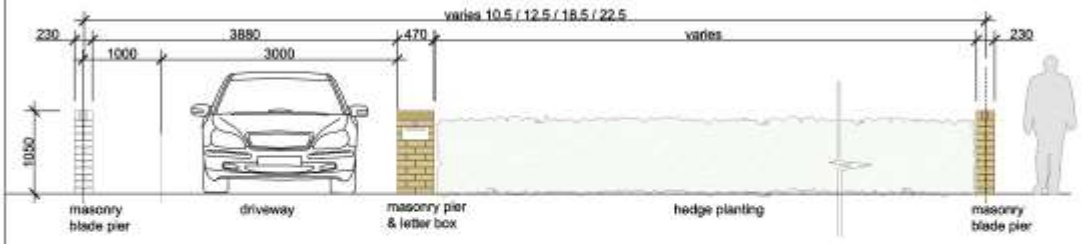
0 2 5 10m


LEGEND
FRONT FENCE
TYPE 1: FRONT FENCING
TOWN CENTRE &
COLLECTOR ROADS
TYPE 1a: FRONT FENCING
TOWN CENTRE
TYPE 2: FRONT FENCING
LOCAL ROADS & GLENLEE ROAD
REAR FENCE & BUFFER PLANTING
TYPE 3: REAR FENCING AND
BUFFER PLANTING ALONG:
MENANGLE ROAD
GLENLEE ESTATE
M5
TRANSGRID SITE
MENANGLE PARK DCP
FENCING STRATEGY

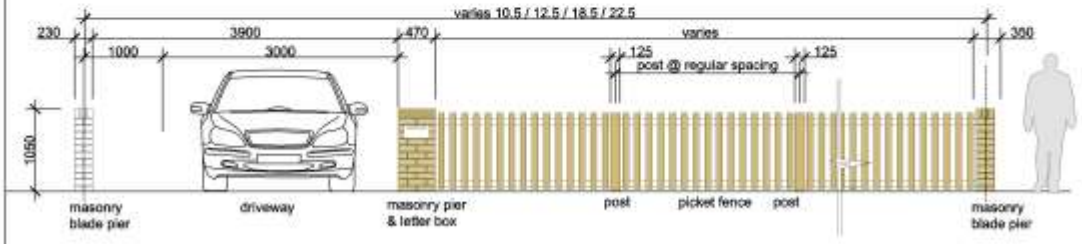
Type 1 - Brick Pier + Infill

Location: Collector Road Lots and Town Centre Lots

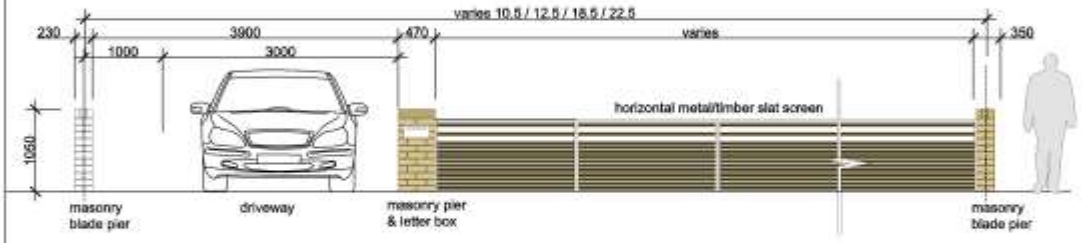
Hedging



Pickets



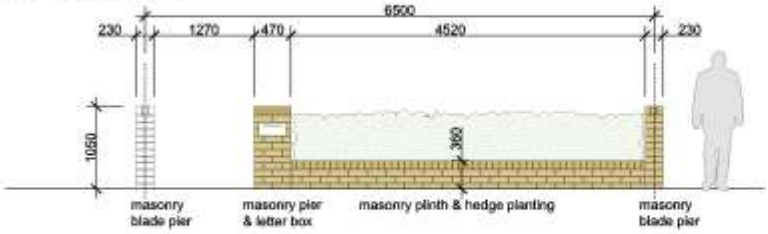
Slat screen (preferably for Town Centre Lots)



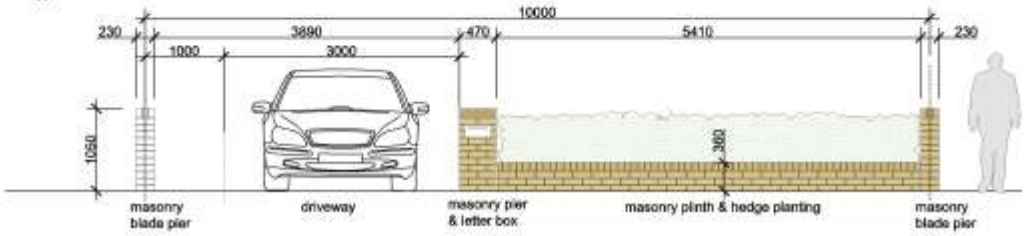
Type 1A - Brick Pier + Brick Plinth + Infill

Location: Town Centre Lots

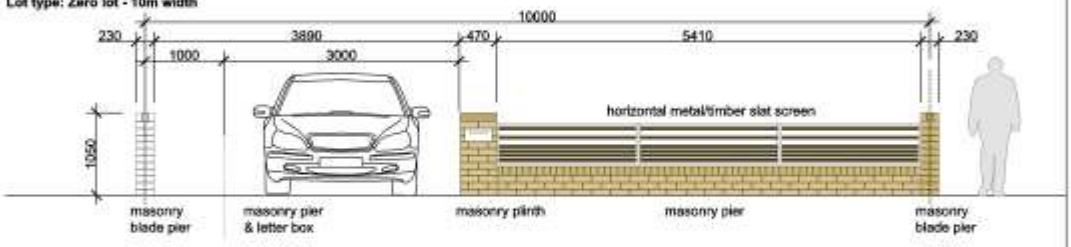
Hedging
Lot type: Terrace - 6.5m width



Hedging
Lot type: Zero lot - 10m width



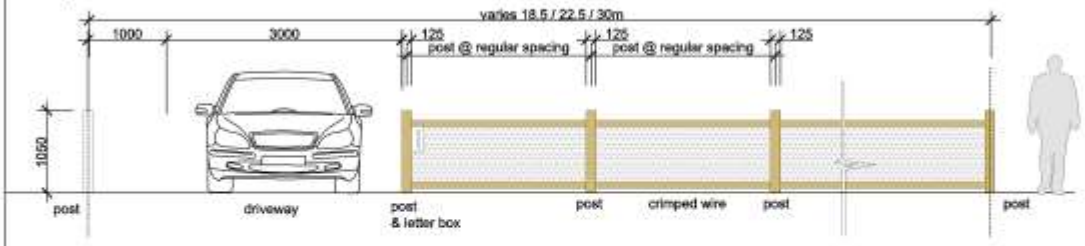
Slat screen
Lot type: Zero lot - 10m width



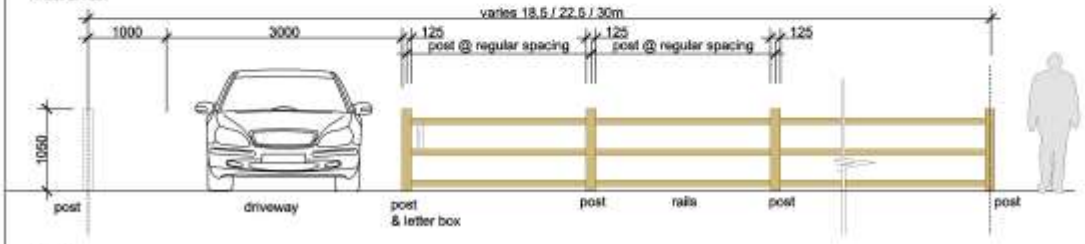
Type 2 - Post + Infill

Location: Local roads (Standard Lots, Large Lots)

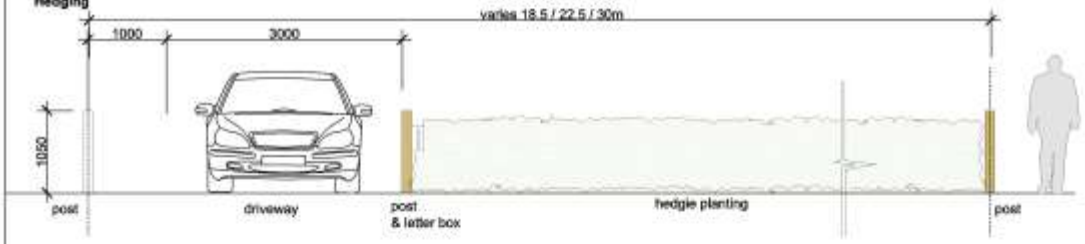
Crimped Wire



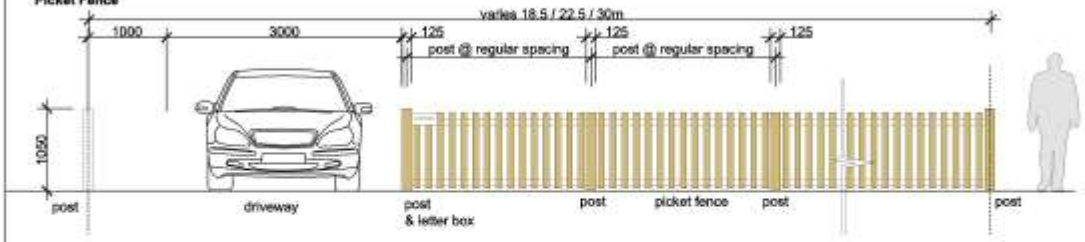
Post & Rail



Hedging



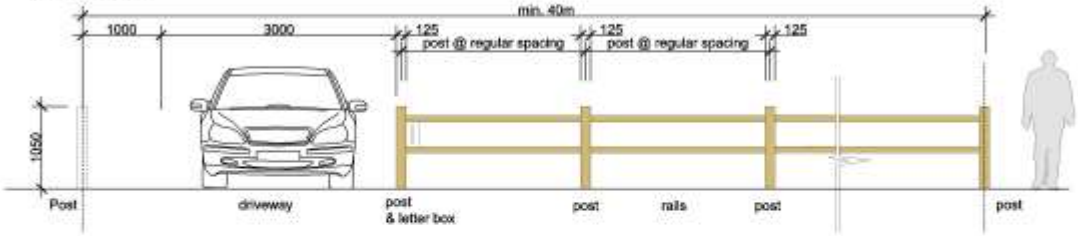
Picket Fence

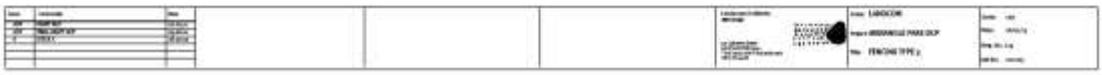


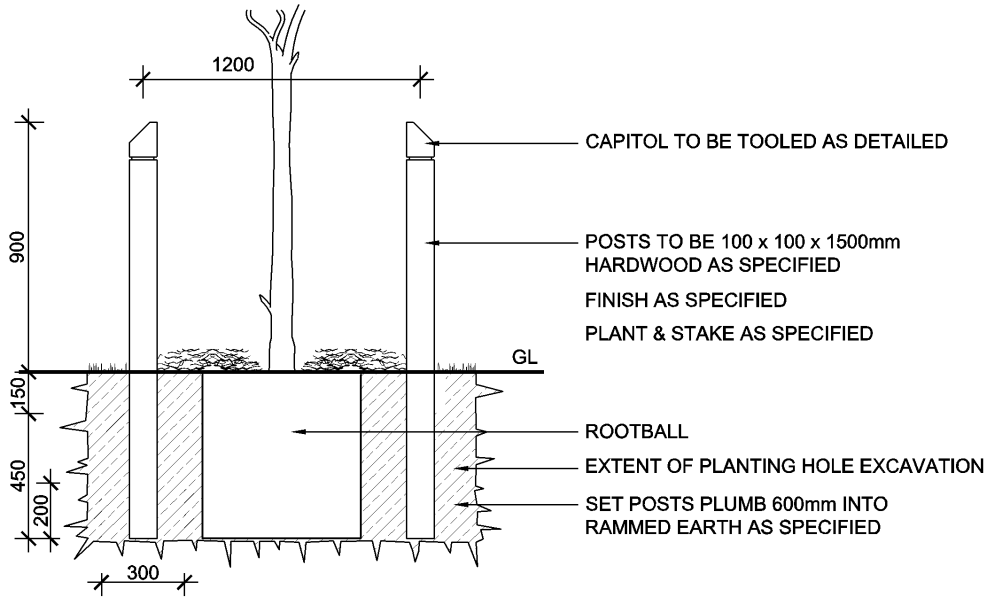
Type 3 - Post + Infill

Location: Fringe Road & Menangle Road (Large Lots, Rural Lots)

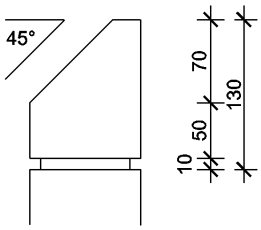
Rural timber fence



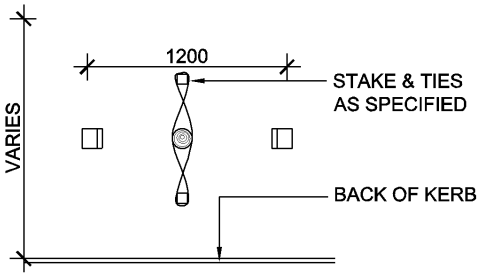




TREE GUARDS / STAKE SECTION **1:20**



CAPITOL DETAIL **1:5**



TREE GUARDS / STAKE SETOUT **nts**

Landscape Architects:
JMD design
131 Catherine Street
Leichhardt NSW 2040
T (02) 9564 1280 F (02) 9564 1505

Client: LANDCOM
Project: MENANGLE PARK DCP
Title: TREE GUARDS / STAKES

Scale: as shown
Date: 26/07/13
Dwg. No.: D01
Job No.: 1012123

JMD design

James Mather Delaney Design Pty Ltd
Landscape Architects
ABN 30 128 554 638

190 James Street
Redfern NSW 2016
Australia

T +61 2 9310 5644
F +61 2 9319 4858
info@jmddesign.com.au
www.jmddesign.com.au