Schedule 6 Planning scheme policies

SC6.1 Planning scheme policy index

The table below lists all the planning scheme policies applicable to the planning scheme area.

Table SC6.1A Planning scheme policy index

Planning scheme policies
Planning scheme policies relating to Part 7 (Local plans)
Planning scheme policy for Landsborough (urban design guidelines)
Planning scheme policy for Sippy Downs Town Centre
Planning scheme policies relating to Part 8 (Overlays)
Planning scheme policy for the acid sulfate soils overlay code
Planning scheme policy for the airport environs overlay code
Planning scheme policy for the biodiversity, waterways and wetlands overlay code
Planning scheme policy for the bushfire hazard overlay code
Planning scheme policy for the extractive resources overlay code
Planning scheme policy for the flood hazard overlay code
Planning scheme policy for the heritage and character areas overlay code
Planning scheme policy for the landslide hazard and steep land overlay code
Planning scheme policy for the scenic amenity overlay code
Planning scheme policies relating to Part 9 (Development codes)
Planning scheme policy for the utility code
Planning scheme policy for development works
Planning scheme policy for the nuisance code
Planning scheme policy for the reconfiguring a lot code
Planning scheme policy for the transport and parking code
Planning scheme policy for the waste management code
Planning scheme policies relating to Part 10 (Other plans)
Planning scheme policy for Maroochydore Principal Regional Activity Centre Structure Plan
Planning scheme policy for Palmview Structure Plan
Other planning scheme policies
Planning scheme policy for biodiversity offsets
Planning scheme policy for information that local government may require
Planning scheme policy for performance bonds

SC6.2 Planning scheme policy for Landsborough (urban design guidelines)

SC6.2.1 Purpose

The purpose of this planning scheme policy is to provide advice about achieving outcomes in the **Landsborough local plan code** relating to urban design.

Note—nothing in this planning scheme policy limits Council's discretion to request relevant information under the Development Assessment Rules made under section 68(1) of the Act~~in accordance with the Act~~.

SC6.2.2 Application

This planning scheme policy applies to assessable development which requires assessment against the Landsborough local plan code and which is included within the following zones:-

(a) Local centre zone;

(b) Medium impact industry zone; or

(c) Specialised centre zone.

SC6.2.3 Advice about achieving urban design outcomes for development in the Local centre zone

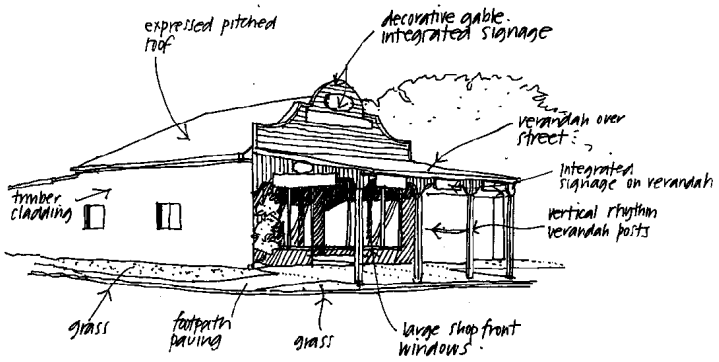
The following is advice for achieving Acceptable Outcome AO9 of **Table 7.2.16.4.1 (~~Criteria for assessable development~~Performance outcomes and acceptable outcomes for assessable development)** of the **Landsborough local plan code** relating to built form and urban design outcomes in the Local centre zone:-

(a) Landsborough's Local centre zone has a number of 'traditional' shop buildings which exhibit good urban design 'manners' and streetscape relationships (refer **Figure SC6.2A (Design principles for development in Landsborough's Local centre zone)** below). One quality of these buildings is the interaction of vertical elements of architectural composition such as verandah posts and raking parapets extending above the roof line; and

(b) other good urban design principles that characterise some of the older retail frontages and which are appropriate to development in Landsborough's Local centre zone include:-

(i) large shopfront and entry doors;
(ii) 'light' verandah structures over footpath areas;
(iii) visible pitched roof forms;
(iv) timber walls;
(v) verandah supported by posts with parapets on the gable end;
(vi) facing the street;
(vii) use of grass and simple paving materials on footpaths;
(viii) signage that is integrated with the building; and
(ix) front facade proportions are square or not too horizontal (less than a double square).

Figure SC6.2A Design principles for development in Landsborough's Local centre zone



Schedule 6

SC6.2.4 Advice about achieving urban design outcomes for development in the Medium impact industry zone and Specialised centre zone

The following is advice for achieving Acceptable Outcomes AO4.2 and AO11.2 of **Table 7.2.16.4.1 (~~Criteria for assessable development~~Performance outcomes and acceptable outcomes for assessable development)** of the **Landsborough local plan code** relating to built form and urban design outcomes in the Medium impact industry zone and Specialised centre zone:-

(a) the Medium impact industry zone and Specialised centre zone provide significant employment opportunities for the Landsborough area. However, most of the existing buildings in these precincts are not sympathetic to the urban character established in Landsborough's town centre;

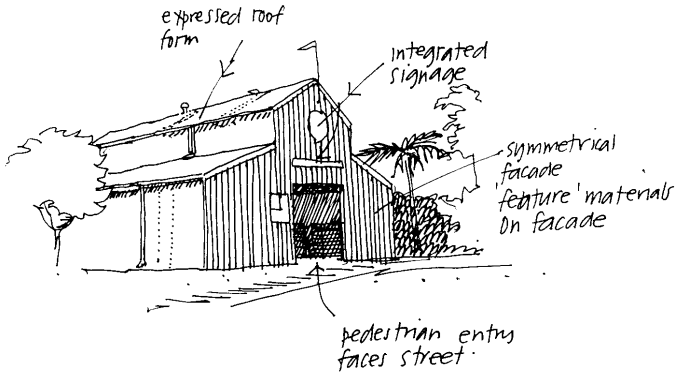
(b) while the functional needs of development in these zones require structures of a differing scale, some of the town centre qualities can be achieved through careful consideration of vehicle movements, pedestrian routes and facade treatment. Urban design consideration is particularly important for development fronting Caloundra Street as the main entrance to the town;

(c) the desired qualities of the urban character of the Medium impact industry zone and Specialised centre zone are summarised below:-

(i) larger scale street facade treatment through the use of gables or skillion roof forms;
(ii) street facade designed as an active frontage with pedestrian friendly building elements such as roof overhangs;
(iii) signage integrated into the design of the facade and does not dominate the facade;
(iv) vehicle entries are located at one side of the development;
(v) no car parking between active frontage and the street edge;
(vi) car parking located at the side of the development, integrated with other vehicle movement areas; and
(vii) truck access roller doors are located side-on, or where facing the street, are well set back;

(d) some of these principles are illustrated in **Figure SC6.2B (Example of an existing building illustrating some appropriate features for Landsborough's Medium impact industry zone and Specialised centre zone)** below, which shows an existing building that contributes to the establishment of an appropriate character on Caloundra Street. Good urban character features of this development are noted on the figure; and

Figure SC6.2B Example of an existing building illustrating some appropriate features for Landsborough's Medium impact industry zone and Specialised centre zone



(e) built form elements which detract from the potential quality of streetscapes within the Medium impact industry zone and Specialised centre zone include:-

(i) car parking areas between the frontage of buildings and the street;
(ii) large roller doors which dominate the street elevation; and
(iii) poor definition of pedestrian areas and entrances.

Schedule 6

SC6.2.5 Advice about particular sites with architectural and heritage character

(1) The following is advice for achieving Acceptable Outcome AO1.1 of **Table 7.2.16.4.1 (~~Criteria for assessable development~~Performance outcomes and acceptable outcomes for assessable development)** of the **Landsborough local plan code** relating to the retention and adaptive re-use of buildings which have cultural heritage or character significance:-

(a) Landsborough's town centre contains a number of buildings with heritage and architectural character. These buildings have been specifically identified in the Heritage and Character Areas Overlay Map; and

(b) In relation to the refurbishment of buildings with cultural heritage significance, the following principles should be followed:-

(i) new work should respond to the scale, rhythm, texture and functional expression of the original design, but should not try to imitate detail;
(ii) layers of history in a building of heritage significance, including legitimate wear and tear, should be conserved and not obscured so that buildings develop layers of age which add to their richness;
(iii) original building forms should be reinstated for buildings of heritage significance (e.g. verandah posts along footpaths); and
(iv) sensitive reinterpretation of older building forms such as dwelling house/shop combinations should be encouraged.

(2) The following guidelines are intended to assist in the enhancement and refurbishment of the particular sites identified below:-

Mellum Club Hotel

(a) built for James Campbell in 1888 at the corner of Old Gympie Road and Maleny Street. In 1914 or 1915 the hotel was pulled on skids to its present location;

(b) the building is in a prime location, being directly opposite the pedestrian route from the railway station. The original building appears relatively intact; however successive additions detract from its presentation;

(c) refurbishment guidelines for this particular site are detailed below:-

(i) progressive reinstatement of verandah;
(ii) remove existing awnings over street;
(iii) open out Mill Street facade to street;
(iv) open out Cribb Street facade to street with doors and windows;
(v) widened footpath with outdoor dining and new shade structures; and
(vi) appropriate colour scheme for a late nineteenth century building;

Landsborough Bakery (Former) and Landsborough Butcher (Old)

(d) classic and intact 1920's shop architecture presently used as bakery and wedding cake shops. The original butcher's shop has an unsympathetic concrete brick front;

Schedule 6

(e) refurbishment guidelines for these particular sites are detailed below:-

(i) appropriate additional development is in-filled between the buildings;
(ii) additional development is setback 3 metres to accentuate existing buildings;
(iii) additional development includes continuous verandah and active frontage along street;
(iv) footpath is widened and may incorporate outdoor dining;
(v) traditional shopfront is reinstated on the old butcher shop;
(vi) small extension to north of wedding cake shop is removed;
(vii) additional car parking areas are provided at the rear; and
(viii) existing colour schemes are retained;

Jewellers Shop (Former)

(f) house and shop that makes an important contribution to town character. Strategic location on the landmark corner of Maleny Street and Old Landsborough Road is highly visible when crossing railway line. The building should be incorporated into the linkage between the School of Arts Hall and the museum;

(g) where the traditional building frontage is retained as active frontage, there is potential to develop another active front (restaurant, cafe etc.) at the rear of the building that addresses the proposed community parkland and associated linkages. This could be achieved by extending or redesigning the rear section of the building (e.g. kitchen and dining verandah) to suit usage requirements;

(h) refurbishment guidelines for this particular site are detailed below:-

(i) shop retained for commercial uses appropriate for community and/or visitors e.g. backpacker centre (information centre / internet cafe / backpackers /coffee house / laundromat etc);
(ii) roof sheeting is reinstated in metal;
(iii) rear extension is enclosed or has an outdoor roofed area;
(iv) pitched metal roof opens to street and park; and
(v) appropriate colour scheme is used, for example;

Cribb Street houses

(i) inter-war and earlier housing on Cribb Street facing the railway line and located immediately north of the old butcher shop. The preservation of these houses as a collective example of Queenslander style houses in Landsborough is sought through the identification of these houses as a character area in the Heritage and Character Areas Overlay Map;

Schedule 6

(j) some unsympathetic modifications and evidence of lack of maintenance, but new uses could revitalise these buildings to add life and maintain main street character; and

(k) refurbishment guidelines for these particular sites are detailed below:-

(i) encourage retention of existing houses in association with residential or business uses (office, art gallery etc.);
(ii) extension to houses occurs towards the street (e.g. shopfront form);
(iii) at the rear of the building, or incorporated underneath the existing structure;
(iv) maximum 40% of street frontage is new building;
(v) active frontage is provided along the street;
(vi) views to existing houses from Cribb Street are maintained; and
(vii) car parking areas are provided at the rear of houses.

SC6.3 Planning scheme policy for Sippy Downs Town Centre

SC6.3.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about satisfying assessment ~~criteria~~benchmarks in relation to the Sippy Downs Town Centre;

(b) state standards identified in the **Sippy Downs local plan code** in relation to development in the Sippy Downs Town Centre;

(c) identify information that Council may request to allow a development application to be properly assessed; and

(d) provide guidance on Council's policy intent in relation to development in the Sippy Downs Town Centre.

Note—nothing in this planning scheme policy limits Council's discretion to request relevant information under the Development Assessment Rules made under section 68(1) of the ~~in accordance with the~~ Act.

SC6.3.2 Application

(1) This planning scheme policy applies to assessable development which requires assessment against the assessment ~~criteria~~benchmarks in **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes for assessable development~~criteria for assessable development~~ in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code**.

(2) The Sippy Downs Town Centre (Precinct SID LPP-1) is identified on **Local Plan Precinct Map LPM33** in **Schedule 2 (Mapping)** and comprises:-

(a) the Sippy Downs Town Centre Core (Sub-precinct SID LPSP-1a);

(b) the Sippy Downs Business and Technology Sub-precinct (Sub-precinct SID LPSP-1b); and

(c) the Sippy Downs West Neighbourhood Sub-precinct (Sub-precinct SID LPSP-1c).

SC6.3.3 Development in Precinct SID LPP-1 (Sippy Downs Town Centre) generally

SC6.3.3.1 Town centre character (architectural and landscape character)

Guidance for achieving Performance Outcome PO2 (Town centre character)

(1) The following is advice for achieving Performance Outcome PO2 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to town centre character:-

Architectural character

(a) the architecture of buildings in the town centre should be reflective of location and climate and therefore take on a form that is subtropical in nature that reflects both its coastal location and connection with the University. The essential criteria to develop architectural character for the Sippy Downs Town Centre include:-

(i) response to the sub-tropical climate and location;
(ii) response to local context and neighbouring architecture (i.e. University of the Sunshine Coast);
(iii) variety in massing and visually engaging facades; and
(iv) levels of environmental sustainability; and

Landscape character

Schedule 6

(b) the landscape of the Sippy Downs Town Centre should respect the natural landscape character of the area by:-

(i) retaining existing vegetation;
(ii) maximising shade tree cover particularly along footpaths, streets and in public areas;
(iii) reflecting the landscape character of the Sunshine Coast; and
(iv) ensuring that trees are attractive, hardy and long lived.

SC6.3.3.2 Connectivity and movement

Preliminary

(1) The guidance and standards provided in this section are in addition to the **Planning scheme policy for the transport and parking code**. Where discrepancies exist between the two policies, the guidance and standards of this section take precedence.

General advice for connectivity and movement

(2) The following is general advice for achieving outcomes of the **Sippy Downs local plan code** relating to connectivity and movement:-

(a) the Sippy Downs Town Centre should establish an interconnected and permeable movement network to allow for:-

(i) reduced concentration of local traffic on the major road corridors;
(ii) increased pedestrian and bicycle movement; and
(iii) increased access to public transport;

(b) the town centre street network comprises Principal Streets and Local Access Streets[1]. All streets should be designed and constructed in accordance with the relevant provisions of this planning scheme policy, the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**; and

(c) north-south streets should have university related names. North-south streets include 'W', 'V', 'U', 'T', 'F', 'E', 'P', 'K', 'N' and 'M'. East-west streets should have local cultural heritage or environmental related names. East-west streets include 'A', 'Y', 'Z', 'X', 'C', 'B', 'R' and 'L'. 'A' street being the main street and traversing most of the town centre should be given particular consideration.

Guidance in relation to Performance Outcome PO4

(3) The following is advice for achieving Performance Outcome PO4 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to the town centre street network:-

(a) a number of Principal Streets are required to make allowance for vehicle movement into and away from the Town Centre Core (Sub-precinct SID LPSP-1a). Principal Streets are fixed in their location. All Principal Streets are designed to accommodate the efficient movement of buses as they form the basis of the public transport system for the Sippy Downs Town Centre, linking all Sub-precincts and the University of the Sunshine Coast;

(b) Local Access Streets are required to support the function of the Principal Streets, and facilitate movement and connectivity. Local Access Streets are not fixed in their location. Their location can be altered slightly depending on the design of individual development parcels, however all Local Access Streets should be provided. The key functions of Local Access Streets should be maintained as part of any change to their location. These functions include:-

(i) establishing a street block pattern with a depth of around 70-80 metres;
(ii) providing access to individual developments;
(iii) providing for additional on-street car parking; and
(iv) allowing for increased pedestrian and cycle movement and permeability;

[1] Principal Streets and Local Access Streets are identified on **Figure 7.2.25A (Sippy Downs local plan elements)** of the **Sippy Downs local plan code**.

(c) additional Local Access Streets or service lanes may be provided as necessary or as deemed appropriate for the movement network; and

(d) all streets are crucial elements of the town centre and public realm and therefore should be dedicated as road reserve.

Standards in relation to street cross sections for the Sippy Downs Town Centre

(4) All streets in the Town Centre Street Network are defined in a hierarchy of streets identified in **Figure 7.2.25D (Sippy Downs Town Centre Road / Street Designations)** of the **Sippy Downs local plan code**. The designations under this hierarchy differentiate each street for the purpose of identifying the relevant street cross section. Street cross sections are identified below in **Figures SC6.3A** – **SC6.3H**.

(5) The street cross sections identified in this planning scheme policy take precedence over the relevant street cross sections provided in the **Planning scheme policy for the transport and parking code**.

(6) For the purposes of Acceptable Outcome AO4 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following are the standards in relation to street cross sections for the Sippy Downs Town Centre:-

(a) the relevant cross section figure applies as indicated **by Figure 7.2.25D (Sippy Downs Town Centre Road / Street Designations)** of the **Sippy Downs local plan code**;

(b) cross section and reserve widths may vary to suit intersections, turning lanes, bus stops, pedestrian crossing treatments and other requirements;

(c) verge areas are paved in accordance with **Section SC6.3.3.5 (Landscaping)** of this planning scheme policy;

(d) subsurface drainage is provided and is connected to trunk stormwater;

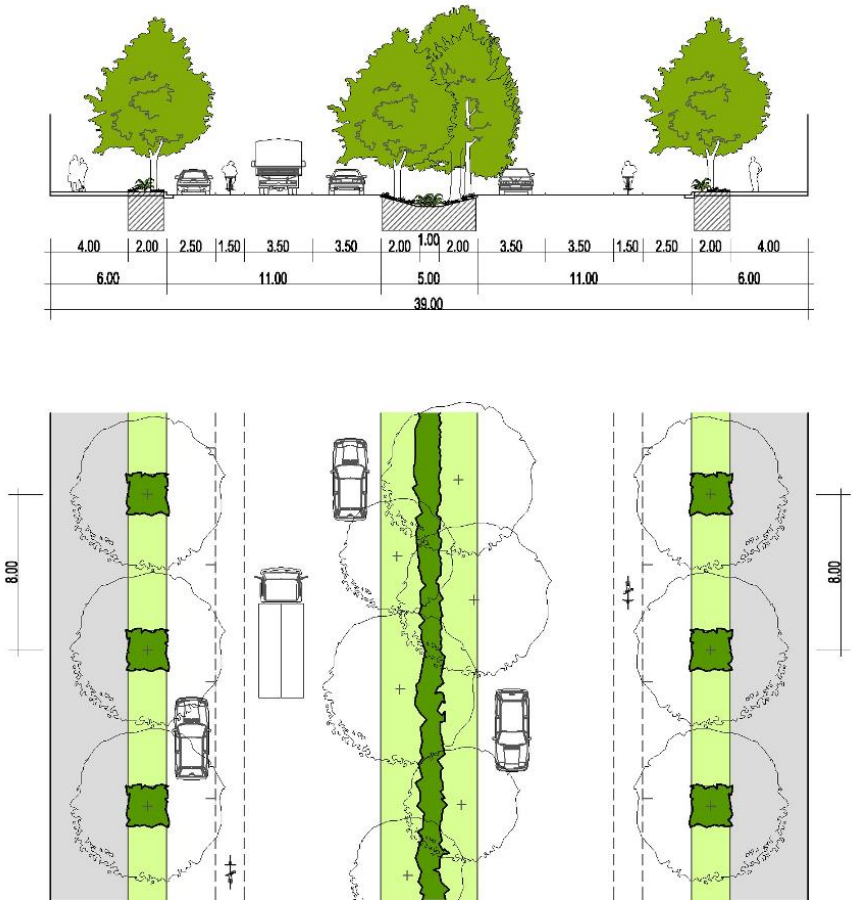
(e) landscaping and drainage treatments on verge areas and medians do not inhibit direct pedestrian access to on street parking or pedestrian movement across streets;

(f) landscaping includes appropriate root barrier protection to kerbs and adjacent services;

(g) medians contain pedestrian refuge areas as necessary with refuge areas allowing for functioning of stormwater treatments (i.e. median swale); and

(h) additional landscaping is encouraged and is consistent with the desired landscape character.

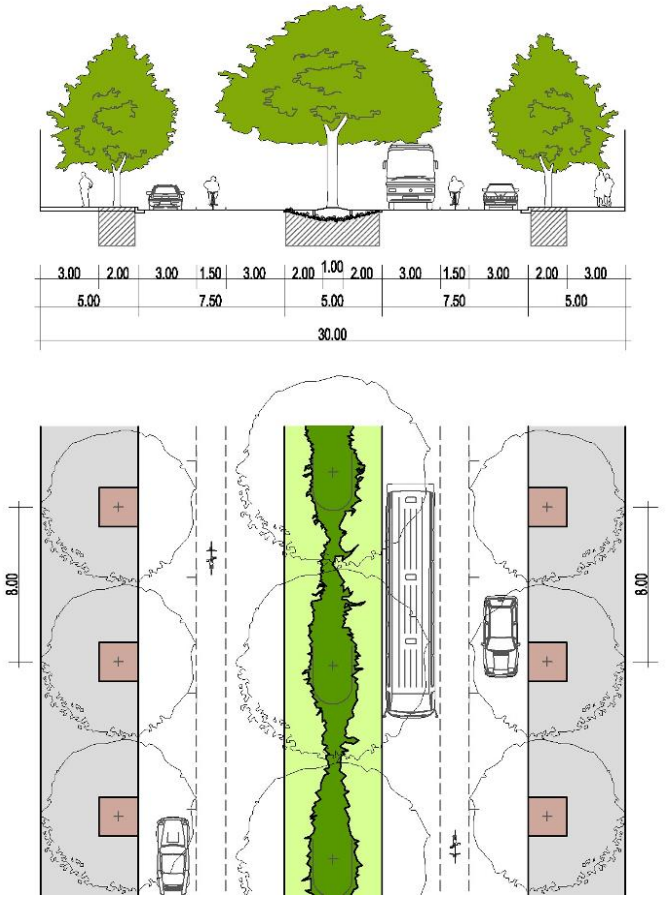
Figure SC6.3A Street Cross Section - Town Centre Connector



Notes—

1. Town Centre Connector (Sippy Downs Drive and Power Roads) are established as an informal boulevard reinforcing bushland character.
2. Verges incorporate a 2 metre wide vegetated area containing trees at 8 metre spacings with understorey planting and turf between plantings. The median may incorporate a mix of trees with understorey planting and turf.
3. The median incorporates a central swale to allow for water conveyance and initial water quality treatment.
4. Both vegetated verge areas have swales and/or biofiltration swales for the length of the carriageway.
5. Suitable tree species are provided to achieve the desired outcome.

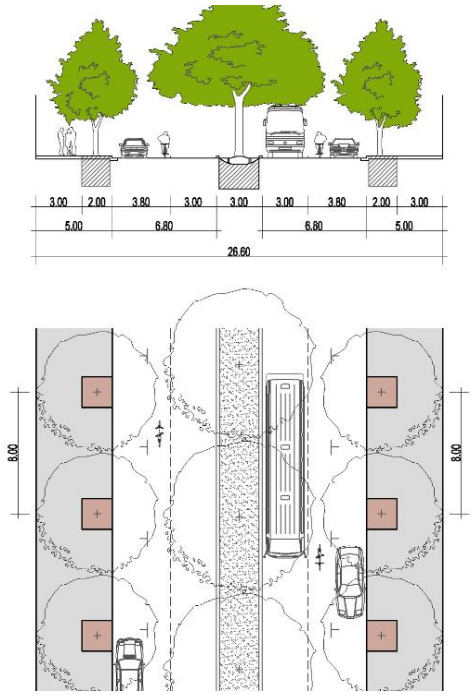
Figure SC6.3B Street Cross Section - Stringybark Road



Notes—

1. Stringybark Road is established as a formal boulevard reinforcing the character of the Town Centre Core Precinct.
2. Verges incorporate trees. The median incorporates trees at 10 metre spacings on raised garden beds.
3. The median incorporates a central swale to allow for water conveyance and initial water quality treatment.
4. Both verges are interspaced with biofiltration tree pits, incorporating extended detention for the length of the carriageway.
5. Suitable tree species are provided to achieve the desired outcome.

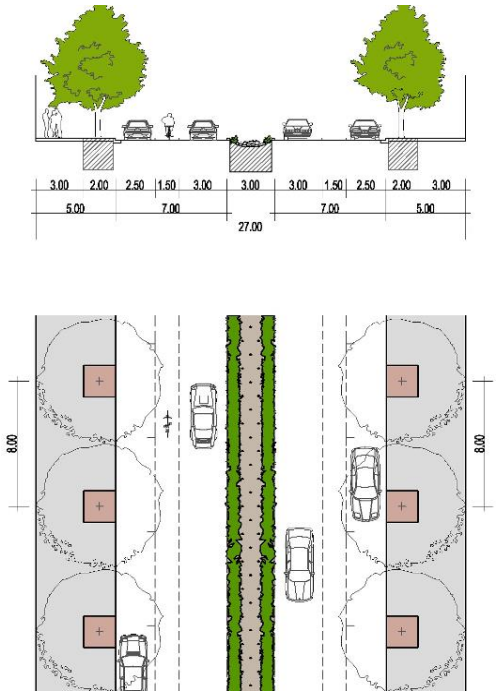
Figure SC6.3C Street Cross Section - 'A' Street (Town Centre)



Notes—

1. 'A' Street (Town Centre) is established as a major avenue reinforcing the Town Centre Core Precinct character.
2. Verges incorporate tree plantings at 8 metre spacings and the median at 10 metre spacings.
3. Both verges are interspaced with biofiltration tree pits, incorporating extended detention for the length of the carriageway.
4. 3.8 metre wide kerbside lanes are for shared use by cyclists.
5. The needs of pedestrians have priority and pedestrians are the focus of design for 'A' Street (Town Centre).
6. Pedestrian crossings are provided at consolidated locations on 'A' Street (Town Centre). Pedestrian refuge crossings and crossings at signalised intersections are sufficiently wide.
7. The kerb is built out into the parking lanes to create kerb buildouts for additional street trees and landscaping, outdoor dining, street furniture or pedestrian refuge, provided it does not conflict with intersection requirements or potential bus stop and taxi rank locations.
8. Suitable tree species are provided to achieve the desired outcome.

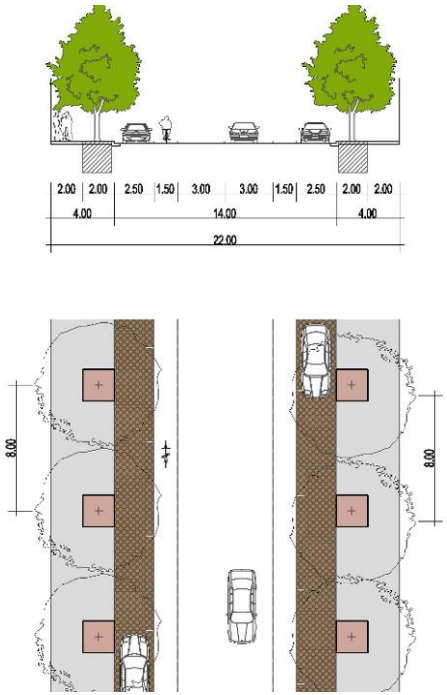
Figure SC6.3D Street Cross Section - 'A' Street



Notes—

1. 'A' Street (Sippy Downs West Neighbourhood and Business and Technology Sub-precincts) is established as a major avenue reinforcing the character of the relevant precinct.
2. Verges contain tree plantings at 8 metre spacings.
3. A 3 metre wide vegetated median with a central rock lined swale allows for stormwater conveyance and initial water quality treatment. Pedestrian refuge crossings are incorporated into the design of the median.
4. Both verges and the central median are interspaced with biofiltration tree pits, incorporating extended detention for the length of the carriageway.
5. Paving treatments vary between the Sippy Downs West Neighbourhood and Business and Technology Sub-precincts (refer to Figures 7.8(b) and (d)). Verge areas in the Sippy Downs West Neighbourhood Sub-precinct include lawn.
6. Suitable tree species are provided to achieve the desired outcome

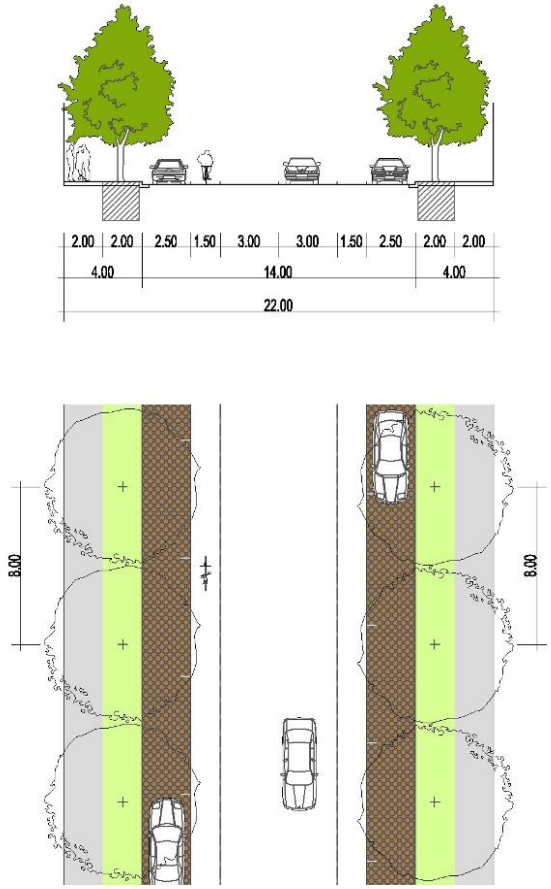
Figure SC6.3E Street Cross Section - Town Centre Principal Street



Notes—

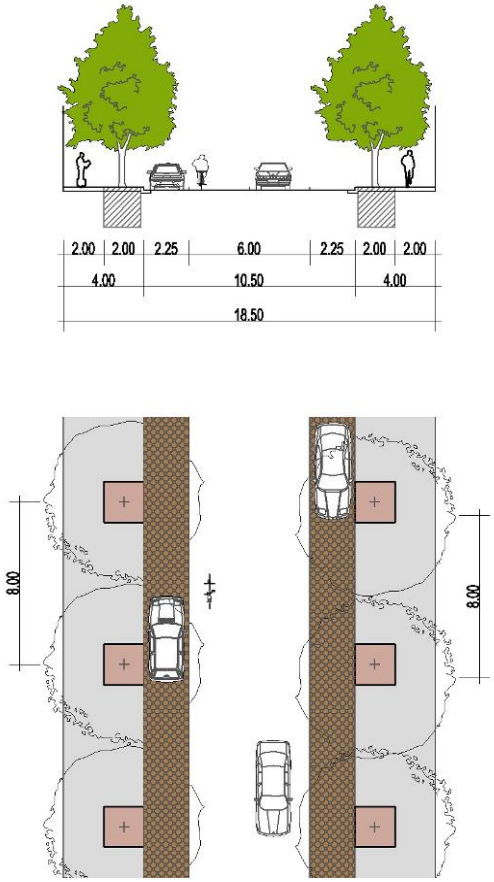
1. Town Centre Principal Streets are established as major streets reinforcing the Town Centre character.
2. Verges contain tree plantings at 8 metre spacings.
3. Street trees are planted in linked linear structured soil modules with drainage and irrigation to provide a suitable growing environment.
4. Permeable paving is provided for kerbside parking areas to allow for stormwater infiltration.
5. Both verges are interspaced with biofiltration tree pods, incorporating extended detention for the length of the carriageway.
6. Suitable tree species are provided to achieve the desired outcome.

Figure SC6.3F Street Cross Section - Residential Principal Street



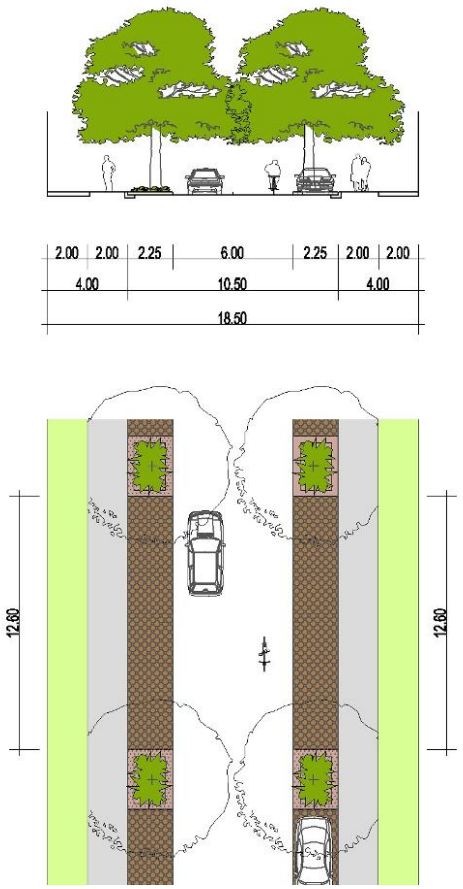
Notes—
1. Residential Principal Streets are established as major streets reinforcing the residential neighbourhood character.
2. Verges contain tree plantings at 8 metre spacings.
3. Permeable paving is provided for kerbside parking areas to allow for stormwater infiltration.
4. Both verges are interspaced with biofiltration tree pits, incorporating extended detention for the length of the carriageway.
5. Suitable tree species are provided to achieve the desired outcome.

Figure SC6.3G Street Cross Section - Town Centre Access Street



Notes—
1. Verges contain tree plantings at 8 metre spacings.
2. Permeable paving is provided for kerbside parking areas to allow for stormwater infiltration.
3. Both verges are interspaced with biofiltration tree pits, incorporating extended detention for the length of the carriageway.
4. Suitable tree species are provided to achieve the desired outcome.

Figure SC6.3H Street Cross Section - Residential Access Street



Notes—
1. Residential Access Streets reinforce the residential neighbourhood character.
2. Verges contain *Pongamia pinnata* and *Waterhousa floribunda* at 12.6 metre spacings in parking aisle.
3. Permeable paving is provided for kerbside parking areas to allow for stormwater infiltration.
4. Both verges are interspaced with biofiltration tree pits, incorporating extended detention for the carriageway.
5. Suitable tree species are provided to achieve the desired outcome.

Guidance in relation to Performance Outcome PO8 (Pedestrian through block links)

(7) The following is advice for achieving Performance Outcome PO8 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to pedestrian through block links:-

(a) pedestrian through block links are not fixed exactly in their location (refer to **Figure 7.2.25C (Sippy Downs Town Centre Core Plan)** of the **Sippy Downs local plan code**). Their location may be altered slightly, and will depend on development design. Any relocation of the access provision should maintain the integrity of the proposed layout and the intent for permeable block configuration;

(b) the location of pedestrian through block links should reflect desire lines for pedestrian movement between key activity nodes. Links should be designed to ensure that they are safe alternatives to the street based pedestrian movement network. Design should consider width and access, shelter, materials, and function whilst ensuring adjacent land uses are not detrimentally impacted;

(c) all links, whilst they may remain in private ownership, are integral to pedestrian permeability and circulation and are to provide guaranteed 24 hour / 7 days a week public access by dedicated easement in accordance with Performance Outcome PO8 of the **Sippy Downs local plan code**; and

(d) where a pedestrian through block link with 'Secondary Active Street Frontage' (refer to **Figure 7.2.25C (Sippy Downs Town Centre Core Plan)** of the **Sippy Downs local plan code**) is required (i.e. east – west link between Stringybark Road and 'E' Street) development should address this link. These links may be considered suitable for the location of uses which will foster activity beyond traditional working hours (i.e. Entertainment/Catering Business uses). The design of these links should allow for the future adaptability of the street network and have the width to allow for conversion to an access street or rear service/access lane.

SC6.3.3.3 Built form

General advice in relation to built form

(1) The following is general advice for achieving outcomes of the **Sippy Downs local plan code** relating to built form:-

(a) the Sippy Downs Town Centre should have a built form that:-

(i) can achieve high land use density without high-rise buildings;
(ii) is consistent with the vision for a fully integrated "University Town"; and
(iii) identifies Sippy Downs as distinct from other centres on the Sunshine Coast;

(b) accordingly, the town centre should have a built form that:-

(i) is a 'perimeter block' form of development (refer to **Figure SC6.3I (Perimeter block form)**);
(ii) generally has a four storey articulated wall of buildings;
(iii) provides taller six storey elements in strategic locations such as corners, along Principal Streets and at terminating vistas; and
(iv) has a minimum building height of 2 storeys and limits maximum building height to 6 storeys; and

(c) within the preferred 'perimeter block' form, the design of buildings should:-

(i) provide variety in building massing, street relationship and setbacks;
(ii) increase legibility;
(iii) embrace appropriate architectural themes;
(iv) relate buildings to public and private spaces; and
(v) achieve a sense of enclosure to streets and public spaces.

Guidance in relation to Performance Outcome PO14 (Building massing and composition)

(2) The following is advice for achieving Performance Outcome PO14 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to building massing and composition (refer to **Figure SC6.3J (Variety in building massing and composition)**):-

Variety in building massing and composition

(a) elements of the built form that help deliver variety and visual interest include (but are not limited to):-

(i) building shape – stepped changes in height, width (large recesses) and depth (varied horizontal and vertical setbacks);
(ii) building location – change in the position in relation to the street (setback) as well as orientation of the building (to face a landmark);
(iii) articulation of building envelope – the degree of shade and shadow (articulation) of the building facades. This is achieved by the facades' components as well as the additional parts of the building (shade awnings, sunshades, eaves etc.);
(iv) facade texture – amount of rough and smooth textures of the facade and at a finer level the materials on the facade;
(v) pattern and colour; and
(vi) use of vegetation on, within and around buildings.

Figure SC6.3I Perimeter block form

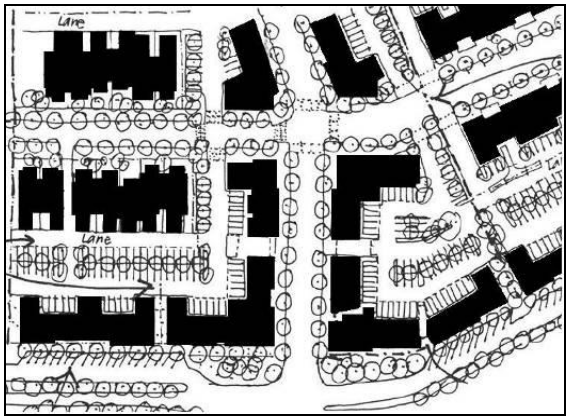
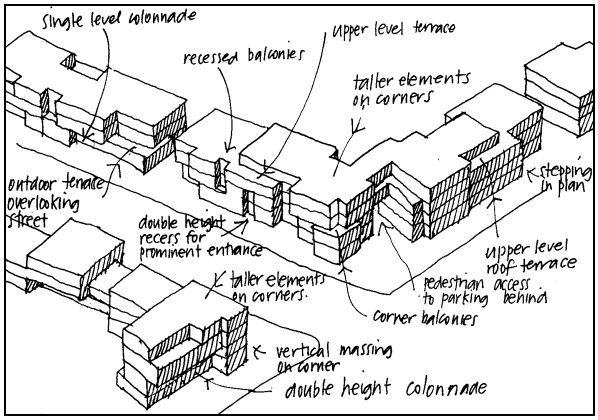


Figure SC6.3J Variety in building massing and composition



Guidance in relation to Performance Outcomes PO17 and PO18 (Taller elements)

(3) The following is advice for achieving Performance Outcomes PO17 and PO18 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to the taller elements of buildings:-

(a) locating taller elements within the built form assists to achieve increased variety, additional density, capitalise on views, and to assist in creating 'nodes' or minor landmarks. Taller elements are considered to be those buildings, or parts of buildings, that exceed the lower height range i.e. 5 and 6 storey elements on a Principal Street frontage or the 3 and 4 storey elements on a Local Access Street frontage; and

(b) rather than being the average height of development, these taller elements should be limited to corners where visibility and the built form impact have the greatest effect. A maximum footprint of 450m^2 and a minimum separation of 30 metres between these elements delivers an appropriate variety in built form. Location and design of taller elements should carefully consider potential shade impacts on public and private spaces.

SC6.3.3.4 Landscape buffer (Forest Buffer)

Standards in relation to the provision of the landscape buffer (Forest Buffer)

(1) For the purposes of Acceptable Outcome AO21 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following are the standards for the design of the landscape buffer (Forest Buffer):-

(a) the Forest Buffer is to be provided generally in accordance with **Figure SC6.3K (Indicative forest buffer cross section)**;

(b) where located on the southern side of the Sunshine Motorway, the Forest Buffer is to be transferred to the Council in freehold tenure;

(c) where vegetation exists within this area, all vegetation is retained in its natural state. Where no vegetation exists, the buffer area is densely planted in a manner that is floristically and structurally similar to regional ecosystems in the area;

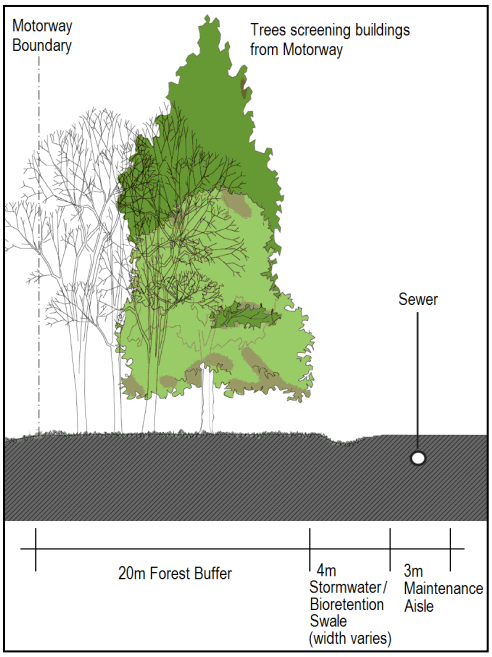
(d) in addition to the Forest Buffer, a 4 metre wide stormwater conveyance swale is provided and located adjacent to the buffer area in accordance with the Sippy Downs Town Centre Integrated Water Management Plan. **Section SC6.3.3.6 (Integrated water management)** of this planning scheme policy identifies the specifications of the swale;

(e) in addition to the Forest Buffer and stormwater swale, a 3 metre maintenance aisle able to accommodate a small truck or ute with passing and turn around areas is provided. It is important that access for maintenance is provided via an abutting street or a maintenance aisle off and linked to the street network. Access easements may be required for this purpose;

(f) the stormwater swale and maintenance aisle should be maintained by the body corporate for owners of individual developments for a period of 3 years, after which the ownership of these areas should be transferred to Council to allow for a coordinated approach to the long-term maintenance of the forest buffer and stormwater swale; and

(g) it is not expected that acoustic fencing will be required along the Sunshine Motorway boundary.

Figure SC6.3K Indicative forest buffer cross section



SC6.3.3.5 Landscaping

Guidance in relation to Performance Outcome PO23 (Existing vegetation)

(1) The following is advice for achieving Performance Outcome PO23 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to the retention of existing vegetation:-

(a) much of the town centre site will be cleared of vegetation to make way for buildings, roads and infrastructure. Wherever possible, the original landscape should be represented by retaining existing vegetation on individual development sites and supplementing this with additional native planting and transplanted understorey from the site; and

(b) vegetation retained on site may be included in the amount of landscaping required for a site.

Standards in relation to street trees in the Sippy Downs Town Centre

(2) For the purposes of Acceptable Outcomes AO26 and AO27 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following are the standards for street trees in the Sippy Downs Town Centre:-

(a) all streets are to provide a linked linear structures soil corridor free of infrastructure with drainage and irrigation capable of providing sustainable growth;

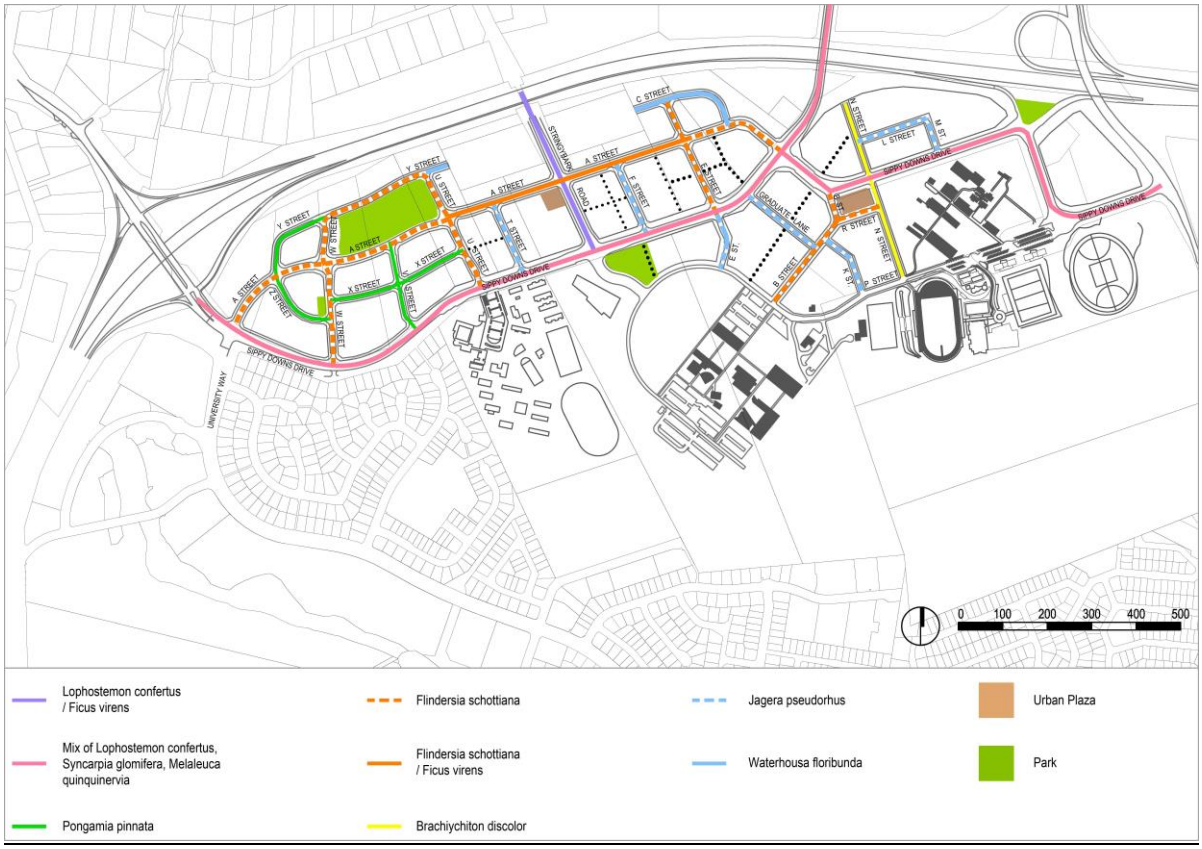
(b) all streets have avenue planting with large canopy trees to maximise the amount of shade;

(c) **Figure SC6.3L (Sippy Downs Town Centre street tree treatmen**t) identifies preferred tree species as a guide to desired tree form;

(d) spacing details for street trees are identified by the relevant cross section for each street type identified in **Section SC6.3.3.2 (Connectivity and movement)** of this planning scheme policy; and

(e) all underground services are co-located in a single corridor adjacent to the property boundary so as not to limit the placement and growth of street trees.

Figure SC6.3L Sippy Downs Town Centre street tree treatment



Standards in relation to footpath paving

(3) For the purposes of Acceptable Outcome AO28 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following are the standards for footpath paving in the Sippy Downs Town Centre:-

(a) a consistent approach is taken to footpath paving across the Sippy Downs Town Centre;

(b) footpath paving is in accordance with **Figures SC6.3M - SC6.3R** and the pavement type details identified in **Table SC6.3A (Sippy Downs Town Centre streetscape treatment schedule)**; and

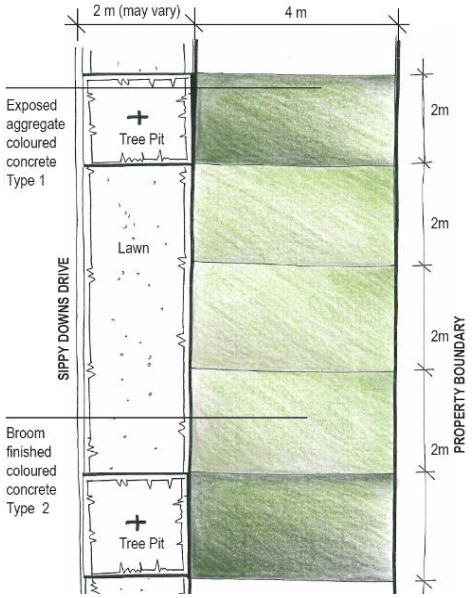
(c) footpaths in the Town Centre Core (Sub-precinct SID LPSP-1a) and Business and Technology Sub-precinct (Sub-precinct SID LPSP-1b) are to be entirely paved (except for tree pits) to cater for high pedestrian usage and outdoor dining.

Standards in relation to street furniture

(4) For the purposes of Acceptable Outcome AO29 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the standards for streetscape treatments are identified in the Streetscape Treatment Schedule in **Table SC6.3A (Sippy Downs Town Centre streetscape treatment schedule)**.

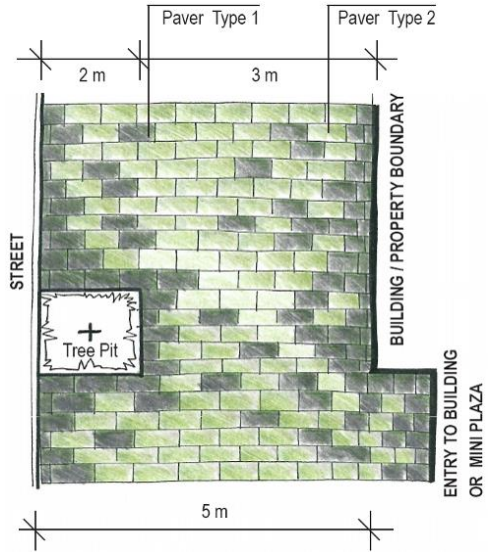
Schedule 6

Figure SC6.3M Footpath Paving – Town Centre Connector (Sippy Downs Drive and Power Road)



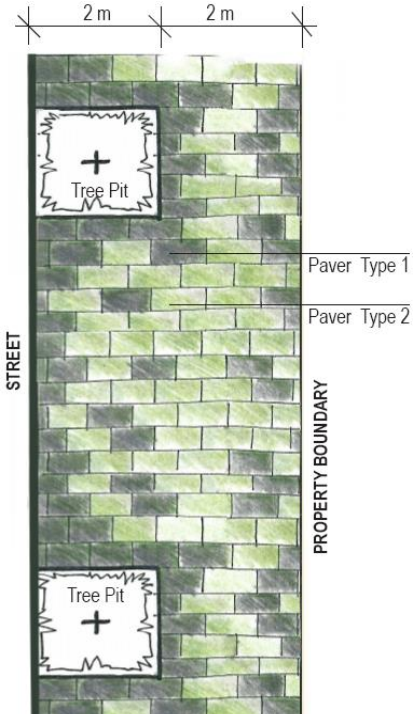
- 4m x 2.5/1.5m (typical) concrete paving, various treatments.
- Remaining paving area to be plain grey concrete, light broom finish with decorative saw cuts.

Figure SC6.3N Footpath Paving – Stringybark Road & 'A' Street (Town Centre)



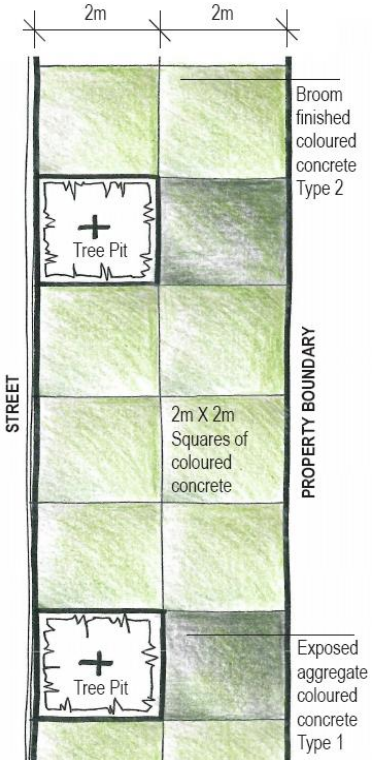
- 400mm x 400mm concrete unit pavers, laid in stretcher bond pattern, 70% main body colour, 30% accent colour, random pattern to respond to built edges.
- This footpath paving detail also applies to 'A' Street in the Sippy Downs Business and Technology Sub-precinct (A2).

Figure SC6.3O Footpath Paving – Town Centre Principal Street



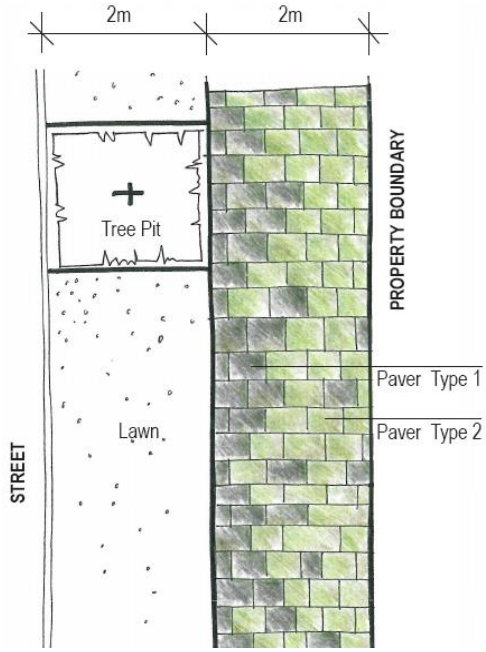
- 400mm x 400mm concrete unit pavers, laid in stretcher bond pattern, 70% main body colour, 30% accent colour, random pattern to respond to built edges.

Figure SC6.3P Footpath Paving – Town Centre Access Street



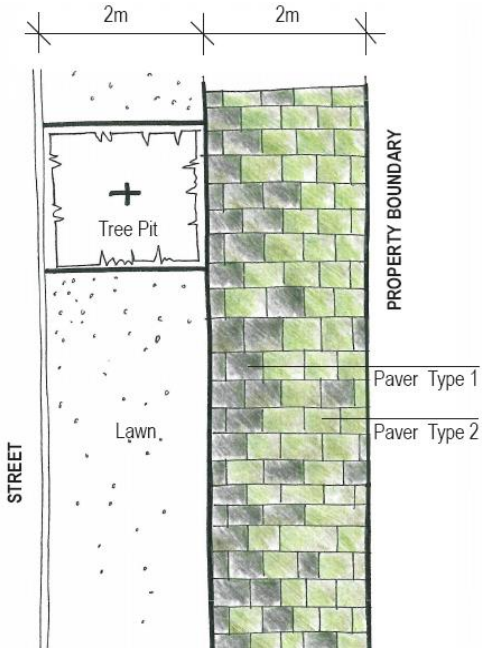
Schedule 6

Figure SC6.3Q Footpath Paving Residential Principal Street



- 400mm x 400mm concrete unit pavers, laid in stretcher bond pattern, 70% main body colour, 30% accent colour, random pattern to respond to built edges.
- This footpath paving detail also applies to 'A' Street in the Sippy Downs West Neighbourhood Sub-precinct (A3). Paved area is 3m in width.

Figure SC6.3R Footpath Paving Residential Access Street



Schedule 6

Table SC6.3A Sippy Downs Town Centre streetscape treatment schedule

ITEM	PRINCIPAL STREETS						LOCAL ACCESS STREETS	
	Town Centre Connector	**Stringybark Road**	**'A' Street (Town Centre)**	**'A' Street**	**Town Centre Principal Street**	**Residential Principal Street**	**Town Centre Access Street**	**Residential Access Street**
Footpath Trees	Lophostemon confertus	Lophostemon confertus	Elaeocarpus obovatus	Elaeocarpus obovatus	Elaeocarpus obovatus	Elaeocarpus obovatus	Waterhousa floribunda, Brachiychiton discolour	Pongamia pinnata, Waterhousa floribunda
Median Trees	Mix of Lophosternon confertus, Syncarpia glomifera and Melaleuca quinquinovia	Ficus virens	Ficus virens or Ficus platypoda	None	N/A	N/A	N/A	N/A
Understorey Planting	Median and street trees	Median only	Median as appropriate	Median and street trees as appropriate	None	Lawn	None	Yes
Tree Pit Mulch	Composted forest mulch	Decomposed Granite	Decomposed Granite	Decomposed Granite	Decomposed Granite		Decomposed Granite	Composted forest mulch
Pavement Type 1	Concrete Type 1 - Light Exposed Concrete CCS Cactus with 10 – 20mm aggregate 32MPa	Paver Type 1 – Hanson 400 x 400 "Sippy Downs Brush Box" CCS Cactus (double pigment quantities) 10-12mm aggregate Padthaway Green	Paver Type 1 – Hanson 400 x 400 "Sippy Downs Brush Box" CCS Cactus (double pigment quantities) 10-12mm aggregate Padthaway Green	Paver Type 1 – Hanson 400 x 400 "Sippy Downs Brush Box" CCS Cactus (double pigment quantities) 10-12mm aggregate Padthaway Green	Paver Type 1 – Hanson 400 x 400 "Sippy Downs Brush Box" CCS Cactus (double pigment quantities) 10-12mm aggregate Padthaway Green	Paver Type 1 – Hanson 400 x 400 "Sippy Downs Brush Box" CCS Cactus (double pigment quantities) 10-12mm aggregate Padthaway Green	Concrete Type 1 - Hanson Sippy Downs Mix – Light Exposed Concrete CCS Cactus with 9 – 14mm aggregate (70% dark jade, 25% Glasshouse Blue, 5% Oyster Grey) 32MPa	Concrete Type 1 - Hanson Sippy Downs Mix – Light Exposed Concrete CCS Cactus with 9 – 14mm aggregate (70% dark jade, 25% Glasshouse Blue, 5% Oyster Grey) 32MPa
Pavement Type 2	Concrete Type 2 – CCS Driftwood, Light Exposed Concrete with 10–20mm 'Hytec' cream coloured crushed aggregate 25MPa	Paver Type 2 – Hanson 400 x 400 "Sippy Downs Tea Tree" CCS Driftwood, 10-12mm aggregate Padthaway Green	Paver Type 2 – Hanson 400 x 400 "Sippy Downs Tea Tree" CCS Driftwood, 10-12mm aggregate Padthaway Green	Paver Type 2 – Hanson 400 x 400 "Sippy Downs Tea Tree" CCS Driftwood, 10-12mm aggregate Padthaway Green	Paver Type 2 – Hanson 400 x 400 "Sippy Downs Tea Tree" CCS Driftwood, 10-12mm aggregate Padthaway Green	Paver Type 2 – Hanson 400 x 400 "Sippy Downs Tea Tree" CCS Driftwood, 10-12mm aggregate Padthaway Green	Concrete Type 2 – CCS Driftwood, broom finish concrete 25MPa	Concrete Type 2 – CCS Driftwood, broom finish concrete 25MPa
Seats, Benches & Tables	SFA – Plaza CMP1/4/6 Jarra Battens	Concrete / Stone Seating Walls	SFA – Plaza CMP1/4 Powdercoat	SFA – Plaza CMP1/4 Powdercoat	SFA – Plaza CMP1/4 Powdercoat		SFA – Plaza CMP1/4 Powdercoat	
Litter Bins	SFA – LB6 Aluminium	SFA – LB6 Powdercoat	SFA – LB6 Powdercoat	SFA – LB6 Powdercoat	SFA – LB6 Powdercoat	SFA – LB6 Powdercoat	SFA – LB6 Powdercoat	
Bollards	SFA – Slim B5 Domehead Aluminium		SFA – Slim B5 Domehead Powdercoat	SFA – Slim B5 Domehead Powdercoat	SFA – Slim B5 Domehead Powdercoat	SFA – Slim B5 Domehead Powdercoat		
Bike Stands	SFA – Hoop BST02 Galvanised	SFA – Hoop BST02 Galvanised	SFA – Hoop BST02 Galvanised	SFA – Hoop BST02 Galvanised	SFA – Hoop BST02 Galvanised		SFA – Hoop BST02 Galvanised	

SC6.3.3.6 Integrated water management

Preliminary

(1) To support a holistic approach to rainwater and stormwater management, Council has prepared the Sippy Downs Town Centre Integrated Water Management Plan (IWMP). The IWMP is reflected in the provisions of this planning scheme policy and is supported by a number of design drawings and sections that are available from Council's website. Refer to Council Drawing Series 9366.

(2) Development applications within the Sippy Downs Town Centre should fully consider the IWMP. Complying with the provisions of this planning scheme policy will ensure that the responsibility of sustainable urban water management is shared across development in the Sippy Downs Town Centre in a consistent and equitable manner.

(3) The IWMP provides guidance and standards on the required dimensions for harvesting, detention, conveyance and treatment systems. These dimensions are reflected below. Departure from these dimensions may be considered where it can be demonstrated that an alternative proposal provides equal or greater performance to those suggested in the IWMP.

(4) For the purposes of Acceptable Outcome AO30 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following are the standards for stormwater, water supply and wastewater infrastructure in the Sippy Downs Town Centre:-

Streetscape stormwater treatment

(a) the treatment of stormwater runoff through combinations of on-site treatment, roadside swales, vegetated buffers, biofiltration and extended detention areas within the road corridor and adjacent to the 'Forest Buffer' area is supported. As part of the IWMP, the stormwater conveyance strategy assumes that:-

(i) a portion of runoff from roofs and site is captured and stored for use;
(ii) excess runoff from roofs and site is treated before discharge to the roadside conveyance;
(iii) conveyance within the road corridor is provided via combinations of kerb and channel flow, central swales and pipe drainage; and
(iv) events up to the 1%AEP storm event are conveyed within the kerb to kerb area of the road reserves where applicable;

(b) the IWMP (refer Council Drawing Series 9366) identifies the anticipated configuration and layout of stormwater conveyance systems for the Sippy Downs Town Centre. Cross sections for each of the streets are identified in **Section SC6.3.3.2 (Connectivity and movement)** of this planning scheme policy;

On-site bioretention filters

(c) on-site bioretention filters should be designed in accordance with the parameters presented in **Table SC6.3B (IWMP design parameters for bioretention filters)** and the Healthy Waterways Partnership's Water Sensitive Urban Design Technical Design Guidelines for South East Queensland;

(d) the detention volumes of stormwater and roofwater tanks, as per **Table SC6.3E (Roofwater tank storage volumes)** and **Table SC6.2F (IWMP stormwater tank storage volumes)**, may be accounted for as equal volumes of extended detention provided by on-site bioretention filters. Further, the bioretention filter in each development could be split to a series of bioretention filters keeping the cumulative volume unchanged;

Table SC6.3B IWMP design parameters for bioretention filters

Design parameter	Analysis value
Bioretention filter area	3% of site area
Extended Detention Depth	0.2m
Filter Depth	1.0m
Depth below underdrain pipe as a percentage of the filter depth	10%
Saturated hydraulic conductivity	100mm/hr
Filter media to comply with FAWB[2] Guidelines for Soil Filter Media in Bioretention Systems	

Schedule 6

[2] Facility for Advancing Water Biofiltration (FAWB) Monash University http://www.monash.edu.au/fawb/products/obtain.html

(e) the detention depths and filter depths presented in **Table SC6.3B (IWMP design Parameters for Bioretention Filters)** should be maintained as the minimum values. Diversion of stormwater to the bioretention filters through a grassed swale may further improve the quality of stormwater;

Forest buffer swale

(f) the 'Forest Buffer Swale' as presented in the IWMP (refer Council Drawing Series 9366) should be located outside and adjacent to the 20 metre wide 'Forest Buffer'. The function of this swale is not to enter any part of the 20 metres required for the 'Forest Buffer';

(g) three parts of the 'Forest Buffer Swale' (tail end) should be utilised as bioretention swales. Design parameters for the forest buffer swale are given in **Table SC6.3C (IWMP design parameters for Forest Buffer swale)** and **Table SC6.3D (IWMP design parameters for bioretention filter for Forest Buffer swale)**. An indicative section of the forest buffer swale is given in Council Drawing Series 9366;

(h) a 3 metre wide maintenance aisle should provide access to the swale. This aisle should be located adjacent to the southern edge of the swale (refer to **Section SC6.3.3.4 (Landscape buffer (Forest Buffer))** of this planning scheme policy);

Table SC6.3C IWMP design parameters for Forest Buffer swale

Catchment ID	Length (m)	Minimum depth (m)	Other parameters
1	118	0.50	• Bed slope: 0.5% • Bed width: 2m • Slopes 1:4 • Vegetation Height: 0.075m
2	266	0.65	
3	431	0.65	

Table SC6.3D IWMP design parameters for bioretention filter for Forest Buffer swale

Catchment ID	Length (m)	Min. filter area (m^2)	Other parameters
1	89	178	• No extended detention depth • Filter media to comply with FAWB Guidelines for Soil Filter Media in Bioretention Systems • Saturated hydraulic conductivity: 100mm/hr
2	133	266	
3	162	324	

Filling and excavation for drainage works

(i) at some locations earthworks are anticipated to be needed prior to construction of the drainage system. Anticipated works include:-

(i) filling of the existing ground at locations indicated on the IWMP (refer Council Drawing Series 9366) in order to provide sufficient depth to convey 1% AEP flows; and

(ii) levelling of the existing ground (cut and fill) at some locations in order to provide continuous grade towards the end of the swale (refer Council Drawing Series 9366);

(j) approximate filling heights at each location are given in the Council Drawing Series 9366. Details of these quantities should be confirmed during detailed design;

High flow bypass

(k) the proposed IWMP drainage system is adequate for flows up to 1%AEP. However, to effectively convey flows from extreme events (greater than 1% AEP) a high flow bypass weir should be constructed to divert flows to the existing drain along the Sunshine Motorway. Refer to Council Drawing Series 9366 for high flow bypass locations and for a typical section of a proposed high flow bypass structure. The high flow bypass from the control weir should be designed to avoid disturbance of vegetation in the forest buffer from high energy flow;

(l) easements for the proposed pipe drains and culverts are as per Council Drawing Series 9366. These easements link the precinct's drainage system to the buffer zone swales;

Rainwater capture, storage and reuse

(m) as part of the IWMP, the rainwater harvesting strategy should ensure:-

(i) all building roof drainage is directed to rainwater storages;
(ii) systems are screened to exclude leaf litter and insects;
(iii) first flush devices are provided;
(iv) roofwater tank storage volumes are as **per Table SC6.3E (IWMP roofwater tank storage volumes)** and **Table SC6.3F (IWMP stormwater tank storage volumes)**;
(v) overflow from roofwater tanks is diverted to stormwater tanks;
(vi) storage is provided as tanks either buried under landscaped areas or car parks, or integrated into the basement designs of building;
(vii) harvested rainwater/roofwater is pumped throughout the building for toilet flushing, laundry and possibly also for limited garden irrigation; and
(viii) roofwater storages are connected to reticulated mains water supply for top up when available supply is less than or equal to 10%;

Table SC6.3E IWMP roofwater tank storage volumes

Precinct	Roofwater tanks	
	Retention volume m^3 / ha*	Detention volume m^3 / ha*
Sippy Downs Central	464	116
Sippy Downs West Neighbourhood	230	58
Sippy Downs Business and Technology	126	32

* *Per hectare of total site area.*

Table SC6.3F IWMP stormwater tank storage volumes

Precinct	Stormwater tanks	
	Retention volume m^3 / ha*	Detention volume m^3 / ha*
Sippy Downs Central	99	79
Sippy Downs West Neighbourhood	628	137
Sippy Downs Business and Technology	312	214

* *Per hectare of total site area.*

Harvested water for irrigation

(n) the IWMP requires that a harvested water supply system is implemented for supplying water for garden watering and landscape irrigation. Potable water should not be used for irrigation. The harvested water supply is supplied by either roofwater or harvested stormwater. In addition, the use of signage to indicate that drinking quality water is prohibited for use as irrigation supply should be displayed in all appropriate private and public areas.

Stormwater capture, storage and reuse

(o) as part of the IWMP, the stormwater harvesting strategy should ensure that:-

(i) at least 50% of the total site area other than roofs is connected to stormwater tanks;
(ii) stormwater storage volumes are as per **Table SC6.3F (IWMP stormwater tank storage volumes)**;
(iii) the system is screened to exclude rubbish and leaf litter;
(iv) storage systems may use a combination of open ponds and infiltration systems or concrete tanks either buried under landscaped areas or car parking areas, or integrated into the basement designs of buildings;
(v) a high flow bypass is incorporated to allow high volumes of intense or extended rainfall to bypass the storage facility and bioretention area; and
(vi) collected stormwater intended for internal reuse is treated to appropriate standards as per the relevant State Government guidelines and requirements.

Source reliability

(p) the IWMP roofwater and stormwater storages have been sized to capture and store volumes of rainwater and stormwater sufficient to supply the intended connections with 85% seasonal reliability. A continuous water balance simulation, of 30 years was undertaken to determine the reliability of substitute water sources;

Wastewater management

(q) a 'smart sewer' system should be provided for all development. 'Smart sewers' generally use welded PE pipe and plastic access shafts in lieu of manholes and can be used to replace conventional gravity sewerage systems; and

(r) the trunk sewer may be located within the area of the forest buffer swale only where the swale is not required for bioretention purposes. Otherwise the sewer may be located within the maintenance aisle. Refer to **Figure SC6.3K (Indicative forest buffer cross section)** for indicative location of the trunk sewer.

SC6.3.3.7 Road traffic noise attenuation

General guidance in relation to road traffic noise attenuation for the Sippy Downs Town Centre

The following is general advice for achieving outcomes of the **Nuisance code** relating to road traffic noise attenuation:-

(a) the location of the Sippy Downs Town Centre in proximity to the Sunshine Motorway results in the need to address the acoustic impact of the Motorway on development, in particular residential development. As residential development will take place in the form of multiple dwellings up to six storeys in height, the subsequent final site elevations in conjunction with any acoustic barriers will not achieve the required traffic noise attenuation. In addition, barriers would conflict with the visual amenity from the Sunshine Motorway and casual surveillance outcomes sought within the development. The applicable approach to noise attenuation may be achieved by:-

(i) architectural measures and building orientation to shield communal outdoor recreation areas (pool & BBQ, playground, etc.) or private courtyards from traffic noise; and

(ii) building design in accordance with *AS3671-1989: Acoustics-Road traffic noise intrusion-Building siting and construction*, to achieve the satisfactory noise levels as stated within *AS2107-2000: Acoustics-Recommended design sound levels and reverberation times for building interior*s, for the internal acoustic amenity.

SC6.3.4 Development in Sub-precinct SID LPSP-1a (Sippy Downs Town Centre Core)

SC6.3.4.1 Land use and locations

Guidance in relation to Performance Outcome PO32 (Town centre core plan)

(1) The following is advice for achieving Performance Outcome PO32 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** relating to the provision of the community facility:-

Land for community facility

(a) Performance Outcome PO32 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** requires a minimum of 1,500m² of land to be provided for an integrated community facility to meet the needs of the Sippy Downs community. Ownership of the land is to be transferred to Council in fee simple. Infrastructure credits will apply to the value of the land;

(b) **Figure 7.2.25C (Sippy Downs Town Centre Core Plan)** of the **Sippy Downs local plan code** identifies the preferred location of land required for this facility. Any proposal to change the location should ensure that the alternative location is on 'A' Street and has direct street frontage on a corner location; and

(c) the facility is intended to provide for a number of functions including a branch library, multi-purpose community centre, youth facility and community information space. It is estimated that a gross floor area of 2,500m² will provide for the various components of the facility over more than one level. The Sippy Downs integrated community facility should be a free standing, significant, cultural building located with an urban plaza providing a public gathering space external to the building.

Guidance in relation to Performance Outcome PO35 (Large floor plate retail)

(2) The following is advice for achieving Performance Outcome PO35 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in**

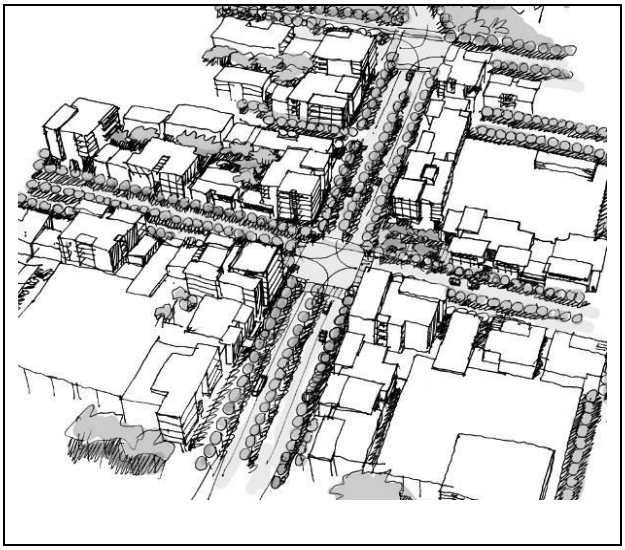
Precinct SID LPP-1 (Sippy Downs Town Centre)) of the **Sippy Downs local plan code** relating to the location and design of large floor plate retail premises:-

(a) the location of large floor plate retail premises (also referred to as retail 'anchor' stores) and related retail shops should ensure that they prioritise pedestrian movement on the 'Main Streets' of the town centre. Guidance on the layout and integration of large floor plate retail stores is provided below and illustrated in **Figure SC63S (Integration of large floor plate retail premises in the Sippy Downs Town Centre)**;

Hybrid shopping mall / street layouts

(b) hybrid mall / main street retail layouts incorporate a street into the layout of a retail mall. These layouts, whilst having a street and sleeving the large floor plate components, operate on the same principles as those of a shopping mall, where the priority is on internal or off-street malls, which maximise the number of specialty retail premises and concentrate customer movement off-street between the anchor stores. This priority for off-street pedestrian movement compromises the achievement of a vibrant 'Main Street'. Whilst these retail formats may seem to create a town centre, they are based on the retail 'shopping centre' model and therefore cannot deliver a public realm based town centre. Such retail formats are inconsistent with Council's planning intent for the Sippy Downs Town Centre and should not be utilised in development design;

Figure SC6.3S Integration of large floor plate retail premises in the Sippy Downs Town Centre



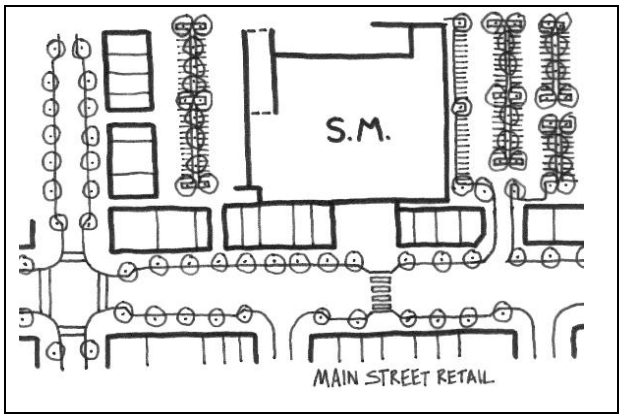
Required retail format (Street-based)

(c) to ensure that the 'Main Streets' play the central role in the functioning of the Sippy Downs Town Centre Core, the 'Main Streets' should have a strong primary retail role, rather than be in competition with high rent, off-street, shops and businesses. Therefore the required retail format prioritises the street as the main retail location and pedestrian movement corridor. This arrangement seeks to ensure the attractiveness and viability of streets for retail businesses and other town centre commercial activities;

(d) prioritisation of the 'Main Street' can be achieved when the location of large floor plate retail stores open onto, and are accessed from, the street rather than internal or off-street malls, to result in pedestrian movement along the street. A typical layout for a 'Main Street' large floor plate retail store is provided in **Figure SC6.3T (Supermarket located to front onto Main Street)**. The location and design of large floor plate retail uses should achieve the following:-

(i) each anchor is separated from the public realm by only one single sleeve (one tenancy) of retail floor space;

Figure SC6.3T Supermarket located to front onto 'Main Street'



Schedule 6

(ii) the entrance area is designed to read as part of the town centre public space system;
(iii) retail uses in entrance areas should not include important retail drawcards such as chemists, post offices and newsagents. These are located on the 'Main Streets';
(iv) the pedestrian entrance points are accessed only from 'A' Street and lead to only one anchor retail. Pedestrian access to a retail anchor (to the front door) should be only provided from the street and not directly from a rear or side car parking area. The main movement path from the carparking area results in the movement of pedestrians along the street creating activity in the public realm; and
(v) the location of an anchor should not allow the opportunity for customers to move from one anchor to another without accessing the public realm ('A' Street); and

(e) Council will seek design responses which demonstrate that the location of large floor plate retail premises, associated retail shops and other pedestrian activity generators prioritise street activity.

SC6.3.4.2 Public open space

Standards in relation to the provision of the Town Square

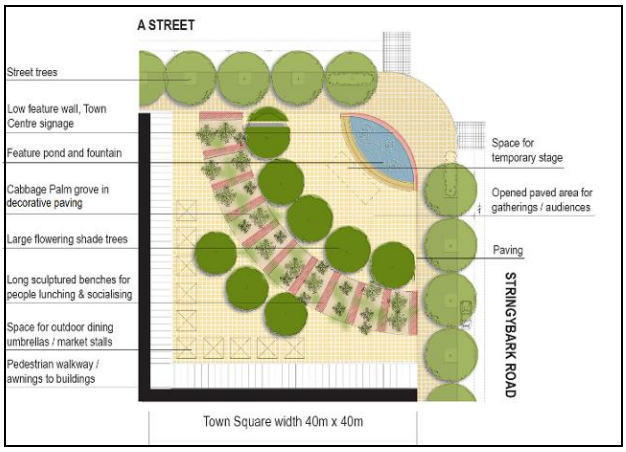
(1) For the purposes of Acceptable Outcome AO46 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following is the advice and the standards for the development of the Town Square:-

(a) the Town Square is the primary urban public space for the Sippy Downs Town Centre Core (Sub-precinct SID LPSP-1a). The Town Square should be located on the southwest corner of the intersection of 'A' Street and Stringybark Road. The Town Square should provide a community focus in the centre of town and should be highly visible from the entry into town along Stringybark Road. The area of the square should not be less than 40m x 40m, as measured from the property frontage to the building edge. An indicative Town Square concept plan is provided in **Figure SC6.3U (Town Square concept plan)**;

(b) given the importance of this public space, development should not constrain the public usability or long term flexibility of this land. Accordingly, important outcomes to be achieved are:-

(i) the transfer of the land to Council in fee simple, including the unencumbered use of the land (including the volumetric space above and below the surface of the land); and
(ii) that development and road design adjacent to the square maximises the usability of the space by avoiding or minimising the extent of any grade level changes; and

Figure SC6.3U Town Square concept plan



(c) landscaping may include clumped cabbage palms to frame the space, and provide feature planting and shade to sculptural seating. The square is hard paved to cater for the high number of users and could potentially contain some type of memorial and place for civic gathering and seating. Buildings with active frontages frame the space with space for outdoor dining and market stalls provided.

Standards in relation to the provision of Mini Plaza's

(2) For the purposes of Acceptable Outcome AO47 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following is the advice and the standards for the development of the Mini Plazas:-

Schedule 6

(a) Mini Plaza's provide small spaces for social interaction and relaxation in an attractive, landscaped and shady setting. These spaces are created by an articulated building, have an 'urban park' character and allow for gathering sitting and eating. Whilst these spaces provide full public access and use, they are not intended to be owned or maintained by Council but rather by a body corporate or other similar arrangement;

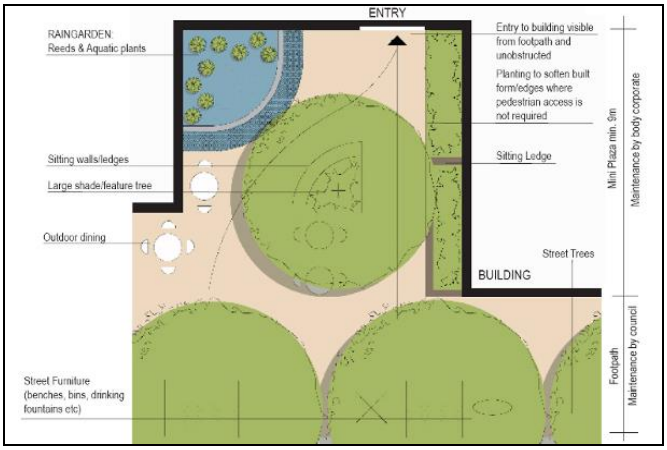
(b) the exact location of Mini Plaza's is determined during the detailed design process, however, their preferred locations are indicated in **Figure 7.2.25F (Sippy Downs Town Centre Open Space, Pedestrian and Cycle Linkages)** of the Sippy Downs local plan code. The minimum dimensions for a Mini Plaza should be 9 metres x 9 metres. This minimum space allows for public access and use and therefore any areas for outdoor dining are provided in addition to the minimum area required;

(c) Mini Plaza's provide at least one shade tree and also provide a 'raingarden' to assist in stormwater treatment. The 'raingarden' intercepts and treats roofwater runoff prior to drainage to the trunk drainage system and contains reeds and aquatic plants;

(d) Mini Plaza's contain low feature planting to encourage passive surveillance and soften built edges, contain themed artwork and provide unobstructed, easily accessible entries to buildings. Paving type and patterns ensure that the edge between the footpath and plaza is seamless; and

(e) an indicative Mini Plaza layout is identified in **Figure SC6.3V (Concept Mini Plaza layout)**, however a range of design solutions are encouraged. Design solutions may provide flexible seating as either loose furniture, long sitting ledges or a variety of fixed benches, or a combination of these as well as various items of street furniture including a drinking fountain, litter bins and bicycle stand.

Figure SC6.3V Concept Mini Plaza layout



SC6.3.5 Development in Sub-precinct SID LPSP-1b (Sippy Downs Business and Technology Sub-precinct)

SC6.3.5.1 Public open space

Standards in relation to the provision of the Town Plaza

(1) For the purposes of Acceptable Outcome AO56 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following is the advice and the standards for the development of the Town Plaza:-

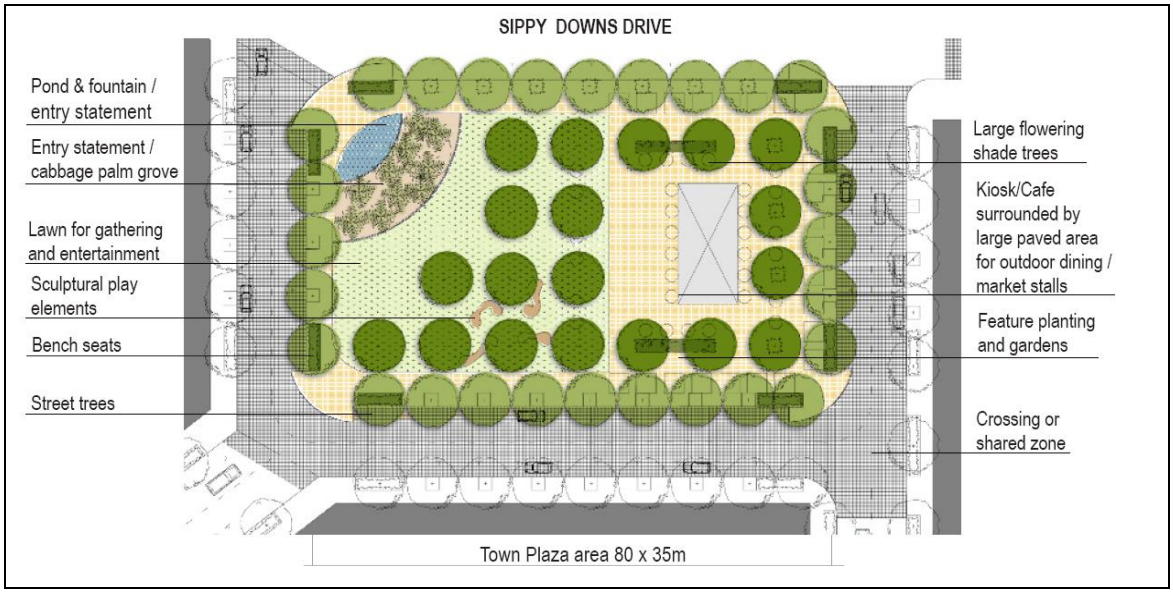
(a) the Town Plaza in the Sippy Downs Business and Technology Sub-precinct is a large space (80 metres x 35 metres) that will benefit from the 'Main Street' commercial and catering venues located on the southern side of the Town Plaza. The Town Plaza has road frontage on all sides with a number of crossing points or shared zones required between the Town Plaza and surrounding blocks. The plaza provides a variety of shady spaces with a mix of hard paving, lawn and gardens for passive recreation and community gathering and entertainment. An indicative Town Plaza concept plan is provided in **Figure SC6.3W (Town Plaza Concept Plan)**;

(b) given the importance of this public space, it is essential that development does not constrain the public usability or long term flexibility of this land. Accordingly, important outcomes to be achieved are:-

(i) the transfer of land to Council in fee simple and includes the unencumbered use of the land (including the volumetric space above and below the surface of the land); and
(ii) that development and road design adjacent to the square maximises the usability of the space by avoiding or minimising the extent of any grade level changes.

(c) facilities include a kiosk with outdoor dining and public toilets, a water fountain and pond and cabbage palm feature planting that is highly visible from the approach along Sippy Downs Drive. Public art and play sculptures provide cultural interest to the space.

Figure SC6.3W Town Plaza Concept Plan



Standards in relation to the provision of Mini Plazas

(2) Refer to **Section SC6.3.4.2 (Public open space)** of this planning scheme policy (above) in relation to Mini Plazas.

SC6.3.6 Development in Sub-precinct SID LPSP-1c (Sippy Downs West Neighbourhood)

SC6.3.6.1 Public open space

Standards in relation to the provision of Forest Park West

(1) For the purposes of Acceptable Outcome AO63 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following is the advice and the standards for the development of the Forest Park West:-

(a) the Forest Park West should be a minimum of 2 hectares in size and located generally in accordance with **Figure 7.2.25F (Sippy Downs Town Centre Open Space, Pedestrian and Cycle Linkages)** of the **Sippy Downs local plan code**;

(b) destined to be the last remaining remnant parcel of bushland within Precinct SID LPP-1 (Sippy Downs Town Centre), the park is intended to conserve the existing landscape features as much as possible and provide a bushland recreational experience;

(c) the park should not take the form of a conventional recreational park with large open areas, instead providing a balance between nature conservation and the provision of comfortable access, points of interest and recreational opportunities for users;

(d) the park should comprise a combination of established trees and understorey (approximately 70%), established trees and lawn (approximately 15%) and open lawn areas (approximately 15%);

Schedule 6

(e) paths should provide pedestrian and cycle access and circulation through the park;

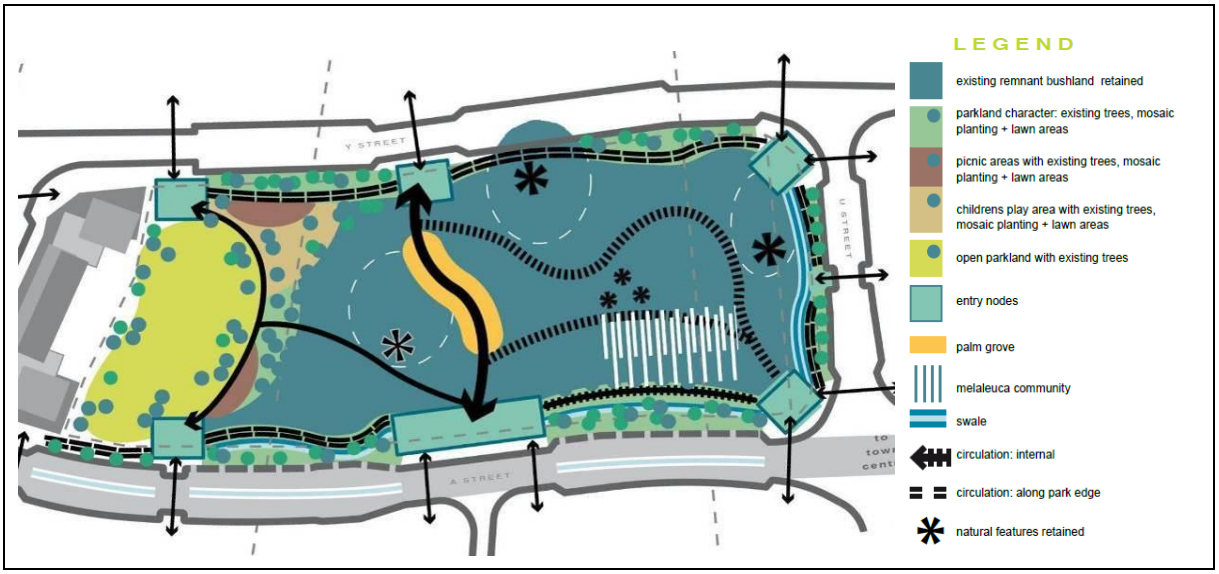
(f) facilities include public toilets, picnic shelters, BBQ's, seating areas, signage, walking tracks, kick-a-ball field and play spaces;

(g) an additional stormwater swale (drainage reserve) is provided along the eastern edge of the park. For a typical cross section of this swale refer to Council Drawing Series 9366 (refer to **Section SC6.3.3.6 (Integrated water management)** of this planning scheme policy);

(h) subject to site constraints, the Forest Park West is designed, in accordance with Crime Prevention Through Environmental Design (CPTED) principles so that access to and from the park is equitable with multiple exits; and

(i) the Forest Park West is established generally in accordance with the layout indicated in **Figure SC6.3X (Forest Park West indicative concept plan)**.

Figure SC6.3X Forest Park West indicative concept plan



Standards in relation to the provision of the Neighbourhood Park

(2) For the purposes of Acceptable Outcome AO64 of **Table 7.2.25.4.2 (Additional performance outcomes and acceptable outcomes~~criteria~~ for assessable development in Precinct SID LPP-1 (Sippy Downs Town Centre))** of the **Sippy Downs local plan code** the following is the advice and the standards for the development of the Neighbourhood Park:-

(a) a Neighbourhood Park is provided on the western side of 'W' Street at the termination of 'X' Street, as identified in **Figure 7.2.25F (Sippy Downs Town Centre Open Space, Pedestrian and Cycle Linkages)** of the **Sippy Downs local plan code**;

(b) the Neighbourhood Park should be a minimum of 600m² in size and provide a relaxing gathering space for the residential area; and

(c) the Neighbourhood Park is established as a shady space with a mix of lawn and gardens, hard paved seating areas and some play elements for passive recreation and community interaction.

Schedule 6

SC6.4 Planning scheme policy for the acid sulfate soils overlay code

SC6.4.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Acid sulfate soils overlay code**; and

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Acid sulfate soils overlay code**.

Note—nothing in this planning scheme policy limits Council's discretion to request relevant information under the Development Assessment Rules made under section 68(1) of the~~in accordance with the~~ Act.

SC6.4.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Acid sulfate soils overlay code**.

SC6.4.3 Advice for acid sulfate soils overlay code outcomes

The following is advice for achieving outcomes in the Acid sulfate soils overlay code relating to the avoidance and management of acid sulfate soils:-

(a) compliance with Performance Outcome PO1 of **Table 8.2.1.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Acid sulfate soils overlay code** may be demonstrated in part or aided by the submission of an acid sulfate soils investigation report and, if acid sulfate soils are to be disturbed by development, an acid sulfate soils management plan, prepared by a competent person in accordance with Section **SC6.4.4 (Guidance for the preparation of an acid sulfate soils investigation report and management plan)**.

Note—for the purposes of this planning scheme policy, a competent person is a Certified Professional Soil Scientist (CPSS) Stage 2 or 3, with suitable experience in acid sulfate soils.

SC6.4.4 Guidance for the preparation of an acid sulfate soils investigation report and management plan

Acid sulfate soils investigation report

(1) An acid sulfate soils investigation report is to be prepared in accordance with:-

(a) the *State Planning Policy December 2013* and *State Planning Policy Guideline: State interest – emissions and hazardous activities - Guidance on acid sulfate soils December 2013*; and

(b) the procedures described in the most up to date version of the *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998* (Ahern et al, 1998).

(2) An acid sulfate soils investigation report is to describe through detailed sampling, analysis (including groundwater analysis) and interpretation:-

(a) the presence, extent and intensity of any actual acid sulfate soils (AASS) and potential acid sulfate soils (PASS) present on the site; and

(b) the implications for design, construction and operation of the proposed development.

Acid sulfate soils management plan

(3) An acid sulfate soils management plan is to be prepared in accordance with the most recent version of the Queensland Acid Sulfate Soil Technical Manual.

(4) An acid sulfate soils management plan is to properly address, describe or include the following:-

(a) the mapped extent of the AASS or PASS;

(b) a detailed description of the depth and location of all ASS identified;

(c) the methodology used for sampling and analysis (both field and laboratory);

(d) the ASS management practices to be implemented that will achieve any or all of the following:-

(i) prevention of the oxidation of pyrite (including avoiding the disturbance of ASS by excavation or changes to groundwater levels);
(ii) treatment or management of the ASS (which may include burial, neutralisation, and separation and treatment);
(iii) prevention, control or minimisation of the escape of acid sulfate leachate to the surrounding environment; and
(iv) neutralisation of acid leachate from AASS;

(e) the details of any pilot project or field trial to be undertaken to prove the effectiveness of any new technology or innovative management practice being proposed;

(f) the monitoring and reporting procedures to be established and implemented;

(g) a contingency plan and accident emergency response procedures; and

(h) performance criteria to be used to assess the effectiveness of the ASS management and monitoring measures.

SC6.5 Planning scheme policy for the airport environs overlay code

SC6.5.1 Purpose

The purpose of this planning scheme policy is to provide advice about achieving outcomes in the **Airport environs overlay code**.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of the~~in accordance with the~~ Act.

SC6.5.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Airport environs overlay code**.

SC6.5.3 Advice relating to obstructions and hazards outcomes

The following is advice for achieving outcomes in the **Airport environs overlay code** relating to obstructions and hazards outcomes:-

(a) compliance with Acceptable Outcomes AO1.1 and AO1.2 of **Table 8.2.2.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Airport environs overlay code** may be achieved by observing the following process:-

(i) a proponent proposing to erect a permanent or temporary structure (including a construction crane) within 15 kilometres of the Sunshine Coast Airport or Caloundra Aerodrome should consult the obstacle limitation surface (OLS) diagrams included on the Airport Environs Overlay Maps;
(ii) where a proposed structure or any equipment necessary to construct, operate or maintain the proposed structure is likely to exceed the height plane (in metres AHD) of the OLS the proponent should consult Council's planning assessment officers;
(iii) where Council planning assessment officers become aware of the likelihood of permanent or temporary structures penetrating the OLS, either by notification by the proponent or by other means, the matter will be referred to the Operations Manager for Sunshine Coast Airport;
(iv) upon review of the proposed development the Operations Manager for Sunshine Coast Airport will either:-
  (A) advise the Council that the proposed development is unlikely to penetrate the OLS; or
  (B) confirm that the proposed development penetrates the OLS;
(v) in the case of (A) above, the proposed development may proceed without further consideration of the OLS (although any change to the project, particularly if construction cranes are involved) may require reconsideration of OLS impacts;
(vi) in the case of (B) above, the Operations Manager for Sunshine Coast Airport will refer the proposed structure to the Civil Aviation Safety Authority (CASA);
(vii) if CASA and the airport operator determines that the proposal will be a hazardous object it will give notice of its determination to the proponent and the Council as planning authority. The determination will include advice about any conditions that would reduce the risk from the proposed structure to acceptable levels, without affecting the regularity or efficiency of aerodrome operations;
(viii) in considering a development application Council will have regard to the advice provided by CASA; and
(ix) Council is unlikely to approve a development application if CASA has determined that the proposal will create an unacceptable risk to aviation safety or affect the operational efficiency of the airport as determined by the airport operator.

(b) compliance with Acceptable Outcome AO2.5 of **Table 8.2.2.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Airport environs overlay code** may be achieved (in part) by ensuring that landscape and drainage design does not create attractive habitats for birds and flying foxes through such measures as:-

Wetlands, drainage areas and water body design

(i) avoiding the creation of large water bodies and wetlands within 3 kilometres of the boundaries of an airport; and
(ii) for development within 8 kilometres of the boundaries of an airport:-
  (A) keeping the size of water bodies to a minimum;

Schedule 6

(B) avoiding the creation of islands within water bodies;
(C) keeping water body depth at more than 500mm;
(D) ensuring that water bodies have steep sides so as to make direct access to water difficult;
(E) minimising the area of open water in water bodies;
(F) minimising vegetation and overhanging rocks and logs at water body edges; and
(G) ensuring that drainage channels provide for regular flows to be contained within steep or vertical edged concrete flow paths with any broader channels for stormwater flows grassed and graded to drain quickly and be easily mown so as to avoid pondage;

Landscape design

(iii) avoiding artificial wetlands, extensive planting of fruit trees and the creation of large grassed areas capable of producing abundant seed within 3 kilometres of the boundaries of an airport; and
(iv) for development within 8 kilometres of an airport:-
(A) limiting the use of dense vegetation buffers around the edges of water bodies;
(B) limiting the planting of trees likely to form hollows;
(C) including short grass open areas that drain freely;
(D) keeping waterways free of vegetation that might provide habitat or food sources for ducks, ibis and other medium to large water birds;
(E) maintaining long grass (i.e.>30cm) in non-essential areas to reduce bird access to soil based food sources and serve to discourage feeding by limiting the birds ability to observe potential predators;
(F) limiting the use of signs, posts, structures and the like that provide resting and perching opportunities for birds;
(G) reducing opportunities for birds to scavenge from rubbish bins, composting facilities and the like by careful design and placement;
(H) installing anti-perching spikes and wires to deter birds, particularly magpies and raptors from roosting; and
(I) carefully considering the selection of plant species used in landscaping and in particular, avoiding known food trees for birds and flying foxes; and

(c) Compliance with Acceptable Outcome AO4 of **Table 8.2.2.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Airport environs overlay code** may be achieved (in part) by ensuring that lighting within 6 kilometres of an airport:-

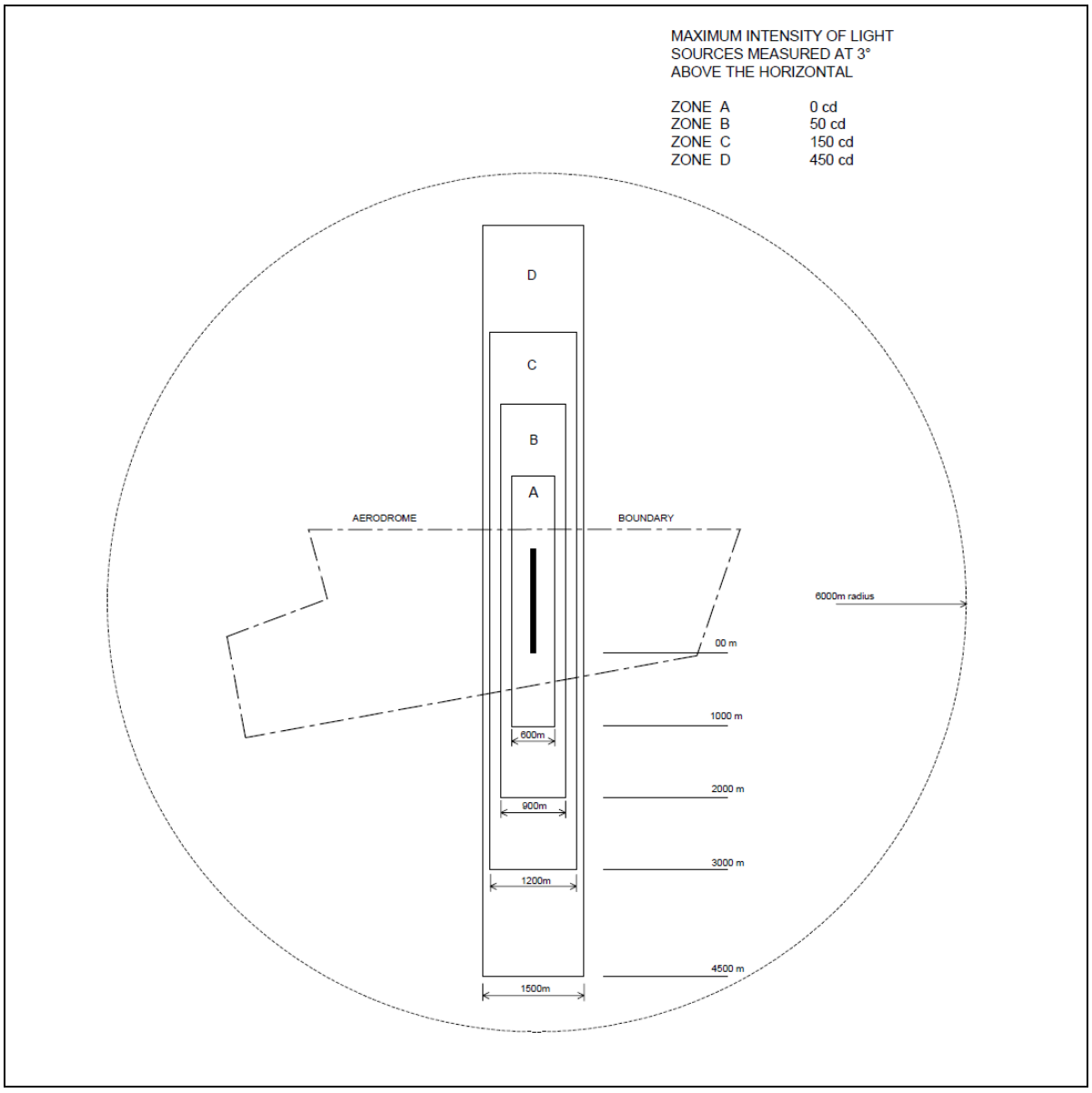
(i) is designed such that the intensity of lighting specified within each of the zones shown on **Figure SC6.5A (Airport lighting intensity zones)** does not exceed the intensity nominated for the respective zone;

Note—light fittings chosen for an installation should have their iso-candela diagram examined to ensure the fitting will satisfy the zone requirements. In many cases the polar diagrams published by manufacturers do not show sufficient detail in the sector near the horizontal, and therefore careful reference should be made to the iso-candela diagram. For installations where the light fittings are generally selected because their graded light emissions above horizontal conform to the zone requirements, no further modification is required.

(i) for installations where the light fitting does not meet the zone requirements, fitting a screen to limit the light emission to zero above the horizontal; and
(ii) avoiding the use of coloured lighting, except where approved for use by CASA.

Note—coloured lights are likely to cause conflict irrespective of their intensity because they are used to identify different aerodrome facilities. Proposals for coloured lights should be referred to CASA for detailed guidance.

Figure SC6.5A Airport lighting intensity zones



SC6.5.4 Guidelines for achieving airport environs overlay code outcomes

For the purposes of the performance outcomes and acceptable outcomes in the **Airport environs overlay code**, the following are relevant guidelines:-

(a) the *State Planning Policy December 2013* (Department of State Development, Infrastructure and Planning) and relevant *State Planning Policy Guidelines 2013*; and

(b) *Australian Standards AS2021: Acoustics-Aircraft noise instrusion – Building siting and construction.*

Schedule 6

SC6.6 Planning scheme policy for the biodiversity, waterways and wetlands overlay code

SC6.6.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Biodiversity, waterways and wetlands overlay code**; and

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Biodiversity, waterways and wetlands overlay code**.

Note—nothing within this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.6.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Biodiversity, waterways and wetlands overlay code**.

Note—Council may require an ecological assessment to be undertaken for an ecologically important area even if that area is not identified on a Biodiversity, Waterways and Wetlands Overlay Map.

SC6.6.3 Advice for biodiversity, waterways and wetland protection outcomes

The following is advice for achieving outcomes in the **Biodiversity, waterways and wetlands overlay code** relating to the protection of ecologically important areas, management of impacts on ecologically important areas, koala conservation, linking and rehabilitation of ecologically important areas, buffers to natural waterways and wetlands, management of public access and edge effects, hydrological regimes, groundwater and surface water quality outcomes:-

(a) compliance with PO1 to PO12 of **Table 8.2.3.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Biodiversity, waterways and wetlands overlay code** may be demonstrated in part or aided by the submission of:-

  (i) an ecological assessment report prepared by a competent person in accordance with **Section SC6.6.4 (Guidance for the preparation of an ecological assessment report)**;
  (ii) a site rehabilitation plan prepared by a competent person in accordance with **Section SC6.6.5 (Guidance for the preparation of a site rehabilitation plan)** where required to give effect to recommendations in the ecological assessment report; and
  (iii) a biodiversity offset area management plan prepared in accordance with **Section SC6.21.4 (Guidance for the preparation of a biodiversity offset area management plan)** of the **Planning scheme policy for biodiversity offsets**.

Note—for the purposes of this planning scheme policy a competent person is an appropriately qualified and experienced consultant with tertiary qualifications in environmental science, botany, zoology or another related discipline and with appropriate and proven technical expertise in undertaking flora and fauna surveys and regional ecosystem, ecology and biodiversity assessments within the South East Queensland Bioregion.

SC6.6.4 Guidance for the preparation of an ecological assessment report

General

(1) An ecological assessment report is to include the following:-

  (a) an accurate description of the characteristics of the site;

  (b) a detailed assessment of flora and vegetation communities on the site;

  (c) a comprehensive assessment of the fauna on the site, including fauna that could potentially use the site; and

  (d) recommendations for avoidance, minimisation and as a last resort offset of the potential impacts upon the environmental values of the site.

(2) An ecological assessment report is to be supported by surveys necessary to confirm the presence or likely presence of species on the site.

(3) An ecological assessment report is to be provided to Council in electronic form with excel spread sheets including GPS and easting and northing coordinates.

Site Characteristics

(4) An accurate and clear description of the site is to be provided, including:-

(a) a lot on plan description of the site;

(b) an Australian Map Grid (AMG) description of the site for use in GIS data systems;

(c) compass directions;

(d) a description of slope and aspect characteristics;

(e) the location of waterways and wetlands;

(f) position in the terrain;

(g) a description of the underlying soils and geology;

(h) regional ecosystem maps of both mature and regrowth vegetation; and

(i) accurate scale on each map.

Flora and vegetation community assessment

(5) A flora and vegetation community assessment is to be undertaken in conjunction with a fauna assessment of the site.

(6) Maps produced as part of the flora and vegetation community assessment are to be combined with maps produced as part of the fauna assessment to produce a single coordinated report and map for the site.

(7) The flora and vegetation community assessment is to:-

(a) cover all vegetation communities and all microhabitats (e.g. gullies, ridges, etc.);

(b) survey all relevant rare, threatened and significant species (that would reasonably be expected to be on the site) listed under the *Nature Conservation 1992 Act* and/or the *Environmental Protection and Biodiversity Conservation Act 1999* and their associated habitats;

(c) provide for multiple survey times where necessary to collect a full list of annuals such as herbs, orchids and grasses which may only be obvious during fruiting/flowering periods; and

(d) provide a Queensland Herbarium determination on the identification of site samples of any rare or unknown plants found during the assessment.

(8) The results of a flora and vegetation community assessment are to be reported in the following way:-

(a) through a flora and vegetation community map of the site which is A3 in size, at a scale not greater than 1:500 and containing the following information:-

(i) existing and proposed buildings, roads, services (sewer, water, power lines etc.), transects of the site and their potential construction impact zones (sheds, stockpile areas, access paths) and buffer setback distances for tree fall zones, waterways, wetlands and bushfire mitigation;
(ii) all vegetation associations (terrestrial and aquatic) and their regional ecosystems, including regrowth vegetation (and time until regional ecosystem status will be reached);
(iii) all rare, threatened or significant species within the site and on relevant adjacent properties;
(iv) fauna and flora environmental corridors, including waterways and wetlands areas;
(v) detail of transects and quadrant areas and locations of all fauna survey sites;

(vi) extent of weed infestation (including species) and/or other disturbances such as erosion, land slippage, etc.;
(vii) core habitat for priority species of flora and fauna (including hollow bearing trees, forage trees and ground habitats such as rocks, dens, logs, etc.);
(viii) a clear legend detailing each element described above; and

(b) through a written report containing the following information:-

(i) date of survey;
(ii) names and qualifications of competent person(s) and staff that undertook the survey, including details of relevant permits;
(iii) a description of the structural and spatial floral diversity;
(iv) a table of all flora species identified on the site with a description of their abundance, estimate of age (juvenile or mature), general health, if fruiting or flowering and GPS location;
(v) any potential or active threatening process;
(vi) an assessment of the biodiversity significance (State, Regional, Local) in accordance with the SEQ Biodiversity Planning Assessment; and
(vii) an assessment against the **Biodiversity, waterways and wetlands overlay code**.

Fauna assessment

(9) A fauna assessment is to be undertaken in conjunction with a flora and vegetation community assessment of the site.

(10) Maps produced as part of the fauna assessment are to be combined with maps produced as part of the flora and vegetation community assessment to produce a single coordinated report and map for the site.

(11) The fauna assessment is to:-

(a) cover all vegetation communities and all microhabitats (e.g. gullies, ridges, etc.);

(b) survey all relevant rare, threatened and significant species (that would reasonably be expected to be on the site) listed under the *Nature Conservation 1992 Act* and/or the *Environmental Protection and Biodiversity Conservation Act 1999* and their associated habitats;

(c) provide for at least one sampling site to be established in each hectare or broad ecosystem and habitat type;

(d) be conducted over a minimum of four days and nights with additional seasonal survey sampling undertaken when appropriate and necessary to fully assess the potential species on the site;

(e) provide for multiple survey times in terms of both time of day and throughout the year to ensure that all cryptic, migratory and/or seasonal species are recorded;

(f) provide a Queensland Museum determination on the identification of rare or unknown animals found during the assessment. A determination by someone recommended by the Queensland Museum is also accepted, provided recommendation of the person is also provided; and

(g) utilise the survey techniques and methods for the minimum duration periods set out in **Table SC6.6A (Fauna survey techniques, methods and minimum duration)**.

Table SC6.6A Fauna survey techniques, methods and minimum duration

Survey technique	Methods	Minimum duration
Diurnal search	This involves intensive investigation of streams, ground layer (under logs, rocks and leaf litter), low vegetation (under bark and tree stumps) and caves for target invertebrates and all amphibians, reptiles, bats and animal signs (e.g. scats, owl pellets, remains and tracks). Records of search area must be shown on an A3 plan with a scale of 1:500.	1-2hr/day for each vegetation community during the middle of the day during winter or 1-2 hours at the beginning and end of each day during summer.
Pitfall traps	A pitfall trap line should comprise 3 of more pits (20L	4 days and 4 nights.

Survey technique	Methods	Minimum duration
	containers) and appropriate drift fencing. At least 1 pitfall trap line for each habitat type/vegetation community with a minimum of 3 pitfall trap lines for the site. Pitfall traps should be cleared early morning and late afternoon.	
Opportunistic records	Covers all fauna outside the systematic survey times.	None.
Spotlighting	Using a combination of high powered spotlights and head torches to be carried out on foot only. This method surveys nocturnal fauna.	2hr/night for 4 nights.
Elliot traps	The Elliot transects should comprise of approximately 20 Elliot traps (varying sizes should be used). At least 1 Elliot transect for each habitat type/vegetation community with a minimum of 4 Elliot transects for the site.	4 days and 4 nights.
Wire cage (possum) and Arboreal traps	Each Elliot transect should include 2 wire cage traps and up to 5 platform mounted arboreal traps which are secured to selected trees.	4 days and 4 nights.
Bird surveys	Transects are walked with 10 minutes spent at each spot. Birds are recorded indicating method of identification (i.e. call or visual observation). Surveys are conducted for 1 hour from dawn to early morning, 1 hour at dusk to early evening and 1 hour during night for nocturnal species.	1hr/day and night for 4 days and nights.
Nocturnal voice playback and call recording	This technique uses voice playback to determine the presence of species that may be difficult to physically observe in the field (e.g. owls and frogs).	1hr/night for 4 nights.
Ultrasonic batt call detectors And/or Harp traps and mist nets	This device records the ultrasonic calls of micro chiropteran bats. For the capture of micro chiropteran bats.	1hr/night for 4 nights. 2hr/night for 4 nights.
Hair tubes	Different sizes of hair tube should be left on site as an additional method of mammal detection. Identification of samples must be undertaken by an expert in this method and their names must be provided in the report.	2 weeks.
Scats, tracks and other traces search	Evidence of fauna can be determined from scats, tracks, scratches, bones, etc.	1hr/night for 4 nights.
Aquatic bait trap/netting	Various methods of aquatic surveying should be undertaken where there is a water body on the site.	To be undertaken when water body is on site.

(12) The results of the fauna assessment are to be reported in the following way:-

(a) through provision of a fauna map for the site which is A3 in size, at a scale no greater than 1:500 and containing the following information:-

(i) all vegetation associations (terrestrial and aquatic) and their regional ecosystem status, including regrowth vegetation (and time until regional ecosystem status will be reached);
(ii) all rare, threatened or significant species within the site and on relevant adjacent properties;
(iii) fauna and flora environmental corridors, including waterways and wetland areas;
(iv) details of fauna sampling areas;
(v) core habitat for priority species of flora and fauna;
(vi) a clear legend detailing each element described above; and

(b) through provision of a written report containing the following information:-

(i) date of survey;
(ii) names and qualifications of competent person(s) and staff that undertook the survey, including details of relevant permits;
(iii) a table of all fauna species identified on the site with a description of their abundance, estimate of age (juvenile or mature), if nesting or feeding, if observed more than once during trapping;

(iv) any potential or active threatening process;
(v) an assessment of the biodiversity significance (State, Regional, Local) in accordance with the SEQ Biodiversity Planning Assessment;
(vi) an assessment against the **Biodiversity, waterways and wetlands overlay code**;
(vii) a description of the potential impacts of the proposed development on the species on the site, including during the design, construction and operational phases of the development;
(viii) recommendations to avoid or minimise adverse impacts through sympathetically designed development layout plans;
(ix) identified areas for the retention, protection, buffering and fencing of remnant native vegetation and native fauna habitat; and
(x) identified areas requiring weed control and revegetation/regeneration to enhance fauna and flora habitat.

Survey parameters

(13) A fauna survey conducted to inform an ecological assessment report is to:-

(a) be conducted for a minimum of 4 days and nights unless otherwise specified by Council's environmental assessment officers for larger sites and for areas of significant environmental value;

(b) include the maximum area likely to be affected by the construction and ongoing operation of the proposed development and adjacent properties that could provide habitat for animals that may migrate to and from the site; and

(c) record the survey dates, weather conditions, locations of all survey sites, methods used to survey fauna, justification for locations and methods used and any other relevant information about the activities undertaken during the survey period.

(14) All surveys are to identify any past records of rare, threatened or significant species in the general vicinity from Council's Ecological Report Card, Nature Search (Wildnet), Queensland Museum, Queensland Herbarium and other databases from local naturalists.

Recommendations for threat abatement

(15) Recommendations for threat abatement are to be provided that address all measures or changes to the development design required to avoid or mitigate the impacts of the proposed development. These measures may include, but not necessarily be limited to:-

(a) threat abatement plans;

(b) species recovery plans;

(c) conservation management plans;

(d) environmental management plans;

(e) fire management plans;

(f) site rehabilitation plans;

(g) sediment and erosion control plans;

(h) water quality management plans; and

(i) fauna management plans for both operational works phase and rehabilitation phase.

(16) Where a proposed development has the potential to adversely impact on biodiversity values, Council may request the preparation of one or more of the above plans, in conjunction with other measures to abate potential impacts.

Provision of biodiversity offsets

(17) For development proposing biodiversity offsets, an ecological assessment of the receiving site is also to be provided in accordance with the **Planning scheme policy for biodiversity offsets**.

SC6.6.5 Guidance for the preparation of a site rehabilitation plan

(1) A site rehabilitation plan is to reflect and be guided by the SEQ Ecological Restoration Framework (as amended) and must include ground fauna habitat restoration.

(2) A site rehabilitation plan is to incorporate/depict the following as relevant to the site and the development:-

(a) reference to any ecological assessment report(s) for the site and how they are addressed in the site rehabilitation plan;

(b) details from any fauna management plan that requires ground fauna habitat restoration and nesting boxes or native bee hives to be located in the revegetation or retained vegetation areas;

(c) a revegetation layout on A3 plans at a scale of not greater than 1:500;

(d) a species palette incorporating the selection of native indigenous species only that are of the appropriate regional ecosystems for the area;

(e) clear zone delineation of species suitable for waterways, wetlands, steep slopes, edge planting, bushfire reduction areas, etc.;

(f) details of ground habitat such as rocks and hollow logs and other structural elements are provided at a similar density and diversity to that which occurs within the regional ecosystem being rehabilitated;

(g) near to equal numbers of each species to be used within the relevant revegetation areas or a bias towards understory species targeted for recovery of a specific flora or fauna species;

(h) as a minimum, the following diversity of species (in appropriate location):-

(i) 3 species of wetland sedges;
(ii) 5 species of macrophytes;
(iii) 5 species of native grasses;
(iv) 20 species of native shrubs; and
(v) 10 species of native trees;

(i) as a minimum, planting at the following density:-

(i) sedges, macrophytes and grasses – 0.5 metre centres;
(ii) shrubs – 1.5 metre centres;
(iii) trees – 3 metre centres for those species 4 metres from the boundary of the rehabilitation works for weed exclusion purposes and 3 to 5 metre centres where further from the edge;

(j) measurable and achievable criteria on which the performance of the floristic and structural components of the revegetation strategy can be assessed annually over three years;

(k) the requirement that the area be weed free at the end of the revegetation period;

(l) nomination of a total bond amount of 1.5 times the schedule of works estimate of costs (plus GST) for the revegetation works, including maintenance for at least three years to be paid to Council;

(m) nomination of triggers for the release of this bond at 10% for the first year, 10% for the second year, and 80% in the third year; and

(n) a methodology for monitoring success of the revegetation.

Note—For areas larger than 5,000m² in area refer to **Section SC6.6.6 (Monitoring requirements for rehabilitation of large sites)**.

(3) For those sites proposing natural regeneration or the translocation of ground flora via the transport of clumps of vegetation or the use of 'live' topsoil with minimal 'infill' planting the following requirements are also to be detailed in a site rehabilitation plan:-

(a) criteria on which the performance of the floristic and structural components of the natural regeneration or translocation strategy can be assessed;

(b) the requirement for inspections to be undertaken at monthly intervals for the first 2 years to ensure that regeneration is meeting the performance criteria, including weed removal;

(c) the requirement that if the natural recruitment of species is not similar in density and diversity as the areas of revegetation within 12 or 24 months (at the discretion of Council) the non-performing natural regeneration or translocation areas are to be immediately revegetated to achieve these densities;

(d) the requirement that a supplementary report be provided to Council detailing the performance criteria for the revegetation of the non-performing natural regeneration or translocation areas;

(e) the requirement that a new/additional bond be provided to Council providing for at least 3 years of maintenance at the end of 12 months for the areas of non-performing natural regeneration areas; and

(f) the requirement that no bond be released for any revegetation works until such time as the natural regeneration areas have either met the performance criteria specified above or a plan of works has been approved by Council and a bond for the extra revegetation works paid to Council.

(4) A site rehabilitation plan may be required to be supported by a soil assessment report which incorporates the following:-

(a) the results of a soil test conducted under *Australian Standard AS4419* for each distinct soil type that works are to be conducted in;

(b) an additional soil test for any excessive nutrients identified by the first soil test; and

(c) recommendations for soil amelioration to amend the planting medium in response to the results of the soil tests.

SC6.6.6 Monitoring requirements for rehabilitation of large sites

(1) Where a site rehabilitation plan provides for revegetation and natural regeneration of sites larger than 5,000m² in area, monitoring is to be carried out in accordance with Council's ecological restoration monitoring protocol.

(2) The monitoring conducted under this protocol provides a framework for an inexpensive and quick understanding of the state of success of revegetation works and natural regeneration.

(3) The protocol relies upon completion of a table of assessment (see **Appendix SC6.6B (Example table of assessment for monitoring)**) which provides an indication of the type and diversity of species, their health, density and mulch cover. The table of assessment is not intended to provide a scientific comparison with a regional ecosystem reference site, but is a simple guide to see how revegetation works are succeeding.

(4) Under the protocol, every six months each ecosystem (i.e. wetlands, riparian, dry heath, open forest, etc.) targeted for revegetation/natural regeneration is to be subject to the following monitoring:-

(a) two permanent 21 metre transects, placed along the contour are to be established for every 5,000m² of area, as detailed in the protocol;

(b) at each end and 7 metres along the 21 metre transect a small quadrant of 2 metres x 2 metres is centred, for monitoring species of plants less than 1 metre high at time of monitoring;

(c) at each end of the transect a large quadrant 7 metres x 7 metres is centred for monitoring of species of plants greater than 1 metre high at time of monitoring;

(d) diversity is shown by the number of species and how many of each there is;

(e) density is shown by the number of stems per 100m²;

(f) health of plants is recorded for each species as a group, on a subjective scale of 0 (dead), 1 (poor) to 5 (good), either as an average or individually if there is too much of a difference between them;

(g) mulch is recorded for each quadrant for depth and % cover; and

(h) other issues such as erosion, vandalism, pests, feral animals, etc. are also recorded.

Appendix SC6.6A Example table of assessment for monitoring

Table SC6.6B Diversity and density of plants in Transect No.A (large quadrant 49m², small quadrant 4m²)

Quad	Species	Height (m)	Veg type	No. in quad	Stems/ 100m²	Ave heath (outlier)	Mulch depth Mulch % Cover Other issues
X	Acmena smithii	1.7, 1.5, 1.25	Tree	3	6	4	Depth 5cm Cover 60%
X	Euc grandis	1, 1.5	Tree	2	4	5	
1	Thermeda triandra	.90, .80, .80, .75, .50, .70	Grass	6	150	4	Depth 1cm Cover 20%
1							**Erosion rills need mulching**
2	Dianella caerulea	.30, .40, .10	Herb	3	75	4(1)	Depth 1cm Cover 80%
2	Lomandra hysterix	.85	Herb	1	25	5	
3	Crinum pedunculatum	.45, .55	GC	2	50	4	Depth 2cm Cover 80%
3							**Extra plants in quad**
4	Crinum pedunculatum	.45, .55, .55	GC	3	70	4	Depth 2cm Cover 80%
4	Lomandra hysterix	.85, .95	Herb	2	25	5	
Y	Banksia spp.	1, 1.5, 1.5	S Tree	3	6	4	Depth 2cm Cover 50%
Y	Euc grandis	1, 1.5	Tree	2	4	5	**Weeds 25%**

SC6.7 Planning scheme policy for the bushfire hazard overlay code

SC6.7.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Bushfire hazard overlay code**;

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Bushfire hazard overlay code**; and

(c) identify guidelines that may be relevant to achieving outcomes in the **Bushfire hazard overlay code**.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.7.2 Application

This planning scheme policy applies to development which requires assessment against the **Bushfire hazard overlay code**.

SC6.7.3 Advice for bushfire hazard assessment and management outcomes

The following is advice for achieving outcomes in the **Bushfire hazard overlay code**:-

(a) compliance with Performance Outcomes PO1 to PO9 of **Table 8.2.4.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Bushfire hazard overlay code** may be demonstrated in part or aided by the submission of a bushfire hazard assessment report and a bushfire hazard management plan prepared by a competent person in accordance with **Section SC6.7.4 (Guidance for the preparation of a bushfire hazard assessment report and bushfire hazard management plan)**.

Note—for the purposes of this planning scheme policy, a competent person is an appropriately qualified and experienced consultant with appropriate and proven technical expertise in the preparation of bushfire hazard assessment reports and management plans.

Note—the **Planning scheme policy for development works** provides advice in relation to Performance Outcome PO10 of **Table 8.2.4.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Bushfire hazard overlay code**.

SC6.7.4 Guidance for the preparation of a bushfire hazard assessment report and bushfire hazard management plan

Bushfire hazard assessment report

(1) A bushfire hazard assessment report is to:-

(a) be prepared generally in accordance with the methodology prescribed in **Appendix SC6.7A (Methodology for undertaking bushfire hazard assessment)**;

(b) include more detailed site specific calculations of the bushfire hazard score(s) for the site based upon:-

(i) a quantitative assessment of predicted bushfire behaviour including calculation of predicted fire intensity and rate of spread using McArthur's equation and radiant heat flux using a recognised model (i.e. the View Factor Model or the Leicester Model). Calculations should be based on an Forest Fire Danger Index (FFDI) of 50 (Sunshine Coast) and maximum predicted fuel loads to determine appropriate setbacks;

(ii) a quantitative assessment including discussion of past fire behaviour/history, any prescribed burning undertaken on the site or adjoining sites, likely fire paths, site factors that would minimise or maximise fire behaviour, fuel arrangements and loads, potential ignition points, fire run distances towards houses (or proposed house sites), slopes and any other matter considered important in respect to the issue; and

(iii) a comparison of the above to the more general calculation methodology prescribed in **Appendix SC6.7A (Methodology for undertaking bushfire hazard assessment)**;

(c) include a bushfire hazard management summary detailed on an A3 size map/s at a scale of 1:500; and

(d) be informed by consultation with the local Fire Brigade and where the land adjoins Council, State or Commonwealth land, the relevant land manager.

Bushfire management plan

(2) A bushfire management plan is to:-

(a) state the purpose, aim and objectives of the bushfire management plan (e.g. to define the level of hazard on the land and identify actions and responsibilities for the management of the hazard);

(b) summarise the results of the bushfire hazard assessment undertaken for the land, including identification of the various parts of the land that have been determined to be high, medium and low bushfire hazard area;

(c) be informed by consultation with the local Fire Brigade and where the land adjoins Council, State or Commonwealth land, the relevant land manager;

(d) include consideration of potential off-site sources of fire hazard including particular land uses or physical features of the surrounding area (including details of properties within 100 metres of the land);

(e) address the impacts of the proposed development on the level of fire hazard experienced by other land in the surrounding area, including any land containing water, electricity, gas or telecommunications infrastructure;

(f) address any implications for ecologically important areas, areas of cultural heritage significance or areas of landscape significance, including steps taken to minimise the potential impacts of specified fire hazard mitigation measures;

(g) address the potential impacts of bushfire hazard mitigation measures on slope stability, and on water quality in local receiving waters;

(h) specify fire hazard mitigation measures, such as:-

(i) elements of the development design, including the layout of roads and driveways, and the location, size and orientation of lots and buildings;
(ii) specifications and materials for building design and construction in accordance with the Building Code of Australia;
(iii) fire fighting infrastructure, including water supply and storage, equipment and fittings, fire breaks and maintenance/access trails;
(iv) potential areas of clearing of native vegetation based on an ecological assessment report or environmental management plan recently prepared for the site;
(v) details of landscape design requirements, including installation and maintenance requirements;
(vi) information for occupants, including required training for persons employed on the site during both construction and operational phases;
(vii) details of long term management requirements, including the frequency, extent and intensity of burning in areas proposed to be subject to regular controlled ignitions;
(viii) details of areas to be subject to mosaic or patch burning techniques and manual fuel reduction zones; and
(ix) any other measures based on or identified in a recently approved ecological assessment report or environmental management plan for the site;

(i) identify the parties to be responsible for specific actions taken under the terms of the bushfire management plan; and

(j) provide justification for any variation from the bushfire hazard mitigation measures outlined in the **Bushfire hazard overlay code**.

Appendix SC6.7A Methodology for undertaking bushfire hazard assessment

Step 1: Assessment of vegetation communities

1.1. The different types of vegetation communities determine the rate at which dry fuel accumulates. Some vegetation communities protect fuel from drying out in all but extreme bushfire seasons and can then be susceptible to very destructive bushfires. Alternatively, vegetation communities may expose fuels to drying and therefore be frequently available for burning. Frequent bushfires can result in the development of bushfire-tolerant grassy woodlands or grasslands and less destructive bushfire behavior. The characteristics of different vegetation communities are reflected in **Table SC6.7A.1 (Hazard scores and associated fire behaviors for various vegetation communities)**. This table also presents the hazard scores for a range of vegetation communities. Vegetation community data is available in digital map form from the Queensland Herbarium, Environmental Protection Agency, at a scale of 1:100,000.

Table SC6.7A.1 Hazard scores and associated fire behaviors for various vegetation communities

Vegetation communities[1]	Fire behaviour	Hazard score
Wet sclerophyll forest, tall eucalypts (>30 m), with grass and mixed shrub understorey.	Infrequent fires under severe conditions, flame lengths may exceed 40 m, floating embers attack structures for 1 hour, radiant heat and direct flame are destructive for 30 minutes.	10
Paperbark heath and swamps, eucalypt forest with dry-shrub ladder fuels.	Fire intensity depends on fuel accumulation, but can be severe, with flame lengths to 20 m, spot fires frequent across firebreaks, radiant heat and direct flame for 15 minutes.	8
Grassy eucalypt and acacia forest, exotic pine plantations, cypress pine forests, wallum heath.	Fire intensity may be severe with flame lengths to 20 m, but less attack from embers.	6
Native grasslands (ungrazed), open woodlands, canefields.	Fast moving fires, available to fire annually to 4 years. Usually no ember attack, radiant heat for >10 m, duration <2 minutes.	5
Intact acacia forests, with light grass to leaf litter, disturbed rainforest.	Fires infrequent, usually burn only under severe conditions, relatively slow fires, usually little ember attack.	4
Orchards, farmlands, kikuyu pastures.	Fires very infrequent, slow moving, may be difficult to extinguish, frequent fire breaks.	2
Grazed grasslands, slashed grass.	Grazing reduces intensity and rate of spread of fire, duration <2 minutes.	2
Desert lands (sparse fuels), mowed grass.	Gaps in fuel, usually slow fire spread.	1
Intact rainforest, mangrove forest, intact riverine rainforest.	Virtually fireproof.	0

Note 1—vegetation assessment should be based upon examination of the vegetation on the subject site and surrounding the subject site. Narrow strips of vegetation may be flammable; however, bushfires will not generally reach their full intensity where bushfire fronts are less than 100 metres wide. For this reason the following examples may be viewed as having the next lower hazard score (i.e. paperbark heath would have a score of 6 not 8, cypress pine forest 5 not 6):
i) areas with a linear shape (e.g. roadside vegetation beside a cleared paddock); and
ii) units of vegetation less than 50 hectares in area and more than one kilometre from the nearest extensive vegetation.

1.2. Where the vegetation community is assessed as having a vegetation community hazard score of zero, no other factors need to be taken into account and the relevant sub-units should be given a Low severity of overall bushfire hazard. No further action is required.

Step 2: Assessment of slope

2.1. Studies have shown that fires burn more quickly and with greater intensity up slopes, generally doubling every 10 degrees of slope. Also, the steeper the slope the more difficult it is to construct ring roads, firebreaks and provide access for emergency crews. Trees situated downhill from structures will have their crowns close to the structures. This presents bushfire hazards particularly for exposed structures such as timber decks. **Table SC6.7A.2 (Hazard scores for slope)** presents the hazard scores for different categories of slope.

Table SC6.7A.2 Hazard scores for slope

Slope	Hazard score
Gorges and mountains (>30%)	5
Steep Hills (>20% to 30%)	4
Rolling Hills (>10% to 20%)	3
Undulating (>5% to 10%)	2
Plain (0% to 5%)	1

Note—For site-specific assessment of bushfire hazard, if the site is downhill from the hazard, the slope effect may be taken as zero as the fire intensity will be less. However, burning heavy fuels may roll downhill and trees may fall down, so recommended setbacks from the hazard still need to be observed.

Step 3: Assessment of aspect

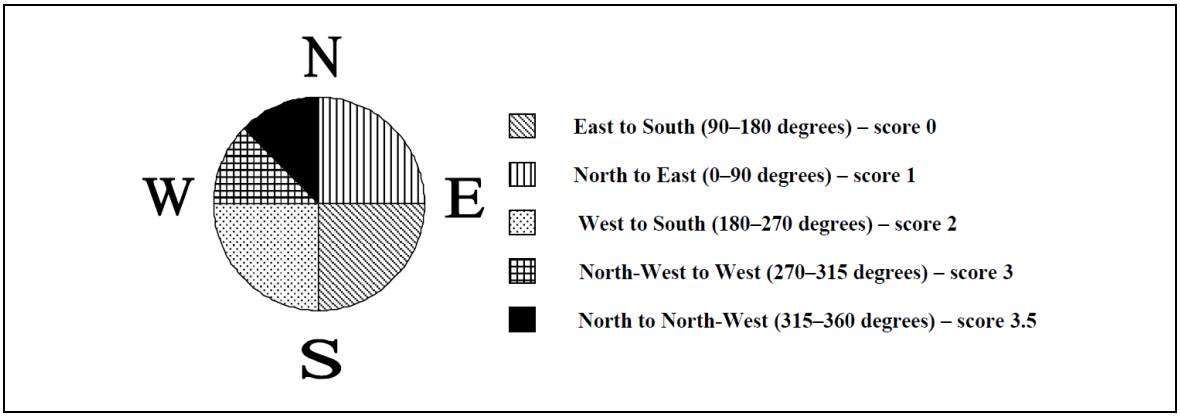
3.1. Aspect affects bushfire hazard due to the effects that exposure to direct sunlight has on different vegetation communities, including the drying rates of fuels. Aspect also correlates closely with exposure to low humidity winds that increase bushfire intensity. In extremely broken country where there is a variety of aspects, the predominant aspect should be used.

3.2. As aspect has only a minor influence on flatter land, aspect is not considered to be significant on land with a slope less than 5%. **Table SC6.7A.3 (Hazard score for aspect)** lists the hazard score for different aspects and **Figure SC6.7A.1 (Compass degree ranges for each aspect category)** illustrates the compass degree ranges for each aspect category.

Table SC6.7A.3 Hazard score for aspect

Aspect	Hazard score
North to North-West	3.5
North-West to West	3
West to South	2
North to East	1
East to South and all land under 5% slope	0

Figure SC6.7A Compass degree ranges for each aspect category



Schedule 6

Step 4: Combining scores to identify the severity of bushfire hazard

4.1. The scores for the individual factors determined for vegetation communities, slope and aspect are added together to give a total for each sub-unit as follows:

Total hazard score = vegetation community hazard score + slope hazard score + aspect hazard score.

4.2. The total hazard score determines the severity of bushfire hazard for each sub-unit as set out in Table **SC6.7A.4 (Hazard score ranges to identify the severity of bushfire hazard)**.

Table SC6.7A.4 Hazard score ranges to identify the severity of bushfire hazard

Total hazard score	Severity of bushfire hazard
13 or greater	High[2]
6 to 12.5	Medium
1 to 5.5	Low

Note 2—Buildings in High severity bushfire areas should be constructed in accordance with the Level 1 requirements of AS 3959:1999 'Construction of Buildings in Bushfire-prone Areas'.

Step 5: Field verification

5.1. Preliminary bushfire hazard maps should be prepared based on the results of Step 4 above by aggregating all sub-units with similar levels of bushfire hazard severity into High and Medium severity classifications[3]. Field verification or 'ground truthing' of these preliminary results should then be undertaken. A number of sample areas should be evaluated to test the accuracy of the preliminary bushfire hazard findings.

Step 6: Qualitative assessment

6.1. Known bushfire behaviour complements the quantitative assessment and should be considered as part of the qualitative review.

6.2. Known bushfire behaviour is extremely difficult to use as a quantitative planning tool. This is because the absence of bushfire, even for an extended period of time, does not mean that an area will not burn and may lead to massive fuel accumulation with dangerous bushfire behaviour if it does ignite. Known bushfire behaviour may identify sites where combinations of slope and wind have led to severe bushfire behaviour in the past, and where extra precautions to protect assets might be required. The reliability of known bushfire behaviour may be difficult to assess and Queensland Fire and Rescue Service (QFRS) should be consulted if problems are indicated.

Step 7: Safety buffers

7.1. The final step in identifying bushfire hazard areas is to add a safety buffer, as land adjacent to bushfire hazard areas is vulnerable to bushfire attack from these areas.

7.2. Any land within 100 metres of an area identified as having a High bushfire severity classification should be included in the High bushfire hazard area and any land within 50 metres of an area identified as having a Medium bushfire severity classification should be included in the Medium bushfire hazard area[4]. The safety buffers should be integrated into the preparation of maps identifying bushfire hazard areas. **Table SC6.7A.5 (Total hazard score and severity of bushfire hazard with safety buffers)** shows the width of the safety buffers that apply to the various bushfire hazard severity classifications.

Table SC6.7A.5 Total hazard score and severity of bushfire hazard with safety buffers

Total hazard score	Severity of bushfire hazard	Width of safety buffer
13 or greater	High	100 metres
6 to 12.5	Medium	50 metres
1 to 5.5	Low	Not applicable

Note 3—areas of Low bushfire hazard severity may also be mapped, but the natural hazard management area (bushfire) for the purposes of the SPP comprises only areas identified as being of High or Medium severity.
Note 4—safety buffer areas on the boundary between High and Medium bushfire severity areas should be included in the High bushfire severity area.

SC6.8 Planning scheme policy for the extractive resources overlay code

SC6.8.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Extractive resources overlay code**; and

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Extractive resources overlay code**.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.8.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Extractive resources overlay code**.

SC6.8.3 Advice for extractive resource and separation areas outcomes

The following is advice for achieving outcomes in the **Extractive resources overlay code**:-

(a) compliance with Performance Outcome PO1 to PO7 of **Table 8.2.6.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Extractive resources overlay code** may be demonstrated in part or be aided by the submission of an extractive industry impact assessment report prepared by a competent person in accordance with **Section SC6.8.4 (Guidance for the preparation of an extractive industry impact assessment report)**.

Note—for the purposes of this planning scheme policy, a competent person is an appropriately qualified and experienced consultant with appropriate and proven technical expertise in the preparation of extractive industry assessment reports.

SC6.8.4 Guidance for the preparation of an extractive industry impact assessment report

An extractive industry impact assessment report should describe through detailed analysis and assessment, the following:-

(a) the likely impacts of the proposed development on the existing or future exploitation of extractive resources in the area;

(b) the likely impacts arising from the entire winning of the extractive resources, including in respect to noise, dust, land stability, flooding and drainage impacts;

(c) the potential for land use conflicts between the proposed development and impacts arising from the winning of extractive resources in the area;

(d) the measures to be adopted to mitigate potential land use conflicts without imposing on the extractive resource or its associated operations; and

(e) the likely impacts upon the biodiversity and riparian values of the site including the provision for biodiversity offsets.

SC6.9 Planning scheme policy for the flood hazard overlay code

SC6.9.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Flood hazard overlay code**;

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Flood hazard overlay code**; and

(c) identify guidelines that may be relevant to achieving outcomes in the **Flood hazard overlay code**.

Note—the **Planning scheme policy for development works** also provides advice and sets out information that may be required to support a development application subject to the **Flood hazard overlay code** in relation to the stormwater management.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 638(1) of~~in accordance with~~ the Act.

SC6.9.2 Application

This planning scheme policy applies to development which requires assessment against the **Flood hazard overlay code**.

SC6.9.3 Advice for floodplain protection, flood and storm tide inundation immunity and safety, building design and built form, essential network infrastructure, essential community infrastructure, hazardous and other materials and flood impacts outcomes

(1) The following is advice for achieving outcomes in the **Flood hazard overlay code**:-

(a) compliance with Performance Outcome PO1 to PO9 of **Table 8.2.7.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Flood hazard overlay code** may be demonstrated in part or aided by the submission of a flood hazard assessment report and a flood hazard mitigation report prepared by a competent person in accordance with **Appendix SC6.9A (Reporting template for flood hazard assessment report and flood hazard mitigation report)**

Note—for the purposes of this planning scheme policy a competent person is a Registered Professional Engineer of Queensland (RPEQ) with appropriate and proven technical experience in the preparation of flood hazard assessment and mitigation reports.

(2) The following is advice for achieving Performance Outcome PO3 and PO5 of **Table 8.2.7.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Flood hazard overlay code**:-

(a) freeboard above the DFE/DSTE or Historical should not apply to ground floor commercial uses where activating the street frontage through direct pedestrian entry to the building from the road reserve;

(b) floor levels should be set above the minimum floor level to the greatest level feasible;

(c) building design should account for the potential need to relocate property prior to a flood event and recover quickly following a flood event;

(d) businesses should ensure that they have the necessary continuity plans in place that:

(i) understand the likely warning time for a flood event;
(ii) define a trigger for action to implement a disaster management plan (flood);
(iii) define necessary asset protection actions, such as relocating stock to a higher location (and the time required to implement);

(iv) define the necessary equipment required for clean-up and return to service and determine from where it will be sourced (based on an understanding that in a regional event demand may limit availability); and

(e) resilient building materials, including those required for wet and/or dry flood proofing, for use within a flooding and inundation area should be determined in consultation with Council, in accordance with the relevant building assessment provisions.

SC6.9.4 Guidance for the preparation of a flood hazard assessment report and flood hazard mitigation report

Flood hazard assessment report

(1) A flood hazard assessment report is to:-

(a) be prepared in accordance with the methodology prescribed in **Appendix SC6.9A (Reporting template for flood hazard assessment report and flood hazard mitigation report)**;

Note— the **Flood hazard overlay code** specifies alternative requirements for matching land use and flood hazard requirements.

(b) include accurate hydrological and hydraulic modelling of the waterway network and assessment of existing flooding and flood levels of major water systems;

(c) include modelling of the 39%, 10%, 5%, 1%, 0.5%, 0.2% and 0.05% AEP flood events and the PMF;

(d) include a qualitative assessment of the piped drainage and hydraulic analysis of the drainage network particularly in relation to the potential for a regional event to cause backflow flooding of the drainage network; and

(e) address the potential impacts of climate change.

Flood hazard mitigation report

(2) A flood hazard mitigation report is to:-

(a) assess the potential impacts of the development on flood hazard;

(b) assess the potential impacts of flood hazard on the development;

(c) recommend strategies to be incorporated into the proposed development to satisfy the outcomes of the **Flood hazard overlay code**;

(d) describe and evaluate the impact of the proposed mitigation strategies on the existing and likely future use of land and buildings in proximity to the proposed development; and

(e) address the following:-

(i) waterways, including bank stability;
(ii) impacts on adjacent properties both upstream and downstream;
(iii) preferred areas and non-preferred areas on site for various activities, based on the probability of inundation and the volume and velocity of flows;
(iv) the use of flood resistant materials and construction techniques able to withstand relevant hydraulic and debris loads where appropriate;
(v) the location and height of means of ingress and egress, including possible flood-free escape routes;
(vi) the location and height of buildings, particularly habitable floor areas;
(vii) structural design, including the design of footings and foundations to take account of static and dynamic loads (including debris loads and any reduced bearing capacity owing to submerged soils);
(viii) the location and design of plant and equipment, including electrical fittings;
(ix) the storage of materials which are likely to cause environmental harm if released as a result of inundation or stormwater flows;
(x) the appropriate treatment of water supply, sanitation systems and other relevant infrastructure;
(xi) relevant management practices, including flood warning and evacuation measures;
(xii) details of any easements or reserves required for stormwater design; and

(xiii) details of detention/retention storages.

(3) The level of detail required for a particular development application should be determined in consultation with Council's engineering and environment assessment officers.

SC6.9.5 Special design requirements

Climate change/variability

(1) Climate change/variability investigations must include tailwater increases that account for a projected sea level rise of 0.8m. A sensitivity analysis must be undertaken using a projected sea level rise of 1.1m to ensure the freeboard is not exceeded.

Levees

(2) Council will not permit the use of levees to satisfy flood immunity standards, for the following reasons:-

(a) there is no guarantee that the levees will remain with the land;

(b) levees are a band-aid solution rather than an intrinsic solution; and

(c) there is possibility that levees can be breached or overtopped in extreme storms, which can lead to an increase in damage and subsequently greater potential for damage.

Basements and carparks

(3) Minimum standards for flood and storm tide inundation immunity for all developments are detailed in **Table 8.2.7.3.3 (Flood levels and flood immunity requirements for development and infrastructure)** of the **Flood hazard overlay code**.

(4) As well as 10% AEP immunity, the 1% AEP flooding of carparking areas must not exceed a depth of inundation of 250mm, a depth x velocity ratio of 0.4m2/s and velocity of 2.0m/s.

(5) Basement carparks can be constructed below the specified levels provided that suitably waterproofed perimeter walls, air vents, and entry/exit ramps at the carpark entrance are above at least 500mm above the 1% AEP flood levels for all flooding sources.

Safety

(6) Flood and storm tide inundation safety can be addressed by either providing effective evacuation routes or incorporating safe refuges within the development.

(7) Developments which become isolated during a DFE and are inundated during a PMF shall be avoided.

(8) An effective access route is defined as follows:-

(a) at least one access route must be safely accessible and trafficable for evacuation purposes during the 1% AEP flood or storm tide event. This is achieved if the crown of the road which forms the evacuation route is at or above the 1% AEP flood or storm tide level;

(b) at least one evacuation route must be provided which enables people to progressively evacuate to areas above the PMF in the face of advancing flood or storm tide waters for events exceeding the DFE. This is achieved if the evacuation route continuously grades uphill from the development site to land not inundated during a PMF; and

(c) accounts for the time required for evacuation and ensures that this is achievable in the time between a DFE being exceeded and the peak of the PMF occurring.

SC6.9.6 Guidelines for achieving Flood hazard overlay code outcomes

For the purposes of the performance outcomes and acceptable outcomes in the **Flood hazard overlay code**, the following are relevant guidelines:-

(a) *Floodplain Management in Australia: Best Practice Principles and Guidelines SCARM Report 73* (CSIRO, 2000)

(b) the *State Planning Policy December 2013* (Department of State Development, Infrastructure and Planning) and *State Planning Policy Guidelines;*

(c) **Stormwater management code** and the **Planning scheme policy for development works**;

(d) *Planning for stronger more resilient floodplains, Part 2, Measures to support floodplain management in future planning scheme* (Queensland Reconstruction Authority, 2012);

(e) *QUDM, Australian Rainfall and Runoff* (IEAust, 1999);

(f) any subsequent revisions or project guidelines from ARR.org.au;

(g) *Guideline for improving flood resilience for new development: A selection of case studies* (Sunshine Coast Council, 2014); and

(h) *Guideline for improving flood resilience for existing development* (Sunshine Coast Council, 2014).

Appendix SC6.9A Reporting template for flood hazard assessment report and flood hazard mitigation report

This reporting template provides supplementary information relating to the **Planning scheme policy for the flood hazard overlay**. The template should be considered in conjunction with this planning scheme policy and the **Flood hazard overlay code**.

Document details and certification

Details of the authorship of the Flood hazard assessment report and flood hazard mitigation report should be provided. The report must be certified an RPEQ with experience in Flood Modelling and Management. An appropriate way to present this information may be in tabular form.

Example:

Report Title:	Flood Hazard Assessment and Mitigation Report for Proposed Maroochy Woods Development, Maroochy Road, Maroochydore
Affected Properties:	
Street Address	15-35 Maroochy Rd, Maroochydore
RP Description	Lots 1,2 & 7 on RP 123456
Prepared For:	Maroochy Development Company Pty Ltd
Date:	7 Sept 2013
Revision No.	3
Report Status:	Draft/Final
Prepared By:	
Name	Bob Jones
Qualifications	BE
Company	Water Consultants Pty Ltd
Phone No.	5555 1234
Certified By:	
Name	John Smith
Qualifications	BE, MSci
Company	Water Consultants Pty Ltd
Phone No.	5555 1234
Industry Accreditation	RPEQ No. 1234
Signature	

Executive summary

The summary provides a brief (1-2 page) overview of the development proposal, the findings and the associated recommendations and conclusions.

Introduction

The introduction should give an overview of the proposed development application and any relevant background information. The scope of studies presented in the report should also be outlined.

It may be appropriate to include a locality plan showing the location of the proposed development site.

Available data

Provide a summary of the sources of data used for the investigation. An appropriate way to present this information may be in tabular form, an example of which is shown below.

At the commencement of any hydrologic investigation, applicants are encouraged to contact Council's Customer Service Centre to determine whether Council holds existing information that may be of relevance. Applicants should be aware of Council's "Hydrologic Data Policy" which applies to any hydrologic information provided by Council. This includes extractions from regional flood models. Please note that fees apply.

The applicant should also contact Council's Customer Service Centre to determine whether historical flood levels are available in the area of interest. Council records such levels along waterways after major flood events and has a regional network of maximum height gauges. This data may be useful in the calibration of hydraulic models.

Example:

Table 1 Source data

Data	Source	Comments
Catchment boundaries	Determined from ALS	
Topographic Information	2008 ALS	
Hydraulic structure details	MSC hydraulic structure reference sheets: • Maroochy Rd Culvert crossing • Smith Rd culvert crossing	
Land use	SCRC Planning Scheme	
Historical flood levels	SCRC Advanced Flood Search Certificate No:12345	Peak flood levels for 1989 flood event
Existing SCRC Flood Studies	Smith Creek Flood Study, June 2003	
Historic Rainfall data	BoM	Daily rainfall, Station No. 040282 Pluviometer data, Station No. 040111
Streamflow data	DNRM Water Monitoring Portal	Daily volumes, Station No. 141003
Design Rainfall Data	BoM	2013 IFD at 4 locations within model extent
Site photographs	Taken by Water Consultants Pty Ltd, 7 July 2005	Site photographs for pre-development conditions

Catchment drainage characteristics

This section provides a general description of the catchment, including how existing catchment naturally drains. The proposal for the developed catchment should be described, clearly articulating how the drainage and overland flow paths within the catchment are intended to change.

It is expected that this section will conceptually describe how the proposed development is to occur in a manner that ensures:-

(a) natural hydrological systems are protected;

(b) natural landforms and drainage lines are maintained to protect the hydraulic performance of waterways;

(c) development integrates with the natural landform of the floodplain rather than modifying the landform to suit the development;

(d) achieving flood immunity for the development minimises physical alteration to the floodplain; and

(e) adequate overland flow paths are provided for all event severities, including those beyond the DFE.

This section of the report should include a plan showing flow paths and the boundaries of relevant catchment areas under existing and developed site conditions.

For ease of checking, plans should be prepared to an appropriate engineering scale (e.g. 1:1000 or 1:5000).

Previous studies

A number of flood investigations have been undertaken of waterways draining the Region. The applicant should contact Council's Customer Service Centre to determine if previous flood investigations have been undertaken in the vicinity of the proposed development. Applicants should be aware of Council's "Hydrologic Data Policy" which applies to any hydrologic information provided by Council. This policy requires applicants to make their own assessment of the applicability of existing studies.

Model setup

Hydrology

Model software

Applicants should undertake hydrologic modelling using industry-accepted software. Council is unable to recommend any particular software, however, checking of results will be expedited if applicants use software currently employed by Council. Details of Council's current hydrologic modelling software may be obtained through the Customer Service Centre.

Details of the adopted model software should be documented in this section, including software version number.

Model setup

Describes detail of the model setup undertaken for the two required catchment conditions:

- Existing conditions (normally before the proposed development); and
- Post-development conditions (Catchment conditions as would exist after the proposed development).

Subcatchment delineation

Provide a plan showing the configuration of the model, in particular the extent of sub-catchments and the location of the proposed development. Discharges at locations of interest should not be obtained from the output at a single sub-catchment.

Where distinct areas of different land use occur within a catchment, the catchment sub-division should reflect land use boundaries wherever possible.

Summary details of the model, such as sub-catchment areas and routing parameters, should be presented in tabular form, in sufficient detail that a model could be developed from the supplied data.

Fraction impervious

The Fraction Impervious should be determined from the land use category for the existing and developed catchments (Refer to **Table 2 (Fracture impervious)** below).

Table 2 Fraction Impervious

Land use category	Fraction impervious (FI)
Road Pavement Area	100%
Commercial and Industrial	90%
Low Density Urban	60%
Rural Residential	15%
Open Space	0%

Catchment lag parameters

The method of calculating parameters for flow routing along links between sub-catchments should be specified.

Hydraulics

Model software

Applicants should undertake hydraulic modelling using industry-accepted software. Council is unable to recommend any particular software, however, checking of results will be expedited if applicants use software currently employed by Council. Details of Council's current hydraulic modelling software may be obtained through the Customer Service Centre.

Model setup

Provide an overview of the method of analysis used to estimate design flood levels.

The two primary considerations in deciding on a modelling methodology are:

- whether a steady or unsteady flow model is required, and
- whether a one or two-dimensional model is required.

A steady flow hydraulic model may be appropriate where the proposed works do not involve earthworks within the DFE extent. Where the proposed works include excavation and/or filling within the DFE extent of flooding an unsteady hydraulic model should be used. The use of an unsteady model allows the impact of changes in floodplain storage on discharges to be assessed.

The need for two-dimensional, rather than one-dimensional, modelling sometimes arises where flow directions are not easily defined, such as across large, flat floodplain areas.

Note that Council has two-dimensional models of the Maroochy and Mooloolah Rivers. Extractions from these models may, at Council's discretion, be made available to consultants, where appropriate and noting that fee's will apply. Contact Councils Customer Service Centre for more details.

Details of the adopted model software should be documented in this section, including software version number.

Inflow points

Provides detail on how the inflows from the hydrological model are integrated into the hydraulic model.

Topography

Provide a plan showing the location and extent of cross-sections, or the arrangement and extent of the two-dimensional grid used in the model. Data used in deriving model cross-sections or the two-dimensional grid should be specified in the source data table (See **Table 1**~~**Table 1**~~ **(Source data)**).

Where two-dimensional grid data (ALS) is used, then a plan must be provided of the difference between pre and post development ground levels.

Structures

Provide a plan showing the location of structures that are included in the hydraulic model setup.

Hydraulic roughness

It must be assumed that waterways will not achieve optimal maintenance. Similarly it is reasonable to assume that flooding can occur towards the end of a maintenance cycle, or in periods of the years when regrowth is particularly aggressive. For these reasons, the design flood level for estimation of floor levels should be set using a conservative (high) Manning's n value, typically 0.15. All riparian areas corresponding to the buffer widths required for waterways and wetlands should be assumed to have a Manning's n value of 0.15. For inundated areas beyond the riparian buffer widths, lower Manning's n values of less than 0.15 must be supported by a landscape plan which confirms plant species, positions and densities and maintenance requirements.

The design of open channels within a development area must be consistent with the requirements of the **Planning scheme policy for development works**.

For assessment of the impact of a development on flood levels and velocities, a representative Manning's n value should be selected based on accepted industry standards, such as Brisbane City Council's Natural Channel Design Guidelines. A sensitivity analysis should be undertaken across the range of likely Manning's n values to assess the effect of channel roughness on flow velocity and flood level impacts.

Boundaries

Provides details on the Boundary Conditions that were adopted in preparation for model calibration.

Floodplain storage

The **Flood overlay code** has a strong intent to ensure that floodplain storage below the DFE is preserved. It is anticipated that in some instance compensatory earthworks will be an essential component of providing a flood solution for a development site. In such instances, earthworks that compensate for on-site fill must maintain their storage function in all circumstances. That is, they cannot fill with water, or any other material, and lose their flood storage capacity.

This section therefore is required to discuss how the proposed development will not directly, indirectly or cumulatively alter the flooding characteristics external to the development site for all flood events up to and including the DFE, based on current climate conditions and with climate change\variability allowances.

Calibration

Calibration events

Where suitable data exists, the hydrologic model should be calibrated to match recorded flow events, or discharges from an existing Council flood study. Flows should also be entered to the hydraulic model to ensure that levels are also matched.

Where a model is calibrated to recorded data at another location substantially downstream of the area of interest, a check should be made that the model produces reasonable discharge estimates at the location of interest.

Rational method calibration

In the absence of available data for event calibration, the predicted design peak discharges should be compared with the results of Rational Method calculations. The appropriateness of adopted model parameters for urban and non-urban areas should be confirmed by checking model results against the Rational Method at a location with homogenous land use upstream.

That is, non-urban model parameters should be checked at a location with no urban development upstream. Urban model parameters should be checked at a location where the whole upstream catchment is developed. This approach ensures that changes in the timing of runoff along different model branches do not distort the calculated impact of urbanisation

Results of Calibration

Commentary should be provided on the quality of the calibration and the confidence in the calibrated model for design flood estimation. The quality of the calibration should be informed by some form of goodness of fit qualification, between modelled and observed flood data.

The parameters derived from the calibration of the hydrologic and hydraulic models should be clearly tabulated in this section of the report.

Design flood events

Hydrology methodology

Temporal patterns

The rainfall hyetograph for design storm events should be obtained using Duration Independent Storm (DIS) Methodology.

The DIS temporal pattern is recommended for the consideration of design peak water levels. Where volume is an important consideration, temporal patterns extracted from significant historic events within the region should be considered. Contact Council's Customer Service Centre for further information.

Design loss rates

Design loss rates from a relevant regional flood may be available from Council. Contact Council's Customer Service Centre for assistance.

Where the available event calibration data support design loss calibration to flood frequency information, a proportional loss approach is preferred in conjunction with the DIS temporal pattern. This loss should be reduced log-linearly between the calibrated value at the 1% AEP to 0 at the AEP of the probable maximum precipitation (PMP).

Design rainfall estimates

Bureau IFD estimates

Design rainfall intensity frequency duration (IFD) data should be obtained for the catchment from the Bureau of Meteorology. For larger catchment, spatial variability in the design rainfall across the catchment should be considered. Bureau IFD estimates should be limited to the 1% AEP.

Probable Maximum Precipitation (PMP)

The Bureau of Meteorology provides two methods of PMP estimation relevant to the SEQ region. Generalised Short Duration Method (GSDM) and the revised Generalised Tropical Storm Method for longer durations. Both methods require determination for use with the DIS temporal pattern methodology.

Intermediate AEP design rainfall estimates (0.2%, 0.05% AEP)

Design rainfall depths at intermediate AEPs can be estimated using the methods of ARR87 Section 13.5.4 (Flood Frequency Curve Interpolation Based on Shape Factors). Alternatively FORGE estimates can be used but may require adjustment to ensure consistency where Australian Rainfall and Run off (ARR) 2013 Bureau IFD estimates have been used for design rainfalls up to the 1% AEP.

Climate change/variability allowances

A climate change/variability rainfall allowance is to be adopted as per the guidance of Schedule 3 of the Planning for stronger, more resilient floodplains, Part 2 (QRA, 2012). This recommends a 20% increase in rainfall intensity at year 2100.

A climate change/variability allowance of 0.8m at 2100 should be adopted for sea level rise. Additionally the sensitivity of a 1.1m increase should also be tested to ensure that freeboard is not exceeded.

Validation

Where calibration has occurred using historic events, it is appropriate to validate the peak design discharges from the hydrological model against Rational Method estimates. The calculations must be presented in sufficient detail to show how each term in the Rational Method has been derived.

Runoff coefficient

Values of the runoff coefficient for a 10% AEP event may be obtained from QUDM. Runoff coefficients for other AEP events may be calculated using the Frequency Factors from QUDM.

Time of concentration

Time of concentration should normally be calculated using at least two components of travel time. In a rural catchment these would usually be an overland flow component and a channel flow component. Overland flow time may be calculated using Friend's Equation. The Bransby-Williams Equation should NOT be used. In a rural catchment channel flow times may be estimated from QUDM and/or Manning's Equation.

In an urban catchment, Standard Inlet Times, from the version of QUDM current at the time of design, should be used to calculate the time for flow to reach the inlet of the pipe drainage system. For urban catchments channel flow time may be calculated using QUDM and/or Manning's Equation.

Detail the calculated discharges for event AEPs including: 39% AEP (Q2), 10% AEP, 1% AEP, 0.2% AEP, 0.05% AEP and the PMF.

Where another regional estimation tool is available, it may be used as an alternative validation method, with appropriate justification.

Hydraulics methodology

Design boundary conditions

Design boundary conditions should be sought from Council in the first instance to ensure integration with the wider regional model, where appropriate.

Where Council is unable to provide boundary conditions, it is the responsibility of the applicant to determine appropriate boundary conditions for the hydraulic model. These will depend upon the configuration and extent of the model. Typically, the downstream boundary condition is based on:

- normal flow depth;
- an analytically-derived rating curve for a downstream hydraulic structure, such as a culvert crossing, or
- a tailwater level from the receiving water, such as a tide level or design flood level in a downstream waterway.

In calculating normal flow depth, an appropriate bed slope should be determined from a longitudinal profile over a sufficient channel length to be representative of the reach of interest. The calculated bed slope should be checked against values obtained from topographic maps to ensure that the results are consistent.

It may be necessary to consider coincident flooding. This occurs when the location of interest is potentially affected by local and regional waterways with significantly different hydrologic response times (such as a small creek discharging into a major river) one rainfall pattern will produce floods of different recurrence interval in each system. These differences are automatically taken into account by simulating the hydrologic response of the entire catchment and estimating flood levels using an unsteady hydraulic model. However, where a steady-flow approach is appropriate, it may be necessary to consider combinations of local and regional events of different magnitudes.

In the absence of more detailed information, suitable event combinations, based on the ratio of the local to regional catchment area, may be obtained from **Table 3~~Table 3~~ (Event combinations for local and regional flooding)**. The 1% AEP flood level is the highest level resulting from:

- the smaller magnitude flood in the local system combined with the larger magnitude flood in the regional system; and
- the larger magnitude flood in the local system combined with the smaller magnitude flood in the regional system.

Hydraulic impacts of development should be considered for both cases.

Alternative event combinations may be acceptable with appropriate justification.

Table 3 Event Combinations for Local and Regional Flooding

Ratio of Local to Regional Catchment Area (A_L/A_R)	Event Combinations to Define 1% AEP Flood Level
< 0.001	39% AEP (Q2) + 1% AEP
0.001 – 0.01	18% AEP (Q5) + 1% AEP
0.01 – 0.1	5% AEP + 1% AEP
0.1 – 0.2	2% AEP + 1% AEP
> 0.2	1% AEP + 1% AEP

For determination of peak 1% AEP flood levels, the minimum downstream water level may be available from Councils Regional Flood Model, including for tidal reaches of estuaries. This data can be obtained by contacting Council's Customer Service Centre.

Where the development area is only a portion of the local catchment area (i.e. the local catchment area is the entire catchment area of the tributary to the point where it discharges to the regional water course), then the modelling for the development area must include the entire local catchment area and adopt the 1% AEP rainfall over the local catchment area.

Bridge and culvert blockages

Design blockage assumptions for bridges and culverts should be consistent with the guidance of QUDM 2013 (Section 7.5.2 and 10.4.10) or Australian Rainfall and Runoff, Project 11, Blockage of Hydraulic Structures (IEAust, 2013)

Design event results

Existing catchment

Provide mapping for the pre-development catchment condition of WSL, depth, velocity and hazard (using the methodology of the Floodplain Management Guidelines of Australia). This mapping should be provided for the following events: 39% AEP (Q2), 18% AEP (Q5), 10% AEP, 1% AEP, 0.5% AEP, 0.2% AEP, 0.05% AEP and the PMF

Comparison of design event results with historic observation

Where historic observations are available within the catchment of interest, the probability of the historic event should be notionally considered in relation to the design flood levels. Where the historic information indicates a degree of confidence in the design flood levels, this should be documented. Similarly where the historic information does not indicate agreement, documentation should be provided to explain why the difference is accepted.

Developed catchment

Provide mapping for the developed catchment condition of WSL, depth, velocity and hazard (using the methodology of the Floodplain Management Guidelines of Australia). This mapping should be provided for the following events: 39% AEP (Q2), 18% AEP (Q5), 10% AEP, 1% AEP, 0.5% AEP, 0.2% AEP, 0.05% AEP and the PMF.

Impacts of development (afflux)

Provide afflux mapping (water level difference between the pre-development and post-development) for the following events: 39% AEP (Q2), 18% AEP (Q5), 10% AEP, 1% AEP, 0.5% AEP, 0.2% AEP, 0.05% AEP and the PMF.

There should be no offsite impact. Water levels and velocities beyond the development site boundary should be unchanged between the pre and post development conditions. Numerical inaccuracies in the modelling process are accepted to 10mm (depth) and 0.5% (velocity).

Consideration of flood consequence

Discuss how flood consequences are managed by the design of the development. In particular consider whether:-

(a) essential network infrastructure within a site (e.g. electricity, water supply, sewerage and telecommunications) maintains effective function during and immediately after flood and storm tide inundation events;

(b) building materials used have high water resistance and will improve the resilience of a building during and after a flood or storm tide event. (Council can provide further guidance materials: Flood Resilience Implementation Guideline for New Development);

(c) community infrastructure is able to function effectively during and immediately after flood events;

(d) development does not compromise the safety of people resulting from flooding, including the residual flood or storm tide inundation risk associated with events exceeding the DFE or DSTE. Is a direct

route to enable progressive evacuation to safe refuge above the level of the PMF available? Is there enough time required for evacuation been calculated and is there enough time between the DFE being exceeded and the peak of the PMF?;

(e) warning times are likely to be less than 24 hours;

(f) development ensures that public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk during the DFE or DSTE;

(g) car parks achieve flood immunity for the 10% AEP and limit the extent of flooding at the 1% AEP to 250mm, velocity to 2.0m/s and depth x velocity ratio to 0.4m^2/s;

(h) basements are provided waterproofed perimeter walls, air vents and entry/exit ramps that are at least 500mm above the 1%AEP flood level;

(i) driveways that with a downhill slope have a raised entry ramp from the roadway, as per the requirements of QUDM to contain flood flows; and

(j) backflow flooding of the local stormwater network from a regional event will be problematic under current or future climatic conditions.

Flood mitigation infrastructure

Flood levees

Flood levees are not considered an acceptable flood mitigation solution for the design of new developments.

Design of detention basins

Detention basins, if required, should be designed in accordance with the QUDM. The DIS temporal pattern is not recommended for detention basin design. Where QUDM requires the consideration of alternative temporal patterns derived from significant historic regional events, these can be obtained from Council. Contact Council's Customer Service Centre for further information.

Where the outflow from a detention basin is potentially affected by backwater, this should be taken into account in developing the rating curve for the detention basin outlet.

Since the long-term maintenance of any air gap for stormwater detention cannot be guaranteed, rainwater tanks should be regarded as having no impact on stormwater detention.

Sensitivity of flood mitigation infrastructure design assumptions

Where flood mitigation infrastructure has been included as part of the design, consider the sensitivity of the design assumptions adopted and how this may impact on future maintenance. For instance, where a detention basin is included, demonstrate the impact of a prior 5% AEP storm on the initial level. Where practical, design such basins to drain to normal operating level within 24hrs. Similarly provide some guidance on the impact of sedimentation on detention basins and assess the loss of flood storage after a period of 15 years. Demonstrate through mapping the impact this has on flood levels and flood immunity of properties.

Maintenance

Sensitivity of waterway vegetation conditions

Demonstrate, supported by mapping provided in Appendices, how the conveyance of waterways might be affected by hydraulic roughness assumptions that represent a "just maintained" condition.

Velocities of this condition should be checked to ensure that scour of the channel will not occur.

Sensitivity of blockage assumptions for bridges and culverts

Demonstrate, supported by mapping provided in Appendices, how the flood levels and velocities might be affected by 0%, 50% and 90% blockage scenarios. Comment on the impact downstream where lower blockages are assumed and impact upstream where higher blockages are assumed.

Conclusions and recommendations

This section should summarise the main findings of the report and make any recommendations arising from these findings.

Recommended lot levels and floor levels

The minimum lot and habitable floor level requirements of the Planning Scheme differ with the type of development. **Table 8.2.7.3.3 (Flood levels and flood immunity requirements for development and infrastructure)** of the **Flood hazard overlay code** provides the specific requirements for setting minimum floor level based on the type of development.

Qualifications and limitations

Detail any specific qualification and limitations that are relevant to the methodology, conclusions or recommendations of the report.

References

Provide a list of documents referred to in the study. Where a reference document is not widely available a copy of the document or the relevant section should be included as an Appendix.

Appendix A: Lot table information

As this information is also required in a tabulated electronic format for upload in to Council systems, an Excel template can be obtained from Council. Please contact Council's Customer Services Centre. This information will be provided on Council Flood Certificates until such time as Council is able to revise and re-run the regional flood model with ALS that represents the developed catchment.

The detail from this spreadsheet should also occur in this Appendix and follows the format.

General Notes and Assumptions

Column 1: Lot number
Column 2: Developed DFE level (Riverine)
Column 3: Developed DFE level (Drainage)
Column 4: Minimum floor level
Column 5: Minimum building pad level
Column 6: Stage number
Column 7: Survey plan number
Column 8: Comments specific to lot.

SC6.10 Planning scheme policy for heritage and character areas overlay code

SC6.10.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Heritage and character areas overlay code**; and

(b) identify information that may be required to support a development application where affecting a heritage place or neighbourhood character area.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

Note—the **Heritage and character areas overlay code** and the **Planning scheme policy for heritage and character areas code** does not apply to:-
(a) Aboriginal cultural heritage which is protected under the *Aboriginal Cultural Heritage Act 2003* and which is subject to a cultural heritage duty of care; and
(b) State heritage places or other areas which are protected under the *Queensland Heritage Act 1992*.

SC6.10.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Heritage and character areas overlay code**.

SC6.10.3 Advice for local heritage places and development adjoining a State or local heritage place outcomes

The following is advice for achieving outcomes in the **Heritage and character areas overlay code** relating to local heritage places and development adjoining a State or local heritage place:-

(a) State and local heritage places have significant cultural significance and are important to the community as places that provide direct contact with evidence from the past;

(b) State and local heritage places meet the criteria for cultural heritage significance based on the *Queensland Heritage Act (1992)*;

(c) the Queensland Heritage Register records and provides a statement of significance for State heritage places and other State protected areas;

(d) **Appendix SC6.10A (Significance statements for local heritage places)** records and provides a statement of significance for local heritage places;

(e) compliance with Performance Outcomes PO1 to PO6 of **Table 8.2.9.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development on a local heritage place or adjoining a State or local heritage place)** of the **Heritage and character areas overlay code** may be demonstrated in part or aided by the submission of a heritage impact assessment report and conservation management plan prepared by a competent person in accordance with **Section SC6.10.5 (Guidance for preparation of a heritage impact assessment report and conservation management plan)**;

Note—For the purposes of this planning scheme policy, a competent person is an appropriately qualified and experienced consultant with appropriate and proven technical expertise in cultural heritage matters and membership of, or fulfilling the criteria for membership of, ICOMOS Australia.

(f) in preparing a heritage impact assessment report or conservation management plan, an applicant should take into account and respond to the relevant statement of significance for the State or local heritage place;

(g) the physical location of each heritage place is an aspect of its cultural significance and, in accordance with The Burra Charter, a local heritage place should remain in its historical, physical location; and

(h) unless relocation is the sole practical means of ensuring survival of a heritage place, removal or relocation of a local heritage place is generally unacceptable.

SC6.10.4 Advice for a neighbourhood character area outcomes

The following is advice for achieving outcomes in the **Heritage and character areas overlay code** relating to neighbourhood character areas:-

(a) a neighbourhood character area is an area in which the historical origins and relationships between the various elements create a sense of place and demonstrate important aspects of the history of the locality;

(b) neighbourhood character areas contain places that may not in themselves be of cultural heritage significance but which contribute to the significance of the character area as a group;

(c) **Appendix SC6.10B (Significance statements for neighbourhood character areas)** records and provides a statement of significance for neighbourhood character areas;

(d) Compliance with Performance Outcomes PO1 to PO8 of **Table 8.2.9.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development within a neighbourhood character area)** of the **Heritage and character areas overlay code** may be demonstrated in part or aided by the submission of a heritage impact assessment report prepared by a competent person in accordance with **Section SC6.10.5 (Guidance for preparation of a heritage impact assessment report and conservation management plan)**;

(e) in preparing a heritage impact assessment report an applicant should take into account and respond to the relevant statement of significance for the neighbourhood character area; and

(f) the measures required for the protection of neighbourhood character areas may differ from those adopted for heritage places, depending on the reasons for significance and should be determined as part of the development application and assessment process rather than through a conservation management plan.

SC6.10.5 Guidance for preparation of a heritage impact assessment report and conservation management plan

SC6.10.5.1 Heritage impact assessment report

(1) A heritage impact assessment report is to be prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Heritage Significance, 2013* and associated guidelines.

(2) A heritage impact assessment report is to include the following:-

(a) a description of the proposed development providing sufficient information to clearly distinguish the existing fabric, including photographs and plans of the existing place or area together with plans of the proposed development;

(b) a description of the history and context of the place or area demonstrating an understanding of the history and fabric of the place or area within the context of its class;

(c) an assessment of the impact of the proposed development on the heritage significance of the place or area including:-

(i) a description of how the development proposal will impact on the specific aspects of the significance of the place or area, as outlined in the statement of significance contained in a local heritage register, or where applicable, the Queensland Heritage Register;
(ii) how the fabric of the place or area would be impacted on and conserved; and
(iii) what works will be undertaken to adequately compensate for any loss of significant fabric or aspects of significance of the place or area;

(d) any other additional information that may assist in adequately assessing the significance of the place or area, including information drawn from a range of verifiable sources such as newspapers, government records, letters, books, photographs, maps or oral information which may help to establish the history of the place. Consideration of the historical context of the place or area shall be included to ascertain how its history contributes to an understanding of the place or area within broader historical events; and

(e) a conservation policy.

(3) A heritage impact assessment report is to include the details of the author/s, including qualifications and the date of the report.

SC6.10.5.2 Conservation management plan

(1) A conservation management plan addresses the adverse impacts identified by a heritage impact assessment report and implements the conservation policy contained within a cultural heritage impact assessment report.

(2) A conservation management plan is to be prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Heritage Significance, 2013* and associated guidelines.

(3) A conservation management plan is to include the following:-

(a) a description of the heritage place, its components, history and associations;

(b) a description of the defined heritage values and relative significance of each component of the place;

(c) an assessment of the condition of the place;

(d) a description of the conservation obligations and future needs, requirements, opportunities and constraints to protection of the place;

(e) specific management policies, specifying what needs to be done to maintain the significance of the place and respond to identified issues;

(f) an action plan identifying priorities, resources and timing; and

(g) an implementation plan and monitoring plan.

(4) The conservation management plan is to include the details of the author/s, including qualifications and the date of the management plan.

(5) A conservation management plan should be subject to ongoing review over time.

SC6.10.6 Guidelines for achieving heritage and character areas overlay code outcomes

For the purposes of the performance outcomes and acceptable outcomes in the **Heritage and character areas overlay code**, the following are relevant guidelines:-

(a) *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Heritage Significance, 2013* (Australian ICOMOS, 2013); and

(b) the following Practice Notes to *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Heritage Significance, 2013:-*

(i) *Practice Note: Understanding and assessing cultural significance* (Australian ICOMOS, 2013);

(ii) *Practice Note: Developing Policy* (Australian ICOMOS, 2013); and

(iii) *Practice Note: Preparing studies and reports – contractual and ethical issues* (Australian ICOMOS, 2013).

SC6.11 Planning scheme policy for the landslide hazard and steep land overlay code

SC6.11.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Landslide hazard and steep land overlay code**;

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Landslide hazard and steep land overlay code**; and

(c) identify guidelines that may be relevant to achieving outcomes in the **Landslide hazard and steep land overlay code**.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.11.2 Application

This planning scheme policy applies to development which requires assessment against the **Landslide hazard and steep land overlay code**.

SC6.11.3 Advice for landslide hazard and steep land outcomes

The following is advice for achieving outcomes in the **Landslide hazard and steep land overlay code** relating to landslide hazard and steep land:-

(a) compliance with Performance Outcomes PO1 and PO2 of **Table 8.2.10.3.1 (~~Criteria~~ Requirements for accepted development~~self assessable~~ and performance outcomes and acceptable outcomes for assessable development)** and PO1 to PO5 of **Table 8.2.10.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Landslide hazard and steep land overlay code** may be demonstrated in part or aided by the submission of a geotechnical assessment report prepared by a competent person in accordance with **Section SC6.11.4 (Guidance for the preparation of a geotechnical assessment report)**.

Note—for the purposes of this planning scheme policy, a competent person is a qualified registered professional engineer (RPEQ) with appropriate and proven technical experience in geotechnical engineering or engineering geology.

SC6.11.4 Guidance for the preparation of a geotechnical assessment report

(1) The extent and detail of investigations required to be incorporated in a geotechnical assessment report will depend upon the particular site characteristics and the nature of the development proposed. Council will require each report to demonstrate a method and scope of work appropriate to the subject site and the proposed development.

(2) **Table SC6.11A (Indicative scope of work for geotechnical investigations)** provides an indication of the scope of work for geotechnical investigations that may be required to be undertaken for different levels of identified landslide hazard.

Table SC6.11A Indicative scope of work for geotechnical investigations

Level of identified hazard	Scope of geotechnical investigation
Very high/High	• Investigation of existing conditions (including groundwater conditions) and soil strength. • Classification testing. • Walk over survey. • Review of aerial photography. • Site survey. • Numerical modelling such as slip circle analysis to determine the probability of global slip failure.
Moderate	• Walk over survey. • Subsurface investigation.

Schedule 6

Level of identified hazard	Scope of geotechnical investigation
Low/Very low	• Walk over survey where slopes exceed 15%. • Subsurface investigation where slopes exceed 15%.

(3) The extent of work actually required should be determined by the geotechnical engineer preparing the geotechnical assessment report, provided that the conclusion of the report is that the lot, site, building or other feature under assessment has a Factor of Safety of at least 1.5.

(4) The following detailed guidance for geotechnical assessment reports may therefore be adjusted (particularly in respect to investigation of existing conditions) having regard to the scope of work determined to be appropriate in the circumstances.

(5) A geotechnical assessment report is to:-

(a) describe the subject land and the proposed development;

(b) describe the method and scope of investigations;

(c) describe the existing conditions of the development site, including an assessment of land suitability and geotechnical constraints to development in accordance with **Section SC6.11.5 (Investigation of existing conditions for geotechnical assessment reports)**;

(d) assess the suitability of the site for the proposed development, having regard to the prevailing geological and topographic conditions, including an assessment of the likely effects or impacts of the development upon slope stability and landslip potential;

(e) recommend measures to mitigate impacts, including siting, engineering and other measures required to ensure a satisfactory form of development that does not involve high whole of life cycle costs such as deep sub-soil drainage within single residential lots or public land;

(f) incorporate conclusions and recommendations in accordance with **Section SC6.11.6 (Conclusions and recommendations for geotechnical assessment reports)**;

(g) use contour plans showing 1 metre contours developed from site survey or low level aerial photographs using objective photogrammetric techniques;

(h) have regard and refer to the *Landslide Risk Management and Concepts Guidelines (Australian Geomechanics Society) 2007*;

(i) utilise the preferred format outlined in **Appendix SC6.11A (Preferred format for a geotechnical assessment report)**; and

(j) be illustrated by photographs and sketches as appropriate.

(6) Where a geotechnical assessment report has already been prepared for the site and provided as supporting documentation to Council as part of a previous development application (i.e. reconfiguring a lot or material change of use of premises), these documents are to be clearly referenced in the geotechnical assessment report prepared as supporting documentation for the subsequent development application (i.e. operational work or building work).

Note—the guidance provided in this planning scheme policy outlines all matters to be addressed in a geotechnical assessment report, on the basis that such supporting documentation (i.e. earlier geotechnical reports) are not available. In the event that geotechnical assessment reports and certifications for the previous development applications are available, items already covered in these earlier reports/certifications may be referenced and covered in less detail.

SC6.11.5 Investigation of existing conditions for geotechnical assessment reports

(1) A geotechnical assessment report is to include an investigation of existing site conditions comprising an assessment of the existing stability of the subject land and details of geotechnical constraints on building and/or other development works on the site.

(2) The investigation of existing conditions is to include:-

(a) a description of existing geology (surface and subsurface materials, soil/rock stratigraphy) and geomorphology (slopes, ground contours, natural features, terrain analysis, landslip features) both locally and regionally, including review of published materials;

(b) the results of field investigations to assess the following factors:-

(i) depth of soil overburden within proposed works areas (including roads, infrastructure, building sites, potential swimming pools, tennis courts, garage, access driveways and the like);
(ii) classification of surface and subsurface materials to determine:-
(A) erosion potential;
(B) foundation conditions that could affect structural performance;
(C) suitability for wastewater disposal;
(D) any other relevant characteristics;

(c) the results of any numerical modelling/slip circle analysis to determine the probability of global slip failure;

(d) evidence of previous instability (i.e. irregular contours, hummocky topography, scarp faces in area of tension cracks, curved and/or non-vertical tree trunks, broken kerb and gutters, cracked or uneven roadway surfaces, distressed houses or other buildings);

(e) a description of the extent and type of any existing occurrences of erosion;

(f) an assessment of sub-surface drainage characteristics (i.e. presence of water table, springs, swampy areas, wet grass types, presence/depth to/ special conditions (artesian) of groundwater, and possible presence of confined aquifer beneath site;

(g) a description of existing vegetation cover; and

(h) a description of any existing site improvements (i.e. buildings, structures and earth works).

(3) The results of all field and laboratory tests should be included in the geotechnical assessment report, including the location and level (including datum) of field investigations such as boreholes, trench pits and cone penetrometer results.

SC6.11.6 Conclusions and recommendations for geotechnical assessment reports

(1) The geotechnical assessment report is to include conclusions about the overall suitability of the land for the proposed development, including clear statements about:-

(a) whether all existing/proposed lots are presently stable;

(b) whether all lots, and associated completed buildings (i.e. dwelling houses) and infrastructure, will remain stable in the long term – that is, has a factor of safety against failure of at least 1.5; and

(c) whether any conditions need to be placed on the development of lot/s to maintain long term stability.

(2) The geotechnical assessment report is to include recommendations that clearly outline the following:-

(a) whether the site has a history of landslip;

(b) whether the proposed development (including all lots and buildings where applicable) will alter the present state of stability of the subject land;

(c) whether any portion of the subject land should be excluded from the development and included in natural, undisturbed or rehabilitated areas;

(d) whether the proposed development (including all lots and buildings where applicable) will adversely affect the current state of stability of adjoining land;

(e) whether the proposed development (including all lots and buildings where applicable) should allow cuts and fills and if so, to what depth;

(f) whether retaining structures are required and if so, provide necessary foundations design parameters, including drainage requirements;

(g) whether any special design features are required to stabilise or maintain the stability of the subject land, or portions of the subject land (including each lot where applicable);

(h) whether any special surface and/or subsurface drainage measures need to be taken to improve or maintain the stability of the subject land, or portions of the subject land (including each lot where applicable);

(i) whether on site disposal of liquids should be allowed; and

(j) whether any follow up inspections are required by the geotechnical engineer during construction.

(3) The recommendations of the geotechnical assessment report should also provide guidance on appropriate measures required to make the site suitable for the proposed development, including:-

(a) preferred locations for buildings, other structures, driveways, etc.;

(b) foundation requirements such as bearing pressures, piling parameters, special techniques for expansive clays;

(c) pavement type and design;

(d) construction methods to avoid problem areas associated with loose materials and groundwater seepage;

(e) preferred excavation/retention/stabilisation techniques and suitability of excavated materials for use in on-site earthworks;

(f) surface and subsurface drainage requirements;

(g) preferred methods of wastewater disposal (deep soil drainage within single residential lots or public land is not acceptable to Council; and

(h) vegetation protection and revegetation requirements.

SC6.11.7 Guidelines for achieving landslide hazard and steep land overlay outcomes

For the purposes of the performance outcomes and acceptable outcomes in the **Landslide hazard and steep land overlay code**, the following are relevant guidelines:-

(a) *Landslide Risk Concepts and Guidelines* (Journal and News of the Australian Geomechanics Society, 2007).

Appendix SC6.11A Preferred format for a geotechnical assessment report

1. Introduction

1.1 Details of development
1.2 Site location and description (including survey co-ordinates/co-ordinate system)
1.3 Method and scope of investigation
1.4 Qualifications of company and competent person(s) to prepare report

2. Description of existing conditions

2.1 Geology (local and regional)
2.2 Topography
2.3 Groundwater
2.4 Surface drainage
2.5 Vegetation
2.6 Buildings, other structures

3. Assessment of land stability

3.1 Existing conditions
3.2 Geotechnical constraints to development

4. Description of proposed development

4.1 Site layout
4.2 Proposed development components
4.3 Potential geotechnical effects

5. Assessment of development impacts

5.1 Site layout
5.2 Roadworks, driveways and other pavements
5.3 Earthworks (excavation, materials usage)
5.4 Foundations
5.5 Surface drainage
5.6 Wastewater treatment and disposal
5.7 Overall effect of development on stability

6. Recommendations and measures to mitigate impacts

7. Summary and conclusions

8. Site plan

APPENDIX – Field and laboratory test results and modelling results

SC6.12 Planning scheme policy for the scenic amenity overlay code

SC6.12.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Scenic amenity overlay code**; and

(b) identify and provide guidance about information that may be required to support a development application where affecting identified scenic amenity values.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.12.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Scenic amenity overlay code**.

SC6.12.3 Advice for scenic routes, inter-urban breaks and significant views and vistas outcomes

The following is advice for achieving outcomes in the **Scenic amenity overlay code** relating to scenic routes, inter-urban breaks and significant views and vistas:-

(a) compliance with Performance Outcomes PO1 to PO6 of **Table 8.2.12.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Scenic amenity overlay code** may be demonstrated in part or aided by the submission of a visual impact assessment report prepared by a competent person in accordance with **Section SC6.12.4 (Guidance for the preparation of a visual impact assessment report)**; and

Note—for the purposes of this planning scheme policy, a competent person is an appropriately qualified and experienced consultant (i.e. architect, landscape architect, urban designer) with appropriate and proven technical expertise in landscape and visual assessment.

(b) the impacts of development on an element of scenic amenity value may be mitigated by incorporating such design responses as:-

  (i) retention and/or rehabilitation of vegetation on ridgelines and prominent slopes;

  (ii) retention and/or rehabilitation of waterways and drainage paths;

  (iii) locating buildings below the canopy height of surrounding trees or ridgelines;

  (iv) retaining established mature trees and stands of established vegetation;

  (v) using non-reflective roofing materials and colours;

  (vi) using building materials and colours that are drawn from or complement the natural or rural landscape of the locality;

  (vii) avoiding the use of imported building types and themes that are incompatible with the natural or rural landscape of the locality;

  (viii) avoiding extended straight lengths of new road or driveway in areas of hilly topography or where inconsistent with the established road pattern of the locality;

  (ix) avoiding the use of fencing, landscaping and lighting treatments that are 'urban' in scale and appearance in rural or non-urban coastal settings;

  (x) providing building setbacks to boundaries and spacing between buildings which are in proportion to the size of lots and consistent with the setbacks and spacing of other buildings in the locality; and

(xi) locating buildings and other structures so as not to obscure or interrupt the significant views referred to in **Table 8.2.12.3.2 (Significant views)** of the **Scenic amenity overlay code**.

SC6.12.4 Guidance for the preparation of a visual impact assessment report

A visual impact assessment report is to describe, through detailed analysis and assessment, the following as relevant:-

(a) the likely impact of development on visual qualities and characteristics of the landscape;

(b) the impact of the development on the views of the coastline, hinterland or rural tablelands;

(c) how the design of development minimises its impact on surrounding views by siting, stepping, chamfering or breaking up the visible mass of the building form or roofline, or by other design responses; and

(d) the visual impact of the proposal when seen from roads and other public spaces and how the design of the development seeks to minimise the visual impacts by providing appropriate design responses and landscaping.

SC6.13 Planning scheme policy for the utility code

SC6.13.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Utility code**; and

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Utility code**.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.13.2 Application

This planning scheme policy applies to development for a renewable energy facility which requires assessment against the **Utility code**.

SC6.13.3 Advice relating to the establishment of a renewable energy facility

The following is advice for achieving outcomes in the **Utility code** relating to location and site suitability outcomes where involving development for a renewable energy facility:-

(a) compliance with Performance Outcomes PO1 of **Table 9.3.21.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Utility code** may be demonstrated in part or aided by the submission of supporting information prepared by a competent person which provides details about:-

  (i) the amount of electricity likely to be generated by, and the design voltage output of the proposed renewable energy facility;
  (ii) the proximity of the proposed renewable energy facility to existing electricity infrastructure (e.g. substations, power lines);
  (iii) whether existing electricity infrastructure has capacity to accept feed in from the proposed renewable energy facility; and
  (iv) the extent of any new or upgraded electricity infrastructure that would be required to accommodate the proposed renewable energy facility (other than connection to an existing power line in an adjoining road or easement).

Note—for the purposes of this planning scheme policy, a competent person is an appropriately qualified and experienced electrical engineer with appropriate and proven technical experience in providing advice about electricity infrastructure networks and augmentation requirements.

SC6.15 Planning scheme policy for the nuisance code

SC6.15.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice and guidelines about achieving outcomes in the **Nuisance code**; and

(b) identify information that may be required to support a development application where:-

(i) nearby existing or planned development may be affected by noise, light, odour or dust, or particulate emissions from the proposed development; or
(ii) the proposed development is likely to be subject to noise, light, odour or dust, or particulate imissions from existing or planned nearby development.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.15.2 Application

This planning scheme policy applies to all assessable development which requires assessment against the **Nuisance code**.

SC6.15.3 Advice for preventing or minimising nuisance emissions and imissions associated with road traffic noise

The following is advice for achieving Performance Outcomes PO1 and PO2 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** where there is potential for emissions or imissions associated with road traffic noise to cause environmental harm or nuisance at a sensitive land use:-

(a) compliance with Performance Outcomes PO1 and PO2 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** may be demonstrated in part or aided by the submission of a noise impact assessment report prepared by a competent person, which properly addresses, describes or includes the following:-

(i) a location plan identifying the subject site, existing or planned roads in the locality that could potentially affect sensitive land uses and any significant features such as topographic variation, barriers and intervening buildings;

(ii) predicted noise levels based on traffic flows for a 10 year growth horizon from the first year of occupancy of the development for each floor and occupancy type; and

(iii) where mitigation measures in the form of site boundary barriers are considered necessary, measures to maintain the visual amenity of the road corridor, minimise detrimental effects on residential amenity and ensure the ongoing provision of natural light to residences and open space are provided; and

(b) for sensitive land uses the following design elements should be reflected in the road corridor design and/or the design of sensitive land uses adjacent to the road corridor:-

(i) existing site features that can provide a natural barrier or partial barrier to noise exposure;

(ii) appropriate building orientation that mitigates or reduces the exposure of living areas, bedrooms and private open space areas to noise; and

(iii) minimal facade treatments (such as windows and doors) facing the road traffic noise source to minimise internal noise exposures.

Note—Refer to the **Planning scheme policy for Sippy Downs Town Centre** for general guidance in relation to road traffic noise attenuation in the Sippy Downs Town Centre.

SC6.15.4 Advice for preventing or minimising nuisance emissions and imissions associated with noise and/or vibration

The following is advice for achieving Performance Outcomes PO1 and PO2 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** where there is potential for noise and/or vibration emissions or imissions to cause environmental harm or nuisance at a sensitive land use:-

(a) compliance with Performance Outcomes PO1 and PO2 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** may be demonstrated in part or aided by the submission of a noise impact assessment report prepared by a competent person, which properly addresses, describes or includes the following:-

(i) a location plan identifying the subject site and sensitive land uses or the nearest potentially sensitive land uses to the subject site and any significant features such as topographic variation, barriers and intervening buildings;

(ii) the results of measurements of background LA90 noise levels using an appropriate methodology at a location representative of the nearest potentially affected sensitive land uses to the subject site in the absence of noise emissions from the subject site, with:-

(A) the background noise levels to include time periods that are most likely to be sensitive from a noise perspective (generally at night); and
(B) the background noise monitoring to be completed for a sufficient period of time to establish 'the average minimum background noise levels' for the locality;

(iii) comparison of the background noise level with predicted source noise levels using an appropriately recognised methodology and criteria, from the proposed activity at the nearest potentially affected sensitive land uses to determine compliance with criteria as defined in Schedule 1 of the *Environmental Protection (Noise) Policy 2008*; and

(iv) specification of appropriate control and mitigation measures as necessary;

(b) for a proposed development that has the potential to be affected by noise and/or vibration from an existing railway, or proposed new railway, Council may also require submission of a report prepared by a competent person that presents information relating to the following:-

(i) location of the site in relation to the existing or proposed railway corridor;

(ii) forecast rail movements for a 10 year growth horizon including hours of operation and type;

(iii) assessment of the measured and predicted noise levels using an appropriately recognised methodology and criteria, for the 10 year growth horizon affecting the proposed development; and

(iv) mitigation measures that are to be adopted at the subject site to achieve the performance outcomes of the **Nuisance code**; and

(c) where a sensitive land use is proposed in a locality with existing noise sources, Council may also require submission of a noise impact assessment report prepared by a competent person that includes the following:-

(i) a location plan identifying the subject site, any existing or future potential noise sources in the locality that could potentially affect sensitive land uses on the subject site and any significant features such as topographic variation, barriers and intervening buildings;

(ii) the results of measurements of LA10, LAeq and background LA90 noise levels at the subject site, with:-

(A) the noise measurements to include time periods that are most likely to be affected by noise from existing sources and also include measurement of background in the absence of noise from local emission sources; and
(B) the noise monitoring to be completed for a sufficient period of time to establish typical and worst case pre-existing noise levels for the subject site;

(iii) an assessment of the measured and predicted noise levels using an appropriately recognised methodology and critieria. From the assessment, the determination of compliance with the criteria as defined in Schedule 1 of the *Environmental Protection (Noise) Policy 2008*; and

(iv) specification of appropriate control measures if necessary.

SC6.15.5 Advice for preventing or minimising nuisance emissions and imissions associated with live entertainment, amplified music and voices

The following is advice for achieving Performance Outcome PO3 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the Nuisance code where there is potential for emissions or imissions associated with live entertainment, amplified music and voices to cause environmental harm or nuisance at a sensitive land use:-

(a) compliance with Performance Outcome PO3 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** may be demonstrated in part or aided by submission of a noise impact assessment report prepared by a competent person, which properly addresses, describes or includes:-

(i) in respect to a venue in existing or new premises, the following:-

(A) a location plan identifying the subject site and the nearest potentially affected sensitive land uses (including residential, commercial, educational, health and industrial) and any significant features such as topographic variation, barriers and intervening buildings;
(B) results of measurements of octave band background noise levels as LA90, Oct noise levels at a position representative of the nearest potentially affected sensitive land uses to the subject site in the absence of noise emissions from the subject site. The background noise levels are to be recorded for the time period most likely to be the most sensitive from a noise perspective;
(C) results of measurements of octave band noise levels as LA10, Oct noise levels at the nearest potentially affected sensitive land uses to the subject site during noise emissions from live entertainment, amplified music or voices at the subject site. The source noise levels during the noise monitoring are to be representative of the worst case noise emissions from the subject site during the type of entertainment events likely to be held at the premises;
(D) measurements are to be made to represent each type of event likely to occur. The noise tests are to be conducted under conditions representative of normal operations (e.g. if doors and windows would normally be open, this is to occur for the test);
(E) an assessment of the measured and predicted noise levels using an appropriately recognised methodology and criteria. From the assessment, the determination of compliance with the criteria as defined in Schedule 1 of the *Environmental Protection (Noise) Policy 2008*;
(F) comment on potential noise impacts associated with patron noise at the premises and noise from departing patrons associated with the entertainment event;
(G) specification of appropriate control measures if necessary (e.g. operational conditions such as closed windows, or mitigation measures such as improved acoustic insulation); and
(H) specification of the maximum source noise level to be emitted at the premises for each type of event, each room and each event configuration (e.g. for different positions used for a live band in the same venue) as appropriate; and

(ii) in respect to a venue in new premises, the following:-

(A) a location plan identifying the subject site and the nearest potentially affected receptor and any significant features such as topographic variation, barriers and intervening building;
(B) identification of design measures that are to be incorporated into the development to minimise the risk of noise impacts on sensitive land uses; and
(C) the results of the on-site noise tests that demonstrate compliance with the acoustic criteria specified in Schedule 1 of the *Environmental Protection (Noise) Policy 2008*.

SC6.15.6 Advice for preventing or minimising nuisance emissions and imissions associated with odour

The following is advice for achieving Performance Outcomes PO4 and PO5 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** where there is potential for odour emissions or imissions to cause environmental harm or nuisance at a sensitive land use:-

(a) compliance with Performance Outcomes PO4 and PO5 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** may be demonstrated by the preparation and submission of an odour impact assessment report prepared by a competent person, which properly addresses, describes or includes the following:-

(i) the potential for odour emissions from a proposed activity to be detected at existing sensitive land uses; or

(ii) the potential for odour emissions from existing activities to be detected at a proposed sensitive land uses;

(b) an odour impact assessment report should make reference to the most appropriate contemporary guidelines, criteria and methods for a particular type of source or activity; and

(c) the justification for the selected guidelines, criteria and methods should form part of the odour impact assessment report.

SC6.15.7 Advice for preventing or minimising nuisance emissions and imissions associated with dust and particulates

The following is advice for achieving Performance Outcomes PO4 and PO5 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** where there is potential for dust and particulate emissions or imissions to cause environmental harm or nuisance at a sensitive land use:-

(a) compliance with Performance Outcomes PO4 and PO5 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** may be achieved by the submission of an air quality impact assessment report undertaken by a competent person which utilises an appropriately recognised methodology and air quality criteria.

SC6.15.8 Advice for preventing or minimising nuisance emissions and imissions associated with lighting

The following is advice for achieving Performance Outcome PO6 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** where there is potential for lighting emissions or imissions to cause environmental harm or nuisance at a sensitive land use:-

(a) c~~C~~ompliance with Performance Outcome PO6 of **Table 9.4.3.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Nuisance code** may achieved by the incorporation of such measures as:-

(i) building facades which have no flashing lights;

(ii) suitable boundary fencing and landscaping to prevent lighting overspill;

(iii) suitable lighting design (e.g. directional measures) to prevent overspill; and

(iv) external areas that are lit in accordance with *AS4282 – Control of the Obtrusive Effects of Outdoor Lighting*; and

(b) Council may require submission of a lighting impact assessment report prepared by a competent person to demonstrate that lighting proposed to be established in conjunction with development will not have adverse amenity impacts.

SC6.15.9 Guidelines for achieving the nuisance code outcomes

For the purposes of the performance outcomes in the **Nuisance code** the following are relevant guidelines:-

(a) *AS1055.1-1997: Acoustics – Description and Measurement of Environmental Noise General Procedures* (Standards Australia) 1997;

(b) *AS1158.3.1:2005: Lighting for roads and public spaces – Pedestrian Area (Category P) lighting – Performance and design requirements* (Standards Australia) 2005;

(c) *AS2107:2000: Acoustics – Recommended design sound levels and reverberation times for buildings interiors* (Standards Australia) 2000;

(d) *AS2670.2: 1990: Evaluation of human exposure to whole body vibration -Continuous and shock induced vibration in buildings (1 to 80 Hz)* (Standards Australia) 1990;

(e) *AS3671: 1989: Acoustics – Road traffic noise intrusion – Building siting and construction* (Standards Australia) 1989;

(f) *AS4282 – 1997: Control of the obtrusive effects of outdoor lighting* (Standards Australia) 1997;

(g) *Queensland Development Code: Mandatory Part 4.4 - Buildings in a transport noise corridor*;

(h) *Environmental Protection (Noise) Policy 2008*;

(i) *Environmental Protection (Air) Policy 2008;*

(j) *Road Traffic Noise Management: Code of Practice* (Department of Main Roads) 2008;

(k) *Guideline: Odour Impact Assessment from Developments* (Department of Environment and Heritage Protection);

(l) *Guideline: Application requirements for activities with noise impacts* (Department of Environment and Heritage Protection);

(m) *Guideline: Application requirements for activities with impacts to air* (Department of Environment and Heritage Protection)*;* and

(n) *Noise Measurement Manual* (Department of Environment and Heritage Protection)*.*

SC6.16 Planning scheme policy for the reconfiguring a lot code

SC6.16.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide advice about achieving outcomes in the **Reconfiguring a lot code**; and

(b) identify and provide guidance about information that may be required to support a development application where subject to the **Reconfiguring a lot code**.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.16.2 Application

This planning scheme policy applies to development which requires assessment against the **Reconfiguring a lot code** and which involves development:-

(a) on a site exceeding 10 hectares in area; or

(b) involving the creation of 50 or more new lots.

SC6.16.3 Advice for lot layout, site responsive design and neighbourhood / estate design outcomes

The following is advice for achieving outcomes in the **Reconfiguring a lot code** relating to lot layout, site responsive design and neighbourhood/estate design:-

(a) compliance with Performance Outcomes PO1 and PO2 of the **Reconfiguring a lot code** may be demonstrated in part or aided by the submission of a local area structure plan prepared by a competent person in accordance with **Section SC6.16.4 (Guidance for the preparation of a local area structure plan)**.

Note—for the purposes of this, planning scheme policy, a competent person is an appropriately qualified and experienced town planner, urban designer, surveyor or a combination of these disciplines.

SC6.16.4 Guidance for the preparation of a local area structure plan

(1) A local area structure plan is to provide the necessary local area planning framework to ensure that new development is planned and occurs in an orderly and integrated manner.

(2) A local area structure plan is to inform and be reflected in the proposed plan of subdivision.

(3) The scope and detail of a local area structure plan is to have regard to, and appropriately reflect, the size and location of the site, the size and complexity of the proposed development and the extent and nature of the constraints present on the site.

(4) In general terms, a local area structure plan is to include or identify the following:-

(a) site and context details, if these are not separately identified by a site analysis plan;

(b) constraints, including watercourse corridors, ecologically important areas and sensitive landscape features; and

(c) analysis of site characteristics and constraints demonstrating how the proposed lot layout responds to site characteristics and constraints and achieves integration in terms of:-

(i) surrounding land uses;
(ii) the strategic transport network and road hierarchy;
(iii) the potential for development of adjoining land;
(iv) the provision of infrastructure corridors and sites; and
(v) the outcomes identified in any applicable local plan code.

(5) For land in the Emerging community zone, a local area structure plan is to demonstrate that:-

(a) the land is used primarily for residential purposes;

(b) the layout and design of streets and lots meets contemporary neighbourhood design standards and principles;

(c) residential communities will be well serviced and have good access to public transport, local parks, schools, shops and community facilities;

(d) a range of housing options are able to be accommodated;

(e) concentration of higher densities of residential use are located close to centres or public transport; and

(f) the proposal does not impinge on the legitimate operation of existing uses.

(6) A local area structure plan is to be provided at a maximum scale of 1:2000 and include a bar scale and north point.

SC6.17 Planning scheme policy for the transport and parking code

SC6.17.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide guidelines and advice about achieving outcomes in the **Transport and parking code**;

(b) state standards identified in the **Transport and parking code**; and

(c) identify information that may be required to support a development application which may impact upon the transport network.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.17.2 Application

This planning scheme policy applies to assessable development which requires assessment against the **Transport and parking code**.

SC6.17.3 General advice about achieving transport and parking code outcomes

(1) The following is general advice about achieving outcomes in the **Transport and parking code**, related to transport networks:-

(a) development should provide integrated and connected transport networks and support infrastructure that:-

(i) protects the region's distinctive lifestyle and character, reduces the ecological footprint and greenhouse gas emissions, while meeting the transport infrastructure needs of a growing and aging population;
(ii) is integrated with and improves the connection with land use and urban design, considering the immediate surrounds, broader network and environment it exists within;
(iii) considers the needs of all users in accordance with the user hierarchy and provides transport choice;
(iv) achieves high levels of permeability, access, connection, legibility and convenience, minimising travel time and distance to encourage self containment, affordable living and transit oriented development and maximise walking, cycling (active) and public transport use to reduce reliance on private motor vehicle travel;
(v) is cost effective and reliable, delivered in a timely manner and adaptable for other future uses;
(vi) provides an efficient freight system that supports economic development;
(vii) improves safety to reduce road trauma; and
(viii) minimises impacts on amenity and sensitive uses.

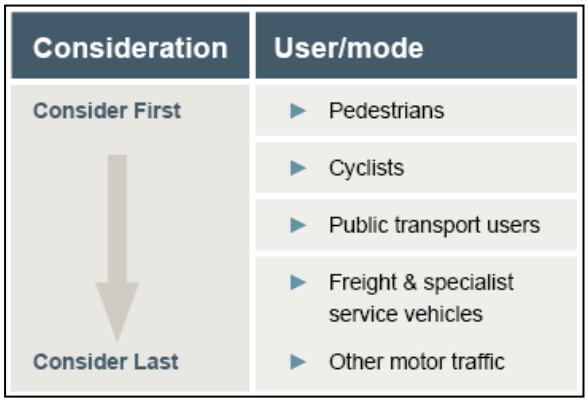
(2) The following is general advice about achieving outcomes in the **Transport and parking code**, related to user hierarchy:-

(a) development should demonstrate application of the transport user hierarchy, where:-

(i) all users are important and shall be considered in the order shown, to ensure a balance of all modes. This does not necessarily imply an order of priority in the corridor and all modes do not have to be accommodated in every transport corridor;
(ii) the vulnerability of users influences the order in which the design and management of transport networks are considered;
(iii) pedestrians are considered first, then cyclists, public transport users, specialist service vehicles (emergency services, waste etc.) and other general motor transport, in accordance with the hierarchy shown in **Figure SC6.17A (User hierarchy)**;
(iv) the network for each mode is planned separately, without considering constraints from other modes or land uses, then assessed to provide a balanced level of service to meet the requirements of users;

(v) if an existing transport corridor is unable to cater for all user modes, need is addressed in accordance with the user hierarchy; and
(vi) on-street parking is considered last and determined based on nearby land use, supply and demand.

Figure SC6.17A User hierarchy



(3) The following is general advice about achieving outcomes in the **Transport and parking code**, related to pedestrian and cyclist networks:-

(a) development should provide a comprehensive, high quality pedestrian and cyclist network and support infrastructure that:-

(i) are consistent with **Figures 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** of the **Transport and parking code**;
(ii) are direct, continuous, convenient, legible, easy to use, enjoyable, attractive, safe, cost effective and maximises community benefit;
(iii) supports and encourages walking and cycling as an alternative to private vehicle use and as a healthy activity for all;
(iv) connects destinations, including homes, schools, work places, centres, community and recreational areas, open space and public transport stations/stops/nodes and other key walking and cycling attractors;
(v) provides green links to facilitate walking and cycling;
(vi) provides for pedestrians and cyclists on all street and road corridors unless specifically prohibited (e.g. Motorways);
(vii) provides:-
(A) shorter travel distances and greater accessibility and connectivity than that for private vehicles, including connection through mid blocks and access places;
(B) consideration of natural travel desire lines;
(C) universal access;
(D) for recreation, commuting, utility and sport cycling trips;
(E) for off-road use of motorised and non-motorised mobility aids, including scooters, skateboards and new technology as it becomes available off-road;
(F) for a reduction in reliance on private vehicle trips;
(G) pedestrian priority in centres and other areas with high pedestrian activity;
(H) pedestrian and cyclist friendly precincts around high trip generating land uses;
(I) legible way-finding signage;
(J) on-trip facilities, including weather protection and water points;
(K) end of trip facilities at trip attractors; and
(L) secure cycle parking where identified as required in **Table 9.4.8.3.3 (Minimum on-site parking requirements)** of the **Transport and parking code**;
(viii) is designed and constructed using CPTED principles, including street and path lighting and casual surveillance from roads, residences and other areas of activity; and
(ix) minimises conflicts between users.

(4) The following is general advice about achieving outcomes in the **Transport and parking code**, related to public transport networks:-

(a) development should provide for a comprehensive high quality public transport network and support infrastructure that:-

(i) are consistent with **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)** of the **Transport and parking code** and relevant design manuals and standards, including (but not limited to) the *TransLink Public Transport Infrastructure Manual*, May 2012 and the *DTMR Road Planning and Design Manual*;
(ii) is planned concurrently with land use, acknowledging the symbiotic relationship and maximising the benefits of integrating development and public transport;
(iii) improves accessibility, safety, convenience, coverage and comfort of services;
(iv) enables efficient and frequent public transport services;
(v) provides corridors suitable for high capacity and frequent public transport services as well as facilitating public transport services for the local area;
(vi) provides for public transport priority over private vehicles, including dedicated lanes, queue jumps and priority signals and new green links between adjacent development or centres to improve penetration through urban areas with sufficient density;
(vii) provides centre to centre connection, as well as promoting self containment with local feeder services linking surrounding areas to centres;
(viii) enables connection with intra and inter regional services for longer journeys;
(ix) services significant trip generating land uses and zones, such as higher density residential and business zones;
(x) provides stops and interchanges that are well connected to other transport networks, particularly pedestrian networks;
(xi) provides interchange facilities at high trip generating land uses;
(xii) provides universal access;
(xiii) is easy to understand; and
(xiv) are capable of responding to changing technology and infrastructure requirements over time, particularly with regard to mode.

(5) The following is general advice about achieving outcomes in the **Transport and parking code**, related to street and road networks:-

(a) development should provide a high quality street and road network and support infrastructure that:-

(i) are consistent with **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**;
(ii) provides a safe, efficient and convenient street and road network for the movement of people and goods;
(iii) provides for pedestrians on all street and road corridors, unless specifically prohibited (e.g. motorways);
(iv) provides for cyclists on all street and road corridors:-
(A) to share traffic lanes as mixed traffic on access places, access streets and neighbourhood collector streets where the street does not form part of the cycle route on **Figures 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** of the **Transport and parking code**;
(B) with on-road cycle lanes on all other urban streets and roads unless specifically prohibited (e.g. Motorways);
(C) pathways on one or both sides of the street or road, except on access laneways and access places; and
(D) physically separated cycleways in some circumstances;
(v) minimises adverse impacts from traffic flow, particularly on residential amenity and pedestrian and cyclist safety;
(vi) provides low speed corridors and wide pathways within the core of new centres;
(vii) provides for staging of delivery in accordance with Council's trunk road construction program to maximise efficiency; and
(viii) meets the endorsed levels of service for ultimate development of the Sunshine Coast; and

(b) the **2031 Functional Transport Hierarchy (Figure 9.4.8A)** of the **Transport and parking code** should be read in conjunction with **Table SC6.17A (Role of transport corridors)**, which provides guidance as to the role of each corridor in the hierarchy. In addition, **Table SC6.17B (Urban transport corridors)** and **SC6.17C (Rural transport corridors)** provide further specifications for each corridor.

(6) The following is general advice related to development application requirements:-

(a) development applications should be accompanied by appropriately scaled and dimensioned drawings, clearly showing all aspects of the proposal, including details of all interfaces with existing and proposed external pedestrian and cyclist facilities, public transport and roads (including relevant features and services, kerb lines, channelisation and line marking);

(b) Council may require preparation and submission of a traffic impact assessment report and/or travel plan, subject to demonstrated compliance with this policy and other relevant codes and guidelines; and

(c) DTMR and the Council routinely prepare plans for transport network and road upgrades, that may incorporate dedicated and/or constructed road widening or new transport corridor requirements, which a development may be reasonably required to meet. Where these works are not considered by Council to be reasonably required as a condition of a development approval, the development should not compromise the ability to deliver them in the future.

SC6.17.4 Advice for achieving transport network outcomes

The following is advice for achieving Acceptable Outcomes AO3 and AO4.1 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development ~~only~~)** of the **Transport and parking code** relating to the transport network:-

(a) in addition to complying with and providing infrastructure consistent with **Figure 9.4.8A (2031 Functional Transport Hierarchy)**, **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways)), Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** and **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)** of the **Transport and parking code**, development should provide a street and road network that is consistent with:-

(i) **Table SC6.17A (Role of transport corridors)**;

(ii) **Table SC6.17B (Urban transport corridors);**

(iii) **Table SC6.17C (Rural transport corridors)**;

(iv) **Table SC6.17D (Industrial transport corridors)**;

(v) **Table SC6.17E (Street and road networks)**;

(vi) **Appendix SC6.17A (Typical street and road cross sections)**; and

(vii) **Appendix SC6.17B (Active transport infrastructure guidelines standard treatments)**;

Note—a planning scheme policy for a local plan or structure plan may identify alternative cross sections for the street and road network (see planning scheme policies **SC6.3 (Planning scheme policy for Sippy Downs Town Centre)**, **SC6.19 (Planning scheme policy for the Maroochydore Principal Regional Activity Centre structure plan)** and **SC6.20 (Planning scheme policy for the Palmview structure plan)**.

(b) where there is an inconsistency between the networks and hierarchies shown on **Figure 9.4.8A (2031 Functional Transport Hierarchy)**, **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** and **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)** of the **Transport and parking code**:-

(i) **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** should take precedence over **Figure 9.4.8A (2031 Functional Transport Hierarchy)**; and

(ii) **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)** should take precedence over **Figure 9.4.8A (2031 Functional Transport Hierarchy)**;

(c) development should provide transport infrastructure that accounts for the potential impacts of the development on the Functional Transport Hierarchy, Strategic Network of Pedestrian and Cycle Links and Strategic Network of Public Transport Links;

(d) streets serve residential, rural, commercial, industrial and rural residential uses. The primary function of streets is to provide:-

(i) local amenity and safe pedestrian and cycle movements;

(ii) access to individual properties or developments; and

(iii) access to higher order streets and roads, not through traffic movement.

(e) the primary function of roads is to provide:-

(i) connections for through traffic; and

(ii) public transport (bus) routes.

Table SC6.17A Role of transport corridors

Corridor classification	Function	Hierarchy	Typical characteristics
Local Streets	• Low speed and traffic volume environment. • Prioritise needs of pedestrians and cyclists over motor vehicles. • Direct property access. • Discourage through traffic. • Short trips for local traffic.	**Access Laneway**	• Rear access to properties. • Should not provide vehicular short-cuts to other streets.
		Access Place	• Short no-through streets for private vehicles. • Front access to properties.
		Mixed Use Access Street	• Access to a local area. • Accommodates higher traffic volumes in centres where mixed uses have higher trip generating potential.
		Access Street	• Access to a local area.
Neighbourhood and District Streets	• Carry traffic with a trip end within the local area. • Bus routes. • Direct access to property frontages to enhance safety through casual surveillance. • Rear, side or consolidated property access, where traffic volumes exceed levels acceptable for frontage access.	**Neighbourhood Streets** (Neighbourhood Collector Street and Mixed Use Collector Street)	• Within a local area for traffic with a trip end in that area. • Bus routes where higher order roads cannot service the area. • May be appropriate for parked vehicles to restrict traffic flow. • Accommodates higher traffic volumes in centres and industrial areas, where fewer lots are served and mixed/commercial uses have higher trip generating potential.
		District Streets (District Collector Street and District Main Street)	• Connect residential streets, a group of neighbourhoods or district with centres and higher order roads. • Form spines of towns and neighbourhoods, not edges. • Accommodates higher traffic volumes in centres and industrial areas, where fewer lots are served and mixed/commercial uses have higher trip generating potential. • Provides for bus route connectivity and stops.
Sub-arterial Roads	• Provide greater convenience than streets. • Connect residential, commercial, or industrial areas to arterial roads. • Terminate at arterial roads, do not serve longer regional movements.	**Sub-arterial Main Street**	• Only in existing corridors with commercial land uses on both sides e.g. centres. • Seek to reduce traffic volume and create pedestrian friendly environment. • Seek to bypass freight movements. • Provides for bus route connectivity and stops/stations. • Pedestrian and cycle friendly.
		Sub-arterial Roads (Distributor and Controlled	**Distributor** • The default sub-arterial road. • Meets all the functions and characteristics of sub-arterial roads in:

Corridor classification	Function	Hierarchy	Typical characteristics
	• Pedestrian routes. • Local and regional cycle routes. • Form spines of towns and neighbourhoods, not edges.	Distributor)	○ greenfield conditions and master-planned communities, or ○ where opportunity exists to provide Distributor standard in existing partially developed areas. • May facilitate priority public transport services and stops, frequent bus services, dedicated lanes and/or queue jump/ priority signals. Also provides for some local bus network connectivity. • Reduce direct property access. • Dwellings should be set well back from the road. **Controlled Distributor** • In existing urban environments, Council may consider relaxing one or more of the desired characteristics of the preferred Distributor road, including: ○ speed, to accommodate existing direct residential frontage or alignment constraints; ○ volume, to avoid road widening or excessive pressure on adjoining uses; ○ usage, to protect amenity of abutting uses or accommodate alignment constraints; and ○ access, reducing intensification of traffic on existing access.
Arterial Roads	• Longer movements, across town and between suburbs and centres. • Regional and longer distance cycle routes. • Freight and dangerous goods routes. • Reduce direct property access.	**Arterial Main Street**	• Only in existing corridors with commercial land uses on both sides e.g. sections of Aerodrome Road and Brisbane Road. • Provide pedestrian and cycle friendly environment. • Incorporate street scaping to reduce visual and acoustic impacts. • Seek to bypass freight movements • Provides for bus route connectivity and stops/stations.
		Arterial Roads	• Limited intersections with streets. • Divided carriageway preferred, two lane undivided carriageway may be appropriate for a lower volume rural or industrial road, subject to sufficient passing opportunities. • High volumes may require grade separation or signalisation. • Abutting land use should not impact road function. • In rural areas, land uses should be set back more than 30 metres. • May facilitate priority public transport services and stops, frequent bus services, dedicated lanes and/or queue jump/ priority signals. May also provide for some local bus network connectivity.
		Highway / Motorway	• Typically state-controlled, regionally and nationally significant. • Divided carriageway preferred, two lane undivided carriageway may be appropriate for a lower volume rural highway, subject to sufficient passing opportunities.

Table SC6.17B Urban transport corridors

Note—this table applies to transport corridors within the Urban area as identified on **Strategic Framework Map SFM 1 (Land use elements)**. The transport corridors are mapped on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code.**

Criteria		Arterial Roads			Sub-arterial Roads			District Streets		Neighbourhood Streets		Local Streets			
		Highway / Motorway	Arterial Road	Arterial Main Street	Distributor	Controlled Distributor	Sub-Arterial Main Street	District Collector Street	District Main Street	Neighbourhood Collector Street	Mixed Use Collector Street	Access Street	Mixed Use Access Street	Access Place	Access Laneway
Typical adjacent land use	residential	not sensitive to traffic	building & site design to minimise noise from traffic		not sensitive to traffic			●		●		●		●	●
	mixed use			●			●	●	●		●		●		
	commercial								●						
Typical catchment (detached dwelling lots or equivalent)								300 to 1000		up to 300		up to 75		up to 15	
Minimum reserve width (metres) increase to accommodate utilities, public transport, WSUD etc, without reducing landscaping, pathways, signage etc.		40-100	40-60	39.4	29.6 (2 lane) 37 (4 lane)	24 (2 lane)	29.8	26.8 29.8 if median	24.8 27.8 if median	21-25.4	23.4	15.3-16.6	20	14	6.5
Design speed (km/h) minimum for roads		80-110	70	60	70	60	50								
Design environment (km/h) speed appropriate for safety, amenity and convenience for the subject street								**60**	**40**	**50**	**40**	**30**	**30**	**30**	**20**
Maximum desirable volume / capacity ratio by location		0.75	0.85	0.85	0.85	0.85	0.85								
Maximum traffic volume (vehicles/day) * may increase to 10,000 if no direct vehicle access	per lane		9000	9000	9000	9000	9000								
	per road							5000 10000 if median	5000* 15000 if median	3000	5000	750	3000	150	
Vehicle property access + only via service roads or signalised intersections that meet spacing requirements ++ subject to safety and locational criteria		none	major development only +	limited to existing	major development only ++	ideally none, limited to existing and consolidated (forward in/out) where no alternate		rear/side preferred, consolidated (forward in/out), direct (if median and reversing into parking lane for detached dwellings) ++		rear/side preferred, direct ++		direct ++			
General traffic lanes * operates as single moving lane for passing		2-6	2-4	2-4	2-4	2-4	2-4	2	2	2	2	2	2	2*	2*

Schedule 6

Criteria		Arterial Roads			Sub-arterial Roads			District Streets		Neighbourhood Streets		Local Streets			
		Highway / Motorway	Arterial Road	Arterial Main Street	Distributor	Controlled Distributor	Sub-Arterial Main Street	District Collector Street	District Main Street	Neighbourhood Collector Street	Mixed Use Collector Street	Access Street	Mixed Use Access Street	Access Place	Access Laneway
Transit / bus lanes			●		O	O	O	O	O	O	O				
Pathways (minimum, metres) + local 2.5m, district and regional 3m, if shown on Figure 9.4.8B(i) (2031 Active Transport Network) and/or Sunshine Coast My Maps * fully paved through centres		grade separated	3 both sides	both sides*	3 both sides		both sides*	2 one side 3 other side +	both sides*	2 both sides +		1.8 one side+	both sides*	+	none
On-road cycling lane width (metres) may not be required if: + design speed ≤30km/h and no traffic signals * not part of an on-road cycle route shown on Figure 9.4.8B(ii) (2031 Active Transport Network) and/or Sunshine Coast My Maps		refer DTMR	2	2	2 carside 1.8 kerbside	1.5 carside 1.8 kerb-side	1.5 carside 1.8 kerb-side +*	1.5 carside 1.8 kerbside	1.5 carside 1.8 kerb-side +	1.5 carside 1.8 kerbside*	1.5 carside 1.8 kerb-side+	none - low speed, low volume traffic environment appropriate for shared use			
Pedestrian/ cyclist crossings at intersections, bus stops, pathways and other crossing desire lines	refuge		●	●	●	●	●	●	●	●	●		●		
	signalised		●	●	●	●	●	●	●						
	zebra - comply with DTMR TRUM manual, may be considered midblock						●		●						
	grade separated	●	●												
Public transport	bus routes and stops (separate right-of-way or mixed with traffic)		●	●	●	●	●	●	●	if no rear lane access	●			O	
	bus priority measures * desirable		O*	●	O	●*	●	if no median	●	O	O		O		
On-street parking	unmarked									if no rear lane access		●		●	
	indented parking both sides			●			●		●	if rear lane access	●		●		
	parking lane both sides			●			●	●	●	●					
	parking lane (where permitted)					●									
	no parking / prohibited	●	●		●										●
Intersection treatments accommodate pedestrians and link cycle lanes and pathways	priority T		●	●	●	●	●	●	●	●	●	●	●	●	●
	priority 4-way														O
	roundabout		●	●	●	●	●	●	●	●	●	●	●		
	traffic signals		preferred	●	●	●	●	●	●	●	●	●			
	grade separated	●	●												

Schedule 6

Criteria		Arterial Roads			Sub-arterial Roads			District Streets		Neighbourhood Streets		Local Streets			
		Highway / Motorway	Arterial Road	Arterial Main Street	Distributor	Controlled Distributor	Sub-Arterial Main Street	District Collector Street	District Main Street	Neighbourhood Collector Street	Mixed Use Collector Street	Access Street	Mixed Use Access Street	Access Place	Access Laneway
Median		●	●	desirable	●	desirable	desirable	localised where required, if not entire street							
May intersect with usually a corridor one classification higher or lower. Other intersections only where there is no alternative, subject to other design requirements.	access laneway											●	●	●	
	access street							O	O	●	●	●	●	●	●
	neighbourhood collector					O	O	●	●	●	●	●	●	●	●
	mixed use collector					O	O	●	●	●	●	●	●		
	district collector				●	●	●	●	●	●	●	●	●		
	sub-arterials		●	●	●	●	●	●	●	●	●				
	arterials	●		●	●	●	●	●	●	●	●				
	highways		●												
Minimum intersection spacing (metres) + 150 if constrained by existing development * same side, # opposite side		1.5-2km	0.5-1km	>150	300	300+	150	100* 80# 100 if median	100	60* 40#	60	60* 40#	40	40	40
Stopping distance (metres)		Austroads guidelines								42	30	20	20	20	10
General minimum sight distance (metres)		Austroads guidelines								84	60	40	40	40	20
Street leg length (metres)	Desirable			150		150	100	150	100	100	100	75	75	75	
	Maximum			180		180	155	180	120	≤140	120	75	75	75	
End conditions (km/h)								≤25		≤25					
Desirable maximum grade (%)		specific consideration	5	5	8	8	8	8	8	12	6	12	6	12	12
Absolute maximum grade (%) + up to 20% for ≤100m over the entire street, if constrained and limited heavy vehicle use			6	7	10	10	10	12 (10 if >5,000vpd)	12 (10 if >5,000vpd)	15 (12 if rear lane access)	12	15+	12	15+	15+
Freight route		primary (except through populated areas)	yes	yes	yes	selected routes		restricted access		no	restricted access	no			
Dangerous goods route			restricted access		restricted access			restricted access		no	restricted access	no			
Longitudinal drainage	kerb & channel			●		●	●	●	●	●	●	●	●	●	●
	swale	●	●		●			●							
Street lighting	Refer AS1158.3.1: 2005														

Note O Optional at discretion of Council.
Note—DTMR current guidelines or standards apply to planning and design of State-controlled roads.
Note—DTMR approval is required where any additional access is sought or existing access is modified to a State-controlled road.

Schedule 6

Table SC6.17C Rural transport corridors

Note—rural residential streets referred to in this table are those within the Rural residential area as identified on **Strategic Framework Map SFM 1 (Land use elements)**. All other roads and streets are located within the Rural area as identified on **Map SFM 1**. The transport corridors are mapped on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**.

Criteria		Arterial Roads		Sub-arterial Roads		District Streets		Neighbourhood Streets		Local Streets			
		Highway / Motorway	Arterial Road	Distributor	Controlled Distributor	District Collector Street	Rural Residential District Collector Street	Neighbourhood Collector Street	Rural Residential Neighbourhood Collector Street	Access Street	Rural Residential Access Street	Access Place	Rural Residential Access Place
Minimum reserve width (metres) excluding any embankment		100	60	45	35	30	30	25	20	20	20	20	18
Design speed (km/h) minimum on roads, maximum on streets appropriate for safe environment and places		**110**	**100**	**80**	**80**	**80**	**60**	**80**	**60**	**70**	**50**	**70**	**50**
Maximum desirable volume / capacity ratio by location		**0.7**	**0.75**	**0.75**	**0.75**	**0.8**							
Maximum traffic volume (vehicles/day)		**>40,000**	**20,000-40,000**	**<15,000**	**<15,000**	**1000-5000**	**5000**	**500-1000**	**2400**	**150-500**	**750**	**150**	**300**
Vehicle property access + auxiliary lanes or widened sealed shoulders required for safety near accesses * highway service centre may be allowed		**none***	**limited/ existing +**	**limited/ existing +**	**limited/ existing +**	**limited/ existing +**	**limited/ existing**	**direct+**	**direct**	**direct**	**direct**	**direct**	**direct**
Pathways		**none required**	**none required**	**none required**	**none required**	**none required**	**none required**	**none required**	**none required**	**none required**	**none required**	**none required**	**none required**
Traffic lane width (metres)		**volume driven**	**volume driven**	**3.5**	**3.5**	**3.3**	**3.3**	**3.3**	**3.3**	**3**	**3**	**3**	**3**
Sealed shoulder (and verge) width (metres) Full width seal to reduce maintenance and improve moisture conditions under pavements, especially under the outer wheel path. Widen verges for road safety barriers, horizontal sight distances, or to balance cut and fill. Short lengths of wider shoulder seals or lay-bys in suitable locations for discretionary stops.		**volume driven**	**volume driven**	**2**	**2**	**1.8**	**1.8m in 10.1m carriageway**	**1.8**	**1.5m in 9.5m carriageway**	**1m in 8m carriageway**	**1m in 8m carriageway**	**6m carriageway**	**6m carriageway**
On-road cycling lane width (metres) accommodated on sealed shoulders		**Refer DTMR**	**2.5**	**2.5**	**2.5**	**2**	**2**	**2**					
Public transport	routes	●	○	○	○		○						
	school bus route		●	●	●	●	○	●	○		●		
	stops						●						

Schedule 6

Criteria		Arterial Roads		Sub-arterial Roads		District Streets		Neighbourhood Streets		Local Streets			
		Highway / Motorway	Arterial Road	Distributor	Controlled Distributor	District Collector Street	Rural Residential District Collector Street	Neighbourhood Collector Street	Rural Residential Neighbourhood Collector Street	Access Street	Rural Residential Access Street	Access Place	Rural Residential Access Place
	indented stops Refer IPWEA Drawings SEQ R-180 and R-181 and *Translink Public Transport Infrastructure Manual*		●	●	●	●	○	●	○				
On-street parking						appropriate – sealed bus bays and acceleration / deceleration tapers near major arterials	where a building envelope is within 15m of a street and access is gained, widen the carriageway and reserve for on-street parking of one car per rural residential lot; do not provide access to urban residential subdivisions		where a building envelope is within 15m of a street and access is gained, widen the carriageway and reserve for on-street parking of one car per rural residential lot; do not provide access to urban residential subdivisions	appropriate – no special provisions	where a building envelope is within 15m of a street and access is gained, widen the carriageway and reserve for on-street parking of one car per rural residential lot; do not provide access to urban residential subdivisions		where a building envelope is within 15m of a street and access is gained, widen the carriageway and reserve for on-street parking of one car per rural residential lot; do not provide access to urban residential subdivisions
Intersection treatments	priority T		●	●	●	●	●	●	●	●	●	●	●
	roundabout		●	●	●	●	●		●				
	traffic signals		●	●	●								
	grade separated	●											
May intersect with	access street					●	●	●	●	●	●	●	●
	neighbourhood collector				●	●	●	●	●	●	●	●	●
	district collector			●	●	●	●	●	●	●			
Minimum intersection spacing (metres)		**5 to 8km**	**>1000**	**300**	**300+**	**>100**	**100**	**>100**	**100**	**>100**	**100**		**100**
Maximum grade		**5**	**6**	**7**	**8**	**9**	**9**	**10**	**16**	**16**	**16+**	**16**	**16+**

Schedule 6

Criteria		Arterial Roads		Sub-arterial Roads		District Streets		Neighbourhood Streets		Local Streets			
		Highway / Motorway	Arterial Road	Distributor	Controlled Distributor	District Collector Street	Rural Residential District Collector Street	Neighbourhood Collector Street	Rural Residential Neighbourhood Collector Street	Access Street	Rural Residential Access Street	Access Place	Rural Residential Access Place
+ up to 20% for ≤100m over the entire street, if constrained and limited heavy vehicle use; limit length of steep grades using Austroads Guide to Road Design.													
Freight route		primary	primary/ secondary	secondary	secondary	access only	access only	access only	access only	access only	access only	access only	access only
Dangerous goods route		primary	selected routes	selected routes	selected routes	access only	access only	access only	access only	access only	access only	access only	access only
Longitudinal drainage	**kerb and channel**						●		●		●		●
	swale	●	●	●	●	●	●	●	●	●	●	●	●
Street lighting	**Refer AS1158.3.1 2005**	v5	v5	v5	v5	p5	p5	p5	p5	p5	p5	p5	p5

Note **O** Optional at discretion of Council.
Note—DTMR current guidelines or standards apply to planning and design of State-controlled roads.
Note—DTMR approval is required where any additional access is sought or existing access is modified to a State-controlled road.

Schedule 6

Table SC6.17D Industrial transport corridors

Criteria		Industrial Streets	
		Collector Street	**Access Street**
Typical adjacent land use and catchment		Industrial 30 hectares	Industrial 8-10 hectares
Minimum reserve width (metres)		25	22.5
Minimum overall carriageway width (metres)		15	12
Verge width (metres)		5	4
Design speed (km/h) to be appropriate for the speed environment		60	50
Maximum traffic volume (vehicles/day)		12000	5000
Vehicle property access		direct - subject to location criteria	direct - subject to location criteria
Number of moving lanes		2	2
Pathways		both sides	one side
On road cycle lanes		yes	no
Pedestrian/cyclist crossings		refuge, signalised	refuge
Public transport		routes and bus stops (in parking lane)	no special provisions
On-street parking define with no-stopping line marking around intersections and major driveways to ensure heavy vehicle turning areas are not compromised		parking lanes - both sides	parking lanes - both sides
Intersection treatments		priority T, roundabout, traffic signals	priority T, roundabout
Provision for turning traffic		none	none
Median		no if expected to carry >7500 vehicles/day, increase reserve width and provide a raised median, minimum 4.5m wide, with U-turn facilities or other route choice options	no
Minimum intersection spacing (metres)	same side	100	60
	opposite side	150	60
Maximum grade %	**desirable**	6	6
	absolute	8	10
Typical longitudinal drainage		kerb & channel	kerb & channel
Street lighting refer AS1158.3.1 2005		v3	p5

Table SC6.17E Street and road networks

Element	Requirement
Location and connection	• Site responsive, integrated into the surroundings, including existing and future, adjacent and nearby development. • Position to limit earthworks and facilitate good drainage controls. • Highly interconnected, avoiding the creation of circuitous or inefficient movement. • Provide for safe passage of vehicles, pedestrians and cyclists, facilitating active and public transport, maximising travel choice. • Enable direct trips within and between neighbourhoods and to centres. • Usually connect with streets or roads one level higher or lower in the transport hierarchy. • Distance from furthest lot to nearest district collector street or road by vehicle:- o 700 metres along the road corridor, where located within the urban footprint; o 2000 metres along the road corridor, where located outside the urban footprint (rural and rural residential areas). • Prevent vehicular shortcutting through neighbourhoods, which may require street layouts that restrict through access to active and public transport. • Provide access places to ≤15% of lots in a residential development. • Active transport connections through mid blocks and access places.
Access	• Provide at least two street access routes for general access and emergency use:- o in residential areas with catchments ≥100 equivalent detached dwelling lots; o in all industrial subdivisions.
Legibility	• Logical and legible. • Streets should not change direction at intersections with lower order streets, particularly at roundabouts. • Simple navigation to and from the nearest district collector street or road to maintain sense of direction. • Three or less vehicle turns from the furthest point to the nearest district collector street or road.

(f) compliance with the performance outcomes and acceptable outcomes~~criteria~~ for assessable development of the **Transport and parking code** may be demonstrated in part or aided by the submission of one or more of the following reports and plans, as relevant:-

(i) traffic impact assessment report that meets the requirements in **Table SC6.17F (Traffic impact assessment reports)**;

(ii) travel plan that meets the requirements in **Table SC6.17G (Travel plans)**;

(iii) transport hierarchy plan, that indicates the proposed road hierarchy, how it will meet the street and road network planning requirements, and integrate with the existing or planned transport hierarchy shown on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**;

(iv) active transport network plan, showing the proposed pedestrian and cyclist network, including proposed treatments, how it meets the pedestrian and cyclist network planning principles and integrates with the existing or planned:-
(A) active transport network shown on **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** of the **Transport and parking code**;
(B) transport hierarchy shown on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**; and
(C) public transport network shown on **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)** of the **Transport and parking code**;

(v) public transport network plan, show the proposed public transport network, including routes, stops and interchanges, how it meets the public transport network planning principles and integrates with the existing and proposed:-
(A) public transport network shown on **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)** of the **Transport and parking code**;
(B) transport hierarchy shown on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**; and
(C) active transport network shown on **Figures 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** of the **Transport and parking code**.

Table SC6.17F Traffic impact assessment reports

Element	Requirement	
When required	• May be required for development proposals:- o with the potential to generate significant transport capacity and land use impacts; o which potentially increase the following peak period or daily traffic movements ≥ 5% (except where all intersection approaches are, and will remain, urban neighbourhood collectors streets or lower in the hierarchy):- ▪ total traffic through a signalised intersection; ▪ turning traffic (not priority movements) at a priority controlled intersection; ▪ on an approach to a roundabout; ▪ on a traffic route; o for high trip generating land uses with the potential to increase demand for car parking above the amount required by **Table 9.4.8.3.3 (Minimum on-site parking requirements)** of the **Transport and parking code**; o that have potential to significantly impact on the amenity of existing or planned residential communities, particularly relative to community expectations based on the planning scheme; o which are part of an overall development (by one or several applicants), whether staged or independent, where the overall development may have significant impacts as defined above, considering the individual stages and overall development.	
Purpose	• Assess the impact of the proposed development on traffic operations (based on current traffic operations and a minimum 10 year planning horizon from the anticipated completion date of the proposed development). • Assess the impact of the proposed development on both the existing and planned (regardless of whether funding has been allocated) transport infrastructure. • Address compliance of the proposed development with the **Transport and parking code** and this planning scheme policy and address any inconsistencies. • Calculate the likely traffic generated from the proposed development. • Identify works to address the traffic impacts generated by the proposed development, and/or the extent of any contribution the proposed development should make to infrastructure upgrading, planned or proposed, by Council or relevant State Government Agencies.	
Preparation	• By a competent person. • Identify data sources and assumptions. • Provide the output of all relevant analyses. • Consider the parameters for assessment specified herein. • Comply with DTMR requirements, particularly the *Guidelines for Assessment of Road Impacts of Development Proposals*, if they trigger referral to DTMR.	
Scope	• Address, including, but not limited to:- o pedestrian and cyclist movements and facilities; o public transport connections and facilities; o internal vehicular traffic; o on-site servicing and parking; and o integration with existing and planned transport infrastructure.	
Seasonal variation	• Account for any seasonal variations, which may require analyses of traffic operations during off-peak periods and peak holiday periods using design traffic impacts assessed and including:- o safety considerations; o degrees of saturation; o queue lengths; o delays; o signal operation efficiency; o coordination with other nearby traffic signals; and o effects of interaction with adjacent intersections.	
Parameters for assessment	Item	References, assumptions and procedures
	Traffic generating potential	• 85th percentile demand estimate (for new development).
	Likely traffic generated	• *DTMR Road Planning and Design Manual*. • *RTA Guide to Traffic Generating Developments*; • Any locally derived traffic generation surveys of land uses completed by Council. • Where there is no comparable traffic generation rate for the land use, calculate the likely traffic generated

Element	Requirement	
		through traffic and generation surveys of similar land use examples as the proposed development.
	Seasonal variations	• Based on traffic during the 80th highest hour in the year; (for off-peak periods and peak holiday periods).
	Car parking demand	• 50th highest hourly demand in the year based on sufficient data to reliably estimate (for new development).
	Signalised intersections – degree of saturation	• Average delay < 60 seconds on any approach.
	Roundabouts	• Comply with *Austroads Guide to Road Design*. • Degree of saturation for any movement ≤ 0.85.
	Priority junctions	• Comply with *Austroads Guide to Road Design*. • Degree of saturation for any movement ≤ 0.80.
	Queue lengths	• 95% confidence limit (95th percentile queue length). • Where excessive queue length is likely to cause significant problems, a greater confidence limit may be appropriate.
	Traffic facilities	• Design to operate at Level of Service D/E.
	Sight distance (at intersections)	• *Austroads Guide to Road Design* or as modified by *DTMR Road Planning and Design Manual*.

Table SC6.17G Travel plans

Element	Matters to be addressed
When required	• May be required for development proposals involving:- o 20 or more residential units; o 500m^2 or more GFA of commercial business uses; o 1,000m^2 or more GFA for retail business uses; o 1,000m^2 or more GFA for industrial uses; and o any high trip generating land use.
Purpose	• Identify measures to promote sustainable travel choices. • Consider user needs. • Encourage walking, cycling and use of public transport. • Provide for high levels of convenience and accessibility to reduce reliance on private vehicles and contribute to a mode shift towards sustainable transport. • Minimise potential adverse traffic and parking impacts on the surrounding street and road network and land uses.
Preparation	• By a competent person.
Site context	• Existing transport facilities on-site and nearby, including, but not limited to:- o location, nature, quality of and access to:- ▪ on and off-site pedestrian facilities; ▪ on and off-road cycling facilities; ▪ public transport facilities, routes, hours of operation, frequency, available capacity and accessibility; and ▪ any other transport mode facilities; o access for mobility impaired travellers; and o any other relevant information.
Travel survey	• Survey users where development provides for relocation from existing location:- o purpose of the survey and method/s for data collection; o users needs (staff, visitors, students, patients etc); o how the survey results inform the actions, targets and measures; and o attach surveys and complete results to the report.
Objectives and targets	• Short and long-term objectives, with emphasis on reducing single-occupancy car journeys. • Targets for the 3rd and 5th year of implementation.
Action plan	• Actions to be implemented, including priorities, role and responsibilities, timeframes, resources and funding requirements for each action. • Actions should consider, but are not be limited to:- o provision of pedestrian, cycle and public transport infrastructure and services, with regard to:- ▪ safety, amenity and accessibility for all users; ▪ the catchment population for each mode; ▪ direct, convenient access, integrated with the surrounding area; ▪ integration with the local active transport network (pathways and both

Element	Matters to be addressed
	on and off-road cycling); ▪ minimising routes that traverse large areas of car parking or other areas that impede pedestrians or cyclists; ▪ high quality end of trip facilities including lockers, showers and change facilities and sufficient, clearly marked, accessible and secure bicycle parking; ▪ provisions for future increase in usage; and ▪ bus access where appropriate; ○ map/s identifying existing and proposed pedestrian, cycle and public transport infrastructure and services; ○ managing private car use, with regard to:- ▪ on and off site car parking, regulation and demand reduction; ▪ car pooling; and ▪ car park sharing; ○ a map identifying any existing and proposed car parking and management provisions; ○ education and marketing to promote sustainable transport; ○ work arrangements, including flexible practices e.g. working from home and teleworking; ○ organisational culture and operation, e.g. courier use and general service delivery; ○ likely business travel and mechanisms to reduce private vehicle use; and ○ use of energy efficient vehicles.
Monitoring and reporting	• Monitoring and reporting arrangements, including frequency, for the implementation of the Travel Plan over time.

(g) Council may require a transport hierarchy plan, public transport network plan and active transport plan for development proposals involving:-

(i) the establishment of master-planned communities; or

(ii) 100 or more lots or residential dwellings.

SC6.17.5 Advice for achieving pedestrian and cyclist network and facilities outcomes

The following is advice for achieving Acceptable Outcomes AO5.1 and AO6 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development ~~only~~)** of the **Transport and parking code** relating to pedestrian and cycle network and facilities:-

(a) development should provide a pedestrian and cycle network and facilities that are consistent with:-

(i) **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**;

(ii) **Figures 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways)) and Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** of the **Transport and parking code**;

(iii) the other parts of this planning scheme policy and in particular, **Section SC6.17.4 (General advice about achieving transport and parking code outcomes)** and **Section 6.17.4 (Advice for achieving transport network outcomes)**;

(iv) **Appendix SC6.17A (Typical street and road cross sections)**;

(v) **Appendix SC6.17B (Active transport infrastructure guidelines standard treatments)**;

(vi) **Table SC6.17H (Pathways and cycleways)**;

(vii) **Table SC6.17I (On-road cycling)**;

(viii) the following documents for design matters not otherwise addressed by this planning scheme policy, with precedence given to documents in the order listed:-
(A) Austroads publications;
(B) DTMR publications;
(C) Australian Standards;
(D) Institute of Municipal/Public Works Engineering Australia Queensland Division (IPWEAQ) publications;

(E) MUTCD;
(F) TRUM Manual; and
(G) NSW Bicycle Guidelines.

Table SC6.17H Pathways and cycleways

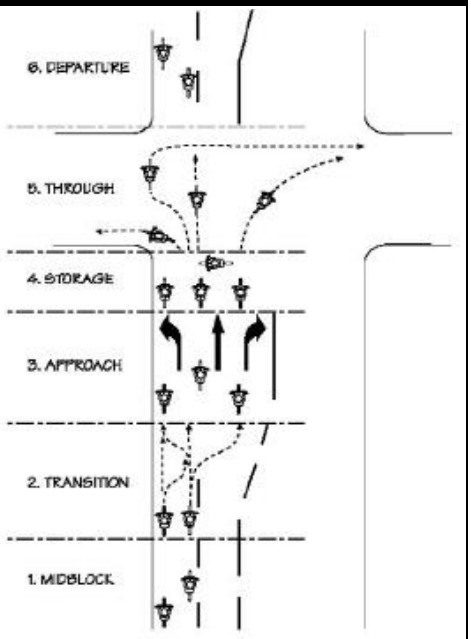
Element	Requirement
General	• Provide for both pedestrians and cyclists, unless specifically signed otherwise. • Shorter travel distances and greater accessibility and connectivity than that for private vehicles. • Consider natural travel desire lines (shortcuts) and minimum longitudinal gradients, which may require provision of alternate routes in areas with steep slopes etc. to cater for all users. • Connect destinations and key walking and cycling attractors, including homes, schools, centres, employment areas, community and recreational facilities, open space and public transport. • Pedestrian and cyclist friendly precincts around high trip generating attractors. • Pedestrian priority in centres and other areas with high pedestrian activity. • Universal access, including kerb ramps, pedestrian crossings and tactile ground surface indicators (TGSI's), where appropriate, in accordance with:- o *Disability Discrimination Act 1992*; o Disability (Access to Premises-Buildings) Standards 2010; o AS1428 Design for Access and Mobility; o Councils Standard Drawing for installation of TGSI's. • Limit directional TGSI's to high pedestrian trafficked areas (e.g. major centres). • TGSI proposals to be fully detailed and approved by Council prior to installation. • Verge treatments including the location of landscaping, pathways and street furniture are detailed in **Appendix SC6.17B (Active transport infrastructure guidelines standard treatments)** and Council Standard Drawings. • Design pathways and landscaping to avoid continuously damp pathways caused by seepage, constant shade and groundwater flow paths (installation of subsurface drainage may be required. • Accommodate motorised and non-motorised mobility aids. • Accommodate skateboards and scooters. • Continue across both sides of all bridges, culverts and structures along the transport corridor with required clearances to fencing and barriers. • Construct suitable structures, such as a bridges, boardwalks or culverts, to elevate pathways above localised water flows, where they:- o cross floodways; or o are located in open space or drainage reserves. • Structures are to be above the flow of a storm event with an annual exceedance probability (AEP) of:- o 18% AEP (Q5) if a regional or district level facility; o 39% AEP (Q2) if a local facility.
Width	• Comply with **Table SC6.17B (Urban transport corridors)**, **Table SC6.17C (Rural transport corridors)**, **Table SC6.17D (Industrial transport corridors)** and **Appendix SC6.17A (Street and road cross sections)**. • Reserves at through block connections - 7 metres. • Widen at potential conflict points, junctions and areas likely to have high peak demand (e.g. commuting and recreational routes). • Increase the cross section/verge to accommodate pathways if necessary. • Match the width over a bridge or culvert to that of the pathway or cycleway on the approaches to the structure, plus any additional clearances required to railings etc.
Setbacks / clearances (minimum, metres)	• 0.5 metres from vertical obstructions including fences, guard rails, barriers etc. • 1.5 metres from the boundary line to path edge if adjacent to fences ≥ 0.9 metres high or building faces or 1.0m (0.5m may be considered for short sections in constrained road reserves). • 2 metres from nominal kerb face to path edge to allow for poles, street trees and opening car doors if parking is permitted (lower widths based on design speed may be considered where street trees and/or landscaping are not required).
Surface	• Comply with Council's Standard Drawing (except using the widths nominated in this planning scheme policy). • Concrete pavement, unless adjacent to significant trees, where permeable pavement, segmental paving or timber boardwalks should be used. • Coloured pavement if 2.5 metres wide or more, to reduce glare and blend with the

Element	Requirement
	surrounding environment. • Maximum 2.5% crossfall. • Continue concrete pavements on both sides of a bridge or culvert. • Pavers should not be used, unless required in mixed use or main street locations for streetscape outcomes where pavers are to be laid over reinforced concrete.
Holding rails	• Class 1 reflective material where there is potential to be impacted by errant vehicles (i.e. installed on non-kerbed roads). • Class 2 reflective tape elsewhere (i.e. behind kerbs or mounted on islands).
Crossing treatments e.g. refuges, slow points, thresholds, traffic signals	• Comply with:- o MUTCD; o TRUM Manual; o AS1158.4 for lighting. • At logical locations, in a direct, straight line. • Pedestrian Level of Service A, B or C (TRUM Manual). • Where pedestrian Level of Service is D, E or F, without treatment (TRUM Manual). • Through central and/or splitter islands:- o at grade; o minimum 2 metres wide (unless pedestrian volumes are high (e.g. active main streets and foreshores); • Design to enhance informal crossing opportunities.
Kerb ramps	• Provide at all intersections and crossings, with attention to universal access. • Use kerb ramps to join pathways to kerb and channel. • Equally sized kerb ramps on both sides of the street or road and cut-through refuges (min width 2m). • Comply with:- o Council's Standard Drawing for kerb ramps, including:- ▪ construction with plain concrete; ▪ gradient of 1 in 10 to 1 in 15; ▪ minimum 1.5 metre pathway width beyond the top of the ramp; ▪ match pathway width to a maximum of 2 metres; ▪ located on the straight section of kerb (not kerb return); ▪ minimum angle of 166 degrees between roadway; ▪ minimum height change of 110mm; o AS1428 otherwise.
Safety	• Minimise potential conflict by:- o considering the predicted demand and the likely speed differential between pedestrians and cyclists; o widening at potential conflict points, junctions and areas likely to have high demand; o separating users in high conflict areas; o avoiding heavy vehicle routes and reversing areas; o providing adequate sight distances for path users, motorists and people and vehicles exiting properties; o providing intersection treatments, pathway/road crossings and refuges; o managing speed without the use of restrictive devices such as Z chicane bars, banana bars and raised pavement markings; o avoiding installation of bollards, fencing and holding rails near path entrances; o where bollards are necessary to restrict vehicle entry, comply with IPWEA Drawing SEQ P-010 Type 1 Alternative Treatment. • Provide for casual surveillance and avoid routes hidden from view.
Signage and lighting	• Legible way-finding signage. • Comply with:- o TRUM Manual; o Austroad publications; and o DTMR publications. • Pathway way-finding in accordance with Council's infrastructure standards way-finding signage suite. • Light pathways, cycleways and crossings for visibility, safety and security, in accordance with AS1158.3.1. • Lighting may be required:- o to site entries, driveways, parking areas, building entrances and other areas outside road reserves; and o on pathways and cycleways through parkland, including at road entrances.
Landscaping	• Comply with the **Landscape Code** and **SC6.14 Planning scheme policy for**

Element	Requirement
	development works. • Pathways and street trees should not be installed until 95% of site/development stage is developed.

Note—cycleway/veloway is a pathway exclusively for cyclists. Cycleways can be bi-directional, are physically separated from vehicular traffic and usually located alongside major arterial roads. Veloways are dedicated high capacity, high quality facilities for high speed cycling trips.

Table SC6.17I On-road cycling

Element	Requirement
General	• Provide for cyclists:- ○ on all street and road corridors unless specifically prohibited (e.g. Motorways); ○ in shared traffic lanes as mixed traffic on access places, access streets and neighbourhood collector streets where the street does not form part of the cycle route on **Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle links (On Road Cycleways))** of the **Transport and parking code**; ○ with on-road cycle lanes for all other urban streets and roads; ○ through all movement stages as shown; ○ with bicycle detection systems in cycle lane approaches to signalised intersections; and ○ with cyclist push button sensors at signalised crossings which include bicycle facilities. • Cater for recreation, commuting, utility and sport cycling trips. • Provide adequate sight distances.  (Source: Cumming, 1999)
Cycle lane width	• Measured from nominal face of kerb. • Comply with **Table SC6.17B (Urban transport corridors)**, **Table SC6.17C (Rural transport corridors)**, **Table SC6.17D (Industrial transport corridors)** and **Appendix SC6.17A (Typical street and road cross sections)**.
Obstructions	• Ensure cycle lanes are free from obstructions (e.g. signage, speed management devices and reflectorised raised pavement markers, are to be installed on the motorists' side of the line). • Bypass slow points to allow safe continuation of cycle lanes. • Set splitter islands back 1.5 metres from edge line to allow space for cyclists (except where specific treatments are provided).
Roundabouts	• Provide for cyclists to queue at approaches to roundabouts via designated cycle lanes or advanced storage boxes across traffic lanes. Advanced storage boxes to be used where speed limit is <60km/h and primarily on single lane roundabouts where right turn cycle movement demand is high. • Terminate cycle lanes where the approach street or road meets the circulating carriageway of the roundabout (at holding line), so cyclists merge into the traffic stream and share the road space within the roundabout. • Ensure marked cycle lanes do not continue through the roundabout. • Provide cycle ramps between the carriageway and adjacent verge on all roundabout approaches, enabling cyclists to negotiate the intersection on pathways on district collector streets and roads, or where the speed limit is ≥ 60km/h. • Where traffic volumes in multilane roundabouts are problematic for cyclists, consider grade separation/ underpass facilities to allow safer road crossings, where practicable.
Line marking	• Legible way-finding signage.

Element	Requirement

and signage	• Comply with:-
	  ○ MUTCD;
	  ○ Council's adopted Standard Specification (Pavement Markings); and
	  ○ **Appendix SC6.17B (Active transport infrastructure guidelines standard treatments)**.
	• Cycle lane symbols:-
	  ○ white thermoplastic;
	  ○ 1.1 x 1.8 metres; and
	  ○ maximum 200 metres apart.
	• Yellow "no stopping" lines if there is potential for conflict and parking within the cycle lane.
	• Cycle lane coloured treatments at sections of cycle lanes which are frequently crossed by motor vehicles and where safety is a concern, particularly at left slip lanes and roundabouts, painted in accordance with:-
	  ○ **Appendix SC6.17B (Active transport infrastructure guidelines standard treatments)**; and
	  ○ TRUM Manual.
	• Green coloured cycle lane treatments are generally not to be used in areas identified as a Neighbourhood Character Area or State or Local Heritage Place under the **Heritage and character areas overlay code**. It is preferable to use edge lines and symbols or the like in its place.

(b) compliance with Acceptable Outcome AO5.2 and AO5.3 of **Table 9.4.8.3.1 (~~Criteria~~Requirements for ~~self assessable~~accepted development and performance outcomes and acceptable outcomes for assessable development)** of the **Transport and parking code** may be demonstrated by providing cycle parking and end of trip facilities that complies with:-

(i) **Table SC6.17J (Bicycle parking and end of trip facilities)**;

(ii) *AS2890.3 – Parking Facilities Part 3 – Bicycle Parking Facilities*;

(iii) *Austroads Guide to traffic management Part 11: Parking*; and

(iv) *Manual of Uniform Traffic Control Devices* (MUTCD).

Table SC6.17J Bicycle parking and end of trip facilities

Element	Requirement
General	• Accessible, convenient, secure, safe and sufficient. • Attractive, designed to complement the streetscape. • Capable of being shared by multiple uses, either because of variation in demand or efficiencies gained from sharing. • Secure bicycle parking where identified, as required in **Table 9.4.8.3.3 (Minimum on-site parking requirements)** of the **Transport and parking code**. • Appropriately signed. • Well lit in accordance with *AS1158*.
Location	• At trip attractors (e.g. centres, shops, public transport interchanges, work places, patrolled beaches, education facilities, hospitals, sports grounds etc.). • At major transport interchanges, where provided by new development in accordance with Translink requirements. • As close as possible to the cyclist's ultimate destination. • Allows a bicycle to be ridden to within 20 metres of the parking space. • Easy access to cycle routes, building entrances and end of trip facilities. • Highly visible, in areas with passive surveillance for security (when not in a compound). • Occupant parking within the building, or on-site, within 70 metres of the destination and protected from the weather. • Visitor parking adjacent to a major public entrance to the building. • Does not interfere with reasonable access to doorways, loading areas, access covers, furniture, services and infrastructure. • Does not impede the movement of pedestrians or other vehicles.
Parking spaces	• Refer to Council's Drawing R-070A. • Minimum 1.7 metres long, 1.2 metres high and 0.7 metres wide at the handlebars.

<table>
<tr><th>Element</th><th colspan="7">Requirement</th></tr>
<tr><td>Rails</td><td colspan="7">• Designed and located to easily park, support the whole bicycle, lock both the frame and wheels and remove the bicycle.
• Securely fixed to a wall, floor or the ground.
• Minimum 1 metre spacing between rails.
• Vertical storage can use alternative systems (e.g. wall mounted rails and racks, pods) allowing for the differing heights and strengths of users.
• Provide stainless steel rails in coastal zone areas.</td></tr>
<tr><td>Compounds and lockers</td><td colspan="7">• Fully enclosed and lockable.
• Provide weather protection for the bicycle if outside.
• If a locker, provide space for one bicycle.
• If a compound, provide:-
○ wall or floor rails for parking; and
○ an internal access path at least 1.5 metres wide.
• Open plan storage layouts can use alternative storage systems (e.g. double parker/double storey parking, pods).</td></tr>
<tr><td>Personal lockers</td><td colspan="7">• Secure and available for use by bicycle parking facility users.
• Co-located with either the change room or bicycle parking facility.
• Minimum dimensions 900mm x 300mm x 500mm.</td></tr>
<tr><td>Change rooms</td><td colspan="7">• Cater for all active transport (cycling, scooters, walking, running etc.).
• Within the building, or if not within the building then on-site, co-located with bicycle parking facilities and within 70 metres of the destination.
• 5m^2 minimum floor area for 1 to 5 bicycle spaces, plus 1.5m^2 for each additional bicycle space.
• Fitted with a lockable door or otherwise screened from public view.
• Showers dispense both hot and cold water.
• Showers, sanitary compartments and wash basins located within change rooms as specified in this table.
• A mirror above each wash basin.
• A power outlet beside the mirror.
• Consider providing a wall mounted ironing board with power outlet in change rooms.</td></tr>
<tr><td rowspan="6">Lockers, change rooms, showers, sanitary compartments and washbasins</td><td>Employee bicycle parking spaces</td><td>Personal lockers</td><td>User group</td><td>Change rooms</td><td>Showers</td><td>Sanitary compart-ments</td><td>Wash basins</td></tr>
<tr><td>1 - 5</td><td>1 / space</td><td>Female and male</td><td>1 of unisex design</td><td>1</td><td>1 closet pan</td><td>1</td></tr>
<tr><td rowspan="2">6 – 19</td><td rowspan="2">1 / space</td><td>Female</td><td>1</td><td>1</td><td>1 closet pan</td><td>1</td></tr>
<tr><td>Male</td><td>1</td><td>1</td><td>1 closet pan</td><td>1</td></tr>
<tr><td rowspan="2">20 or more</td><td rowspan="2">1 / space</td><td>Female</td><td>1</td><td>2, plus 1 additional for every 20 bicycle parking spaces thereafter</td><td>2 closet pans plus 1 additional for every 60 bicycle parking spaces thereafter</td><td>1, plus 1 additional for every 60 bicycle parking spaces thereafter</td></tr>
<tr><td>Male</td><td>1</td><td>2, plus 1 additional for every 20 bicycle parking spaces thereafter</td><td>2 closet pans plus 1 additional for every 60 bicycle parking spaces thereafter</td><td>1, plus 1 additional for every 60 bicycle parking spaces thereafter</td></tr>
</table>

SC6.17.6 Advice for achieving public transport facility outcomes

The following is advice for achieving Acceptable Outcome AO7.5 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development ~~only~~)** in the **Transport and parking code** relating to public transport facility outcomes:-

(a) development should provide public transport facilities and infrastructure that are consistent with:-

(i) **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**;

(ii) **Figure 9.4.8C (2031 Strategic Network of Public Transport Links)**;

(iii) the other parts of this planning scheme policy and in particular, **Section SC6.17.3 (General advice about achieving transport and parking code outcomes)** and **Section SC6.17.4 (Advice for achieving transport network outcomes)**;

(iv) the requirements of DTMR on new roads or development sites;

(v) **Table SC6.17K (Public transport)**; and

(vi) *Translink Public Transport Infrastructure Manual*.

Table SC6.17K Public transport

Element	Requirement

General	• Plan concurrently with land use, acknowledging the symbiotic relationship and maximising the benefits of integrating development and public transport.
	• Priority over private vehicles, including dedicated lanes and green links.
	• Accessible, convenient, secure and safe.
	• Universal access in accordance with:-
	  ○ *Disability Discrimination Act 1992*;
	  ○ *Disability (Access to Premises-Buildings) Standards 2010*;
	  ○ *Disability Standards for Accessible Public Transport 2002*; and
	  ○ *AS1428 Design for Access and Mobility*;
	• Easy to understand and navigate.

Route location	• On streets and roads suitable for buses. • Centre to centre connection. • Connect to high frequency services. • Connect to intra and inter regional services for longer journeys. • Enable efficient, frequent and high capacity services. • Enable local. feeder bus services in areas surrounding centres. • Serve significant trip generating land uses and zones. • Through the centre of neighbourhoods to maximise patronage and minimise walking distances. • Within a 400 metre walk of at least 90% of new development within the urban footprint. • Along retirement village frontages.
Intersections	• Minimum 12.5 metre wide swept turning path for a single unit truck/bus in accordance with Austroads Design Vehicles and Turning Path Templates. • Where routes link residential areas across roads carrying ≥ 6000 vehicles per day, roundabouts and/or traffic signals should enable a left turn from one area, then a right turn into the adjoining residential area. • Priority measures such as queue jumps and priority signals.
Bus movement	• Design to achieve comfortable bus movement. • Avoid traffic management devices such as speed humps, chicanes and other slow points with 25 kilometres per hour spot speeds.
Interchanges	• Well connected to other transport networks, particularly pedestrian networks and taxi facilities. • At locations determined in conjunction with Translink.
Stops	• At existing and future key destinations and public transport attractors, including homes, schools, centres, employment areas, community and recreational facilities and open space. • Near pedestrian crossing points to facilitate safe user movement. • 400 metre average spacing, balancing accessibility and running time. • Provide localised widening of street and road reserves to accommodate wider verges required for indented bus bays, stops, shelters and other bus stop infrastructure, clear of pathways.

SC6.17.7 Advice for achieving layout and design of access and on-site parking outcomes

The following is advice for achieving Acceptable Outcomes AO1.1 and AO2.1 of **Table 9.4.8.3.1 (~~Criteria~~Requirements for ~~self assessable~~accepted development and performance outcomes and acceptable outcomes for assessable development)** in the **Transport and parking code** relating to location, layout and design of on-site parking and access:-

(a) development should comply with the other parts of this planning scheme policy and in particular, **Section SC6.17.3 (General advice about achieving transport and parking outcomes)** and **Section 6.17.4 (Advice for achieving transport network outcomes)**;

(i) access should comply with:-
- (A) **Table SC6.17L (Site access/driveways)**;
- (B) IPWEA Standard Drawing (R51-53) Residential, commercial and rural driveways;
- (C) Council's Standard Drawings; and
- (D) *Austroads Guide to Road Design*;

(ii) vehicle queuing provisions should comply with **Table SC6.17M (Queue provisions)**, noting that greater provisions may be required in some circumstances;

(iii) on-site circulation, manoeuvring and parking should be provided that:-

- (A) provides safe and functional access for pedestrians, cyclists and vehicles, that minimises potential for conflict between users;
- (B) discourages high speeds;
- (C) provides for trolleys, prams and wheelchairs (e.g. space and gradients);
- (D) is designed in accordance with *AS2890.1 – Part 1: Off Street Car Parking and AS2890.2 – Off Street Parking Part 2: Commercial Vehicles*;
- (E) provides for the largest service vehicles expected to visit the site (except where these vehicles are only occasionally expected to visit the site); and
- (F) complies with the design criteria identified in **Table SC6.17O (Service vehicles)** for the operational requirements of different types of service vehicles;

Table SC6.17L Site access/driveways

Element	Requirement
General	• Safe, legible and convenient. • Facilitate easy ingress and egress for all users. • Provide for vehicles to enter and leave in a forward motion. • Consider needs of pedestrians and cyclists first to minimise potential conflict between pedestrians, cyclists and vehicles. • Comply with (except where modified within this policy):- o Council's Standard Drawings for access construction across road verges; o *DTMR Road Planning and Design Manual*; o *Austroads Guide to Road Design*; o MUTCD for direction, regulation, warning and information signage and line marking.

Schedule 6

<table>
<tr><th>Element</th><th colspan="3">Requirement</th></tr>
<tr><td>Location, width and design</td><td colspan="3">
• Appropriate for design traffic volumes and vehicle types that will use the site.
• Only one access/driveway, unless a major development and additional are necessary to meet the purpose of the code.
• Separate access for heavy vehicles, where appropriate and it will provide safer traffic operations or reduced impact on the external road network.
• Limited to the normal frontage of the site (including splays at the kerb line), unless shared (i.e. do not splay across adjoining properties).
• Where there is more than one frontage, from the lowest order transport corridor to which the site has frontage, except where traffic generated would adversely impact amenity or safety.
• Located and sized to maximise on-street parking opportunities.
• Adequate to accommodate the driveway, turn lanes and/or pavement widening on the intersecting road (where permitted) for safe movement of turning traffic, passing bays, pedestrian and vehicle movements and facilities, service corridors, stormwater drainage, earthworks, retaining walls, landscaping, verges and clearances.
• If straight, ≥ 3 metres wide, with separate provision for pedestrians if necessary.
• If curved, width determined by the turning paths of 99th percentile vehicles.
• Configured as roadway approaches to traffic signal, roundabout or priority controlled intersections in special industrial circumstances.
• Truncate adjoining lots if necessary for safe and convenient access.
</td></tr>
<tr><td>Construction</td><td colspan="3">
• Non-slip surface.
• Concrete if industrial.
• Construct accesses/driveways:-
  ○ on lots with steep slopes to building sites;
  ○ on lots with frontages with visibility constraints;
  ○ in conjunction with subdivisional works if the development creates allotments where accesses/driveways will be restricted to specific locations;
  ○ along the full length of the access strip or easement in conjunction with subdivisional works if the development creates an allotment which will access the public road network via an access strip or easement.
• Reinstate any damaged infrastructure to previous standard and make good the area for the safe passage of pedestrians.
</td></tr>
<tr><td>Sight distances</td><td colspan="3">
• Comply with the DTMR Road Planning and Design Manual.
• Tapered set-backs to buildings and/or landscaping from the property boundary.
• ≥ 2 metres from openings in buildings if there is no set back to the buildings.
• Reduced only if there is no practical alternative, and specific traffic design and/or control measures are used to minimise potential hazards (e.g. left-in / left-out).
• Increase if significant truck volumes, likely to require longer gaps in traffic to complete turning, crossing and merging manoeuvres.
</td></tr>
<tr><td>District collector streets and all roads</td><td colspan="3">
• Left turns to and from driveways only.
• Right or left turns may require turn lanes and medians or reserve widening to ameliorate increased traffic volumes.
• Council may close any median break at any time.
</td></tr>
<tr><td>Separation - minor development</td><td colspan="3">
<table>
<tr><th>Type of frontage</th><th>Adjacent feature</th><th>Minimum separation along kerb (measured tangent point to tangent point of curve at intersection or other driveway closest to proposed minor driveway)</th></tr>
<tr><td rowspan="4">Street</td><td>Minor intersection</td><td>10 metres</td></tr>
<tr><td>Major intersection
(traffic signals, roundabout, median break, or priority-controlled intersection)</td><td>20 metres</td></tr>
<tr><td>Other driveway
(on same side only)</td><td>3 metres between extent of splays</td></tr>
<tr><td>Controlled intersection</td><td>Clear of 95th percentile queue areas and turn lanes</td></tr>
<tr><td rowspan="4">Road (including district, district main and industrial collector streets)</td><td>Minor intersection</td><td>20 metres</td></tr>
<tr><td>Major intersection</td><td>30 metres</td></tr>
<tr><td>Median break</td><td>15 metres (or twice one-way carriageway width, whichever is greater)</td></tr>
<tr><td>Other driveway
(on both sides of undivided carriageways)</td><td>15 metres
(may be permitted to be reduced to 3 metres between driveways for dwellings)</td></tr>
</table>
</td></tr>
</table>

Element	Requirement						
		Controlled intersection			Clear of 95th percentile queue areas, turn lanes and approach tapers		
Major development	**Zone / development**	**Min. access width (m)**	**Min. driveway width (m)**	**Passing bay**	**Max. grade (%)**	**Seal**	**Stormwater drainage**
	Low density residential	6	3	Yes	20	bitumen	39% AEP (Q2) underground
	Low density residential (1 lot only)	5	2.5	5m No	20	concrete	39% AEP (Q2) underground
	Commercial and industry	8	6	N/A	8	concrete	10% AEP underground
	Rural residential	10	3 on a 5 formation	5.5 on a 7.5 formation	20	sealed as per Council's standard drawings	39% AEP (Q2) culverts and table drains

Table SC6.17M Queue provisions

Element	Requirement	
Minimum for any driveway	• Provide for at least one vehicle at entry and exit, measured along the driveway, from the property boundary to the first parking space or internal intersection. • Comply with MUTCD for direction, regulatory, warning and information signage and line marking.	
Design length	• Minimum 6 metre long space for each vehicle. • Consider:- o form of control at the driveway/intersection; o the external road and traffic volumes carried; o size of the car park and turnover rate; and o design of the internal traffic and parking system. • Calculate using conventional intersection analysis techniques, for peak design period 95th percentile queue. • Where there is more than one access, calculate on the proportion of the site served by each access. • In the absence of appropriate calculations, the following applies:	
	Nominal Car Park Capacity	Design Queue Length
	5-20	1
	21-50	2
	51-100	3
	101-150	4
	151-200	5
	201-250	6
	251-300	7
	Over 300	2.25% of nominal capacity (rounded up)
Controlled access (including gates)	• Accommodate queue between the property boundary and the gate. • Provide for a light vehicle to turn on the site if declined entry.	
Controlled car parks	• Calculate on the estimated peak entry and exit rates and control facility capacity. • Accommodate queue at all ticket spitters, card readers and pay booths. • Separate provisions at entrances and exits, both inside and outside the control facility.	
Drive-through facilities fast-food (10 vehicles) and bottle shops (12 vehicles)	• Separate internal queue provisions. • Calculate on the peak period 95th percentile queues. • If a fast food outlet, provide short term parking of one or two vehicles diverted from the queue while orders are prepared.	

SC6.17.8 Advice for achieving parking requirement outcomes

The following is advice for achieving Acceptable Outcome AO14.2 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development only)** in the **Transport and parking code** relating to on-site parking for motorcycle and scooter outcomes:-

(a) motorcycle and scooter parking should comply with:-

(i) **Table SC6.17N (Motorcycle and scooter parking)**; and

(ii) Council's Standard Drawing for scooter parking.

Table SC6.17N Motorcycle and scooter parking

Element	Requirement
General	• Accessible and located convenient to entrances to the premises. • Interact positively with the streetscape. • Capable of being shared by multiple uses, either because of variation in demand over time or efficiencies gained from the consolidation of shared facilities. • Relatively flat, non-slip surface. • Ramp or driveway to access any raised parking area. • Measures to prevent cars hitting motorbikes (if necessary). • Minimises potential conflict between motorcycles/scooters and pedestrians, cyclists and other vehicles.
Size	• Generally 1.5 metres wide, dependant on the angle of the space. • Comply with *AS2890 – Parking Facilities*.
Safety and security	• Highly visible, in areas with passive surveillance for security.
Signage	• Easily identifiable by riders. • Signed in accordance with MUTCD (directional and at the space).
Lighting	• Comply with *AS1158* for lighting.

SC6.17.9 Advice for achieving service vehicle requirements outcomes

The following is advice for achieving Acceptable Outcome AO6.2 and AO7.2 of **Table 9.4.8.3.1 (~~Criteria~~Requirements for ~~self assessable~~accepted development and performance outcomes and acceptable outcomes for assessable development)** in the **Transport and parking code** relating to service vehicle requirements outcomes:-

(a) service vehicle access, internal circulation and manoeuvring, loading and unloading, refuse collection facilities and parking areas should:-

(i) be safe and functional;

(ii) minimise potential conflict between pedestrians/cyclists and vehicles;

(iii) discourage high speeds;

(iv) provide for the largest service vehicles expected to visit the site (except where these vehicles are only occasionally expected to visit the site);

(b) comply with:-

(i) **Table SC6.17O (Service vehicles)**;

(ii) *AS2890.2 - Off-street commercial vehicle facilities*;

(iii) Austroads design guides;

(iv) vehicle-specific turning templates or computer generated templates consistent with the parameters set in *AS2890.2*; and

(v) **Figure SC6.17B (Standard turning path templates for Vans and WCVs)**;

Table SC6.17O Service vehicles

<table>
<tr><th>Element</th><th>Requirement</th></tr>
<tr><td>General</td><td>

Locate service areas:-

where they will not dominate the streetscape;
conveniently close to service entrances (or other building entrances);
where they will not unduly intrude upon pedestrian use of pathways, e.g. at rear lanes, below ground level or through shared driveways;
separate from parking areas; and
clear of queue areas and where safety could be compromised.

Provide for:-

sufficient area for manoeuvres in and out of service vehicle parking spaces, including when adjacent service vehicle spaces are occupied;
a maximum of one reversing manoeuvre to enter or leave the space;
AV’s to reverse anti-clockwise into docks to maximise driver vision; and
wider bays if vehicles (other than AV’s) must reverse clockwise.

</td></tr>
<tr><td>Waste collection</td><td>

Maintain access by vehicles to refuse bins or compactors at all times.
Provide evidence (e.g. a complete copy of any waste collection contract) for:-

specific waste collection hours if access is to be obtained through other service vehicle spaces; and
specific vehicle sizes and heights if proposing dimensions less than a standard WCV.

Provide for a road tanker collecting industrial or commercial liquid waste to stand fully on the site and comply with other access design requirements.

</td></tr>
<tr><td>Service vehicle specifications</td><td>
<table>
<tr><th>Element</th><th>Van</th><th>SRV</th><th>MRV</th><th>HRV</th><th>WCV</th><th>Coach</th><th>AV</th></tr>
<tr><td>Size (m)</td><td>5.4x2</td><td>6.4x2.3</td><td>8.3x2.5</td><td>12.5x2.5</td><td>10.2x2.5</td><td>12.5x2.5</td><td>19x2.5</td></tr>
<tr><td>Service bay (m) *does not include bin or compactor area</td><td>5.4x3</td><td>7x3.5</td><td>9x3.5</td><td>13x3.5</td><td>10.5x2.5*</td><td>13x3.5</td><td>19.5x4.5</td></tr>
<tr><td>Clear height (m) to be maintained throughout changes in grade</td><td>2.3
4.8 for animal transportation vehicles
6.5 where access to the top of a tall vehicle or load is required</td><td>3.5</td><td>4.5</td><td>4.5</td><td>4.5</td><td>4.5</td><td>4.5</td></tr>
<tr><td>Loading dock height (m) indicative only</td><td></td><td>0.7-0.9</td><td>0.9-1.1</td><td>1.1-1.4</td><td></td><td></td><td>1.1-1.4</td></tr>
<tr><td>Max gradient manoeuvre areas (%) measured along the inside of a curve</td><td>12</td><td>12</td><td>8</td><td>8</td><td>5</td><td>5</td><td>4</td></tr>
<tr><td>Min access road width (m) one way</td><td colspan="4" rowspan="2">refer to AS2890.2 (Table 3.1)</td><td>5</td><td></td><td rowspan="2">refer to AS2890.2 (Table 3.1)</td></tr>
<tr><td>two way</td><td>7</td><td></td></tr>
<tr><td>Max gradient access route (%) measured along the inside of a curve</td><td>16.7
12.5 where reverse manoeuvres are permitted on the access route</td><td>16.7</td><td>15.4</td><td>15.4</td><td>15.4</td><td>15.4</td><td>15.4</td></tr>
<tr><td>Max gradient queue area (%)</td><td>10</td><td>10</td><td>8</td><td>8</td><td>5</td><td>5</td><td>4</td></tr>
</table>
</td></tr>
<tr><td>Fuel deliveries</td><td>

Comply with:-

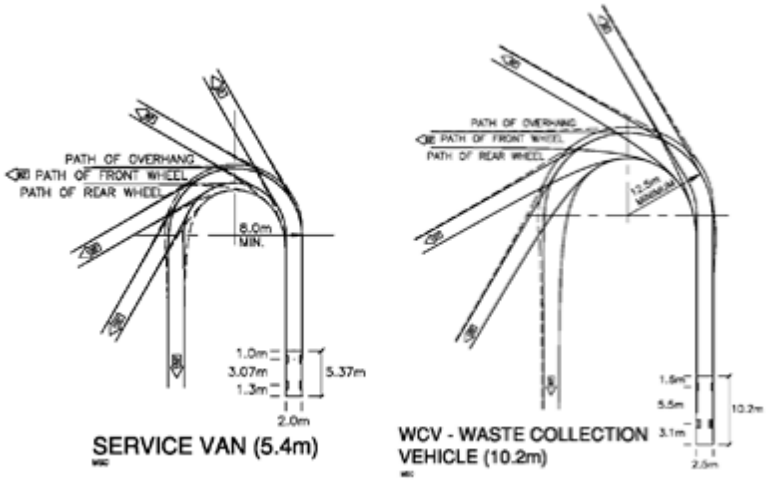
AS1940; and
Council’s Local Laws;

Fuel is assumed to be delivered in a HRV, with appropriate access design.
The vehicle may stand in a suitable circulation road, aisle or forecourt area subject to the frequency and out of hours occurrence of deliveries.

</td></tr>
</table>

Notes—
1. Operating clear heights for WCV – front load 6.1m, side load 6.7m, rear (roll-off) 7.1m.
2. 6.5m clearance where access to the top of a tall vehicle e.g. pantechnicon, or load is required.

Figure SC6.17B Standard turning path templates for Vans and WCVs



(c) c~~C~~ompliance with Acceptable Outcome AO15.2 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development ~~only~~)** of the **Transport and parking code** may be demonstrated by providing bus parking that complies with:-

(i) allow buses to manoeuvre in a forward direction only;

(ii) comply with *AS2890 – Parking facilities*; and

(iii) comply with any state government requirements.

SC6.17.10 Advice for achieving transport corridor widths, pavement, servicing and verges outcomes

The following is advice for achieving Acceptable Outcomes AO20, AO21, AO22.1, AO22.2, AO23 and AO24 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development ~~only~~)** in the **Transport and parking code** relating to transport corridor widths, pavement, surfacing and verges outcomes:-

(a) the design and construction of external street and road works, transport corridors, street and road pavements, pavement edging, street and road drainage and verges should comply with:-

(i) current and future transport corridors shown on **Figure 9.4.8A (2031 Functional Transport Hierarchy)** of the **Transport and parking code**;

(ii) current and future pedestrian and cyclists network shown on **Figures 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** and **Figure 9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))** of the **Transport and parking code**;

(iii) current and future public transport corridors shown on **Figures 9.4.8C (2031 Strategic Network of Public Transport Links)** of the **Transport and parking code**;

(iv) other parts of this planning scheme policy and in particular, Section **SC6.17.3 (General advice about achieving transport and parking code outcomes)** and **Section 6.17.4 (Advice for achieving transport network outcomes)**;

(v) **Table SC6.17B (Urban transport corridors)**;

(vi) **Table SC6.17C (Rural transport corridors)**;

(vii) **Table SC6.17D (Industrial transport corridors)**;

(viii) **Appendix SC6.17A (Typical street and road cross sections)**;

(ix) **Appendix SC6.17B (Active transport infrastructure guidelines standard treatments)**;

(x) **Table SC6.17H (Pathways and cycleways)**;

(xi) **Table SC6.17P (Street and road works)**; and

(xii) requirements of DTMR, where access is proposed onto a State Controlled Road, or where the proposed development is likely to have significant impact on a State Controlled Road.

Table SC6.17P Street and road works

Element	Requirements

General	• If an existing street or road:-
	  ○ circumstances are not created or exacerbated where the function differs from that intended, due to the staged nature of transport network and urban development;
	  ○ works are required on it, or to extend it, the existing reserve width is matched if it is greater than specified within this policy; and
	  ○ the speed environment is higher than the design speed identified in this policy, the design speed is determined by a higher order street or road type with a similar design speed.
	• Roads and streets are not to be constructed of pavers or pebbles due to noise and instability and slip hazard.

Sight distances	• Comply with:
	  ○ DTMR design guides;
	  ○ Austroads design guides; and
	  ○ on access places, access streets and neighbourhood collector streets achieve the minimum sight distance required for the drivers of two opposing vehicles to see each other and stop in sufficient time to avoid a collision, equivalent to twice the stopping distance , as these streets operate on a "single moving lane" concept.

Frontage works on roads	• Where an existing sealed frontage is to be widened to meet ultimate design width and profile, re-construct the existing pavement at least to the carriageway centreline.

Access places	• Use circular heads unless Y or T heads are approved by Council.
	• End point visible from the access place entrance.
	• Provide a 'parking island' in or adjacent to the head if kerbside parking is unavailable.
	• Downhill access places are only acceptable if adjoining a park, pathway or drainage reserve and piped drainage is provided at the access place head for the minor system drainage in accordance with Council standards.
	• Comply with:-
	  ○ Austroads design guides for turning areas at heads;
	  ○ turning requirements of waste collection vehicles.
	• In residential areas:-
	  ○ 20 metre minimum approach curve radius;
	  ○ 9 metre turning circle radius.
	• In industrial and commercial areas:-
	  ○ 30 metre minimum approach curve radius;
	  ○ 12.5 metre turning circle radius.

On-street car parking	• On streets and roads with pedestrian and vehicular access to properties.
	• In addition to off-street parking in the **Transport and parking code**:-
	  ○ 2 spaces per 3 dwelling houses plus one space per 3 or 4 bedroom attached dwellings, plus one space per four 1 or 2 bedroom attached dwellings;
	  ○ 1 space per 2 dwelling houses on small lots (i.e. ≤ 300m^2).
	• On residential streets:-
	  ○ at least 75% within 25 metres of the closest lot boundary they are to serve;
	  ○ 100% within 40 metres of the closest lot boundary they are to serve.
	• Use "T"s and "L"s only to mark parallel parking where allowed.
	• "Pair" spaces in mixed use/main streets, to allow vehicles to park in a forward motion.
	• May be consolidated (e.g. on one side of the street).
	• Provide passing opportunities at least every 50 metres on streets without formal parking provisions (i.e. access laneways, places and streets).
	• Parks, community facilities, medium and high density residential streets, access places and small lot locations may require additional parking, indented bays or other special provisions.

Water Sensitive Urban Design	• Provide appropriate verge width to accommodate the required design size devices. • Asymmetrical verge widths may be considered.
Kerb and channel	• Use barrier type kerb and channel for Arterial Roads, Sub-arterial Roads, District Streets and Industrial Streets. • Use mountable type kerb and channel for Neighbourhood Collector Streets and Local Streets.

Element	Requirements
	• Use semi-mountable kerb for medians.
Footpath dining	• Provide a clear width of 2 metres adjacent to the property boundary to allow passage of pedestrians and bicycles.
Indented bus stops	• Provide on bus routes, as required by the *Road Planning and Design Manual*, chapter 20, or the *Austroads Guide to Road Design*, parts 3 and 4. • Comply with clearances in *TransLink Public Transport Infrastructure Manual* (where not in conflict with the *Road Planning and Design Manual*, or the *Austroads Guide to Road Design*). • Can be accommodated by local widening of the road reserve, or a combination of cycle lane width and parking lane width. • The verge width adjacent to a bus stop is to also be widened to accommodate shelters and other bus stop infrastructure clear of pathways.
Street signage	• Estate and street signage should comply with MUTCD.

SC6.17.11 Advice for achieving intersections and traffic controls outcomes

The following is advice for achieving Acceptable Outcomes AO25.1 and AO25.2 of **Table 9.4.8.3.2 (Additional performance outcomes and acceptable outcomes~~Criteria~~ for assessable development ~~only~~)** in the **Transport and parking code** relating to intersections and traffic controls:-

(a) intersections are designed and constructed to comply with:-

(i) **Table SC6.17B (Urban transport corridors)**;
(A) **Table SC6.17C (Rural transport corridors);**
(B) **Table SC6.17D (Industrial transport corridors)**;
(C) **Table SC6.17Q (Intersections)**;
(D) *DTMR Road Planning and Design Manual*;
(E) Austroads design guides if district collector street, sub-arterial, arterial or industrial road;
(F) *Complete Streets and Queensland Streets* if access place or street or neighbourhood collector street; and
(G) *Austroads Guide to Road Design* for the design turning vehicle and check turning vehicle.

Table SC6.17Q Intersections

Element	Requirements
General	• Facilitate safe and efficient traffic flows. • Provide for all movements by cyclists through intersections. • Threshold treatments constructed in stamped asphalt (or reinforced concrete if approved by Council), using a colour and texture to achieve high visibility for motorists (segmental paving will not be accepted). • Consistent approach to traffic priority at intersections. • Priority measures for public transport where required.
Grades	• Approach grades ≤ 3% over the required stopping sight distance. • Consider longitudinal grade in relation to potential instability of high vehicles turning through the intersection.
Channelisation	• Channelisation is required for all roads and may be required for some streets. • At major intersections, design channelisation to accommodate turning by a design semi-trailer with a clearance of not less than 0.6 metres between the wheel track and the kerb at all points. • Give particular attention to sight distance when commencing channelisation at horizontal and vertical curves.
Turning provisions	• Treatments necessary for intersection safety. • The check turning vehicle should not encroach on verges or landscaped medians. • Upgrade intersections (e.g. roundabouts or u-turn facilities at traffic signals) to accommodate increased u-turns where right turn movements are eliminated by central medians. • A turning area for service vehicles at the end of each road carriageway:- o to a standard consistent with the general road carriageway design; o to accommodate turning of vehicles reasonably expected to use the road; o to accommodate as a minimum, a 12.5 metre single unit truck; o is free draining.

Element	Requirements
Specific streets and roads	• If an access or neighbourhood collector street intersects with a district collector street or higher-order road, widen the side street carriageway and associated reserve on the intersection approach to allow a heavy rigid vehicle to enter the side street while a car is waiting to exit.
Priority T	• Access places, access streets and neighbourhood collector streets ≤ 50km/h and ≤ 3000 vehicles per day - no specific turn treatments. • District collector streets and roads - minimum separate right-turn lane. • All other roads - minimum turning treatments in accordance with the *DTMR Road Planning and Design Manual*. • A widened area (minimum 6 metres including the adjacent through lane and cycle lane) on the major road prior to the intersection to assist left-turn movement where a basic left-turn treatment (BAL) is used on urban streets and roads and there is no parking lane.
Signalised	• Layout, lane configuration and phasing for the most efficient operation for pedestrians, cyclists and vehicles during the entire day (including coordination with adjacent signals). • Only achieving a degree of saturation, delay or queue length during the design traffic peak hour at or below the maximum permissible is not acceptable. • Separate right turn lanes on approaches, regardless of traffic volumes or hierarchy. • Operation of signals is to be integrated into the traffic management system e.g. STREAMS.
Roundabout	• Outside diameter on urban streets:- ○ ≥ 26m, where the speed limit is ≤ 50km/h; ○ ≥ 30m where the speed limit is 60 km/h, or a bus route; and ○ a greater diameter may be required where adjacent legs are considerably more or less than 90 degrees, there are medians on some or all of the carriageways, or to accommodate larger vehicles. • The clear zone of a roundabout and its approaches should be free of roadside hazards such as retaining walls, rocks and boulders, trees and shrubs with an ultimate trunk diameter <80mm, and other non-frangible items. • Central island kerb SM3 type with decorative concrete backing strip compliant with Council's standard requirements for semi-mountable and mountable kerb (where practicable). • Kerbed splitter islands on all approaches:- ○ incorporating a "cut through" pedestrian refuge at least 1 car length (6 metres) from the holding line, with the opening at least 2 metres wide on urban neighbourhood collector and on all approaches to roundabouts on higher-order streets and roads; ○ minimum 2 metres wide at the refuge; ○ minimum 5m^2 on access streets and places. • Adjacent lane width minimum 4.2 metres on access places, access streets and neighbourhood collector streets, unless specific on-road cycle treatments required. • Where the centre island will contain landscaping, provide:- ○ a water source; ○ perimeter sub-soil drainage; ○ reinforced concrete backing strip, minimum 1 metre wide, around the perimeter of the island.

(b) speed management should comply with:-

(i) **Table SC6.17B (Urban transport corridors)**;

(ii) **Table SC6.17C (Rural transport corridors)**;

(iii) **Table SC6.17D (Industrial transport corridors)**; and

(iv) **Table SC6.17R (Speed management)**;

Table SC6.17R Speed management

Element	Requirement
General	• Vertical alignment of streets and roads with a design speed of < 50 km/hr, must achieve the stopping sight distance for a speed of 50 km/hr. • Manage speed with street alignment, with devices as a last resort. • Achieve the desired pedestrian and cyclist friendly, low speed environment (as defined in **Tables SC6.17B** to **SC6.17D**). • Techniques may include building setbacks, fence construction, street alignment, cross section elements, provision for cycles and on-street parking, sight distances to and from driveways and reducing reversing from driveways. • Design with tight bends (>60 degrees) and roundabouts at intersections. • Widen carriageways to allow two-way bus movement on bus routes and mixed use streets and around all bends to allow safe passing and operation of the occasional heavy vehicle. • Widen carriageways at tight bends and provide median islands to control vehicle paths. • Comply with:- o *DTMR Road Planning and Design Manual*; and o *Austroads Guide to Traffic Management* and the *MUTCD for Local Area Traffic Management* (LATM).
District collector streets	• Frontage management techniques to reduce potential amenity and safety impacts due to the higher speed environment. • Roundabouts or tight bends with angles >60 degrees;
Neighbourhood collector streets	• On bus routes, provide kerb build outs at regular intervals to narrow the effective width of the street and enhance landscaping opportunities.
Speed management devices	• Generally comply with MUTCD. • Not on bus routes unless designed to enable safe and comfortable bus movement, i.e. without mounting kerbs or swerving, or devices such as speed humps or chicanes that create spot speeds ≤25km/h. • Speed management techniques may include landscaping treatments such as street trees, landscape treatments and the like, where in compliance with the **Landscape Code** and **Planning scheme policy for development works**.
Traffic islands for LATM	• Consider location in respect to sight distance and vertical geometry. • Formed (not kerb mix) to an approved profile. • Constructed with reinforced N32 concrete or formed with full depth structural stamped/coloured concrete. • Colour treatment with a high level of contrast to the carriageway surface; • Appropriately delineated and linemarked.

SC6.17.12 Guidelines for achieving transport and parking code outcomes

(1) For the purposes of the performance outcomes and acceptable outcomes in the **Transport and parking code** the following are relevant guidelines:-

(a) Austroads publications, including:-

(i) *Cycling Aspects of Austroads Guides*;
(ii) *Design Vehicles and Turning Path Templates*;
(iii) *Guide to Pavement Technology*;
(iv) *Guide to Road Design*;
(v) *Guide to Road Safety*; and
(vi) *Guide to Traffic Management*;

(b) Queensland Department of Transport and Main Roads (DTMR) publications, including:-

(i) *A Guide to Signing Cycle Networks*;
(ii) *Cycle Notes*;
(iii) *Guidelines for Assessment of Road Impacts of Development Proposals*;
(iv) *Pavement Design Manual*;
(v) *Queensland Manual of Uniform Traffic Control Devices* (MUTCD);
(vi) *Road Drainage Manual*;
(vii) *Road Planning and Design Manual*; and
(viii) *Traffic and Road Use Management (TRUM) Manual*;

(c) *TransLink Transit Authority Public Transport Infrastructure Manual* (2012);

(d) *Queensland Urban Drainage Manual* (QUDM);

(e) South East Queensland (SEQ) Healthy Waterways Partnership Publications, including:-

(i) *Water Sensitive Urban Design (WUSD) Technical Design Guidelines for South East Queensland Construction*; and
(ii) *WSUD Deemed To Comply Solutions for SEQ*;

(f) Institute of Municipal/Public Works Engineering Australia Queensland Division (IPWEAQ) publications, including:-

(i) *Complete Streets: Guidelines for Urban Street Design*;
(ii) IPWEA SEQ Standard Drawings; and
(iii) *Queensland Streets: Design Guidelines for Subdivisional Streetworks*;

(g) New South Wales Roads and Traffic Authority (RTA) publications, including:-

(i) *Guide to Traffic Generating Developments*; and
(ii) *NSW Bicycle Guidelines*;

(h) *Highway Capacity Manual* (Transport Research Board);

(i) Australian Standards, including:-

(i) *AS2890 – Parking facilities*;
(ii) *AS1158 – Lighting for roads and public spaces*;
(iii) *AS1428 – Design for access and mobility*; and
(iv) *AS1100 – Technical drawing – general principles*;

(j) Council's Standard Specifications and Standard Drawings (available on Council's website);

(k) *Sunshine Coast Sustainable Transport Strategy 2011-2031*;

(l) *Energex Design Guide – Design of Rate 2 Public Lighting Installations*;

(m) *Next Generation Planning: A handbook for planners, designers and developers in South East Queensland* (Council of Mayors (SEQ));

(n) *Beyond the Pavement: Urban design policy, procedures and design principles* (Transport for NSW, 2009).

Note—the above list is not exhaustive and other available publications may be applicable to the design and construction of some infrastructure.

(2) Except where explicitly stated otherwise in this planning scheme policy, the following is the order of precedence in which the above guidelines are to be applied:-

(a) requirements contained in this planning scheme policy are to take precedence over all other guidelines;

(b) Council's Standard Specifications and Standard Drawings;

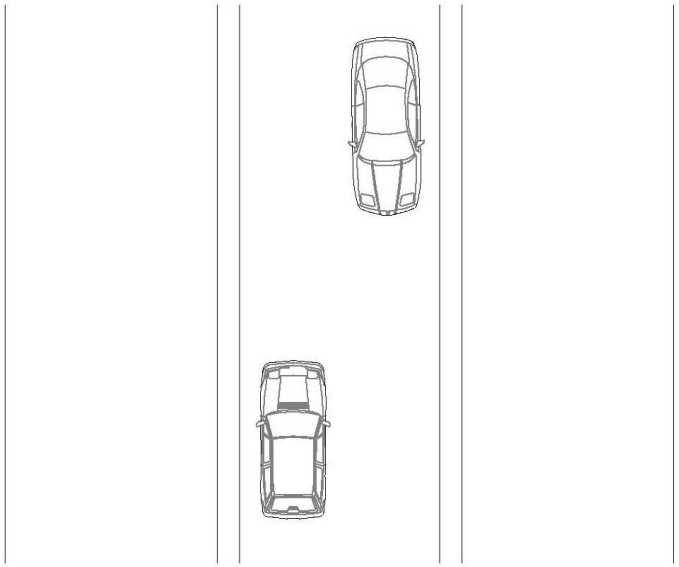
(c) the *DTMR Road Planning and Design Manual* is to take precedence over Austroads publications, except where advised otherwise by DTMR;

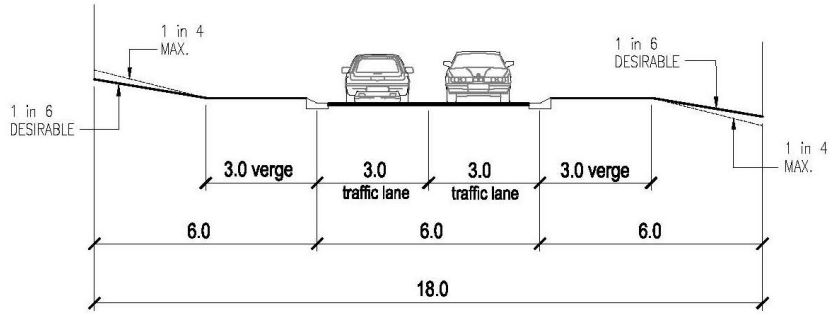
(d) the DTMR MUTCD is to take precedence over Austroads publications and Australian Standards;

(e) Austroads publications are to take precedence over the Australian Standards with respect to the design of the street and road networks; and

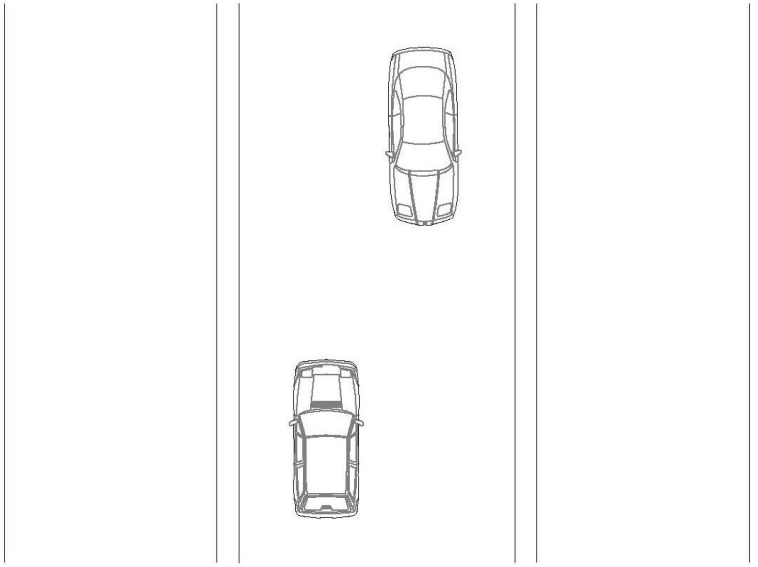
(f) all other guidelines.

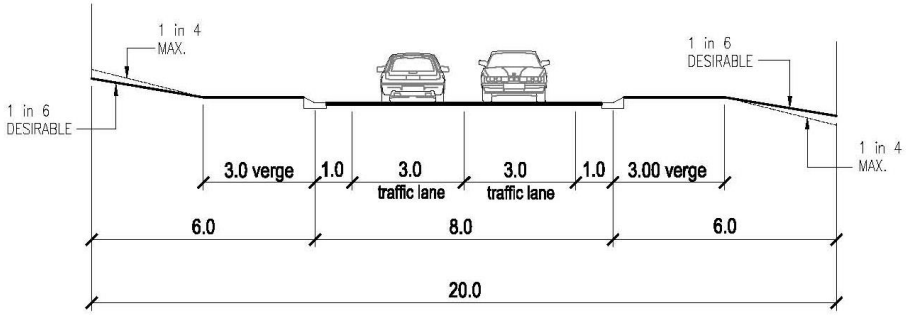
Appendix SC6.17A Typical street and road cross sections





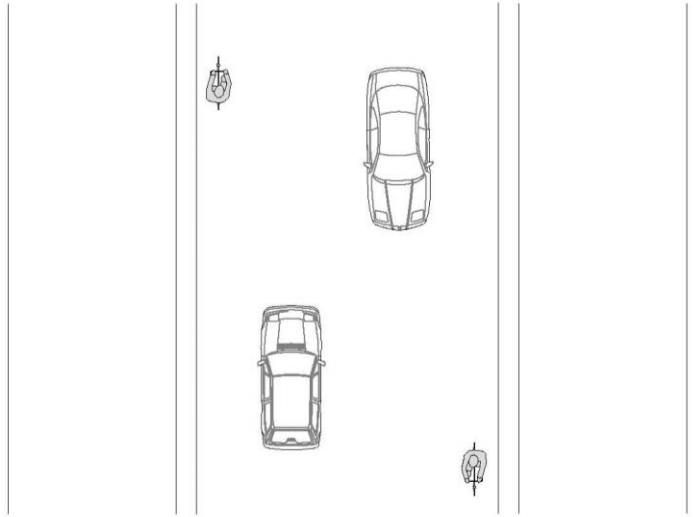
RURAL RESIDENTIAL ACCESS PLACE

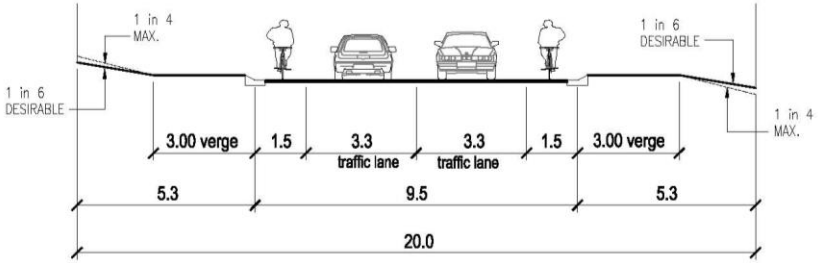




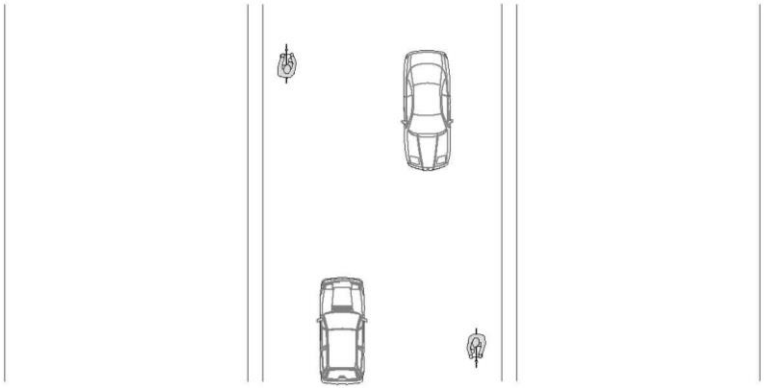
RURAL RESIDENTIAL ACCESS STREET

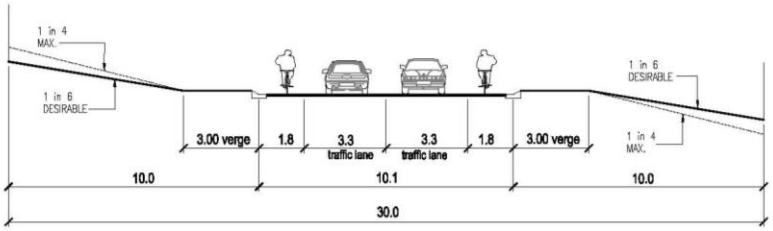
Schedule 6





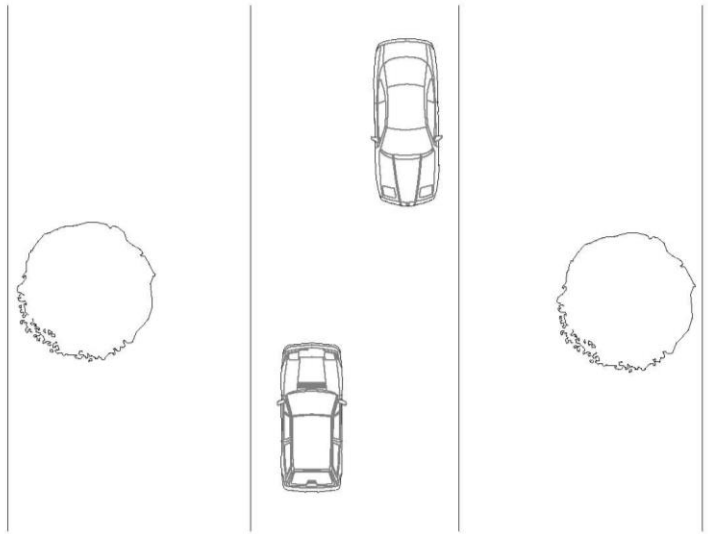
RURAL RESIDENTIAL
NEIGHBOURHOOD COLLECTOR STREET

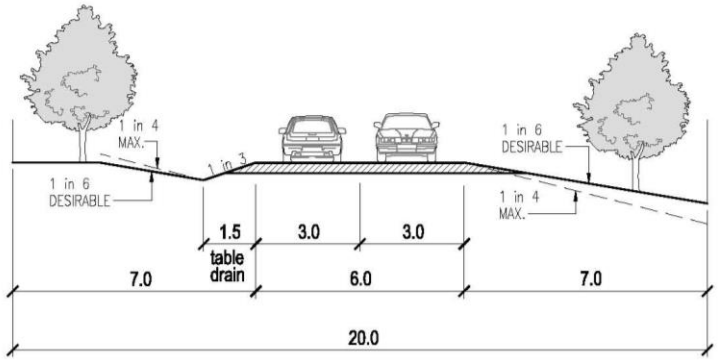




RURAL RESIDENTIAL
DISTRICT COLLECTOR STREET

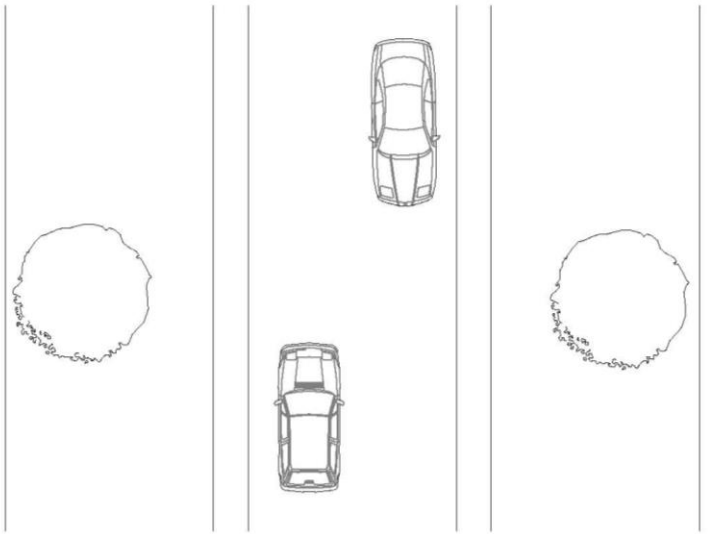
Schedule 6

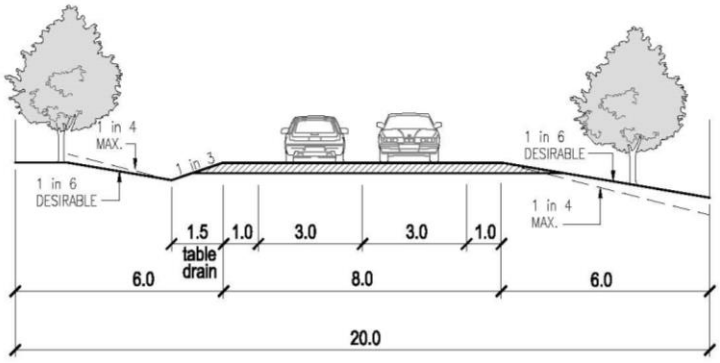




RURAL ACCESS PLACE

Note—
Table drain to have a depth of 0.50m or be 0.30m below bottom of pavement.





RURAL ACCESS STREET

Note—
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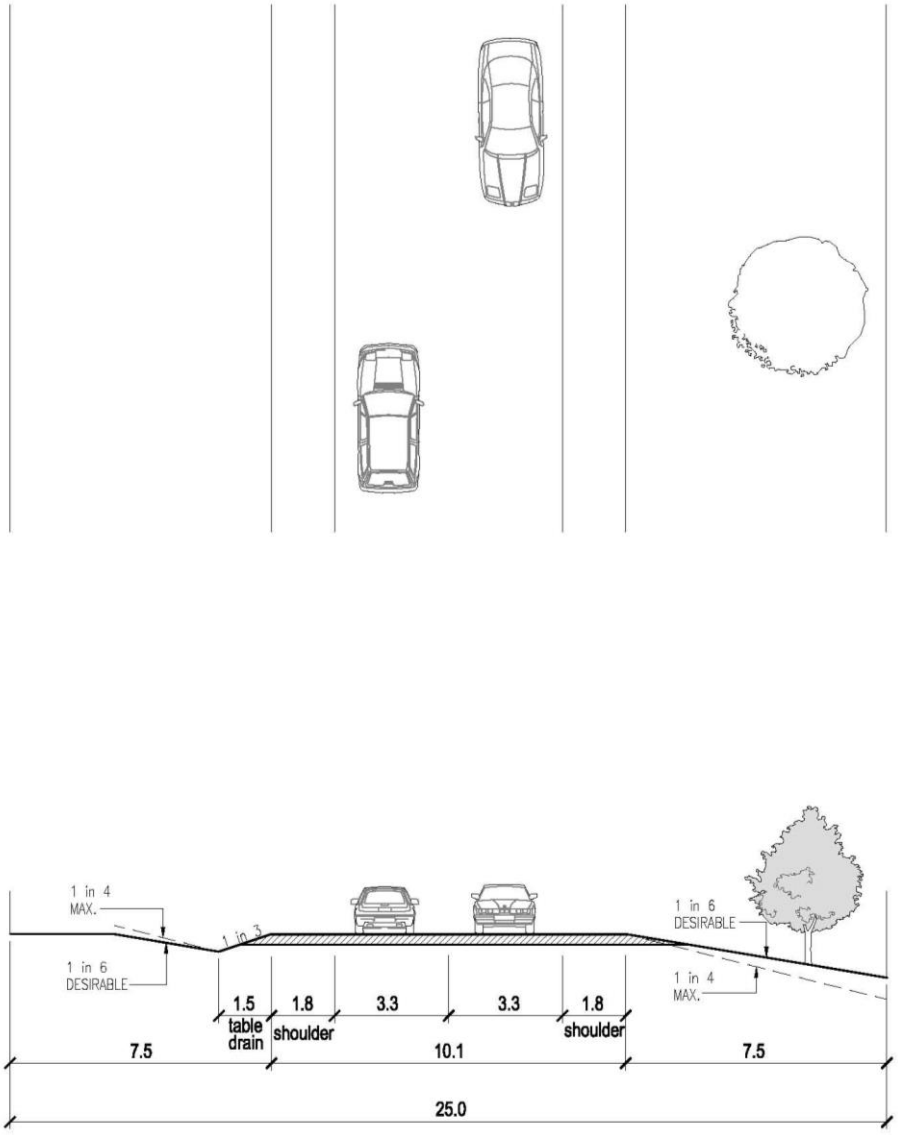

RURAL NEIGHBOURHOOD COLLECTOR STREET

Note—
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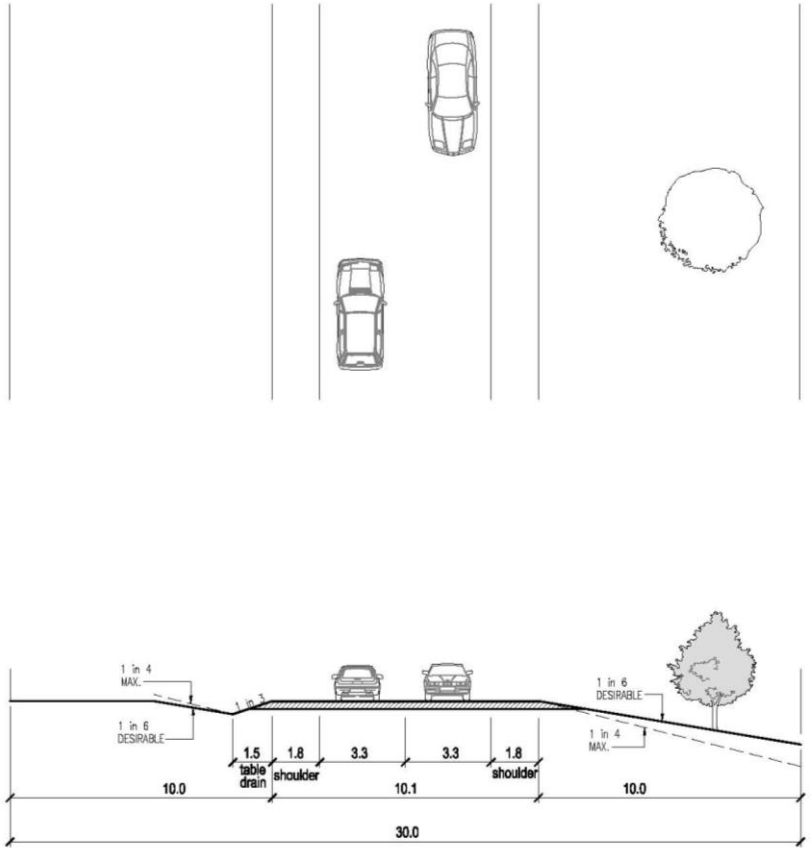
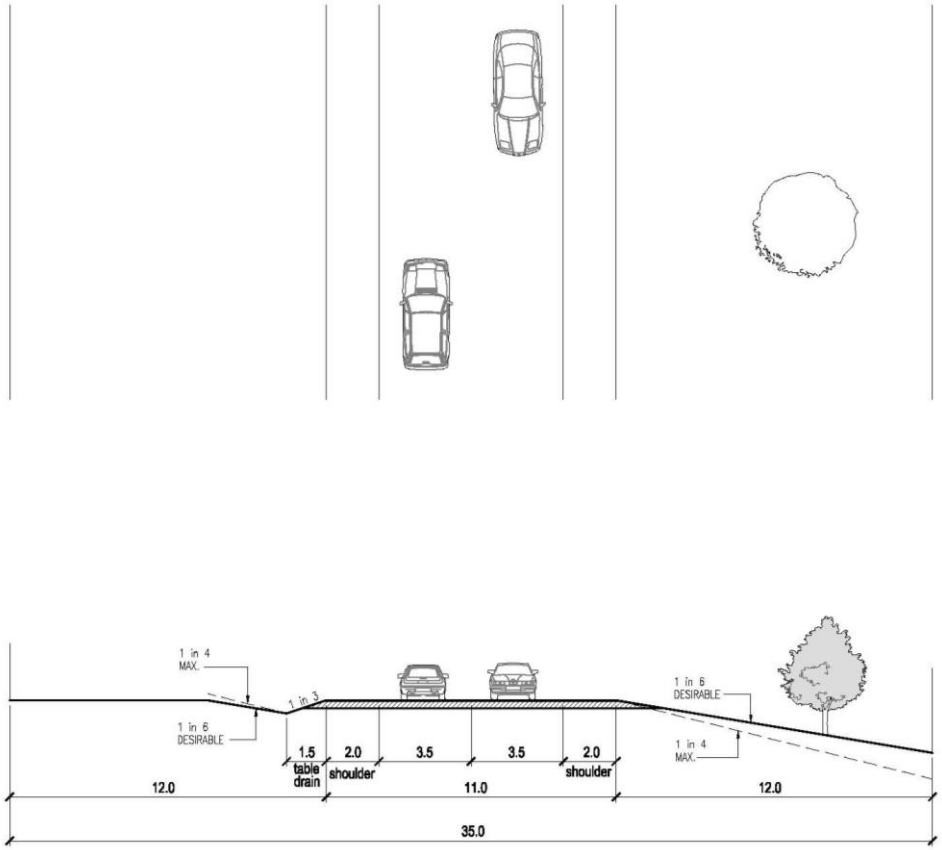


RURAL DISTRICT COLLECTOR STREET

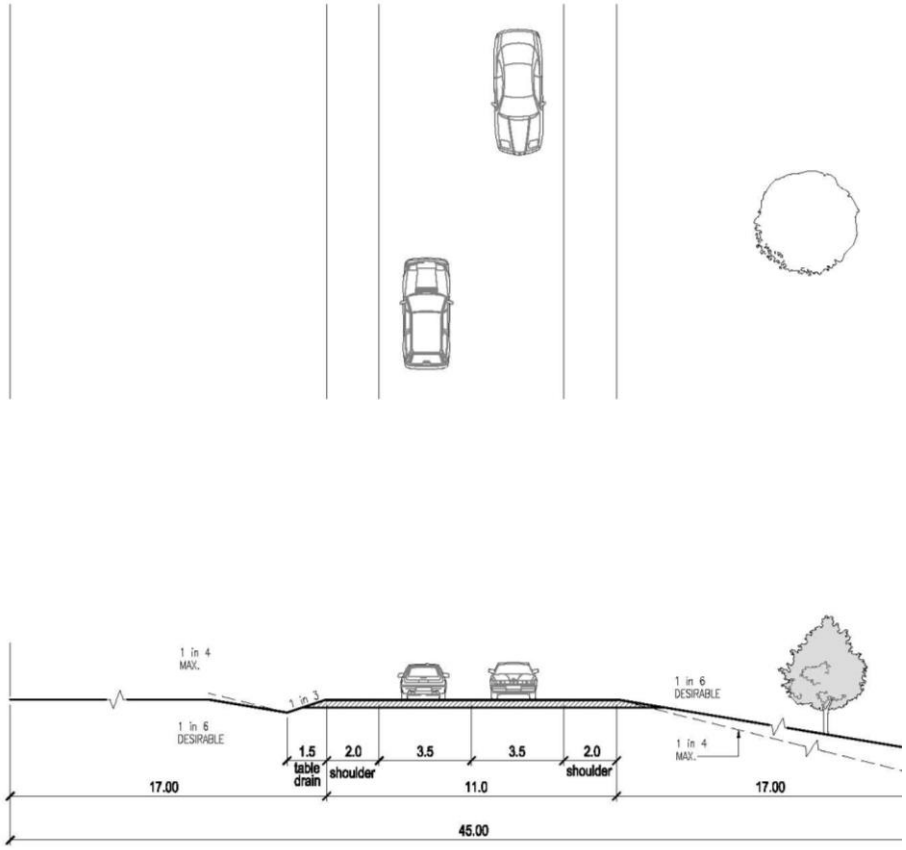
Note—
Table drain to have a depth of 0.50m or be 0.30m below bottom of pavement.

Schedule 6



RURAL CONTROLLED DISTRIBUTOR

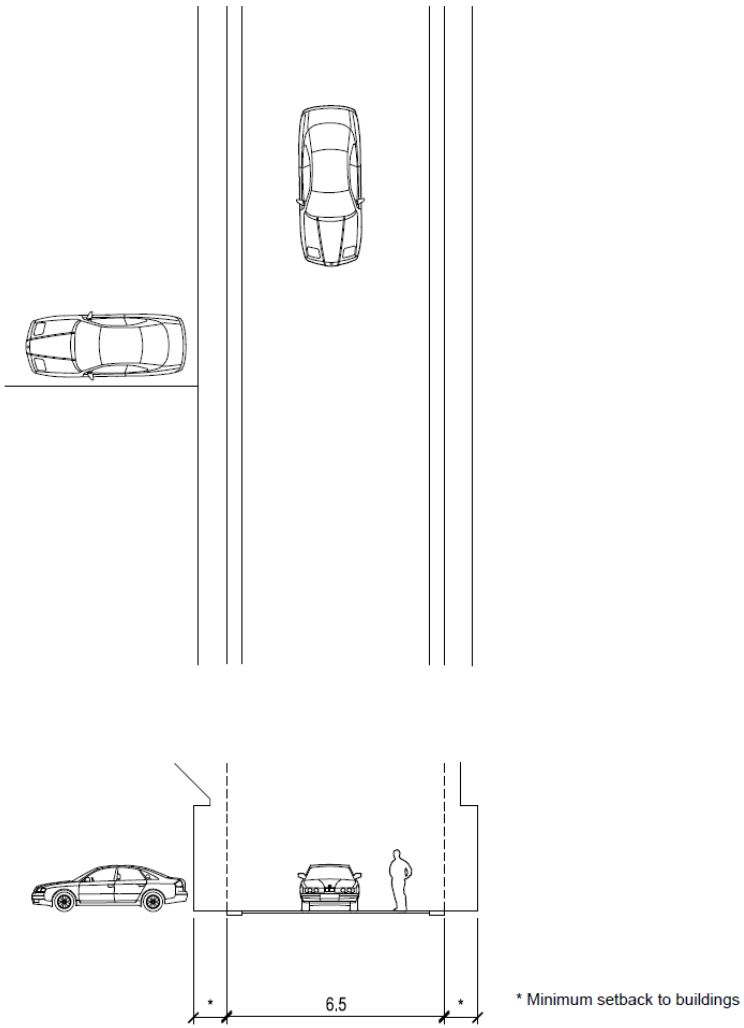
Note—
Table drain to have a depth of 0.50m or be 0.30m below bottom of pavement.



RURAL TRAFFIC DISTRIBUTOR

Note—
Table drain to have a depth of 0.50m or be 0.30m below bottom of pavement.

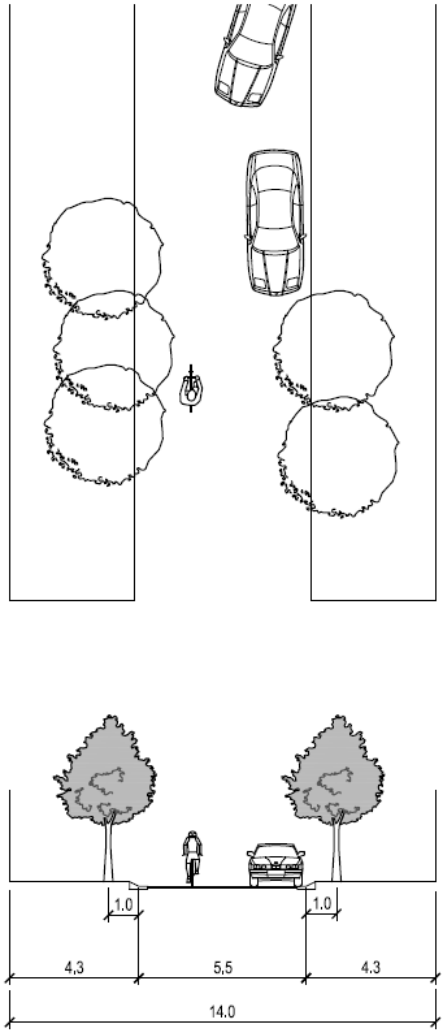
Schedule 6



ACCESS LANEWAY

Notes—

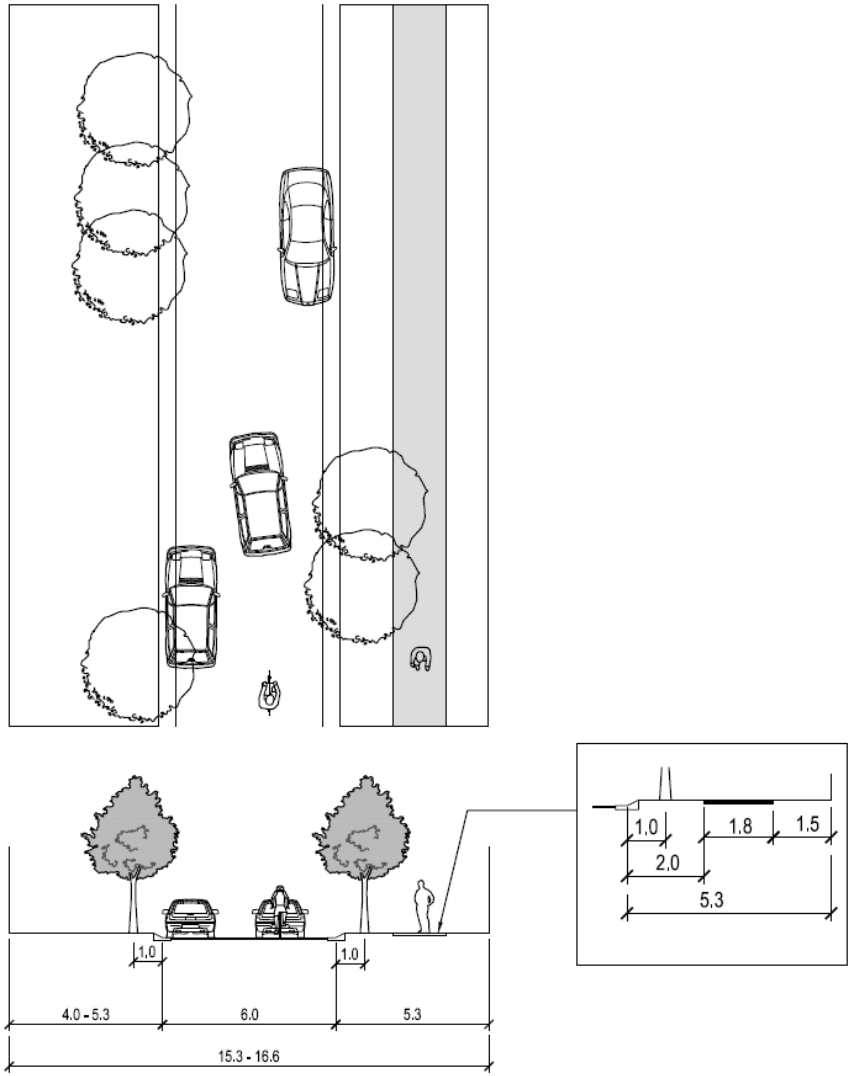
1. Access laneways provide access to properties; refuse collection and servicing with no parking within the laneway.
2. Pavements may be narrowed to 4 – 5m at lane entrances to improve sightlines to paths in adjacent streets.
3. Minimum rear setback of 1.0m to ground storey and 0.5m to first upper storey.



ACCESS PLACE

Notes—

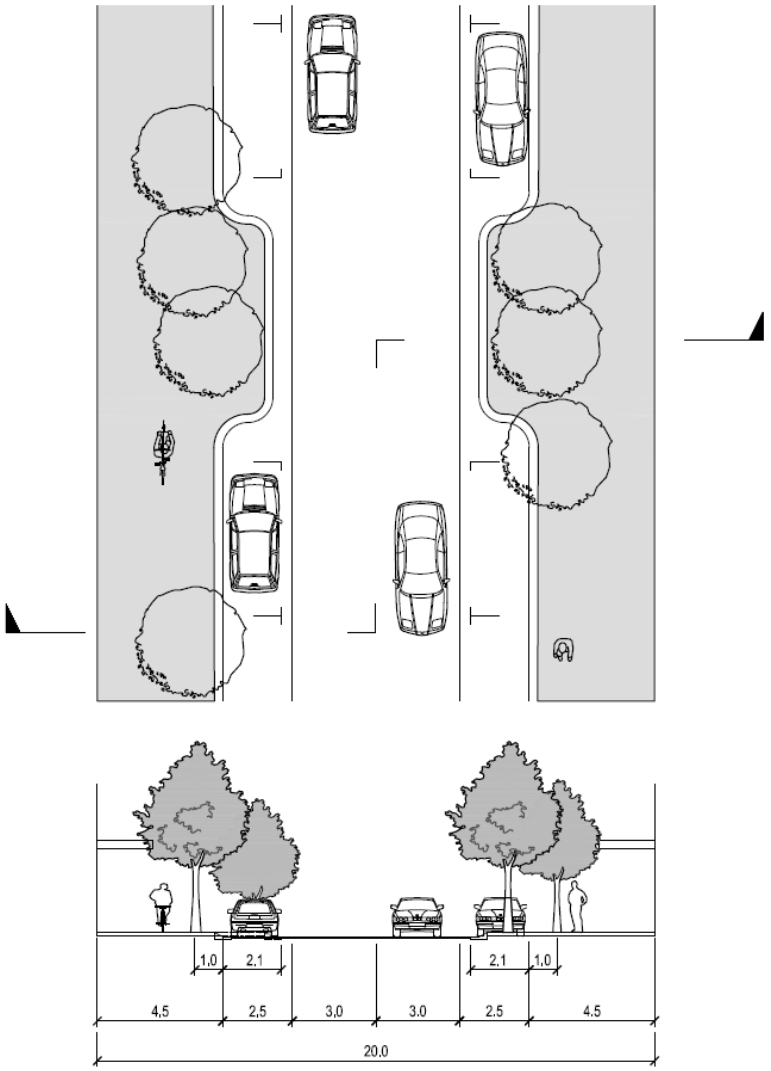
1. Pathway not required if speed environment is 30km/h or below unless part of a designated active transport route as shown on **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways**)) where local hierarchy pathway widths shall be a minimum of 2.5m and district or regional hierarchy pathways widths shall be a minimum 3.0m. These pathway widths will require adjustments to the cross section and widening of the verge.
2. On street parking one side only.



ACCESS STREET

Notes—

1. Pathway shall be a minimum width of 1.8m unless part of a designated route as shown on **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** where local hierarchy pathway width shall be a minimum 2.5m and district or regional hierarchy pathway width shall be a minimum 3.0m. The verge and overall cross section may require widening to suit. Asymmetric verge widths may be used.

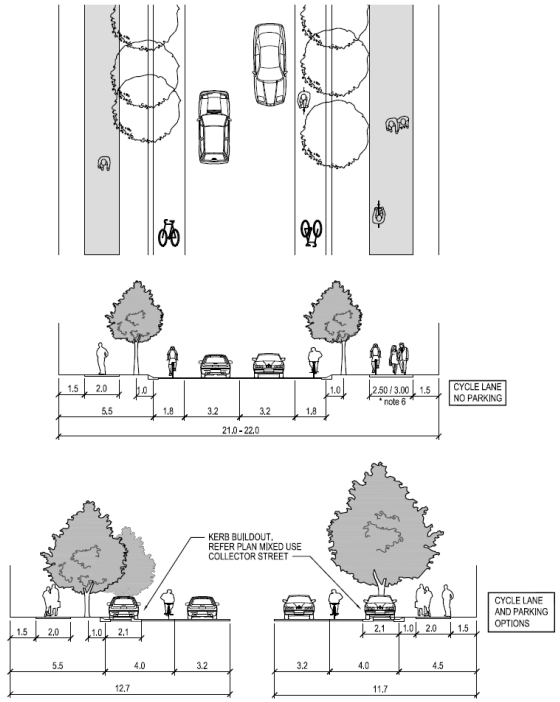


MIXED USE ACCESS STREET

Note—

1. Verges to be paved full width on both sides of the street to allow for all weather use and concentrations of pedestrians and cyclists.

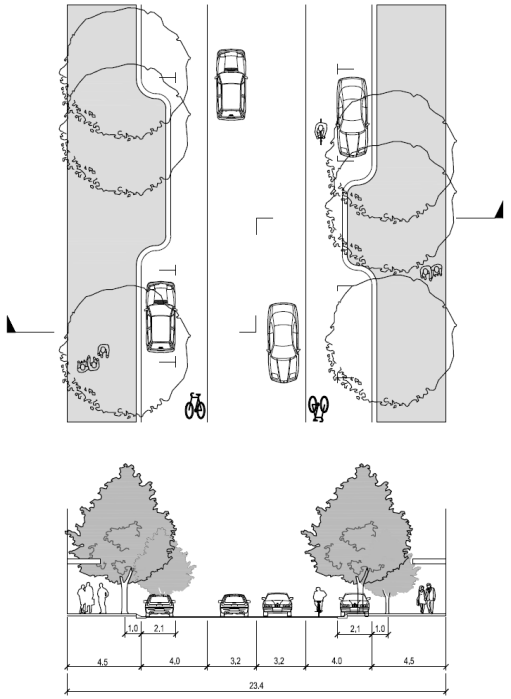
Schedule 6



NEIGHBOURHOOD COLLECTOR STREET

Notes—

1. Multiple cross sections are available depending on the combination of features in the street including on-street parking, cycle lanes, street trees, a designated cycle route and indented bus stops as explained in the following notes.
2. Cycle lanes may not be required if the street is not part of a designated cycle route as shown on Figure **9.4.8B(ii) (2031 Strategic Network of Pedestrian and Cycle Links (On Road Cycleways))**.
3. Where parking is required, additional width is to be added to one or both sides of the cross section depending on parking demand determined by frontage activity.
4. Where Council and TransLink agree that there is no likelihood that a street will become a future bus route and the street is not part of a designated cycle route, the carriageway width can be reduced to a minimum 8.0m to cater for on-street parking on one side.
5. Indented bus stops, associated infrastructure and required pathways can be accommodated by using a combination of local street reserve widening, cycle lane width and parking lane width where provided and shall comply with, *Road Planning and Design Manual* or *Austroads Guide to Road Design*.
6. Indented bus stop tapers may contain driveways. However consider sight lines in the location of any streetscaping.
7. Pathways to be a minimum width of 2.0m unless part of a designated cycle route as shown on **Figure 9.4.8B(i) (2031 Strategic Network of Pedestrian and Cycle Links (Pathways))** where local hierarchy shared pathway width shall be a minimum of 2.5m and district or regional hierarchy shared pathway width shall be a minimum of 3.0m. Asymmetric verge widths may be used.
8. The wider shared pathway shall be located on the side that best serves the expected demand and network connections.

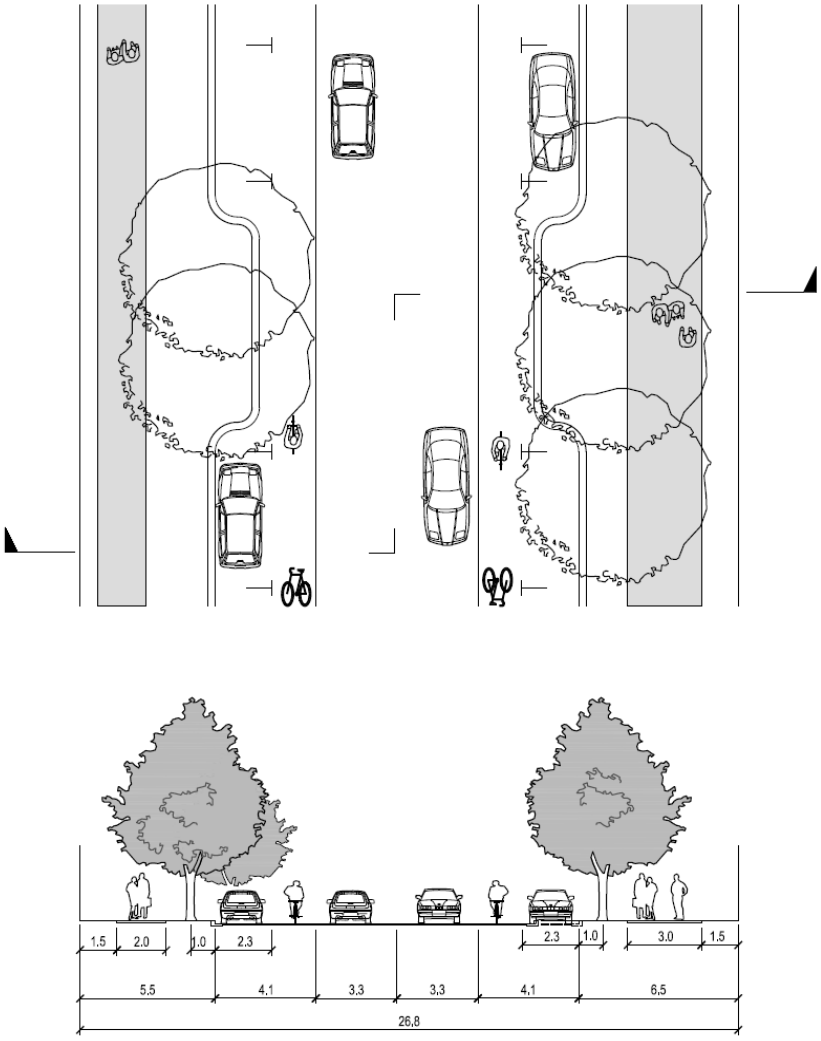


MIXED USE COLLECTOR STREET

Note—

Verges to be paved full width on both sides of the street to allow for all weather use and concentrations of pedestrians and cyclists.

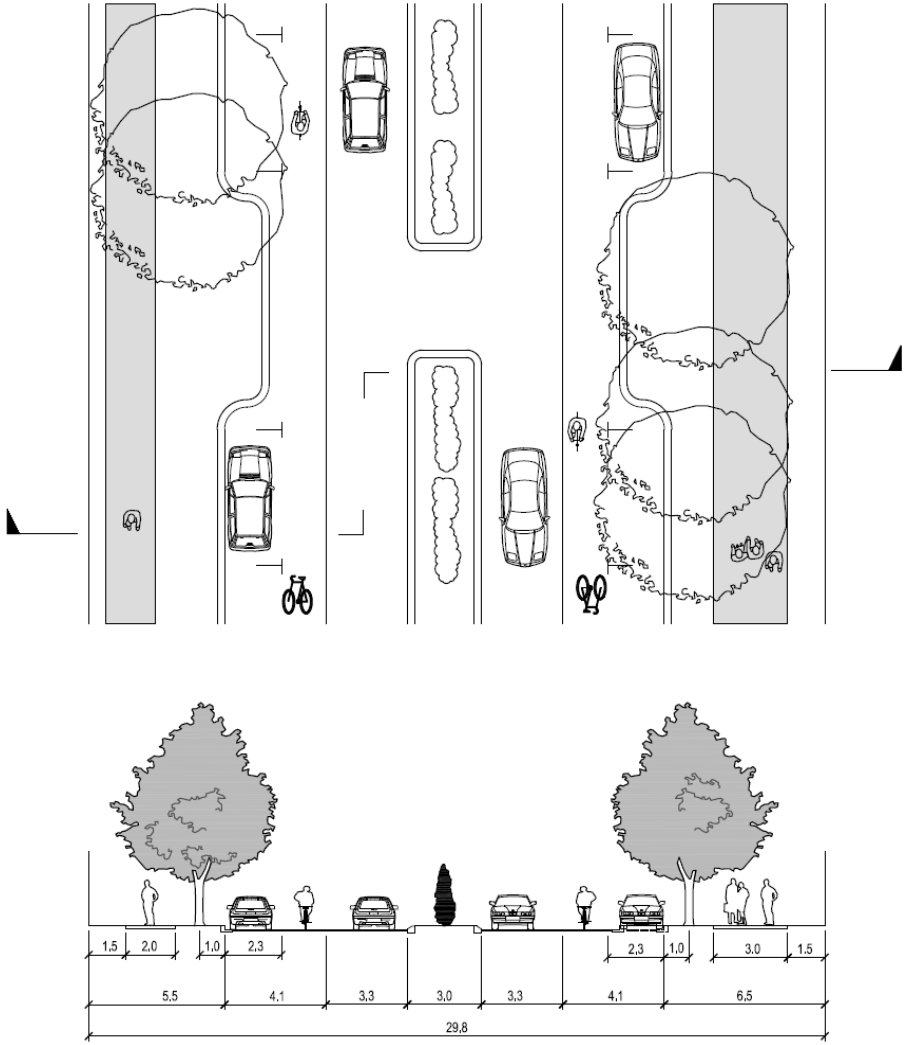
Schedule 6



DISTRICT COLLECTOR STREET

Notes—

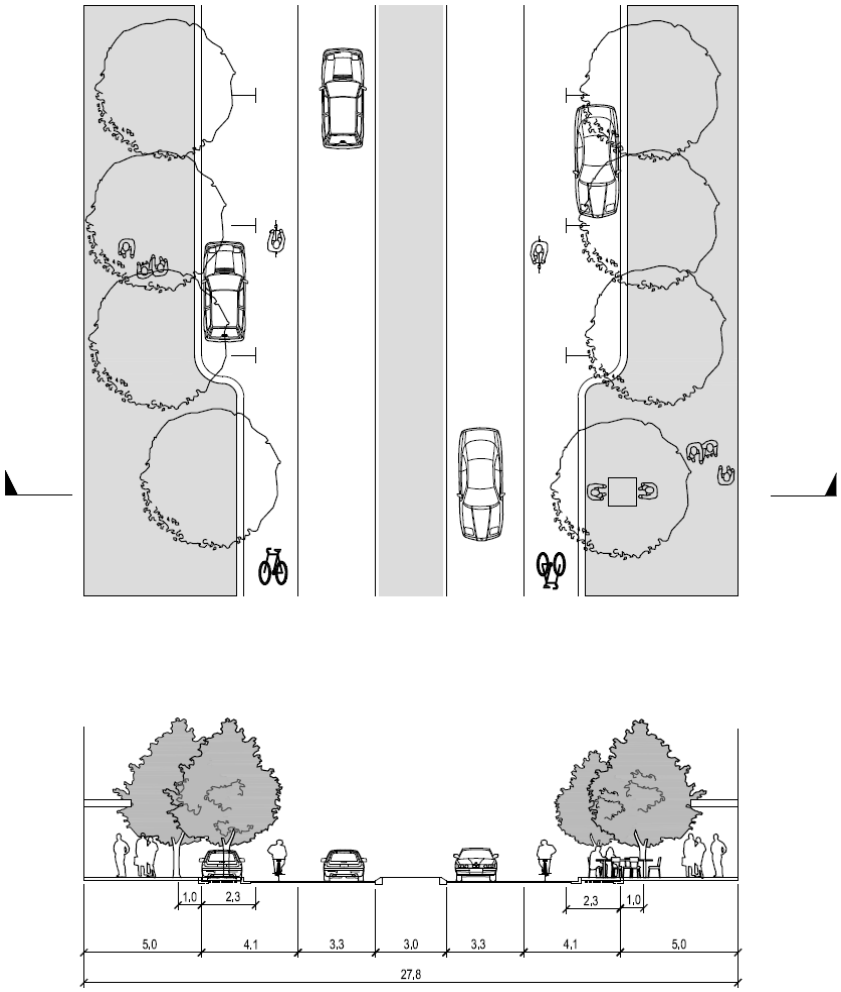
1. Pathways to be provided on both sides of the street with a minimum width 2.0m shared pathway on one verge and 3.0m on the opposite.
2. The wider shared pathway shall be located on the side that best serves the expected demand and network connections.
3. On bus routes, indented bus stops to be provided as required by the *Road Planning and Design Manual* or *Austroads Guide to Road Design*, Indented bus stops may require local widening of the reserve to provide clearances to required pathways. Asymmetric verge widths may be used.



DISTRICT COLLECTOR STREET (Median)

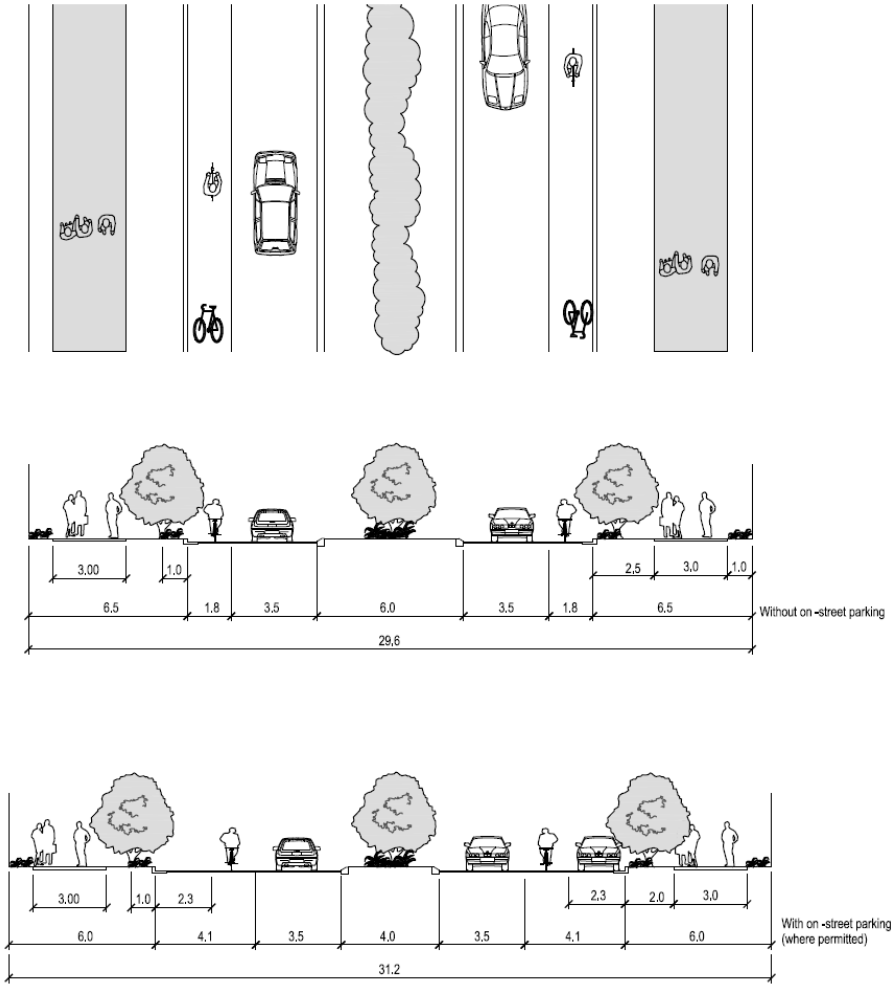
Notes—

1. Pathways to be provided on both sides of the street with a minimum width 2.0m shared pathway on one verge and 3.0m on the opposite.
2. The wider shared pathway shall be located on the side that best serves the expected demand and network connections.
3. On bus routes, indented bus stops to be provided as required by the *Road Planning and Design Manual* or *Austroads Guide to Road Design*, Indented bus stops may require local widening of the reserve to provide clearances to required pathways. Asymmetric verge widths may be used.



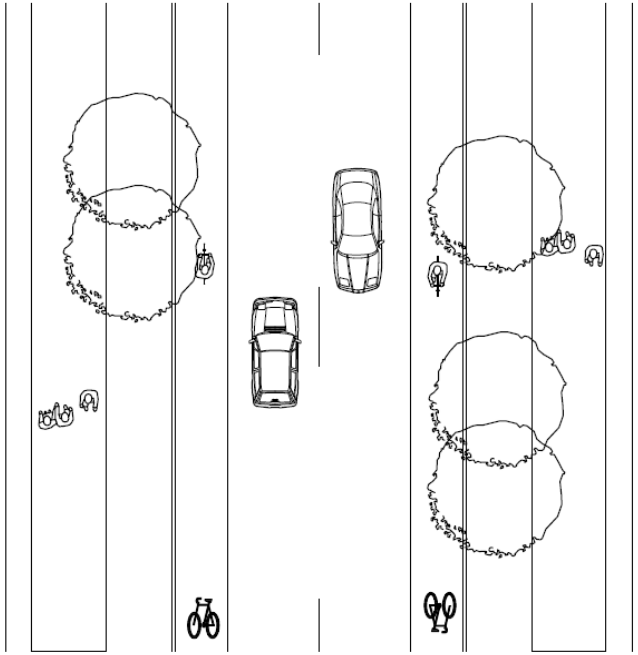
DISTRICT MAIN STREET (Median)

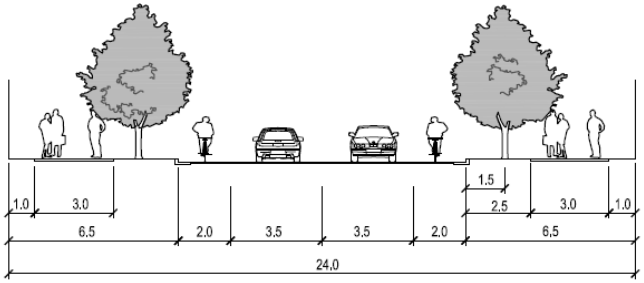
Note—
Verges to be paved full width on both sides of the street to allow for all weather use and concentrations of pedestrians and cyclists.



CONTROLLED DISTRIBUTOR ROAD (Preferred)

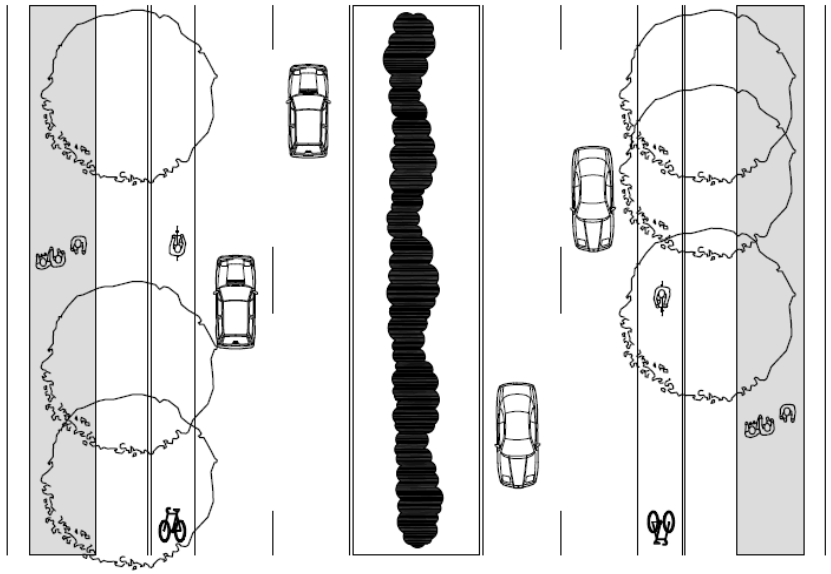
Notes—
1. Distributor Road is the desired Sub-Arterial Road cross section. Controlled Distributor Roads are generally existing sub-arterial roads through urban areas with possibly some parking and direct access existing for historical reasons. The Controlled Distributor Road cross section illustrates preferred combinations of the minimum elements each of which should be achieved wherever possible.
2. Shared pathway to be 3.0m minimum each side of road.
3. Median kerb to be semi-mountable with plantings 1.2m minimum clearance from rear of kerb.

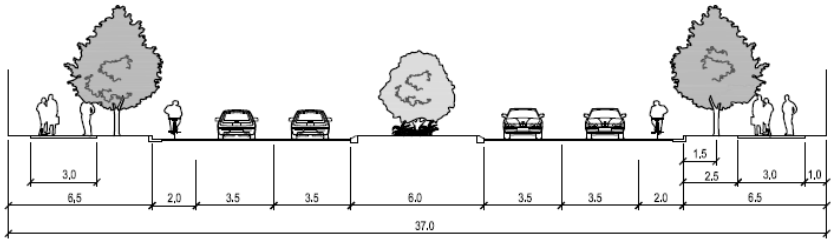




CONTROLLED DISTRIBUTOR ROAD (2 lane)

Note—
Shared pathway to be 3.0m minimum each side of road.

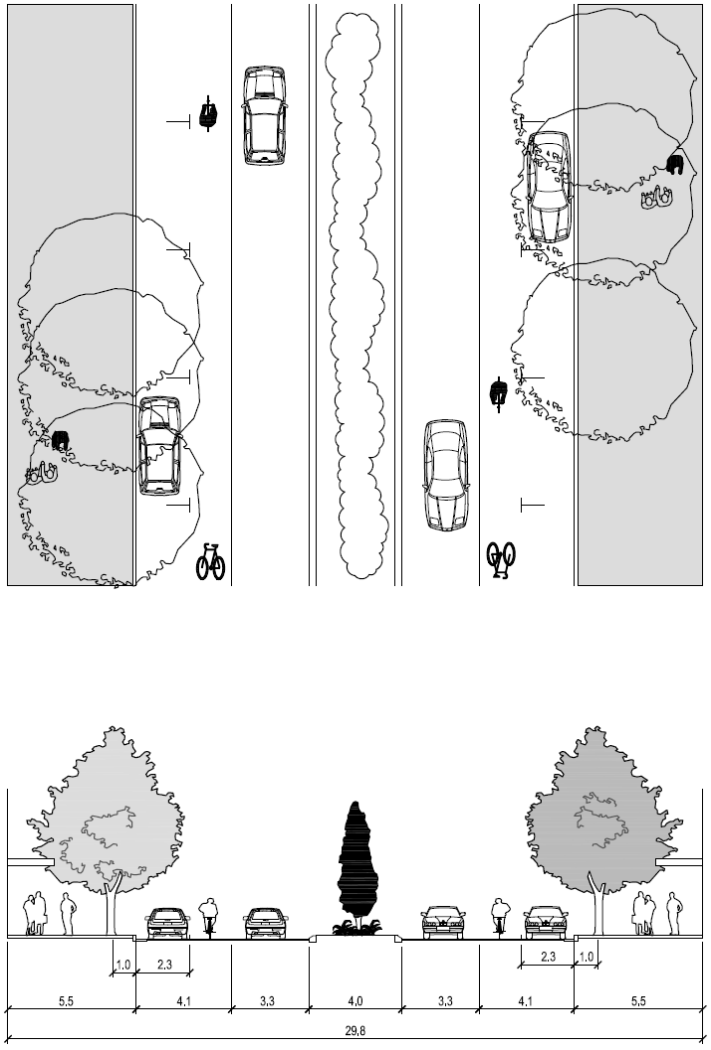




DISTRIBUTOR ROAD (4 lane)

Note—
Shared pathway to be 3.0m minimum each side of road.

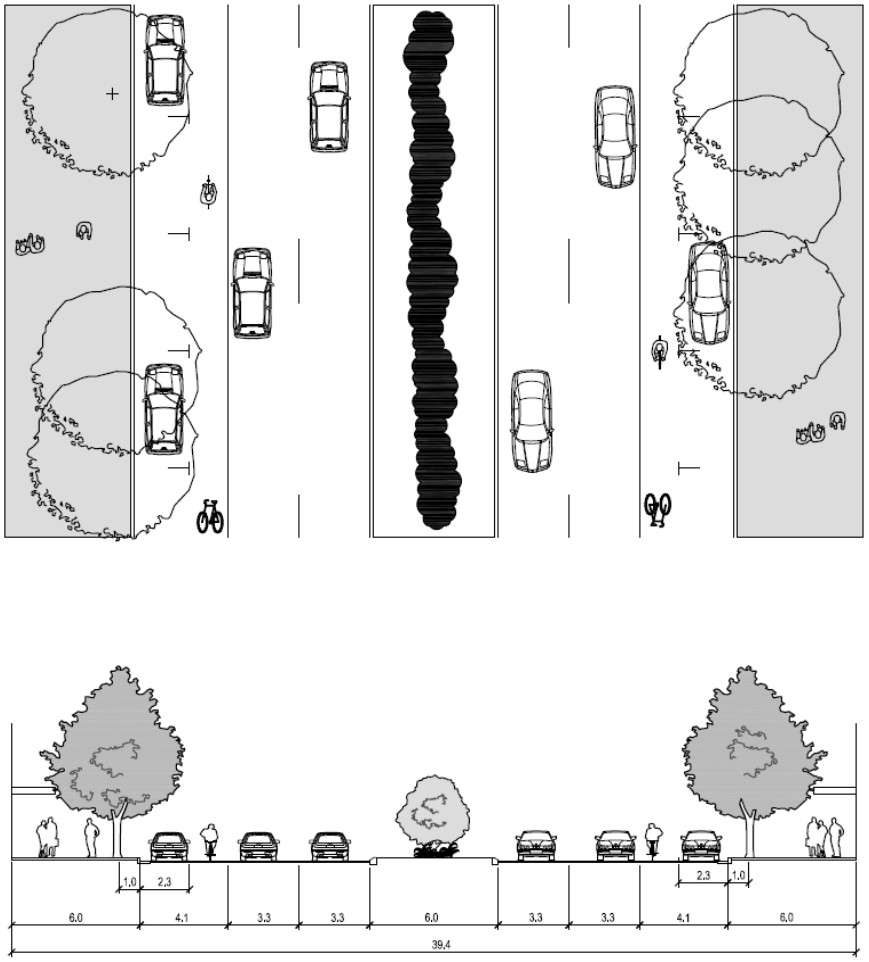
Schedule 6



SUB-ARTERIAL MAIN STREET (Preferred)

Notes—

1. The Sub-Arterial Main Street cross section generally exists where sub-arterial roads pass through town and village centres. The Sub-Arterial cross section illustrates preferred combinations of the minimum elements each of which should be achieved wherever possible.
2. Verges to be paved full width on both sides of the street to allow for all weather use and concentrations of pedestrians and cyclists.

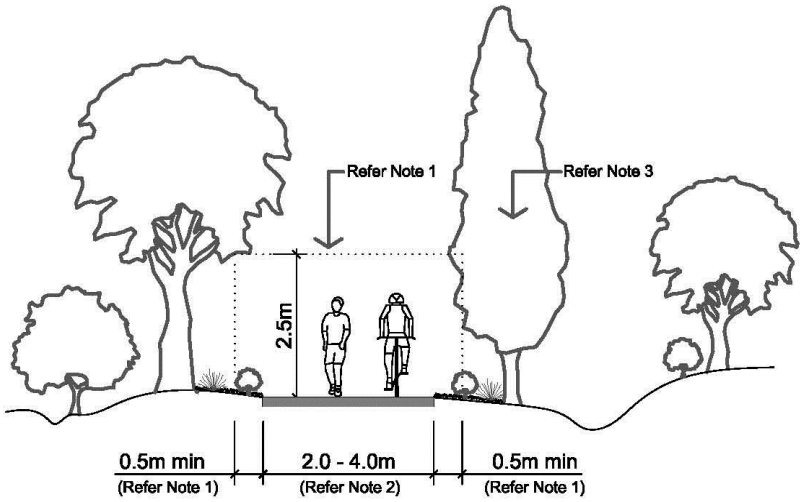


ARTERIAL MAIN STREET

Notes—

1. The Arterial Main Street cross section generally applies where a 4 lane divided Arterial Road passes through commercial precincts. Many established Arterial Main Streets will have cross sections which vary from that shown.
2. Verges to be paved full width on both sides of the street to allow for all weather use and concentrations of pedestrians and cyclists.
3. On-road parking bays may be indented and must be “paired” to allow vehicles to park with a forward motion.

Appendix SC6.17B Active transport infrastructure guidelines standard treatments



Notes:

1. Clear operating space extends 0.5m beyond the edge both sides of the pathway and at least 2.5m above the pathway (although if catering for horse riders the clear operating space shall be at least 3.0m high).

   Existing small shrubs and groundcover less than 0.5m high and of a non-irritative form (eg. non-prickly stemmed) can remain within 0.5m of the pathway provided they do not protrude over the pathway edge.

   Before removing trees or limbs greater than 0.1m diameter Council's Parks Superintendent shall be consulted. All tree and root pruning shall be carried out in accordance with Council's tree clearing requirements.

2. Refer Table below for Minimum Pathway Widths.

   Concrete pathways 2.5m wide and greater in width should be given a colour treatment to reduce glare and to blend with the surrounding environment.

   Pathways shall be elevated above localised water flows with field inlet pits and drainage pipes installed as required to prevent pathways being submerged during and after rainfall.

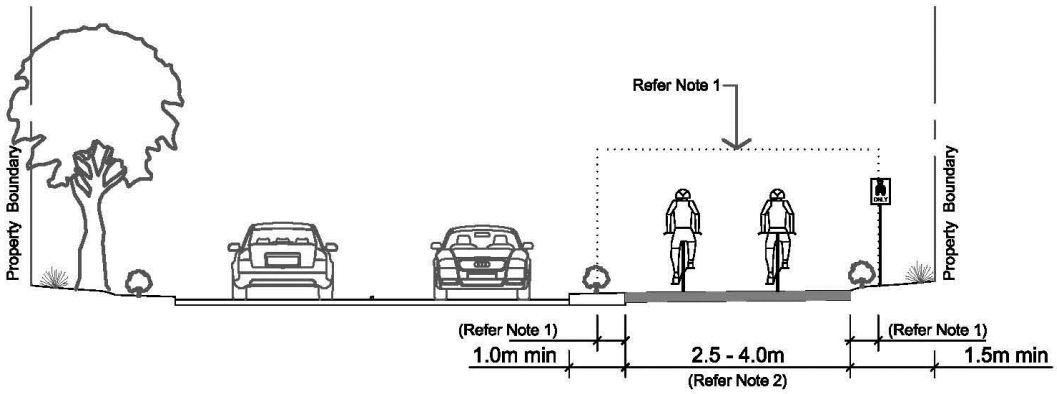
3. Shade trees shall be provided along the pathway corridor to provide shade to pathway users. Where possible trees should be planted in a staggered fashion either side of the pathway.

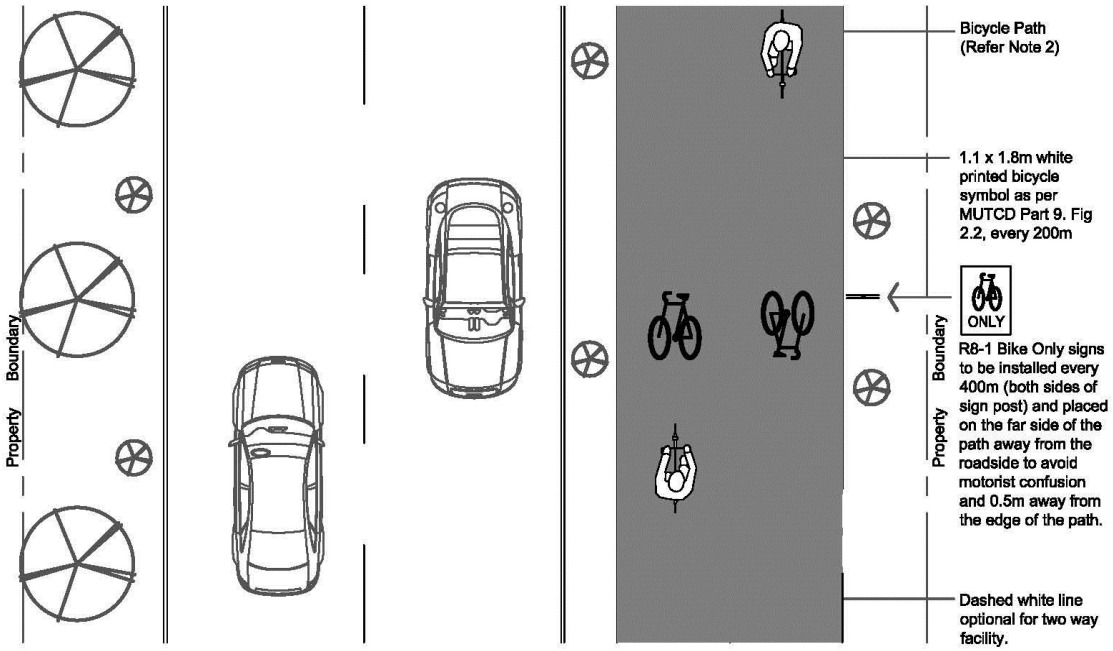
Minimum Pathway Witdths			
Application:	Local Access	Commuter	Recreational
Constrained Width	2.0m	2.5m	2.0m
Nominal Width	2.5m	3.0m	2.5m
Preferred Width	3.0m	3.5m	3.0m

Pathway widths outside of those listed above will be considered under special circumstances on a case by case basis depending on the merits, as agreed by Council

A4	Sunshine Coast Council	ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES STANDARD TREATMENTS	STANDARD TREATMENT Off Road Pathway Outside Road Reserves	26/07/12 Scale: NTS Drawing Sheet No. ST001

Schedule 6





Notes:

1. Clear operating space extends 0.5m beyond the edge both sides of the cycleway and at least 2.5m above the cycleway.

   Small shrubs and groundcover less than 0.5m high and of a non-irritative form (eg. non-prickly stemmed) can be placed within 0.5m of the cycleway provided they do not protrude over the cycleway edge.

   Before removing trees or limbs greater than 0.1m diameter Council's Parks Superintendent shall be consulted. All tree and root pruning shall be carried out in accordance with Council's tree clearing requirements.

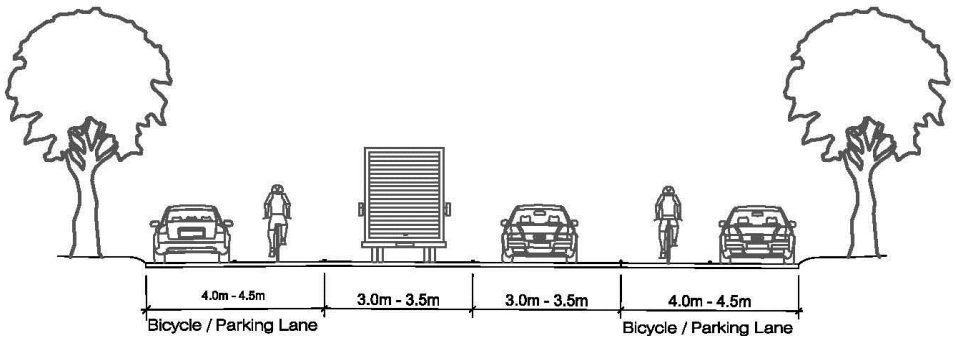
2. If cycle traffic is high, a greater width path of 3.0m to 4.0m is desirable.

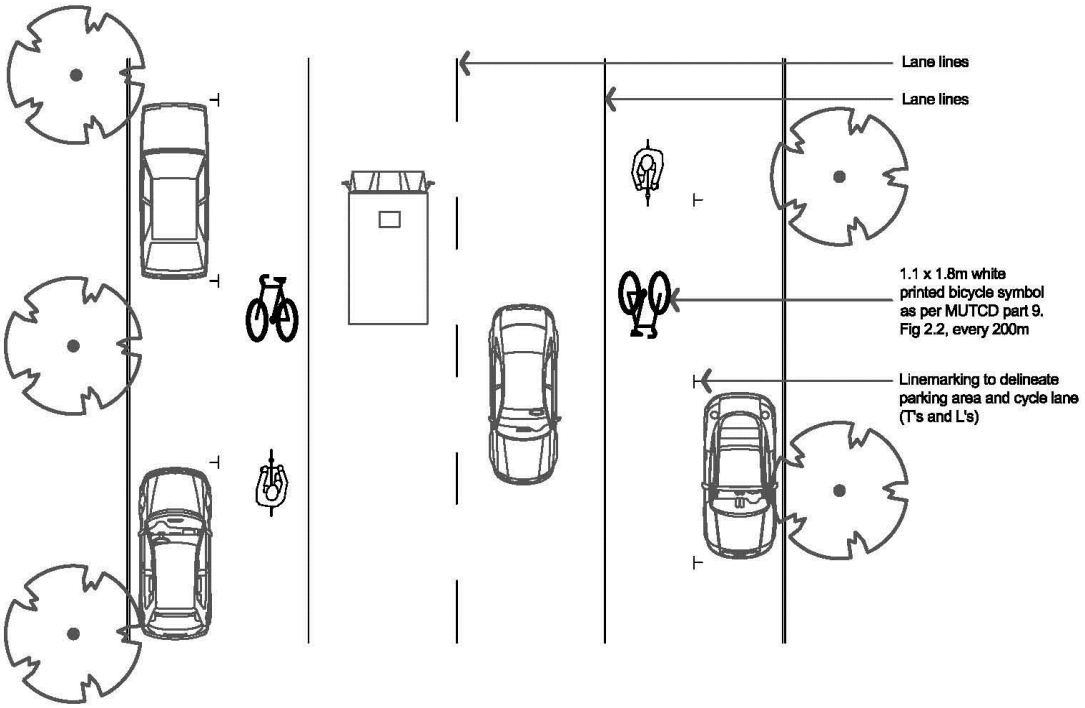
   Concrete cycleways should be given a colour treatment to reduce glare and to blend with the surrounding environment.

3. Shade trees shall be provided along the cycleway corridor to provide shade to users. Where possible in wide verges, trees should be planted in a staggered fashion either side of the cycleway while maintaining clearences.

A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT Off Road Exclusive Cycleway	26/07/12 Scale: NTS Drawing Sheet No. **ST002**

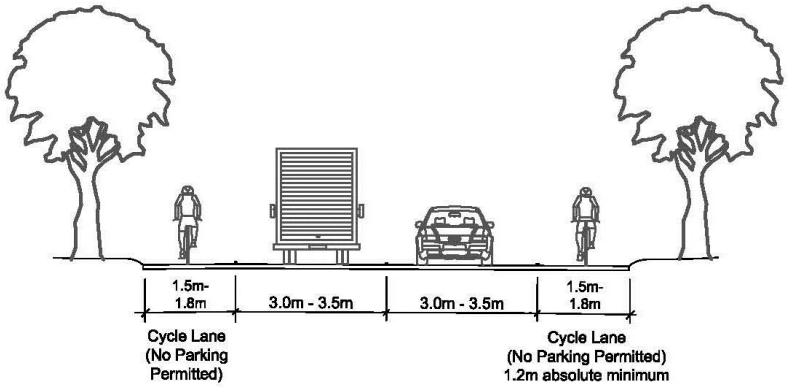
Schedule 6

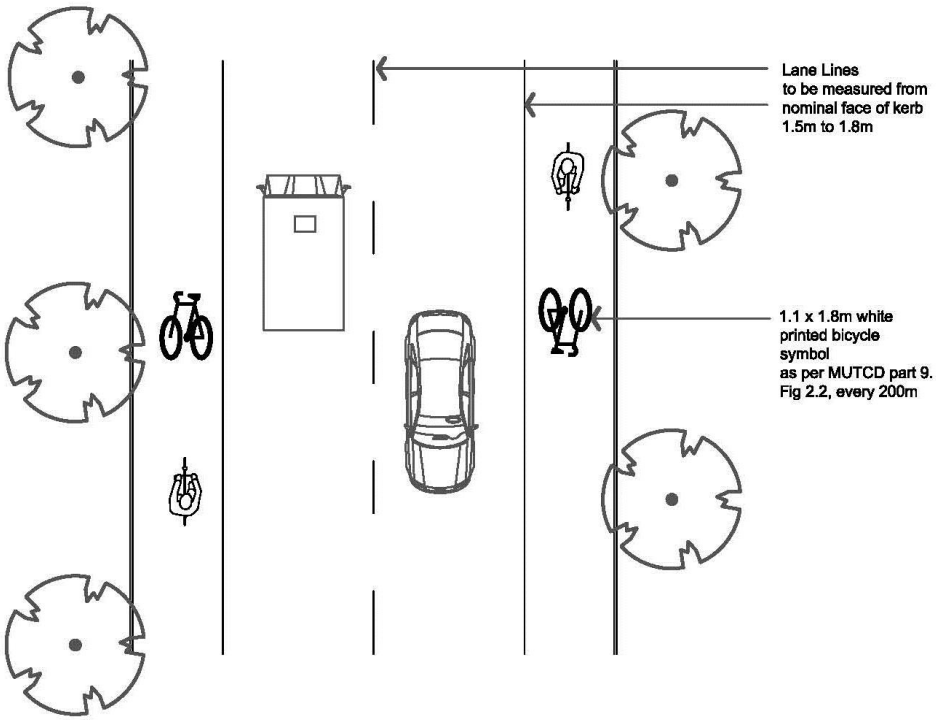




A4	Sunshine Coast Council	ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES STANDARD TREATMENTS	STANDARD TREATMENT On Road Bicycle / Parallel Car Parking Lane (Full Linemarking)	26/07/12 Scale: NTS Drawing Sheet No. ST004

Schedule 6

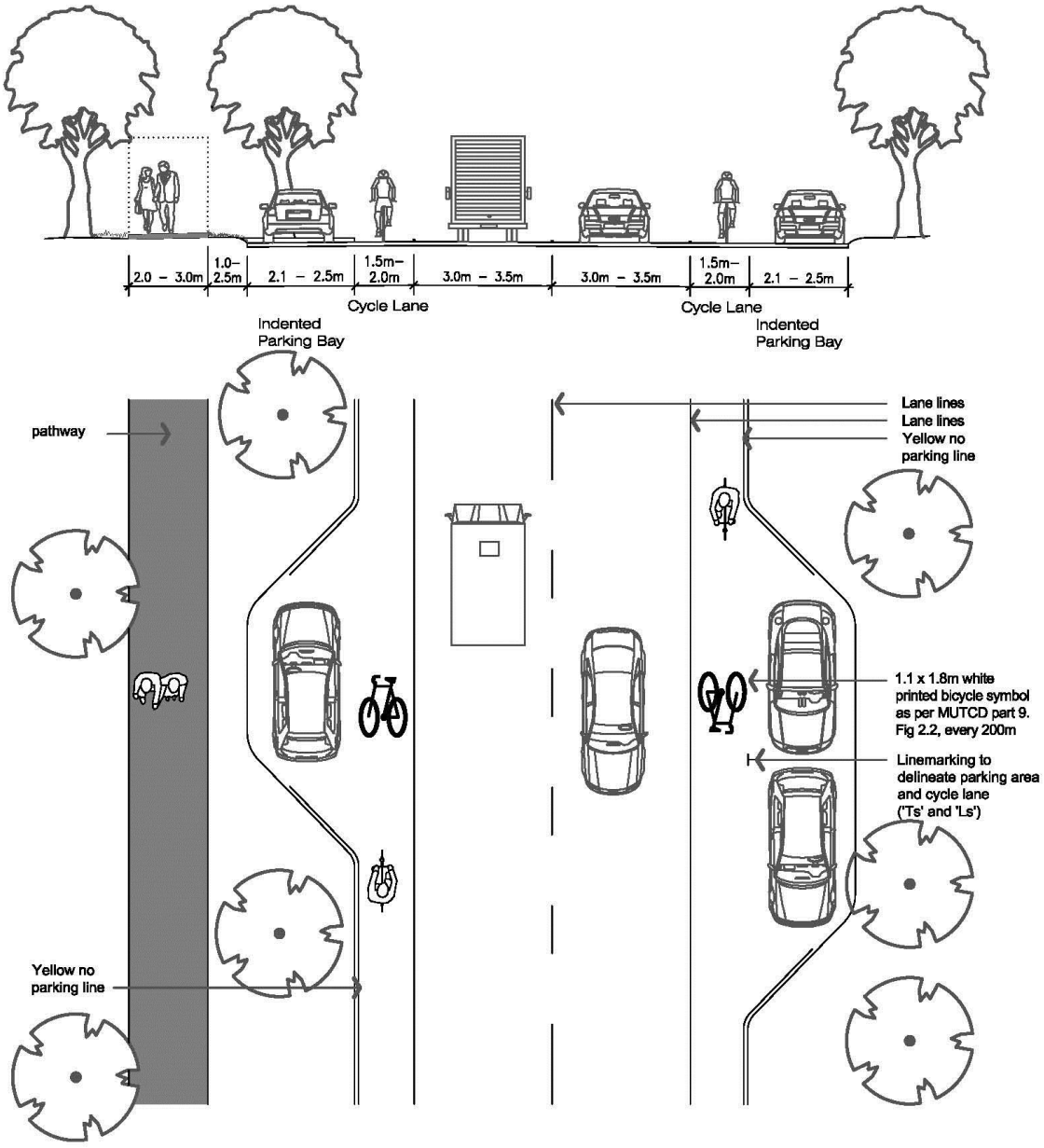




NOTE 1. Yellow "no stopping" line to be used if there is potential for conflict and parking within cycle lane

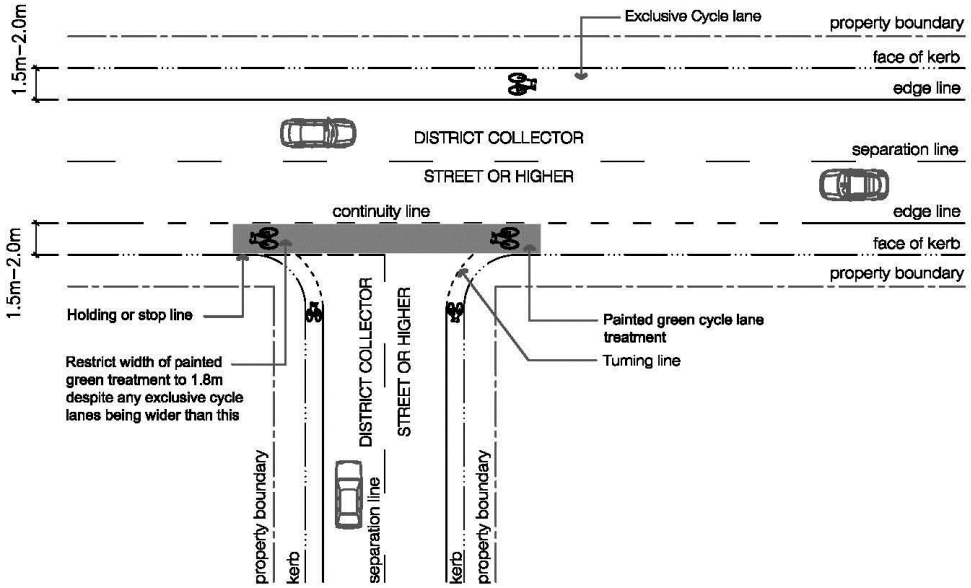
A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT On Road Dedicated Cycle Lane (Parking Not Permitted)	26/07/12 Scale: NTS Drawing Sheet No. **ST005**

Schedule 6



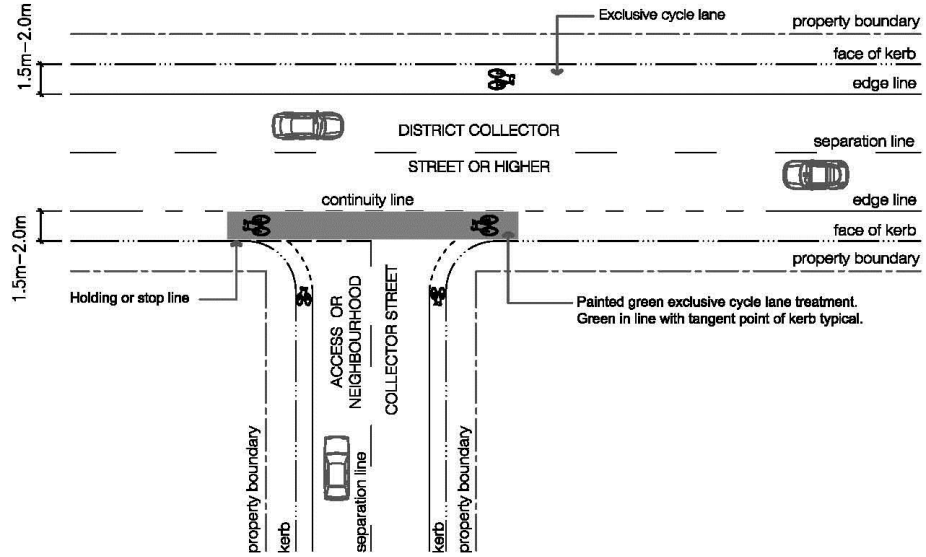
A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT On Road Cycle Lane / Indented Parking Bays	26/07/12 Scale: NTS Drawing Sheet No. **ST007**

Schedule 6



'T' Intersection with dedicated cycle lanes on the major and minor road

On Road Bicycle Lane treatments



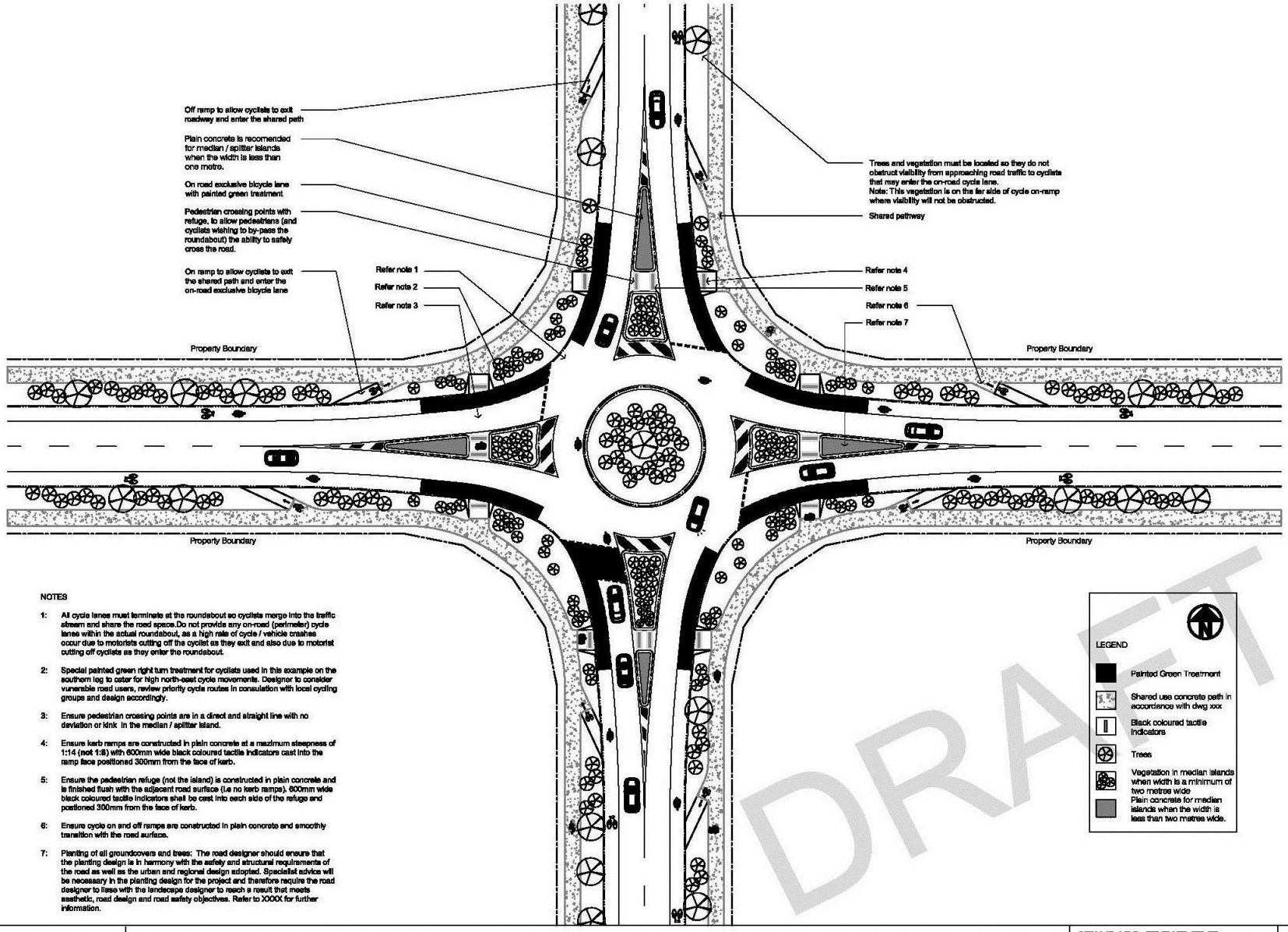
'T' Intersection with dedicated cycle lanes on the major road only

NOTES:

1. Holding line/stop line to be set back a minimum of 1.5m towards property boundary for dedicated cycle lanes. (ie. cycle lanes with no parking)
2. All bicycle symbols on roadway to be white, 1.1m x 1.8m this per MUTCD part 9, fig 2.2 symbols to be spaced at a max of 200m.

A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT On Road Dedicated Cycle Lane Treatment at a "T" Intersection	26/07/12 Scale: NTS Drawing Sheet No. **ST013**

Schedule 6



NOTES

1: All cycle lanes must terminate at the roundabout so cyclists merge into the traffic stream and share the road space.Do not provide any on-road (perimeter) cycle lanes within the actual roundabout, as a high rate of cycle / vehicle crashes occur due to motorists cutting off the cyclist as they exit and also due to motorist cutting off cyclists as they enter the roundabout.

2: Special painted green right turn treatment for cyclists used in this example on the southern leg to cater for high north-east cycle movements. Designer to consider vunerable road users, review priority cycle routes in consulation with local cycling groups and design accordingly.

3: Ensure pedestrian crossing points are in a direct and straight line with no deviation or kink in the median / splitter island.

4: Ensure kerb ramps are constructed in plain concrete at a maximum steepness of 1:14 (not 1:8) with 600mm wide black coloured tactile indicators cast into the ramp face positioned 300mm from the face of kerb.

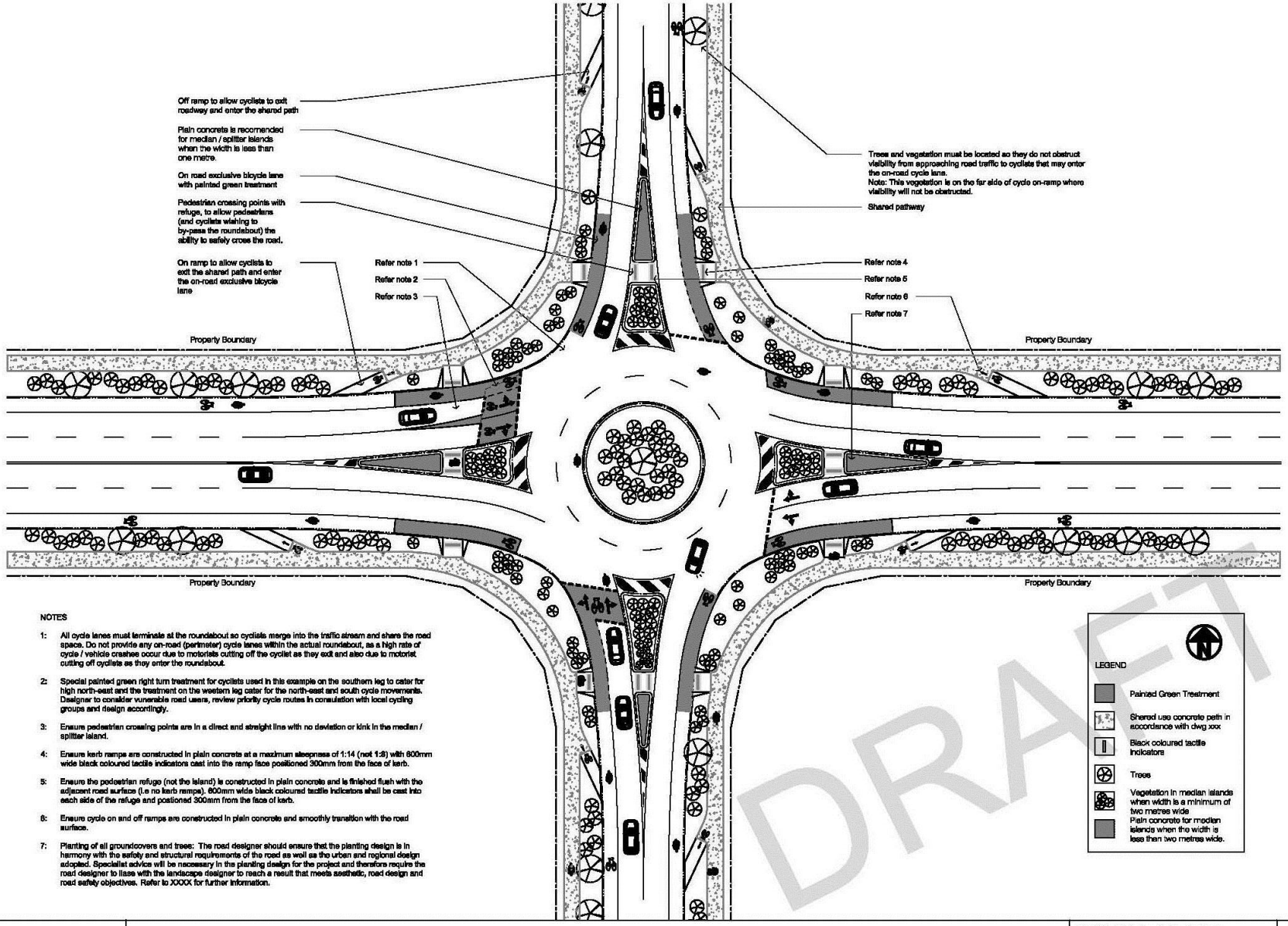
5: Ensure the pedestrian refuge (not the island) is constructed in plain concrete and is finished flush with the adjacent road surface (i.e no kerb ramps). 600mm wide black coloured tactile indicators shall be cast into each side of the refuge and positioned 300mm from the face of kerb.

6: Ensure cycle on and off ramps are constructed in plain concrete and smoothly transition with the road surface.

7: Planting of all groundcovers and trees: The road designer should ensure that the planting design is in harmony with the safety and structural requirements of the road as well as the urban and regional design adopted. Specialist advice will be necessary in the planting design for the project and therefore require the road designer to liase with the landscape designer to reach a result that meets esthetic, road design and road safety objectives. Refer to XXXX for further information.

A3	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT Roundabout - Single Lane	18/04/11 Scale: NTS Drawing Sheet No. **ST015**

Schedule 6



NOTES

1: All cycle lanes must terminate at the roundabout so cyclists merge into the traffic stream and share the road space. Do not provide any on-road (perimeter) cycle lanes within the actual roundabout, as a high rate of cycle / vehicle crashes occur due to motorists cutting off the cyclist as they exit and also due to motorist cutting off cyclists as they enter the roundabout.

2: Special painted green right turn treatment for cyclists used in this example on the southern leg to cater for high north-east and the treatment on the western leg cater for the north-east and south cycle movements. Designer to consider vunerable road users, review priority cycle routes in consultation with local cycling groups and design accordingly.

3: Ensure pedestrian crossing points are in a direct and straight line with no deviation or kink in the median / splitter island.

4: Ensure kerb ramps are constructed in plain concrete at a maximum steepness of 1:14 (not 1:8) with 600mm wide black coloured tactile indicators cast into the ramp face positioned 300mm from the face of kerb.

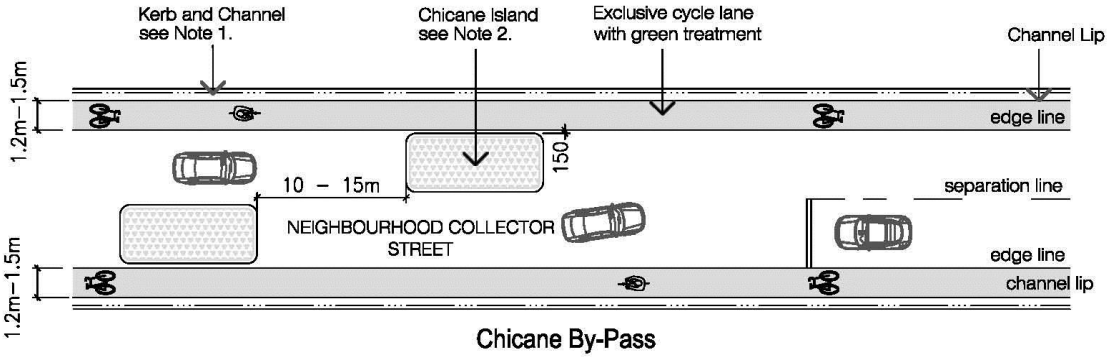
5: Ensure the pedestrian refuge (not the island) is constructed in plain concrete and is finished flush with the adjacent road surface (i.e no kerb ramps). 600mm wide black coloured tactile indicators shall be cast into each side of the refuge and positioned 300mm from the face of kerb.

6: Ensure cycle on and off ramps are constructed in plain concrete and smoothly transition with the road surface.

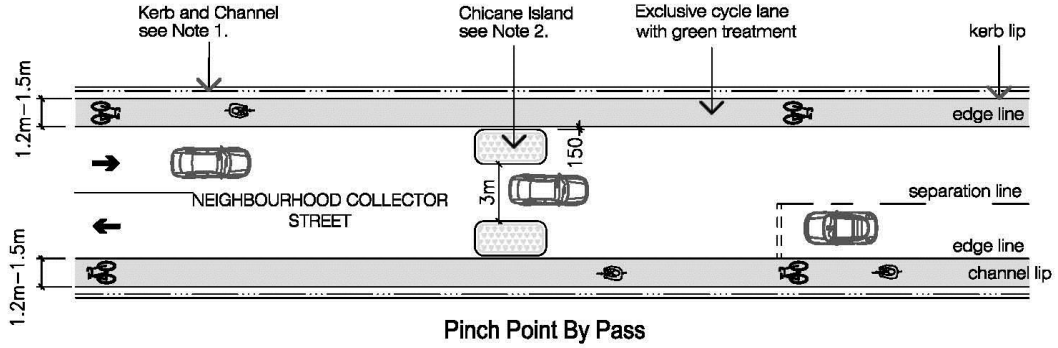
7: Planting of all groundcovers and trees: The road designer should ensure that the planting design is in harmony with the safety and structural requirements of the road as well as the urban and regional design adopted. Specialist advice will be necessary in the planting design for the project and therefore require the road designer to liase with the landscape designer to reach a result that meets aesthetic, road design and road safety objectives. Refer to XXXX for further information.

A3	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT Roundabout - Multi Lane	18/04/11 Scale: NTS Drawing Sheet No. **DS016**

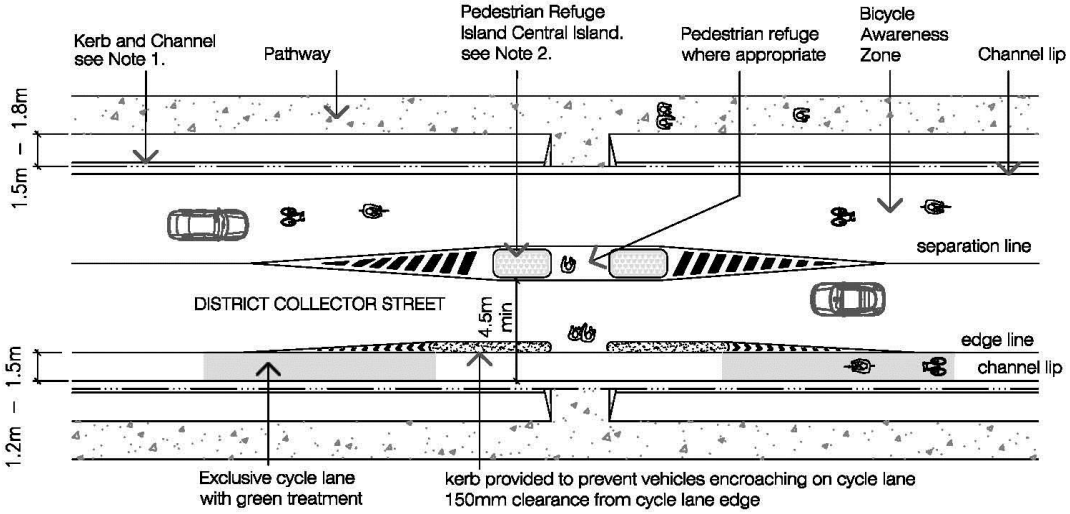
Schedule 6



Chicane By-Pass



Pinch Point By Pass

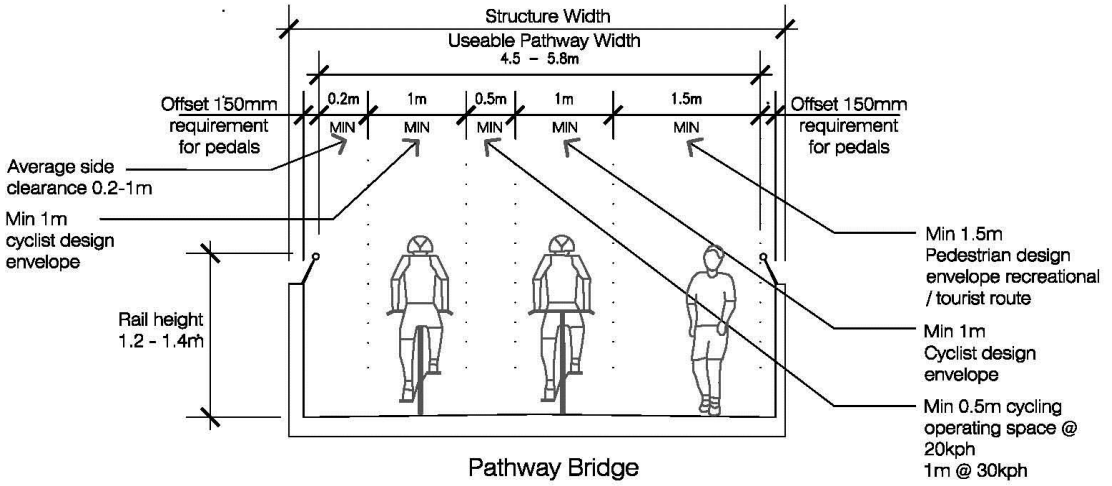


Pedestrian Refuge and Cyclist Separation Island through Pinch Point

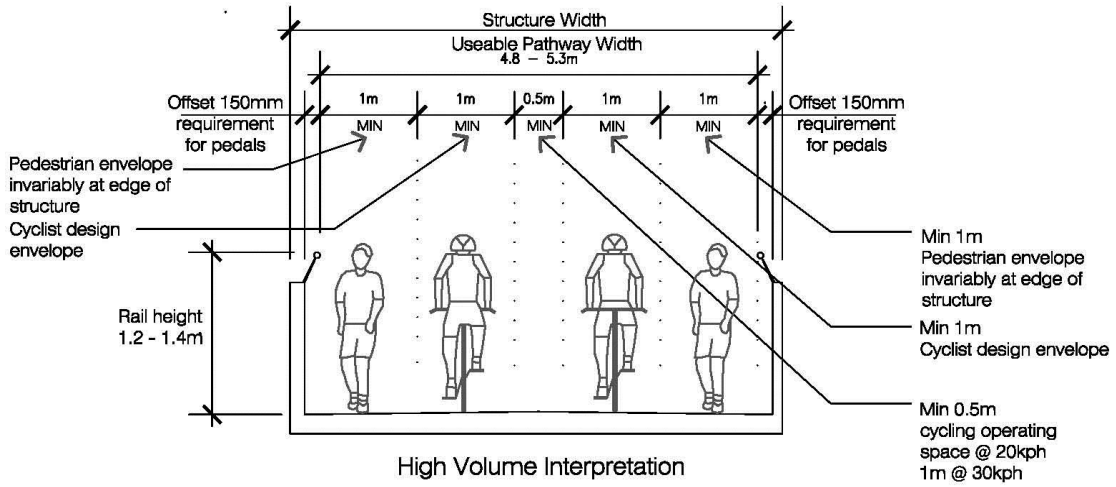
NOTES
1: Kerb and Channel is unusable for cyclists. Cycle lane width therefore measured from lip of channel.
2: Chicane island - Max height of any visual object 600mm measured from pavement surface.
150mm clearance from cycle lane edge
3: Green pavement treatments to be determined on a case by case basis in consultation with council.

A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT Intergrated 'Bicycle Friendly' LATM Options	26/07/12 Scale: NTS Drawing Sheet No. **ST017**

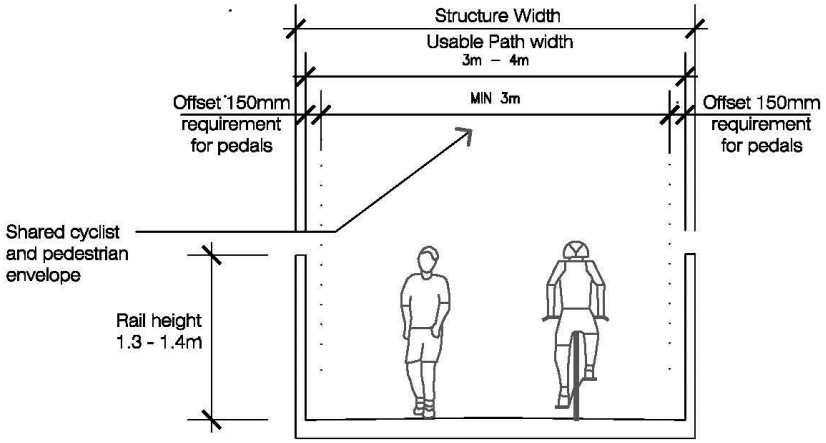
Schedule 6



Pathway Bridge



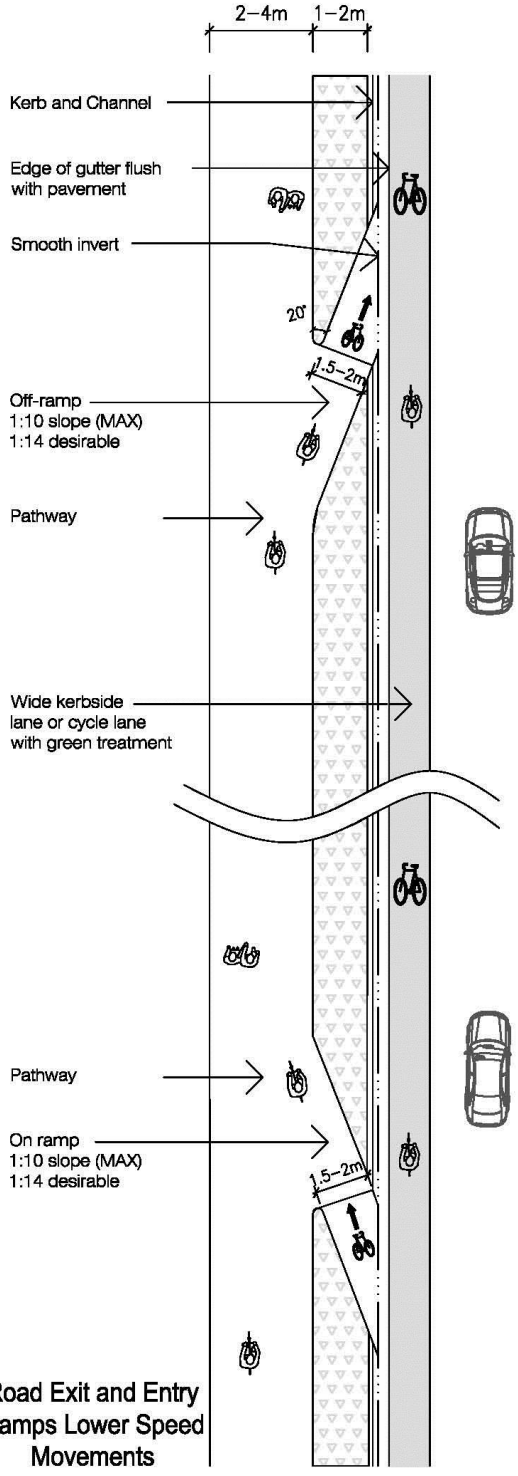
High Volume Interpretation



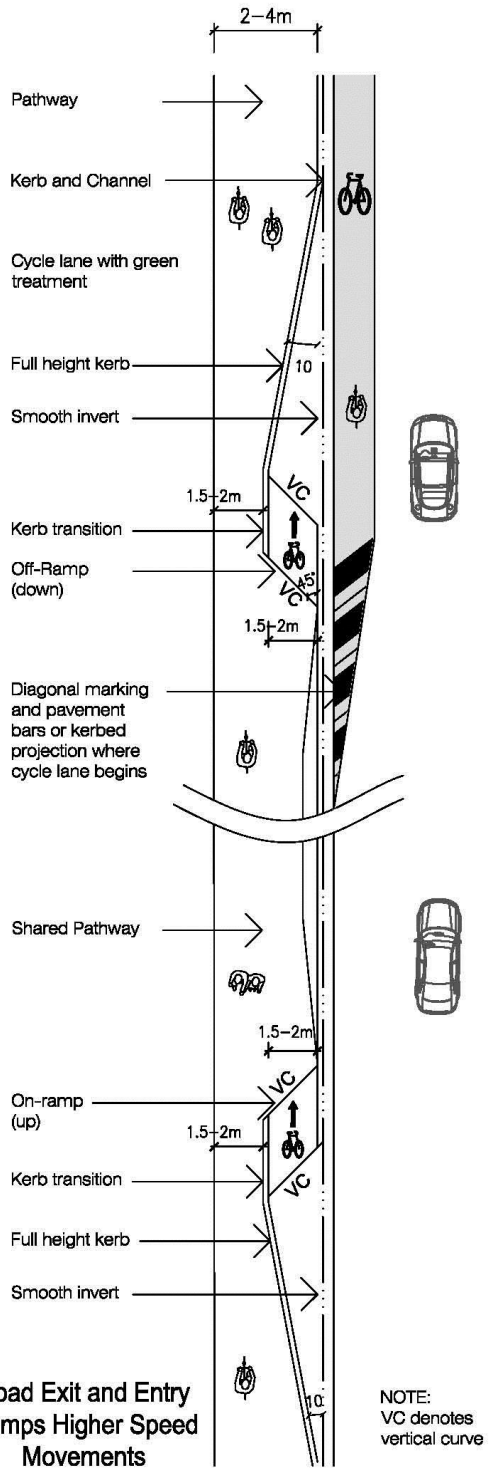
Boardwalk

A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT For Bridge and Boardwalks Shared with Pedestrian / Cycle Use	26/07/12 Scale: NTS Drawing Sheet No. **ST018**

Schedule 6



Road Exit and Entry Ramps Lower Speed Movements



Road Exit and Entry Ramps Higher Speed Movements

NOTE:
VC denotes vertical curve

A4	Sunshine Coast Council	**ACTIVE TRANSPORT INFRASTRUCTURE GUIDELINES** STANDARD TREATMENTS	STANDARD TREATMENT Road Exit and Entry Ramps for Cyclists	26/07/12 Scale: NTS Drawing Sheet No. **ST019**

Schedule 6

SC6.18 Planning scheme policy for waste management code

SC6.18.1 Purpose

The purpose of this planning scheme policy is to:-

(a) provide general advice about achieving outcomes in the **Waste management code**;

(b) state standards identified in the **Waste management code** for waste storage and servicing; and

(c) provide guidelines about the preparation of a waste management plan.

SC6.18.2 Application

This planning scheme policy applies to development which requires assessment against the **Waste management code**.

SC6.18.3 General advice for waste management code outcomes

The following is general advice about the achievement of outcomes stated in the **Waste management code**:-

(a) in determining compliance with the **Waste management code** in terms of waste minimisation, waste storage and waste servicing, Council may require submission of a waste management plan for certain types of development;

(b) in particular, Council may require submission of a waste management plan for development involving the following:-

  (i) a residential use with more than 10 dwellings;

  (ii) a business use with a total use area greater than 500m²;

  (iii) an environmentally relevant activity (as defined by Schedule 1 of the *Environmental Protection Regulation 2008*);

  (iv) construction or demolition of a building, other than construction of a dwelling house, or Class 10 building; and

  (v) another use or activity where identified as having significant waste management requirements;

(c) Council may also consider the following matters in assessing the appropriateness of waste minimisation, waste storage and waste servicing arrangements:-

  (i) the type of waste generated by the development;

  (ii) the amount of waste likely to be generated by the development having regard to **Table SC6.18A (Indicative waste and recycling generation rates for particular uses)**;

  (iii) the minimum waste storage area requirements required to accommodate the waste management needs of the development having regard to **Table SC6.18B (Minimum waste receptacle storage requirements)**;

  (iv) the types of waste storage bins best suited to the needs of the development;

  (v) the preferred location of waste storage areas and bin wash down areas;

  (vi) the distance waste needs to be moved to a waste storage area and/or collection area;

  (vii) whether the collection service will be kerbside or on private property;

  (viii) whether a central waste storage area will be provided prior to relocation of the bin to the collection point;

  (ix) the presence or absence of service staff or on site management;

  (x) the mechanism or pathway used to move bins to the waste storage area; and

(xi) safe vehicle and pedestrian access to bins; and

(d) a waste management plan is a document prepared by a competent person in accordance with **Section SC6.18.6 (Guidelines for the preparation of waste management plans)**.

Table SC6.18A Indicative waste and recycling generation rates for particular uses

Use	Waste generation rate	Recycling generation rate
Short-term accommodation where for a backpackers	40L / occupant / week	20 litres / occupant / week
Rooming accommodation where for a boarding house	40L / occupant / week	20 litres / occupant / week
Short-term accommodation where for a motel and not including a public restaurant	5L / bed / day 10L / 1.5m² / of dining area / day	1L / bed / day
Entertainment/catering use and retail business use where for:-		
(a) a butcher	80L / 100m² floor area / day	40L
(b) a delicatessen	80L / 100m² floor area / day	40L
(c) a fish shop	80L / 100m² floor area / day	40L
(d) a greengrocer	240L / 100m² floor area / day	120L / 100m² / day
(e) a hairdresser	80L / 100m² floor area / day	40L
(f) a restaurant	10L / 1.5m² floor area / day	2L / 1.5m² floor area / day
(g) a supermarket	240L / 100m² floor area / day	240L / 100m² / day
(h) a takeaway	80L / 100m² floor area / day	40L
Entertainment/catering use where for a hotel	5L / bed / day 50L / 100m² / bar area / day 10L / 1.5m² of dining area / day	50L / 100m² / of bar and dining areas / day
Entertainment/catering use where for a licensed club	50L / 100m² / bar area / day 10L / 1.5m² / of dining area / day	50L / 100m² / of bar and dining areas / day
A retail business use where for:-		
(a) a shop or shops having a gross leasable floor area not exceeding 100m²;	50L / 100m² / floor area / day	25L / 100m² / floor area / day
(b) a shop of shops having a gross leasable floor area 100m² or greater.	50L / 100m² / floor area / day	50L / 100m² / floor area / day
A retail business use where for a showroom	40L / 100m² / floor area / day	10L / 100m² / floor area / day
A commercial business use where for an office	10L / 100m² / day	10L / 100m² / day

Table SC6.18B Minimum waste receptacle storage requirements

Use	Minimum requirement
Dual occupancy	An area or areas capable of accommodating 3 x 240 litre waste storage bins per dwelling.
Short-term accommodation, Multiple dwelling, Relocatable home park, Residential care facility and Retirement facility.	An area or areas capable of accommodating 2 x 240 litre waste storage bins per 2 dwellings; or An area or areas capable of accommodating bulk storage bins with an equivalent volume of 120 litres per site for waste and 120 litres per site for recycling.
Tourist park	An area or areas capable of accommodating 2 x 240 litre waste storage bins per 4 cabins or caravan sites; or An area or areas capable of accommodating bulk storage bins with an equivalent volume of 60 litres per site for waste and 60 litres per site for recycling.
Food and drink outlet	An area or areas capable of accommodating 2 x 240 litre waste storage bins.
All other uses	Determined as part of assessment of proposal.

SC6.18.4 Standards for waste storage outcomes

For the purposes of Acceptable Outcome AO2 in **Table 9.4.10.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Waste management code** the following are the standards identified in the code for waste storage areas:-

Waste container storage areas generally

(a) waste container storage areas are to be attractively designed to minimise their visual impact on the streetscape and surrounding areas;

(b) waste and waste storage bins are not to be placed where they may impede safe use of any exit, exit corridor, doorway or stairway, under stairways or near any existing or potential heat source;

(c) waste storage bins are to be made of non-combustible materials;

(d) waste oil containers are to be stored within bunded areas and bins must be washed within the bunded area;

(e) a waste wash down area is to be provided for the regular cleaning of waste storage containers, which:-

  (i) is located such that waste containers can be easily moved to the waste wash down area and is not located adjacent to or underneath the eating or living areas of any unit or neighbouring property;

  (ii) has a floor graded to fall to a drainage point located within the wash down area;

  (iii) provides for drainage by means of a trapped gully connected to the sewer, and is designed such that rainfall and other surface water can not flow into the wash down; and

  (iv) has a hose cock is located in the vicinity of the wash down area.

Note—**Figure SC6.18A (Examples of waste container storage areas and facilities for mobile storage bins)** provides examples of well designed waste container storage areas and facilities.

Figure SC6.18A Examples of waste container storage areas and facilities for mobile storage bins

Roofed waste storage container area for 240 litre bin type.

Screened waste storage container area with bunded bin wash down area.

Schedule 6

Bunded bin wash down area in further detail.

Streetscape screening to waste container storage area serviced via street.

(f) waste chutes may be provided for both general waste and recyclables;

(g) any waste chute and associated accessories are to:-

(i) be cylindrical with a diameter not less then 450mm;

(ii) have a bottom edge which finishes at least 25mm below the level of the ceiling in the waste room with a maximum of 300mm between the bottom edge (and any extension thereof) and the top of the waste container;

(iii) as far as practicable, be vertical throughout the chute length up to the level of the highest hopper;

(iv) discharge centrally above the waste container or compactor in the waste storage room;

(v) be continued in full bore above the roof of the building, but not less than 600mm above the level of the highest hopper;

(vi) be fully supported at each floor level and contained in fire rated shafts in compliance with the appropriate standards;

(vii) provide for access at appropriate levels to assist in clearing obstructions and cleaning with a nylon brush or similar appliance on a pulley system;

(viii) be ventilated in a manner that ensures air does not flow from the chute through service openings, and the flow of air in the chute does not impede the downward movement of waste;

(ix) where the chute is not continued to the full height of the building, incorporate a vent formed of non-combustible material having a minimum diameter of 150mm carried to a point of at least 2.0 metres above the eaves of the building or the eaves of any building within 10.0 metres;

(x) incorporate a shutter fitted for closing off the chute in the case of fire or when the waste container is withdrawn that is:-

(A) self-closing and constructed of galvanised steel sheet or other approved metal;
(B) assembled with bolts, hinges or rollers of non-corrosive material so that it can be dismounted and re-assembled instantly if necessary;
(C) be fitted with a fusible link for automatic operation in the case of a fire in the waste container or waste room, which is selected to operate at a temperature at least 5 degrees Celsius above the operating temperature of the automatic fire control system installed;
(D) be constructed of materials which are non-combustible and non-corrosive or otherwise coated / treated with a non-corrosive compound and of adequate strength for their purpose;
(E) have a chute interior and chute branch and joints with smooth, impervious, and non-corrosive surfaces that provide uninterrupted flow for the passage of waste and are insect and vermin proof; and
(F) be part of a whole of waste disposal system, including all chutes, rooms, compartments and equipment that is designed and constructed so that the use and operation of the system does not at any time give rise to transmission of vibration to the structure of the premises, or odour in excess of 1 odour unit beyond the disposal and storage points.

Waste disposal points

(h) hoppers for disposal of waste into waste chutes are to:-

(i) be provided on each residential floor and be located in a freely ventilated position in the open air (e.g. a sheltered balcony or in a dedicated waste disposal room);

(ii) be easily accessed by the occupants of each unit;

(iii) be separate from any habitable room or place used in connection with food preparation or living areas;

(iv) be designed and installed so as to:-

(A) close off the service opening in the chute when the device is open for loading;
(B) be between 1.0 metre and 1.5 metres above floor level;
(C) automatically return to the closed position after use;
(D) permit free flow into the chute;
(E) not project into the chute; and
(F) allow easy cleaning of the device and the connection between the service opening and the chute.

(v) have the largest dimension of the service opening (the diagonal of a rectangular opening) not exceeding 0.75 diameter of the chute with which the hopper is connected;

(vi) have a surround on the wall around that hopper that is at least 300mm wide and made of glazed tiling or other impervious material with can be easily cleaned;

(vii) have a floor adjacent to the hopper that is paved with hard impervious materials with a smooth finished surface; and

(viii) if located within a waste disposal room be ventilated and finished with an impervious material covered at all angles.

Waste container storage rooms

(i) waste container storage rooms are to be provided for the storage of waste in standard containers at the bottom of each waste chute;

(j) a waste container storage room are to:-

(i) be located at vehicle access level, preferably away from the main entrance to the building;

(ii) not be located adjacent to or within any habitable room or place used in connection with food preparation or living areas;

(iii) be of sufficient size to fully contain the number of waste containers required to service the development;

(iv) provide for waste containers to be easily accessed for direct disposal of bulky items to the waste container;

(v) provide for unobstructed access for removal of waste containers to the service point and for the positioning of the containers correctly in relation to the waste chute;

(vi) be the service point or be located within 40 metres of the service point;

(vii) be designed and constructed so that:-

(A) the doors are close fitting, selfclosing and not less than 820mm wide;
(B) walls, doors and roof of each waste room are lined with non-combustible and impervious material with a smooth finish and a fire resistance rating of one hour;
(C) the junctions of the walls with the floors are covered with the covering formed to prevent damage to walls by containers;
(D) door frames are metal, hardwood or metal clad softwood, situated in an external wall;
(E) door frames are rebated with a lock capable of being activated from within the room without a key at all times;
(F) a hose cock and an adequate length of hand hose of a minimum internal diameter of 12mm are provided immediately outside the room;

(G) unless refrigerated to below 4 degrees Celsius, the room has an approved mechanical exhaust system for ventilation or permanent, unobstructed natural ventilation openings direct to the external air not less than one-twentieth (1/20th) of the floor area with one half of such openings situated at or near the floor level and one half at or near the ceiling level;
(H) automatic or other system for control of fire in the waste room meets Australian Standards on sprinkler installation;
(I) the waste room is fly and vermin proof;
(J) the floor of the waste room is graded to fall to a drain located outside and adjacent to the waste room as close as practicable to the doorway and drainage is by means of a trapped gully connected to the sewer with gullies positioned to avoid the track of waste container wheels;
(K) rainfall and other surface water cannot flow into the waste room;
(L) artificial lighting is provided;
(M) refrigerated rooms are fitted with an approved alarm device, located outside, but controllable only from within the room with all conduits concealed in the floor, walls or ceiling;
(N) all equipment in a fixed position is located clear of walls and floors and is supported on suitable plinths or impervious legs; and
(O) any container storage and drainage racks are made of galvanised metal or other durable, impervious materials; and

(viii) be well ventilated and have "hazardous waste" and "no smoking" signs installed; and

(k) a waste wash down area is to be provided for the regular cleaning of waste containers, which:-

(i) is located such that waste containers can be easily moved to the waste wash down area and is not located adjacent to or underneath the eating or living areas of any unit or neighbouring property;

(ii) has a floor graded to fall to a drainage point located within the wash down area;

(iii) provides for drainage by means of a trapped gully connected to the sewer, and is designed such that rainfall and other surface water cannot flow into the wash down; and

(iv) has a hose cock is located in the vicinity of the wash down area.

Note—**Figure SC6.18B (Example of waste container storage room)** provides an example of a well-designed waste container storage room.

Figure SC6.18B Example of waste container storage room

Waste container storage room with wash down area.

Note—Council may require or accept specialised equipment in some circumstances, such as compaction equipment to minimise storage areas. Compaction equipment may be accepted for the following wastes:-
(a) mixed waste (other than glass);
(b) cardboard or paper;
(c) plastic or aluminium containers;
(d) putrescible waste - provided a specialised refrigerated compactor is used.

Plans for the installation of compactors must be submitted for the approval of Council's Manager Waste and Resources Management.

SC6.18.5 Standards for waste servicing outcomes

For the purposes of Acceptable Outcomes AO4.1, AO4.2, AO4.3 in **Table 9.4.10.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Waste management code** the following are the standards identified in the code for waste servicing:-

(a) within the development site, vehicle servicing areas are to:-

(i) be capable of carrying the wheel load of 7 tonnes per axle;

(ii) provide turning circles designed in accordance with AUSTROADS: design single unit truck/bus (12.5m) template; and

(iii) allow vehicles to move in a forward direction at all times or be able to enter and exit the development in a forward direction or include a turning bowl or a "T" or "Y" shaped manoeuvring area which allows the service vehicle to make a turn within 3 manoeuvres; and

(b) for bin collection from within a building or structure:-

(i) height clearance is to be sufficient to allow for safe travel and lifting for vehicles and bins in accordance with **Table SC6.18C (Bulk or skip bin dimensions)** and **Table SC6.18D (Waste vehicle specifications)**; and

(ii) the grade of access/egress ramps are not to exceed 1:8.

Table SC6.18C Bulk or skip bin dimensions

	Skip	Skip	Skip	Skip	Skip
Capacity	1. 1m³	1.5m³	2.0m³	3.0m³	4.5m³
Height	1465mm	910mm	865mm	1225mm	1570mm
Depth	1070mm	905mm	1400mm	1505mm	1605mm
Width	1360mm	1810mm	1830mm	1805mm	1805mm

Table SC6.18D Waste vehicle specifications

	Side loading collection vehicle		Front loading collection vehicle
			
	Garbage truck	Recycling truck	Front loading collection vehicle
Length overall	8.70m	9.90m	9.90m
Front overhang	1.42m	0.85m	1.42m
Wheelbase	5.00m	5.30m	5.84m
Rear overhang	2.30m	2.65m	2.64m
Turning circle (curb to curb)	16.40m	18.70m	22.10m
Turning circle (wall to wall)	N/A	N/A	23.66m
Front of vehicle to collection arm	18.14m	19.20m	N/A
Maximum reach of side arm	2.70m	3.30m	N/A
Travel height	2.00m	1.70M	3.64
Clearance height for loading	4.00M	3.80M	6.10m

SC6.18.6 Guidelines for the preparation of waste management plans

A waste management plan should be based on the template provided in **Appendix SC6.18A (Waste management plan template)** and should properly address, describe or include the following:-

(a) estimated volumes of waste to be generated;

(b) estimated volumes of recyclables;

(c) estimated volumes of garden/organic waste;

(d) the method to be used for disposal of garden/organic waste;

(e) initiatives to minimise waste by waste reduction, reuse or recycling;

(f) the description of the procedures involved in the storage of waste and recycling bins and the collection of bins by the contractor and who is responsible for each transfer of waste both within the complex and external to the complex;

(g) a description of the design details of waste storage and recycling areas, including the method of preventing stormwater pollution – to be highlighted on plan drawings;

(h) plans showing the location and details of the waste storage areas; design to incorporate sufficient space for storage for waste, recyclables, garden waste and any special wastes as determined e.g. bulk cardboard;

(i) a description of the type of containers proposed to store the waste; and

(j) a detailed description of the proposed access arrangement for waste collection vehicles is to be highlighted on plan drawings ensuring that waste vehicles can access and depart from the waste collection area in a forward direction.

Appendix SC6.18A Waste management plan template

Project:
Site address:
Name of applicant:
Address of applicant:
Phone: Fax:
Email:
Describe buildings and other structures currently on the site:
Describe proposed use/development:
I confirm that the details provided on this form are the intentions for managing waste relating to this use/development. Signature of applicant: Date:
SPACE
Number of units:
Estimated waste generation:
Estimated recycling generation:
Describe equipment and system to be used for managing waste:
Describe equipment and system to be used for managing recyclables:
Describe equipment and system to be used for managing garden organics (if applicable):

Space allocated (highlight on plan drawings):
ACCESS
Describe arrangements for access by residents to waste facilities (highlight on plan drawings):
Describe arrangements for access by collection contractors to waste facilities (highlight on plan drawings):
Is minimum height met for service vehicles to access waste area (3.8m for residential use)?
AMENITY
Describe how noise generated from residents using bins, collection contractors emptying bins and waste falling through and out of the bottom of refuse chute has been minimised:
Describe the ventilation of waste storage areas (highlight on plan drawings):
Describe facilities for washing bins and waste storage areas (highlight on plan drawings):
Describe features for preventing ingress of vermin into waste storage areas:

Describe measures taken to ensure waste storage areas are aesthetically consistent with the rest of the development:
MANAGEMENT
Identify each stage of waste transfer between resident's units and loading into the collection vehicle and who is responsible for each transfer:
Describe arrangements for clearing of waste storage areas and equipment:
Describe arrangements for ensuring bins are stickered and residents are aware of how to use the waste management system correctly:

Details of waste management – demolition phase

Materials on-site			Destination		
			Reuse and recycling		Disposal
Type of materials	Est. Vol. (m^3)	Est. Wt. (t)	ON-SITE Specify proposed reuse or on-site recycling methods	OFF-SITE Specify contractor and recycling outlet	Specify contractor and landfill site
Excavated Materials					
Garden Organics					
Bricks					
Tiles					
Concrete					
Timber – please specify					
Plasterboard					
Metals					
Asbestos					
Other waste e.g. ceramic tiles, paints, PVC tubing, cardboard, fittings					

Details of waste management –construction phase

Materials on-site			Destination		
			Reuse and recycling		Disposal
Type of materials	Est. Vol. (m^3)	Est. Wt. (t)	ON-SITE Specify proposed reuse or on-site recycling methods	OFF-SITE Specify contractor and recycling outlet	Specify contractor and landfill site
Excavated Materials					
Garden Organics					
Bricks					
Tiles					
Concrete					
Timber – please specify					
Plasterboard					
Metals					
Asbestos					
Other waste e.g. ceramic tiles, paints, PVC tubing, cardboard, fittings					

Details of waste management – use of premises phase

Materials	Volume	Proposed on-site storage or treatment	Destination
Type of waste expected to be generated	Expected quantities per week	(e.g. waste storage, compaction & recycling, composting)	(Compost, recycle or landfill) Specify contractor
Recyclables			
Paper			
Cardboard			
Glass			
Aluminium cans			
Plastic bottles			
Other;			
Non-Recyclables			
Foodscraps			
Plastic			
Garden organics			
Other			

Details of waste management – ongoing management

This section will enable you to describe how you intend to ensure ongoing management of waste on-site (e.g. lease conditions, care-taker/manager on-site). You must prepare and submit with this Waste Management Plan a summary of relevant and appropriate waste management issues. The summary is to inform residents and tenants of the onsite waste management arrangements and must be no longer than one page.

Describe how you intend to ensure ongoing management of waste on-site (e.g. lease conditions, caretaker/on-site manager):

SC6.19 Planning scheme policy for Maroochydore Principal Regional Activity Centre Structure Plan[1]

SC6.19.1 Preliminary

Purpose

(1) The purpose of this planning scheme policy is to:-

(a) state standards identified in the **Maroochydore structure plan area code**;

(b) provide guidelines and advice about satisfying assessment ~~criteria~~benchmarks for assessable development and requirements for accepted development in the **Maroochydore Principal Regional Activity Centre (PRAC) Structure Plan**; and

(c) state the additional information which the Council may request in respect of a development application.

Application

(2) This planning scheme policy applies to a development application for a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or a development application for assessable development in the Master Planned Area.

(3) The provisions of the **Planning scheme policy for the Maroochydore Principal Regional Activity Centre Structure Plan** prevail over the provisions of any other planning scheme policy to the extent of any inconsistency.

Relationship to Maroochydore PRAC Structure Plan

(4) This planning scheme policy is to be read in conjunction with the **Maroochydore PRAC Structure Plan**.

Interpretation

(5) Terms used in this planning scheme policy that are also used in the **Maroochydore PRAC Structure Plan** have the meaning given in the **Maroochydore PRAC Structure Plan**.

SC6.19.2 Road transport infrastructure network outcomes

Preliminary

(1) This section applies to the road transport infrastructure outcomes in Performance Outcomes PO9 to PO11 in **Section 10.2.4.26** of the **Maroochydore structure plan area code**.

Standards for road transport infrastructure network outcomes

(2) For the purposes of Performance Outcome PO9(b) in **Section 10.2.4.26 (Performance Outcomes and Acceptable Outcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the road transport infrastructure network:-

(a) Development provides for a road in the Maroochydore Central Precinct to have a configuration and operational characteristics in accordance with the:-

(i) the typical cross sections specified on **Figures SC6.19A to SC6.19H** for roads specified on **Other Plans Map OPM M7 (Maroochydore PRAC Master Planned Area Road Transport Infrastructure Network)**; and

(ii) the design characteristics for roads specified in **Appendix 6.19A (Maroochydore Central Precinct Road and Street Design Characteristics)**.

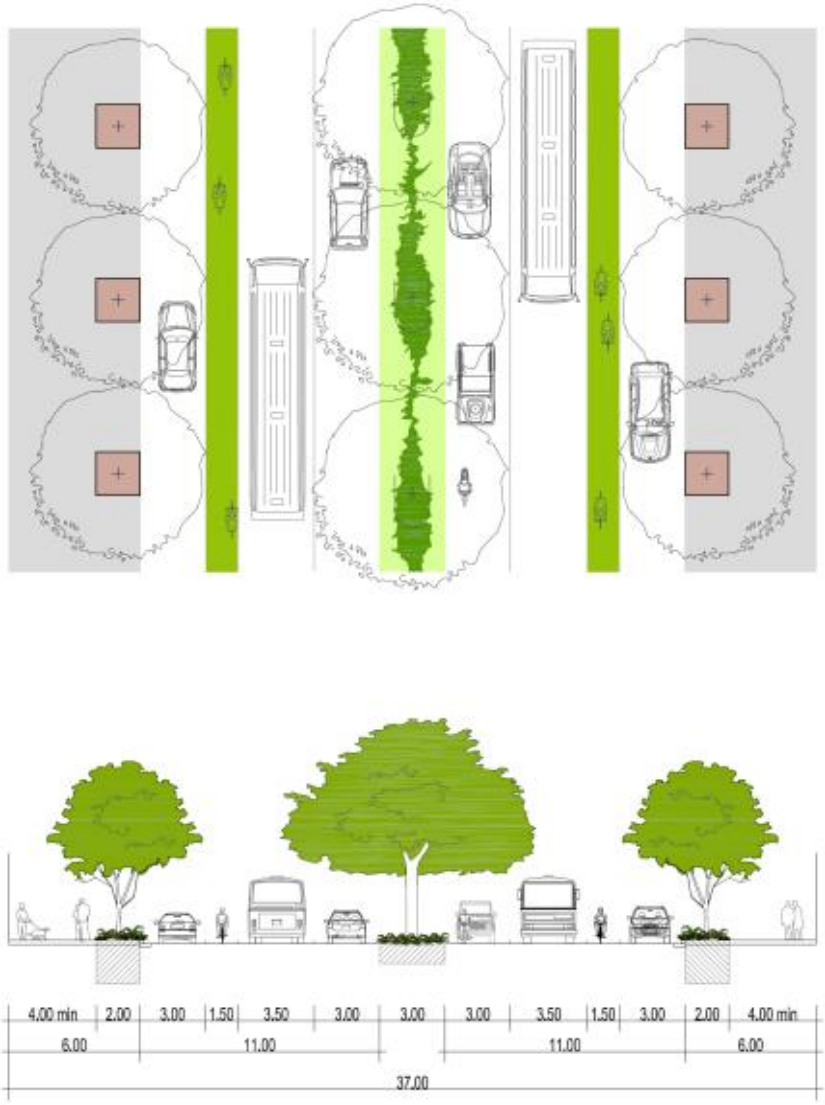
[1] Editor's note—aspects of this planning scheme policy are superseded by the Maroochydore City Centre Priority Development Area (PDA) which is regulated under the *Economic Development Act 2012*.

(b) development provides for a road in another part of the Master Planned Area to have a configuration and operational characteristics in accordance with the **Planning scheme policy for the transport and parking code**; and

(c) development provides for roads which comply with the following:-

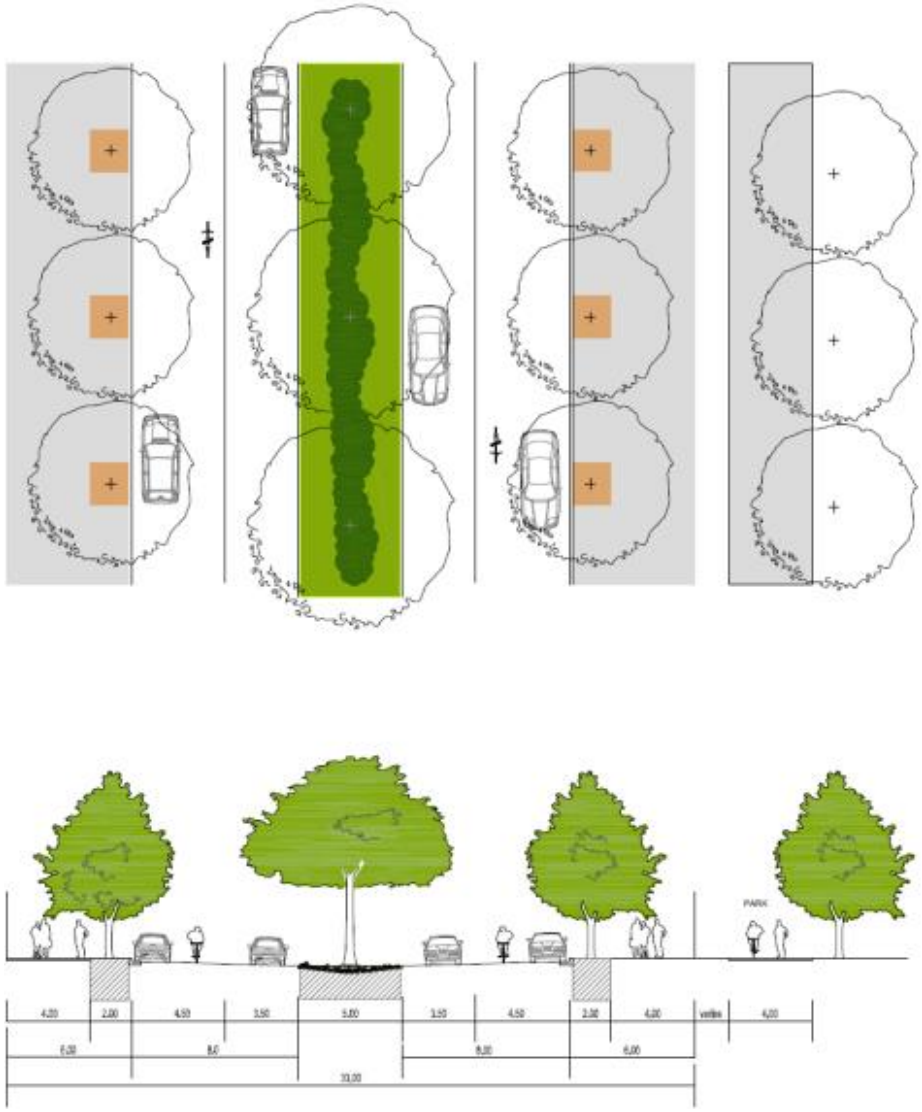
(i) cross sections and reserve widths vary to suit intersections, public transport priority treatments, turning lanes, bus stops, pedestrian crossing treatments, sewer pit requirements, lighting and other requirements;
(ii) bus priority is provided at major intersections;
(iii) verge areas are paved and landscaped in accordance with the applicable typical cross sections;
(iv) where medians are provided, street lighting is accommodated within the medium;
(v) where provided, on road cycle lanes are incorporated into the road shoulder and continued through intersections with right turn cycle lanes provided along with advance storage boxes at controlled intersections;
(vi) where parking lanes are incorporated, the kerb is built out into the parking lanes to create landscaped kerb build-outs at regular intervals without impinging on cycle lanes;
(vii) driveways are constructed as part of the development road works for lots with a kerb build-out on their frontage;
(viii) priority channelised intersections are provided where possible with the use of roundabouts minimised on higher order roads;
(ix) legible, directional and informational signage is supplied as necessary;
(x) landscaping and stormwater treatment on verge areas and medians does not inhibit direct pedestrian access to on-site parking or pedestrian movement across streets;
(xi) landscaping includes appropriate root barrier protection to kerbs and adjacent services;
(xii) medians contain pedestrian refuge areas;
(xiii) pedestrian refuge areas allow for functioning of stormwater treatments (i.e. median swales) where applicable; and
(xiv) additional landscaping consistent with the sub-tropical landscape character desired for the Maroochydore Principal Regional Activity Centre.

Figure SC6.19A Typical Cross Section – 4 Lane Sub Arterial Distributor Road



Sub-Arterial – Distributor Road (25-15-26-28-29)

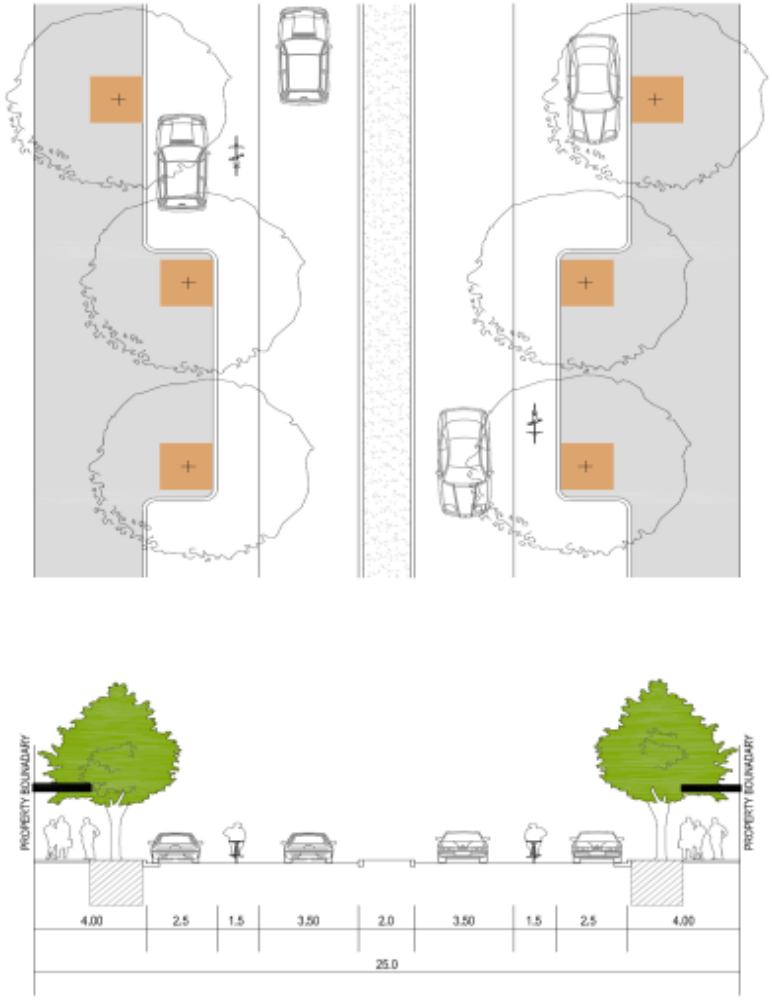
Figure SC6.19B Typical Cross Section – 2 Lane Sub Arterial Distributor Road



Sub-Arterial – Distributor Road (23-46-24)

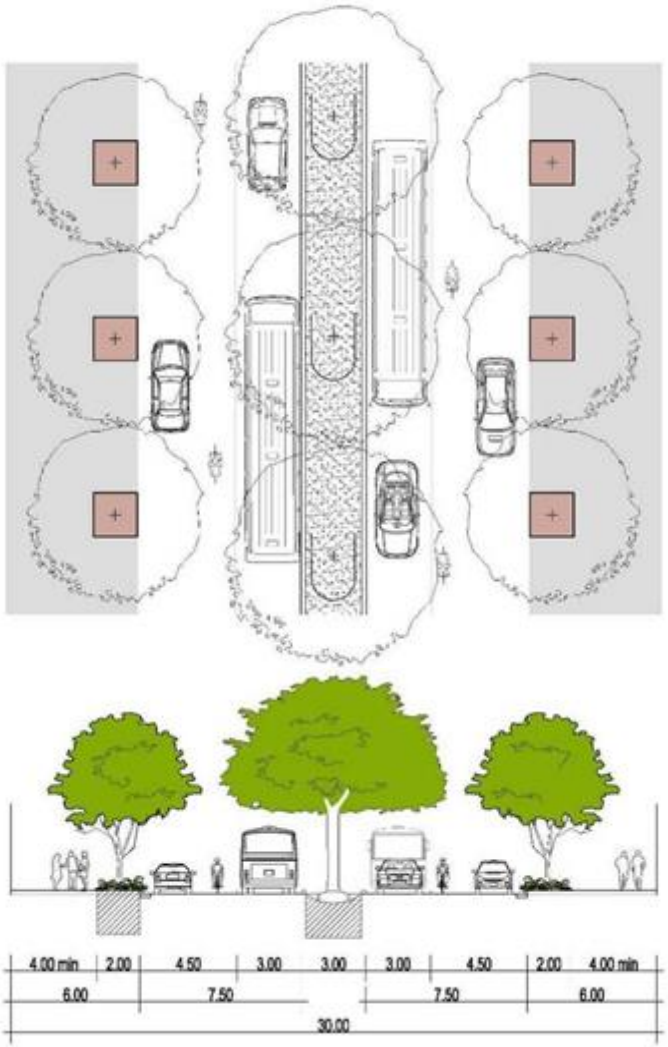
Schedule 6

Figure SC6.19C Typical Cross Section – 2 Lane Sub Arterial Main Street



Sub-Arterial – Main Street
(7-29)
(29-9)

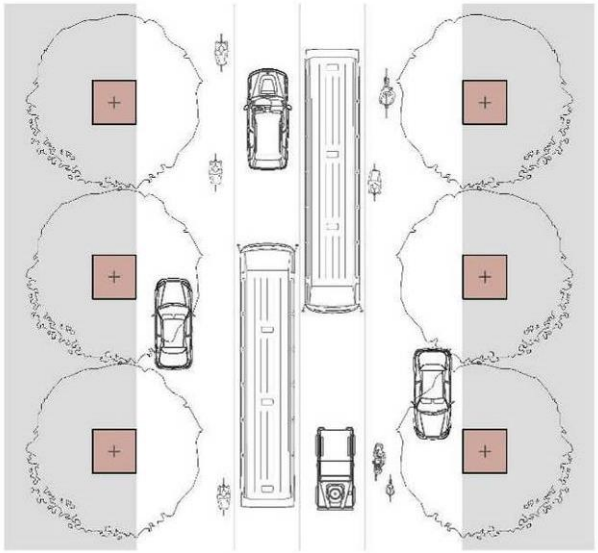
Figure SC6.19D Typical Cross Section – Main Street Boulevard

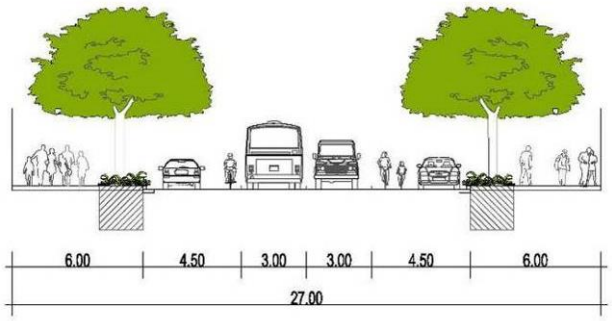


Collector Street
Main Street Boulevard
(23-43-39-36-32-30-29)

Schedule 6

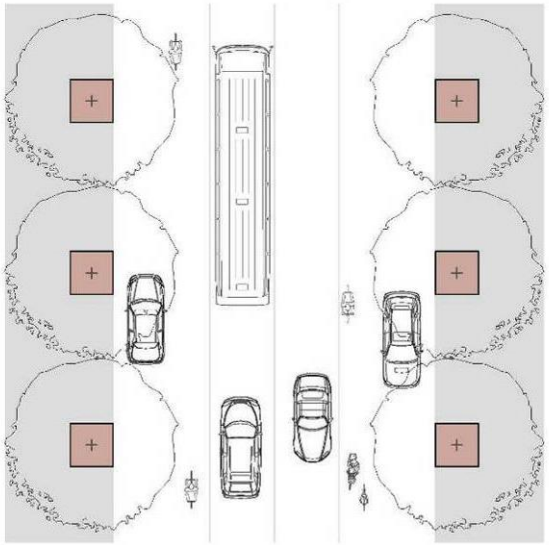
Figure SC6.19E Typical Cross Section – Main Street Collector

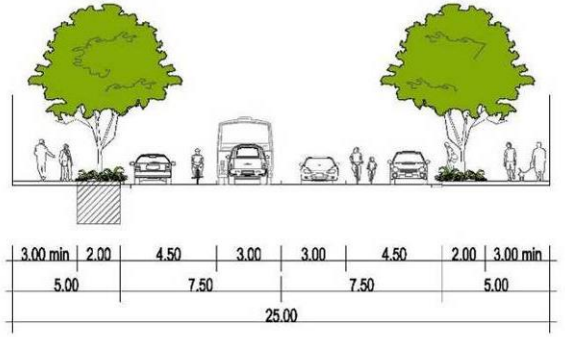




Collector Streets
Main Street Collector

Figure SC6.19F Typical Cross Section – District Collector

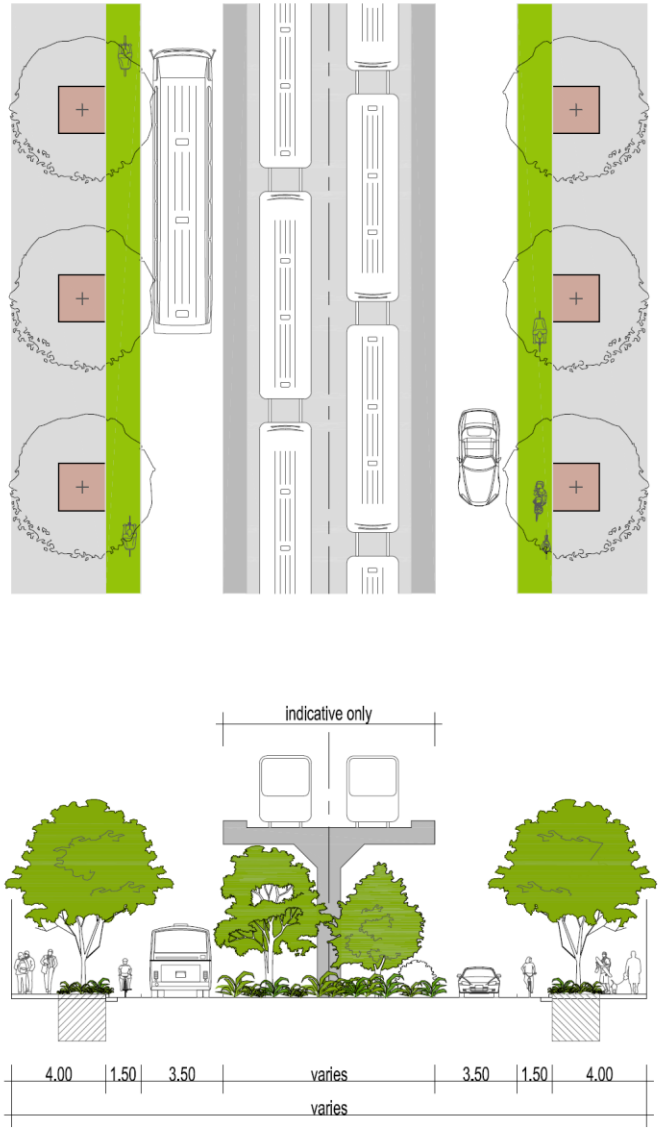




Collector Streets
District Collector

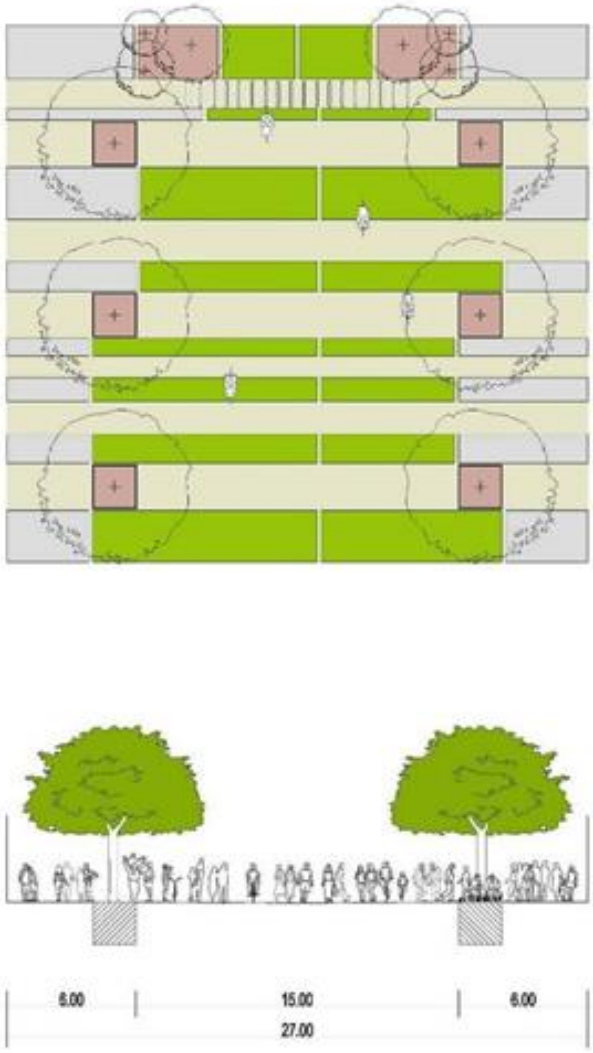
Schedule 6

Figure SC6.19G Typical Cross Section – Rail Corridor Collector



Collector Streets
Rail Corridor Collector
(42-40-35-33-6A)

Figure SC6.19H Typical Cross Section – Plaza



Plaza
Dedicated Pedestrian and Cycle Corridor
(31-32)

Schedule 6

SC6.19.3 Public transport infrastructure network outcomes

Preliminary

(1) This section applies to the public transport infrastructure network outcomes in Performance Outcomes PO12 to PO14 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**.

Standards for public transport infrastructure network outcomes

(2) For the purposes of Performance Outcome PO12(b) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the public transport infrastructure network:-

(a) development in the Maroochydore Central Precinct provides for roads and streets to include a 4.5 metre wide kerbside shared lane to accommodate bus stops along local routes as specified in **Figures SC6.19A** to **SC6.19F** in **Section SC6.19.2 (Road transport infrastructure network outcomes)** and **Appendix SC6.19A (Maroochydore central precinct road and street design characteristics)**.

SC6.19.4 Bicycle and pedestrian infrastructure network outcome

Preliminary

(1) This section applies to the bicycle and pedestrian infrastructure network outcomes in Performance Outcomes PO17 to PO21 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**.

Standards for bicycle and pedestrian infrastructure network outcomes

(2) For the purposes of Performance Outcome PO17(b) in **Section 10.2.4.26** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the bicycle and pedestrian infrastructure network:-

(a) development provides for the bicycle and pedestrian infrastructure network to be designed and constructed in accordance with the *AUSTROADS Guide to Road Design* Parts 2,3,4,4A,6A & 6B *and AUSTROADS Guide to Traffic Management* Parts 3,4,6,7,8,10,11 & 12, the **Planning scheme policy for the transport and parking code**, *Queensland Streets* Section 4.0, and Department of Main Roads Standards except as modified by this planning scheme policy;

(b) development provides for pathways to be constructed of reinforced concrete and in accordance with the Council's Standard Drawings unless otherwise approved by the Council;

(c) development provides for pathways to be joined to the kerb and channel via a kerb ramp when located on a road verge;

(d) development provides for pram and wheelchair crossings to be provided at all kerbs including facilities for sight impaired people in accordance with the *AUSTROADS Guide to Road Design* Parts 2,3,4,4A,6A & 6B and *AUSTROADS Guide to Traffic Management* Parts 3,4,6,7,8,10,11 & 12;

(e) development provides for potential conflict points or junctions to be widened in high use areas in accordance with the recommended widths in the *AUSTROADS Guide to Traffic Engineering Practice* Part 14 Figure 6.19;

(f) development provides for pathways to be constructed above the flow of a Q10 flood event;

(g) development provides for the lighting of pathways in accordance with the *AS1583.1 Road Lighting – Pedestrian Area (Category P lighting)* to ensure visibility, safety and security;

(h) development provides supporting facilities for cyclists and pedestrians along pathways including the following:-

(i) shade structures and seating;

(ii) bicycle parking facilities, designed in accordance with *AUSTROADS Guide to Traffic Management* Part 11;
(iii) drinking fountains; and
(iv) public toilets.

(i) development provides for a fence, bollard or grab rail along a pathway to be in accordance with the *AUSTROADS Guide to Road Design* Part 6A Section 10;

(j) development provides for trees to be used to provide summer shade to a pathway;

(k) development provides for on road bicycle lanes in accordance with the applicable typical road and street cross sections;

(l) development provides for on road bicycle lanes to be constructed in accordance with the *AUSTROADS Guide to Road Design*, Parts 3, 4 & 4A, *AUSTROADS Guide to Traffic Management* Parts 6 & 10, *MUTCD* Part 9 and *Queensland Streets*;

(m) development provides for on road bicycle lanes at intersections to be in accordance with the *AUSTROADS Guide to Road Design* Parts 3, 4 & 4A, *AUSTROADS Guide to Traffic Management* Parts 6 & 10 and *MUTCD* Part 9 with consideration to the movement patterns of cyclists, in particular the movement stages of midblock, transition approach, storage, through and departure;

(n) development provides for green on road bicycle lanes to be installed at sections which are frequently crossed by motor vehicles and where safety is a concern particularly at left turn slip lanes in order to reduce the chance of conflict between motor vehicles and cyclists, enhance the visibility and recognition of bicycle lanes, improve cyclists' safety in high conflict areas and increase the skid resistance of the pavement in a critical area for cyclists;

(o) development provides adequate bicycle parking, shower cubicles and lockers to meet the needs of users and to encourage bicycle use as an alternative to private vehicle trip;

(p) development provides bicycle parking facilities that comply with **Table 9.4.8.3.3 (Minimum on-site parking requirements)** of the **Transport and parking code**, other than for:-

(i) a commercial use, which is to be at the rate of 1 bicycle parking space per 100m^2 of gross floor area; and
(ii) a multiple dwelling, where resident bicycle parking spaces are to be fully enclosed within individual lockers.

(q) development for an office, shop or shopping complex also provides the following for employees:-

(i) a minimum of 5 bicycle parking spaces;
(ii) 1 locker per 2 bicycle parking spaces; and
(iii) 1 shower cubicle with ancillary change rooms per ten bicycle spaces or part thereof, with a minimum of 1 shower, with provision for both females and males; and

(r) development provides for bicycle parking facilities which are:-

(i) to be located at public transport stops and other strategic locations;
(ii) in the form of parking rails, racks, u-bars or other similar devices;
(iii) arranged as angled parking, in parallel or end-to-end; and
(iv) located where possible under cover, adjacent to building entrances and within site of an activity area where passive surveillance is available.

SC6.19.5 Stormwater infrastructure network outcome

Preliminary

(1) This section applies to stormwater infrastructure network outcomes in Performance Outcomes PO33 to PO42 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**.

Standards for stormwater infrastructure network outcomes

(2) For the purposes of Performance Outcome PO33(b)(i) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)**, of the **Maroochydore structure plan area code** the following are the standards identified in the code for rainwater capture and harvesting:-

(a) development provides for the following on-site rainwater capture and harvesting:-

(i) all building roof drainage is directed to a rainwater storage device;
(ii) collection systems are screened to exclude leaf litter and insects;
(iii) 1st flush devices are provided;
(iv) the overflow from a roofwater tank is diverted to a stormwater tank;
(v) storage is provided in tanks either buried under landscaped areas or car parks or integrated into the design of the building;
(vi) harvested rainwater or roofwater is pumped throughout the building for non-potable uses and limited garden irrigation; and
(vii) a roofwater storage which is used for non-potable uses is connected to a reticulated water supply main for top up when the available supply is less than or equal to 10%.

(3) For the purposes of Performance Outcome PO33(b)(ii) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the use of water for garden and landscape irrigation:-

(a) development provides for harvested rainwater or stormwater or a recycled water supply (third pipe) system to be used for garden watering and landscape irrigation;

(b) development does not provide for drinking water to be used for garden watering and landscape irrigation; and

(c) development provides signage displayed in appropriate private and public areas advising that drinking water is prohibited for use for garden watering and landscape irrigation.

(4) For the purposes of Performance Outcome PO33(b)(iii) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for stormwater capture, storage and reuse:-

(a) development provides a stormwater harvesting system for external irrigation which:-

(i) satisfies the relevant state and national water quality standards for the intended use;
(ii) is screened to exclude rubbish and leaf litter;
(iii) uses a combination of open ponds and infiltration systems or storage tanks either buried under landscaped areas or car parking areas or integrated into the design of the building; and
(iv) includes a high flow bypass to allow high volumes of intense or extended rainfall to bypass the storage facility and a bio-retention area.

(5) For the purposes of Performance Outcome PO33(b)(iv) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code** the following are the standards identified in the code for stormwater pollutant management:-

(a) development provides for the treatment of stormwater runoff through a combination of on-site treatment, roadside swales, vegetated buffers, biofiltration and extended detention areas;

(b) development provides for the following:-

(i) a portion of runoff from both roofs and the site to be captured and stored for use;
(ii) excess runoff from roofs and the site to be treated before discharge to the road corridor conveyance;
(iii) conveyance within the road corridor is via a combination of kerb and channel flow, street tree bioretention pods, bioretention swales and pipe drainage; and
(iv) events up to the Q100 storm event are conveyed within the road corridor;

(c) development provides for stormwater quality treatment devices to be designed in accordance with the *Healthy Waterways Partnership's Water Sensitive Urban Design Technical Design Guidelines for South East Queensland*;

(d) development of a site which adjoins a buffer to a waterway or wetland ensures that the water quality objectives are met prior to the water entering the buffer; and

(e) development complies with the water quality objectives in the approved Integrated Water Management Plan on the basis that due to the tidal nature of the waterways within the Master Planned Area, on site stormwater quality design objectives are not required to be met for Frequent Flow Management and Waterway Stability Management as set out in the *South East Queensland Regional Plan 2009-2031 Implementation Guideline No. 7: Water Sensitive Urban Design.*

SC6.19.6 Climate change adaptation outcomes

Preliminary

(1) This section applies to the following climate change adaptation outcomes:-

(a) Acceptable Outcome AO22 in **Section 10.2.4.3 (Performance oOutcomes and aAcceptable oOutcomes for the whole of the Master Planned Area)** of the **Maroochydore structure plan area code**; and

(b) Performance Outcome PO39 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and services)** of the **Maroochydore structure plan area code**.

Standards for climate change adaption outcomes

(2) For the purposes of Acceptable Outcome AO22 in **Section 10.2.4.3 (Performance oOutcomes and aAcceptable oOutcomes for the whole of the Master Planned Area)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for minimum floor levels and climate change adaption:-

(a) development is designed in accordance with the following hydrologic parameters:-

(i) a 30% increase in the design rainfall intensities of Australian Rainfall and Runoff 1987 for all Average Recurrence Intervals (ARIs)[2];
(ii) for locations dominated by storm tide inundation, increases in mean sea level, over time of 819 mm above current design standards on the basis of **Figure SC6.19I (Rise in mean sea level)**[3];
(iii) the stormwater inundation levels and flood events as specified in a Flood Search Certificate given by the Council; and
(iv) the estimated mean sea level rise of 819 mm is to be added to the current design standards relating to sea level and storm tide inundation where the dominant flood level is from storm tide inundation;

(b) development provides infrastructure which is designed to include the 30% increase in design rainfall intensity and the estimated mean sea level rise;

(c) development provides the following minimum floor levels:-

(i) 2.5m AHD plus an allowance for mean sea level rise of 819 mm to provide protection from a storm tide;
(ii) for development which is:-
(A) an emergency service or hospital, a floor level which is a minimum of 1000mm above the 100 year ARI storm tide or freshwater flood level taking into account the projected increases in design rainfall intensities and mean sea level; or

2 This increase in design rainfall intensities is not to be used for sizing water harvesting infrastructure.
3 Estimates for mean sea level rise have been sourced from Hunter (2009) Estimating Sea Level Extremes under Conditions of Uncertain Sea Level Rise Antarctic Climate and Ecosystems Cooperative Research Centre. They are based upon the IPCC 4th Assessment Report (AR4) and timescales presented in the IPCC 3rd Assessment Report (TAR). Values for Sea Level Rise include thermal expansion, land ice sheet melt and scaled up ice sheet discharge. Projections are based upon the 95th percentile of the A1FI Emission Scenario.

(B) a residential, commercial and industrial building, a floor level which is a minimum of 400mm above the 100 year ARI storm tide or freshwater flood level taking into account the projected increases in design rainfall intensities and mean sea level;

(iii) an opening to a basement carpark has a minimum floor level equal to the 100 Year ARI storm tide or freshwater flood level;

(d) development is designed on the basis that the current flood immunity of the existing road transport infrastructure network and the capacity of the existing stormwater infrastructure network will decrease over time as mean sea levels rise and rainfall intensities increase;

(e) development provides pedestrian pathways beyond the road reserve at the adjacent building ground floor levels within the areas of the primary and secondary active frontages[4] to maintain a functioning community, critical pedestrian linkages to support local commercial activities and to facilitate the safe and convenient movement of residents; and

(f) development in respect to the Maud Canal is to comply with the following:-

(i) Maud Canal is to be a tidal waterway which extends downstream from Dalton Drive through the Maroochydore Central Parkland Sub-Precinct of the Maroochydore Central Precinct connecting to the existing Maud Street Drain and the main branch of Cornmeal Creek at the Sunshine Plaza confluence;

(ii) Maud Canal is to have a formalised vertical edge treatment for both sides of its entire length;

(iii) that part of Maud Canal from Dalton Drive to the Maud Street Drain is to be no less than 25m in width and that part from Maud Street Drain to the Cornmeal Creek confluence is to be no less than 40m in width;

(iv) the level of the bed of Maud Canal is to be at a minimum elevation of -2.0m AHD with at least one tidal barrage to be located within the reach from Dalton Drive to the Maud Street Drain to maintain a minimum water level of 0.0m AHD;

(v) a recirculation system is to draw inflow from downstream of the confluence with the Maud Street Drain and discharge it at the head of the Maud Canal immediately downstream of Dalton Drive;

(vi) the Uurban Oopen Sspace Aarea adjacent to the Maud Canal between Dalton Drive and the Maud Street Drain is to provide the following levels of flood immunity (inclusive of the provision for climate change specified in this section):-

(vii) 5 Year ARI within the formal waterway;

(viii) 10 Year ARI within the lower pathways adjacent to the formal waterway;

(ix) 20 Year ARI for the recreational areas above the lower pathways;

(x) 100 Year ARI for the formal open space areas; and

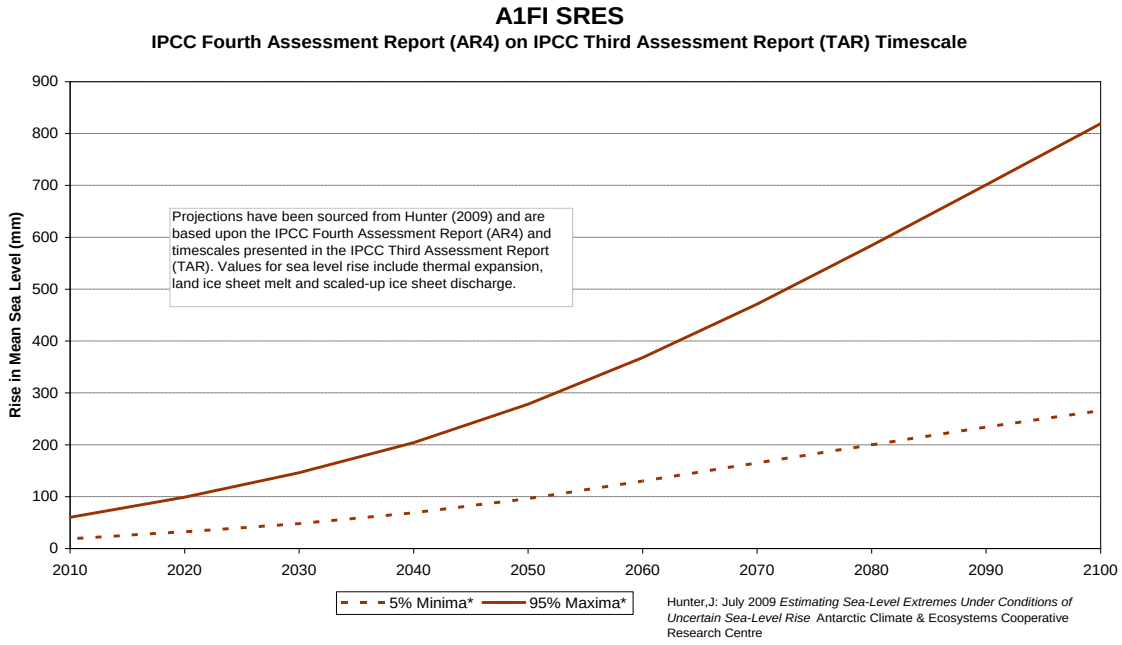
(xi) a waterway crossing of the Maud Canal is not to increase the anticipated flood levels (inclusive of the provision for climate change specified in this section) beyond the limits of the Parkland Sub-Precinct in the Maroochydore Central Precinct.

Guidance for climate change adaption outcomes

(3) **Section SC6.19.6 (Climate change adaptation outcomes)** provides advice for satisfying Performance Outcome PO39 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and services)** of the **Maroochydore structure plan area code**.

4 'Active frontage' means a part of a building which forms a close relationship with the street and contains a visually permeable facade such as a shop front, retail store, cafe, outdoor dining, personal service and other high pedestrian generating use at street level.

Figure SC6.19I Rise in mean sea level



SC6.19.7 Urban open space infrastructure and community facilities infrastructure network outcomes

Preliminary

(1) This section applies to the following outcomes:-

(a) the urban open space infrastructure network outcomes in Performance Outcomes PO43 to PO52 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code** (urban open space infrastructure network outcomes); and

(b) the community facilities infrastructure network outcomes in Performance Outcomes PO53 to PO56 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code** (community facilities infrastructure network outcomes).

Standards for urban open space infrastructure network outcomes

(2) For the purposes of Performance Outcome PO43(b)(i) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for urban open space infrastructure generally:-

(a) development ensures that the urban open space areas:-

(i) provide for active and passive recreation and social and cultural activities that are connected by bicycle and pedestrian infrastructure (including pedestrian through block linkages);
(ii) provide visual connectivity between public realm open space areas, major streets, waterways and civic buildings;
(iii) provide for well vegetated, shaded and usable open space areas that reflect local climatic conditions, promote outdoor use and support biodiversity values; and
(iv) provide for an accessible and diverse range of activities;

(b) except where additional standards are specified in this planning scheme policy, development provides for embellishment of urban open space areas in accordance with the desired standard of service specified in **Part 4 (Priority infrastructure plan)**.

(3) For the purposes of Performance Outcome PO43(b)(ii) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the design and development of the Civic Plaza:-

(a) development provides for the Civic Plaza to function as the cultural and civic heart of the Maroochydore Principal Regional Activity Centre providing a vibrant and active community gathering space and celebration area that offers access and views to the water and supports the functions of surrounding uses;

(b) development provides for the Civic Plaza to have a high level of visual interest and to be integrated with the adjoining community facilities such as the proposed regional library and local community centre to address and activate the civic plaza;

(c) development provides for the Civic Plaza to accommodate outdoor activity and utilise material and vegetation which supports the expected function and level of activity expected of the plaza;

(d) development provides for the Civic Plaza to have a highly urbanised form incorporating outdoor seating, shade, public art, plantings, lighting and other infrastructure which supports and promotes its use as an area having a high level of pedestrian amenity; and

(e) development provides for the Civic Plaza to be well connected by pathways or board walks with sufficient shade and shelter, providing ease of access for pedestrians and cyclists to other urban plazas and public open space areas and associated uses within the Maroochydore Principal Regional Activity Centre.

(4) For the purposes of Performance Outcome PO43(b)(iii) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the design and development of the Transit Plaza:-

(a) development provides for the Transit Plaza to function as an arrival point and gathering space for locals, workers and visitors to the Maroochydore Principal Regional Activity Centre;

(b) development provides for the Transit Plaza to be co-located with the transit station and interchange (CAMCOS) and integrated with the Civic Plaza through strong bicycle and pedestrian links and appropriate urban design treatments;

(c) development provides for the Transit Plaza to be designed to benefit from the surrounding commercial and retail uses and to incorporate adequate lighting and other elements to make the space feel safe and active during evening hours;

(d) development provides for the Transit Plaza to incorporate CPTED principles for the late night activity expected of a transit centre;

(e) development provides for the Transit Plaza to be a meeting place which incorporates sufficient seating and themed landscaping with mature trees for shading;

(f) development provides for the Transit Plaza to achieve the following architectural and urban design outcomes:-

(i) to create an arrival and circulation space that connects the major modes of transportation on site;
(ii) to provide travellers with opportunities for shelter from weather while keeping the area light and spacious;
(iii) to allow for ground-level retail opportunities to adjoin the Transit Plaza to further enhance the vitality of the space;
(iv) to provide visibility of pedestrian activities;
(v) to define public space, including pedestrian corridors, plazas or areas to facilitate pedestrian traffic;
(vi) to encourage pedestrian access to structures and uses along public streets, footpaths and plazas;
(vii) to maintain sky exposure through transparency and minimal structures;
(viii) to provide safe pedestrian access, streetscapes and amenities;
(ix) to create active and inviting edges by providing opportunities for street-level retail and outdoor dining activities;
(x) to provide ample seating with benches, tables and chairs, movable seating and seating walls and complementary site furnishings such as bollards, rubbish bins and banners;
(xi) to provide shade with building canopies and awnings, shade trees and shade structures;
(xii) to provide space for retail vendors and carts for food, flowers, newspapers, arts and crafts and coffee and drinks;
(xiii) to provide public art such as sculptures, paving design, fountains, interactive art and wall art;
(xiv) to provide interest in the pedestrian environment and respond to the sub-tropical climate through building materials;
(xv) to provide access points for various public transportation modes;
(xvi) to provide a wireless access point for computer internet access within the public space;
(xvii) to provide infrastructure for p performances and events;
(xviii) to create visual interest and focal points with fountains and moving water; and
(xix) to work with adjacent off-site businesses to promote activity around the site.

(5) For the purposes of Performance Outcome PO43(b)(iv) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the design and development of the Public Amphitheatre:-

(a) development provides for the Public Amphitheatre to function as an open public gathering space suitable for hosting a variety of outdoor events such as drama, musical events, ceremonies and outdoor cinema or a social recreation space;

(b) development provides for the Public Amphitheatre to complement the adjoining Regional Arts Centre and have a relationship with the Maud Canal;

(c) development provides for the Public Amphitheatre to:-

(i) be integrated with the adjoining Regional Arts Centre;
(ii) be flexible so that it can cater for a variety of informal outdoor events;
(iii) comprise a mixture of hard and soft surfaces, including a stage floor;
(iv) provide a comfortable and usable space, having regard to local climatic conditions, acoustics and amenity concerns;
(v) be connected by bicycle and pedestrian infrastructure to other parts of the Maroochydore Principle Regional Activity Centre;
(vi) provide access for service equipment;
(vii) provide power outlets (3 phase power) and lighting;
(viii) minimise the effect of noise on sensitive receiving environments;
(ix) be suitable for day and night usage; and
(x) incorporate CPTED principles.

(6) For the purposes of Performance Outcome P043(b)(v) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)**

of the **Maroochydore structure plan area code** the following are the standards identified in the code for the design and development of the District Recreational Park:-

(a) development provides for the District Recreational Park to operate as a public park which services the local and wider community, enhances public access and provides an attraction for residents and visitors in the area;

(b) development provides for the District Recreation Park to be multi-functional providing sufficient open space for active recreational, social and cultural uses;

(c) development provides for the District Recreational Park to incorporate community events and gathering places together with formal gardens, natural vegetation and informal recreation and community gardens with play equipment geared towards a diverse range of users and including some youth and active infrastructure such as a half size basketball court, fitness equipment and skate elements;

(d) development provides for the District Recreational Park to be substantially landscaped and provide a high level of amenity with the provision of shading with mature trees, preferably native and the retention of existing mature species where possible;

(e) development provides for the District Recreational Park to incorporate bicycle and pedestrian infrastructure that links Dalton Drive to Maud Street and provides appropriate crossings of the Maud Canal;

(f) development provides for the District Recreational Park to include two unconstrained levelled open grassed areas having minimum dimensions of 100 metres by 40 metres which are appropriately landscaped with large trees;

(g) development provides the following embellishments for the District Recreation Park in addition to those specified for a District Recreational Park in **Part 4 (Priority infrastructure plan)**:-

(i) trees to shade picnic areas and seats, play areas, pathways and key focal or nodal points;
(ii) shade shelters;
(iii) a café or kiosk;
(iv) picnic tables, shelters, bench seating and BBQs;
(v) taps and water bubblers;
(vi) play and fitness equipment for all ages;
(vii) bicycle racks and end of trip facilities;
(viii) public toilets;
(ix) public art;
(x) car parking spaces to service the District Recreation Park;
(xi) recycled water for irrigation;
(xii) identification and interpretative signage;
(xiii) external road access;
(xiv) vehicle access road for emergency services;
(xv) lighting and security lighting;
(xvi) a fenced dog park;
(xvii) landscaped gardens;
(xviii) a bus set down point;
(xix) 3 phase power points;
(xx) dedicated kick and play space;
(xxi) community gardens; and
(xxii) water access in the form of canoe and kayak launching points.

(7) For the purposes of Performance Outcome PO43(b)(vi) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the design and development of the Local Recreational Park:-

(a) development provides the following embellishments for the Local Recreational Park in addition to those specified for a Local Recreational Park in **Part 4 (Priority infrastructure plan)**:-

(i) earthworks (grading, levelling & grassing);
(ii) tree planting;
(iii) identification and interpretative signage;
(iv) bicycle and pedestrian paths;
(v) vehicle barriers/bollards

Schedule 6

(vi) flat mown play areas;
(vii) fitness equipment;
(viii) adventure play areas;
(ix) bench seating;
(x) picnic table/shelters;
(xi) landscape/gardens;
(xii) rubbish bins;
(xiii) drainage; and
(xiv) fencing.

(8) For the purposes of Performance Outcome PO43(b)(vii) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for the design and development of the Cornmeal Creek Plaza:-

(a) development provides for the Cornmeal Creek Plaza to provide visual and physical connection between Cornmeal Creek and Cotton Tree Park;

(b) development provides for the Cornmeal Creek Plaza to provide a community meeting space and provide an aesthetic contribution to the surrounding area;

(c) development provides for the built form surrounding the Cornmeal Creek Plaza to appropriately frame and integrate with the Plaza creating a human scale;

(d) development provides for the Cornmeal Creek Plaza to incorporate a car parking station; and

(e) development provides for the Cornmeal Creek Plaza to incorporate a series of landscaped pedestrian and cycle pathways linking the Cornmeal Creek Plaza to Horton Parade and to the Maroochydore Central Precinct.

Standards for community facilities infrastructure network outcomes

(9) For the purposes of Performance Outcome PO53(b) in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**, the following are the standards identified in the code for community facilities infrastructure:-

(a) development provides land for the provision of community facilities within the Maroochydore Central Precinct comprising the following:-

(i) a minimum of 2,500m^2 for a multi-storey regional community facility providing for:-
  (A) a regional library;
  (B) local community centre;
  (C) meeting spaces; and
  (D) administration space;
(ii) a minimum of 15,000m for a regional community facility for the purposes of a regional arts centre providing for:-
  (A) a major theatre of 1,260 PAX capacity;
  (B) a small theatre of 350 PAX capacity;
  (C) exhibition hall of 2,200m² GFA;
  (D) art gallery of 550m² display space and 450m^2 storage space;
  (E) 1,500 car parking spaces; and
  (F) Cafes;

(b) development provides for the proposed community facilities within the Maroochydore Central Precinct to be located, designed and constructed to play an important role in the development of the town centre heart; and

(c) development provides for community facilities that are designed to:-

(i) be iconic structures befitting their end use;
(ii) utilise sub-tropical design;
(iii) create a sense of place;
(iv) ensure that the spaces around the structures contribute to the greater community environment and public space;
(v) incorporate suitable pedestrian and user amenity features;
(vi) integrate community arts;
(vii) increase accessibility;

(viii) where appropriate be multifunctional; and
(ix) consider whole of life costs.

SC6.19.8 Telecommunications infrastructure network outcomes

Preliminary

(1) This section applies to telecommunications infrastructure network outcomes in Performance Outcomes PO60 and PO61 in **Section 10.2.4.26 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Maroochydore structure plan area code**.

General advice for telecommunications infrastructure network outcomes

(2) The following is general advice about satisfying telecommunications infrastructure network outcomes:-

(a) development provides for 'Fibre to the Premises (FttP)' to be provided throughout the Master Planned Area which facilitates the provision of the following telecommunications capabilities to each lot:-

(i) optical fibre termination;
(ii) free to air television;
(iii) pay television;
(iv) voice, data and video access via the internet; and
(v) internet protocol systems and integration;

(b) developers are encouraged to investigate opportunities for wholesale providers of cable services and sewerage network operators to co-locate services within the gravity sewer network; and

(c) additional information and documentation of relevant telecommunications infrastructure specifications and building arrangements can be obtained from the Council and the relevant telecommunications services authority.

SC6.19.9 Information requirements

Preliminary

(1) This section does not form part of this planning scheme policy and is included for information purposes only.

Requirements

(2) **Table SC6.19A (~~Compliance a~~Assessment requirements for documents)** specifies the documents which a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval may require to be prepared and submitted for ~~compliance assessment~~approval by the Council.

(3) **Table SC6.19A (~~Compliance a~~Assessment requirements for documents)** also specifies the anticipated timing ~~of compliance assessment~~for the approval of the documents.

(4) The Council may also require other supporting information in addition to that specified in **Table SC6.19A (~~Compliance a~~Assessment requirements for documents)** depending on the nature of the ~~preliminary approval to which section 242 of the Act applies~~variation approval or another applicable development approval and the technical issues involved.

(5) Supporting information and ~~compliance assessment~~ documents should be prepared by a competent person with a relevant disciplinary background.

Editor's note – A variation approval or an applicable development application approved under the Act may include a development condition requiring the approval of a document.

Schedule 6

Table SC6.19A ~~Compliance a~~Assessment requirements for documents

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
Energy Management Plan	Subsequent to the approval of a ~~preliminary approval to which section 242 of the Act applies~~variation approval and prior to the lodgement of another applicable development application.	To demonstrate that development in the applicable area will contribute to the achievement of a target of zero net carbon emissions by 2020 for the Master Planned Area.	Scope and objectives • Determine the scope of the Energy Management Plan and identify inclusions/exclusions in specific terms. • Identify clear and measurable objectives for how development in the applicable area is to achieve zero net carbon emissions by 2020 taking account of construction and post occupancy development phases. • Specify objectives for energy, waste, water, transport and materials components. Data collection and management • Identify methods for collecting and documenting carbon emission and abatement data over time, including scope of information, type and level of detail and metrics. • Identify methods for tracking carbon emission and abatement data giving consideration to accessibility, ease of use, maintenance and regular reporting that profiles carbon reduction performance. • Establish baseline and relevant carbon footprint benchmarks for comparable development based on industry average and best practice urban development examples. Strategy and action plan • Calculate, monitor and forecast the carbon footprint of development in the applicable area for construction and post occupancy and explain calculation methods based on known or proxy data. Highlight any significant gaps, assumptions and limitations. • Document the strategies and actions to be implemented to meet measurable objectives for the target of zero net carbon emissions by 2020. • For each carbon reduction or abatement strategy or action, define priorities, roles and responsibilities, timeframes, resources and funding requirements. • Document a communications plan to be implemented to raise awareness of carbon reduction strategies and actions. • Document other methods for building capacity through training, procedures, technologies, knowledge and information management systems and community education to assist in the success of carbon reduction and abatement strategies and actions. Monitoring and reporting • Identify methods for analysing and monitoring carbon emissions data over

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
			time to determine trends and gain a better understanding of factors that affect performance. Identify steps to improve performance. • Document an audit strategy to review performance data based on benchmarks and targets and report findings to key stakeholders.
Affordable Living Plan	Subsequent to the approval of a ~~preliminary approval to which section 242 of the Act applies~~ variation approval and prior to the lodgement of another applicable development application.	To demonstrate that development in the applicable area will provide affordable living options for a full range of household types and make appropriate provision for a component of A~~a~~ffordable housing and supported community housing.	General requirements • Demonstrate how the development proposes to meet the affordable living outcomes of the structure plan in relation to the following:- ○ neighbourhood structure and design; ○ provision of a variety of housing types and sizes which meet the needs of the emerging community; ○ staging and release of land; ○ provision of land for public and community housing; and ○ sustainable design. • Outline and justify the proposed actions and measures to be implemented in order to meet the affordable living outcomes with specific reference to the following:- ○ the *Sunshine Coast Housing Needs Assessment*; ○ the *Sunshine Coast Affordable Living Strategy*; and ○ ongoing implementation and enforcement. • For each affordable living action, define priorities, role and responsibilities, timeframes, resources and funding requirements. Monitoring and reporting • Outline proposed monitoring and reporting arrangements for the implementation of the Affordable Living Plan over time.
Integrated Transport Plan	Subsequent to the approval of a ~~preliminary approval to which section 242 of the Act applies~~ variation approval and prior to the lodgement of another applicable development application.	To demonstrate that development in the applicable area will:- • support transit oriented development; • reduce reliance on the private car; • promote walking and cycling; • achieve a significant mode shift towards sustainable transport modes (public transport,	General requirements • Provide details of the proposed measures and actions to be implemented in order to promote sustainable transport within the development. Measures should include, but are not limited to, the following:- ○ provision of public transport, cycle and pedestrian infrastructure and services prior to or in the early stages of development; ○ neighbourhood design to promote/encourage sustainable transport modes including land use planning and configuration of transport networks to promote and achieve shorter travel times for active transport modes; ○ travel demand management; ○ provision of frequent public transport services; ○ designing pedestrian and cycle paths and public transport stops/stations to maximise accessibility, safety, comfort and amenity for users; ○ incorporation of high quality end of trip facilities for walking/cycling and public transport users; and

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
		walking and cycling); • not create undesirable impacts on adjoining development; and • appropriately manage carparking.	○ education and marketing to promote sustainable transport options within the community. • In preparing the Sustainable Transport Plan, consultation should be undertaken with Council, relevant State Government Departments, service providers and other stakeholders as appropriate. • In determining proposed measures and actions, consideration should be given to the following:- ○ existing and proposed walking and cycling, public transport and road networks, including the TransLink Network Plan for the sub-region; ○ proposed land uses/development to be undertaken within the applicable area and existing and planned land uses/development in the remainder of the Master Planned Area and surrounding areas; ○ specific requirements for school/education based travel, work based travel, and recreational use; ○ specific requirements for different categories of users (e.g. the elderly); ○ land use and sustainable transport integration; ○ route planning to ensure integration of pedestrian and cycle networks and public transport networks; ○ car parking requirements and locations, including incorporation of shared/consolidated parking facilities where appropriate; and ○ timing /staging of development and infrastructure/services. • Provide supporting information and documentation which supports the proposed approach. • Provide an Integrated Movement Network Plan that indicates how the proposed bicycle and pedestrian network achieves the planning requirements and how it is intended to integrate with the proposed road hierarchy and public transport network plans. • Provide a Public Transport Network Plan that indicates how the planning requirements for public transport are proposed to be achieved. The Public transport network plan needs to be undertaken in consultation with Translink Network Provider and Council. • Provide a Road Hierarchy Plan that indicates the proposed road hierarchy for the applicable area and how it integrates with the existing and planned road hierarchy for the Master Planned Area. • For each sustainable transport action, define priorities, role and responsibilities, timeframes, resources and funding requirements. <u>Monitoring and reporting</u> • Outline proposed monitoring and reporting arrangements for the implementation of the Integrated Transport Plan over time.
Integrated Water Cycle	Subsequent to the	To demonstrate that	<u>General requirements</u>

Schedule 6

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
Management Plan	approval of a ~~preliminary approval to which section 242 of the Act applies~~ variation approval and prior to the lodgement of another applicable development application.	development in the applicable area will incorporate an holistic approach to the management of water supply, wastewater and stormwater.	• Provide details in relation how the development is to aim to achieve an 80% reduction in potable water use including details of the suite of measures to be adopted. Measures may include a combination of recycled water rainwater and stormwater harvesting as well as water conservation and demand reduction measures. • Provide supporting information including detailed end use modelling and water balance analysis which supports the proposed approach and demonstrate over a 25yr time series, the reliability of any potable substitution that is sourced from rainwater and/or recycled effluent, including and documenting the effects of climate change and how these solutions increase the applicable Sunshine Coast water organisation's desired levels of service. • Outline and justify the proposed measures to be adopted having regard to:- ○ proven technology; ○ documented public health policy at all levels of government; ○ operational realities; ○ projected trends regarding fixture uptake rates; ○ consideration of the likely social acceptance of various measures and means of encouragement; ○ consideration of the provision of measures; and ○ sensitivity or likelihood of success of measures or groups of measures. • Provide details of proposed uses for recycled water, potable water, rainwater, and harvested stormwater. • Demonstrate how the Environmental Values and Water Quality Objectives listed under the *Environmental Protection (Water) Policy 1997* are to be protected or enhanced. <u>Water supply and sewerage infrastructure</u> • Provide dimensions and conceptual layouts for water supply, sewerage, and recycled water networks for the applicable area. • Provide supporting reports and tools (models, spreadsheets etc.) demonstrating the attainment of the Desired Standards of Service requirements at all stages. <u>Stormwater management and flooding</u> • Describe the existing topography, vegetation, soil conditions, and groundwater conditions for the site and identify existing creeks, streams and drainage lines. • Identify the Probable Maximum Flood extent, 100 year ARI climate change flood extent and the 20 year ARI climate change flood extent for the site, in accordance with flood modelling parameters used in the most recent

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
			flood modelling held by Council. • Provide an overall Master Stormwater Plan for the applicable area which:- o identifies the overall drainage catchment having regard to the remainder of the Master Planned Area and surrounding areas; o identifies existing and proposed drainage sub-catchments within the overall catchment; o provides a conceptual layout for the overall stormwater network for the development including indicative layouts for conveyance, treatment and storage infrastructure; o identifies indicative numbers and locations of head of line and end of line treatment devices; and o identifies a lawful point/s of discharge for each sub-catchment. • Outline and justify the proposed stormwater treatment and conveyance and storage methods proposed to be utilised within the development with specific reference to the following:- o the achievement of the outcomes identified in the Structure Plan and this policy in relation to stormwater management; o the intended outcomes for particular land use precincts including urban design outcomes; o the intended outcomes for other infrastructure networks and the need to co-locate infrastructure and services networks; and o ongoing maintenance requirements including whole of life costs. • Identify and detail any significant earthworks proposed to be undertaken in relation to stormwater management. • Provide details of any proposed stormwater harvesting including catchment, proposed uses for the water, storage volumes, construction of storage devices, integration of storage devices into the development, water quality and treatment, pumping and distribution requirements. • Outline the proposed water quality monitoring and reporting program to be implemented to ensure the Environmental Values and Water Quality Objectives under the *Environmental Protection (Water) Policy 1997* are protected or enhanced. Other requirements • Identify any specific requirements for development applications in relation to water supply, sewerage, recycled water and stormwater infrastructure and/or management.

Appendix SC6.19A Maroochydore Central Precinct Road and Street Design Characteristics

Sub arterial roads – distributor roads

(1) Sub Arterial Roads are designed to accommodate the efficient movement of buses as they form the basis of the public transport system.

(2) Sub Arterial Roads are fixed in their location and alignment.

(3) Sub Arterial Roads intersections are to be under traffic signal control and are to incorporate right turn lanes on intersection approaches.

(4) Dd irect vehicular access to Sub Arterial Roads to and from abutting properties or from additional local access streets is limited only to:-

(a) a local access street or a driveway to a major development which does not compromise the safe and efficient movement of pedestrians, bicycles or vehicles; and

(b) left-in and left-out movements.

Collector streets – main street collectors

(5) Collector Streets provide access to the local area and individual developments.

(6) Collector Streets are generally fixed in their location to allow pedestrian and cycle permeability and maintain the appropriate scale for the street block pattern but may be varied slightly to suit individual development design.

(7) Collector Street intersections are generally to be under traffic signal control particularly where pedestrian and cycle demand is high or where four-way intersections are proposed. Priority control may also be required for T intersections.

(8) Additional local access streets may be required to facilitate consolidated service vehicle access. Consideration is to be given to the spacing of local access streets and driveways so that the on-street car parking and landscaping outcomes are not compromised along the length of the local access street.

Collector streets – rail corridor collector

(9) The Rail Corridor Collector is a modified Collector Street to accommodate the possible provision of an elevated dedicated transit corridor (CAMCOS) centrally above the roadway.

(10) The Rail Corridor Collector cross section width is to be dictated by the rail and station design requirements.

(11) The Rail Corridor Collector provides the major access point to the transit station and interchange by local and regional bus services and taxi services travelling northbound.

(12) The Rail Corridor Collector is designed to give priority to the operation of buses.

(13) Other vehicles may be restricted along parts of the Rail Corridor Collector, particularly from points 45 to 42, and points 33 to 6A and 6 as specified on **Other Plans Map OPM M7 (Maroochydore PRAC Master Planned Area road transport infrastructure network)**.

(14) That part of the Rail Corridor Collector which is beneath the dedicated transit corridor (CAMCOS) overhead structure may be used for car parking, bus layover and driver facilities, taxi ranks and the like.

Proposed Dedicated Pedestrian and Cycle Corridor (Plaza)

(15) The proposed dedicated pedestrian and cycle corridor is designed:-

(a) to give continuity to the pedestrian and cycle network;

(b) to incorporate frontages and other complementary activities that create a vibrant space;

Schedule 6

(c) to limit vehicular access to specific types of service vehicles associated with abutting land uses or activities along the corridor or other vehicles at particular times of day or by permit; and

(d) so that an off street parking area is not accessed from this corridor.

Main Street Boulevard

(16) The Main Street Boulevard is a Main Street Collector extending from Dalton Drive to Aerodrome Road through the Retail Sub-precinct of the Maroochydore Central Precinct.

(17) The Main Street Boulevard is designed to:-

(a) carry trips which deliver people into the mixed use retail core area;

(b) provide a balance between vehicle movement and the provision of a pedestrian friendly environment; and

(c) act as a key connection linking the mixed use retail core area in the Maroochydore Central Precinct to the existing mixed use retail core area in the Sunshine Plaza Precinct, the transit station and interchange and the walkable waterfront.

SC6.20 Planning scheme policy for Palmview Structure Plan

SC6.20.1 Preliminary

Purpose

(1) The purpose of this planning scheme policy is to:-

(a) state standards identified in the **Palmview structure plan area code**;

(b) provide guidelines and advice about satisfying assessment ~~criteria~~benchmarks for assessable development and requirements for accepted development in the **Palmview Structure Plan**; and

(c) state the additional information which the Council may request in respect of a development application.

Application

(2) This planning scheme policy applies to a development application for a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or a development application for assessable development in the Master Planned Area.

(3) The provisions of the **Planning scheme policy for Palmview Structure Plan** prevail over the provisions of any other planning scheme policy to the extent of any inconsistency.

Relationship to Palmview Structure Plan

(4) This planning scheme policy is to be read in conjunction with the **Palmview Structure Plan**.

Interpretation

(5) Terms used in this planning scheme policy that are also used in the **Palmview Structure Plan** have the meaning given in the **Palmview Structure Plan**.

SC6.20.2 Ecological and landscape protection outcomes

Preliminary

(1) This section applies to the following ecological and landscape protection outcomes:-

(a) the ecological and landscape protection outcomes in Performance Outcomes PO4 to PO15 in **Section 10.3.4.3 (Performance Outcomes and Acceptable Outcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code**; and

(b) the non-urban open space infrastructure network outcomes in Performance Outcomes PO40 to PO44 in **Section 10.3.4.21 (Performance Outcomes and Acceptable Outcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**.

General advice for ecological and landscape protection outcomes

(2) The following is general advice about satisfying the ecological and landscape protection outcomes:-

(a) The ecological and landscape protection outcomes seek to ensure that the development of the Master Planned Area occurs in a manner that:-

(i) appropriately recognises and responds to physical constraints;
(ii) provides for the protection and rehabilitation of a significant part of the Master Planned Area for environmental and landscape protection purposes; and
(iii) otherwise exhibits best practice approaches to ecological and landscape protection.

(b) The ecological and landscape protection outcomes are primarily intended to be satisfied by the following:-

Schedule 6

(i) avoiding development for urban purposes, other than the limited infrastructure specified on the structure plan maps, occurring:-
  (A) on flood prone land identified as being unsuitable to be filled for urban purposes; and
  (B) in an Ee~~e~~cologically important area;

(ii) achieving a minimum of 483.4 hectares of land for ecological protection and rehabilitation purposes to improve the extent and capability of natural systems to absorb the impacts associated with large scale urban development and increasing population pressure through the following:-
  (A) the establishment of the non-urban open space infrastructure network specifically identified on **Other Plans Map OPM P12 (Palmview master planned area non-urban open space infrastructure network)** in **Schedule 2 (Mapping)**;
  (B) the implementation of **Appendix SC6.20A (Palmview master planned area ecological and landscape protection and rehabilitation plan)**;
  (C) the implementation of a Local Ecological and Landscape Protection and Rehabilitation Plan which:-
    1. outlines how **Appendix SC6.20A (Palmview master planned area ecological and landscape protection and rehabilitation plan)** is to be achieved;
    2. is to be assessed against the requirements which may include the matters in **Section 10 (Requirements for local ecological protection and rehabilitation plan)** of **Appendix SC6.20A (Palmview master planned area ecological and landscape protection and rehabilitation plan)** specified in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval; and
    3. has been approved by a ~~compliance certificate given by~~ the Council;
  (D) where the provision of infrastructure required to service development in the Master Planned Area adversely impacts on an Ee~~e~~cologically important area, the implementation of a Environmental Offset Plan which:-
    1. outlines how the ecological and landscape protection outcomes for environmental offsets are to be achieved;
    2. is to be assessed against the requirements specified in a ~~preliminary approval to which section 242 of the Act applies~~variaiton approval or another applicable development approval which may include the matters in **Table SC6.20H (~~Compliance a~~Assessment requirements for documents)**; and
    3. has been approved by ~~a compliance certificate given by~~ the Council.

Editor's note–A variation approval or an applicable development application approved under the Act may include a development condition requiring the approval of a document.

Editor's note–Under section 319 (Compliance assessment of documents or works) of the Act compliance assessment of a document under chapter 6, part 10 of the SP Act continues to apply where a variation approval (being a preliminary approval to which the SP Act, section 242 applied) or another applicable development approval under the SP Act requires compliance assessment of the documents.

Guidelines and advice for the ecological and landscape protection outcomes

(3) The **Palmview master planned area ecological and landscape protection and rehabilitation plan (Appendix SC6.20A)** provides for the following:-

  (a) guidelines about satisfying the ecological and landscape protection outcomes; and

  (b) advice about the requirements for Local Ecological and Landscape Protection and Rehabilitation Plans to be required in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval.

Advice for environmental offset outcomes

(4) For the purposes of Performance Outcome PO6 in **Section 10.3.4.3 (Performance Outcomes and Acceptable Outcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code**, the following is advice about satisfying the assessment ~~criteria~~benchmarks in the code for the environmental offset outcomes:-

  (a) the Structure Plan Maps identify which infrastructure corridors cross Ee~~e~~cologically important areas and the approximate location of the crossings;

(b) a environmental offset is required to be provided under the **Palmview structure plan area code** in circumstances where infrastructure required to service the Master Planned Area adversely impacts upon:-

(i) an Eecologically important area (either within the Master Planned Area or external to the Master Planned Area); or
(ii) the ability to achieve a minimum of 483.4 hectares of land for ecological protection and rehabilitation purposes;

(c) infrastructure is to be considered to adversely impact upon an Eecologically important area where one or more of the following occurs or is likely to occur:-

(i) the clearing of native remnant or regrowth vegetation or habitat;
(ii) the restriction of fauna movement or other impact upon a habitat corridor;
(iii) water quality or a natural hydrological condition is affected; and
(iv) the functioning of the Eecologically important area is otherwise impacted upon.

Advice for Eenvironmental transition area outcomes

(5) For the purposes of Performance Outcome PO9 in **Section 10.3.4.3 (Performance Outcomes and Acceptable Outcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code**, the following is advice about satisfying the standards in the code for the Eenvironmental transition area outcomes:-

(a) the ecological and landscape protection outcomes provide for limited low impact activities and embellishments to occur within the Eenvironmental transition area where they can be demonstrated to be compatible with the primary ecological function of the area;

(b) a environmental offset is not required in respect of development of the environmental transition area where the development satisfies the standards in the code for the environmental transition area outcomes;

(c) further guidance in respect to stormwater infrastructure is specified in the **Planning scheme policy for development works**; and

(d) further guidance in respect to recreation parks is specified in **Section SC6.20.9 (Urban Open Space Infrastructure Network Outcomes)**.

Standards and advice for the Sscenic amenity and highway acoustic buffer outcomes

(6) For the purposes of Performance Outcome PO10(f) in **Section 10.3.4.3 (Performance Outcomes and Acceptable Outcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code**, the following are the standards in the code for the Sscenic amenity and highway acoustic buffer outcomes:-

(a) the Sscenic amenity and highway acoustic buffer is developed in accordance with the typical cross section specified in **Figure SC6.20A (Scenic amenity and highway acoustic buffer typical cross section)**.

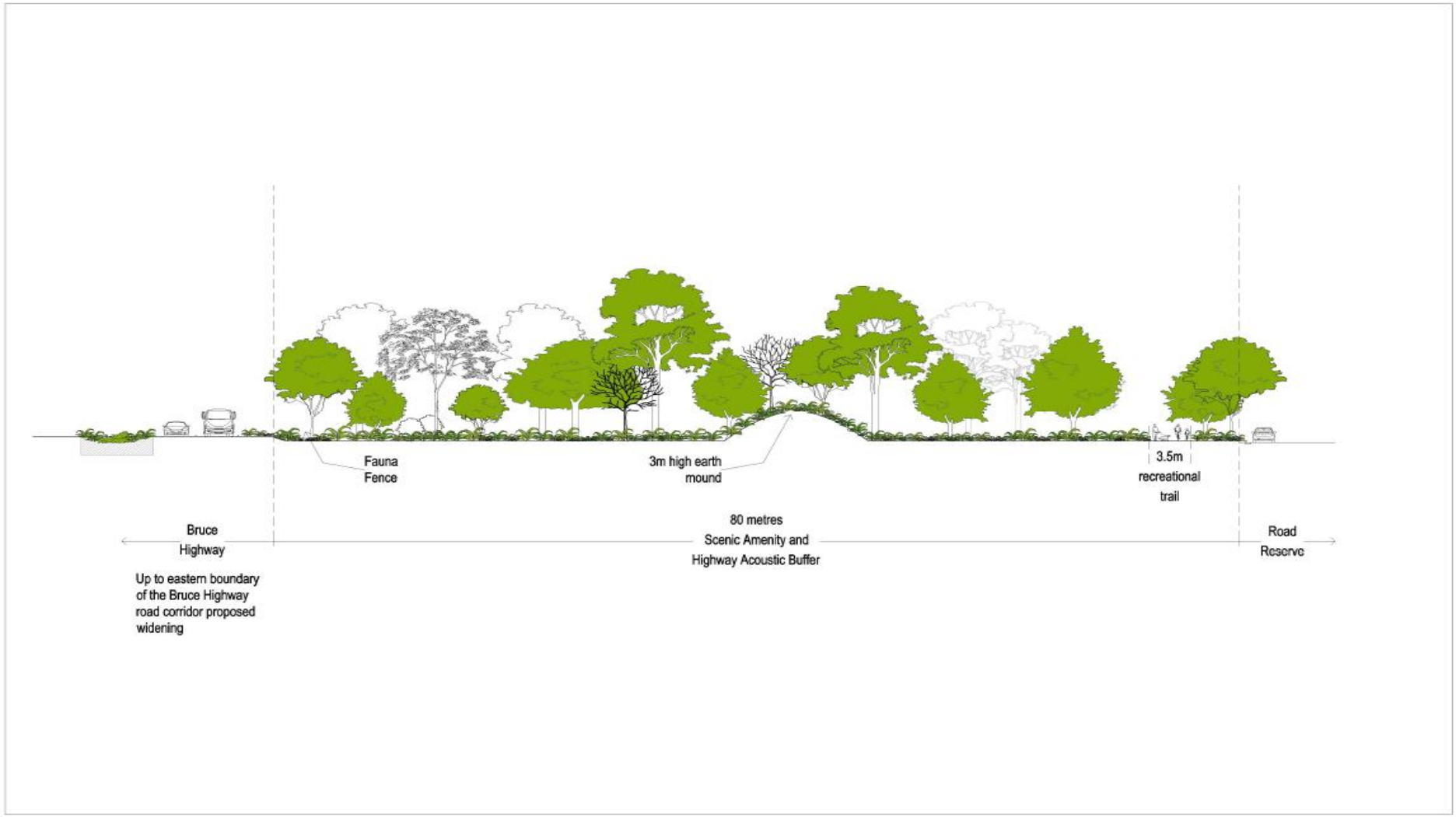
(7) For the purposes of Performance Outcome PO10 in **Section 10.3.4.3 (Performance Outcomes and Acceptable Outcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code**, the following is advice about satisfying the assessment ~~criteria~~benchmarks in the code for the Sscenic amenity and highway acoustic buffer outcomes:-

(a) the Palmview Master Planned Area forms an important part of the distinctive green space or intra-urban break between Caloundra and Maroochydore and is visually significant in relation to views of the Mooloolah River floodplain landscape from the Bruce Highway; and

(b) the **Palmview Structure Plan** provides for an 80 metre wide semi-vegetated buffer (measured from the eastern boundary of the Bruce Highway Road Corridor proposed widening) to be established along the full length of the Palmview Master Planned Area boundary to the Bruce Highway.

Schedule 6

Figure SC6.20A Scenic amenity and highway acoustic buffer typical cross section



Schedule 6

SC6.20.3 Neighbourhood design, housing and density outcomes

Preliminary

(1) This section applies to the neighbourhood design, housing and density outcomes in Performance Outcomes PO26 to PO33 in **Section 10.3.4.3 (Performance Outcomes and Acceptable Outcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code** (neighbourhood design, housing and density outcomes).

General advice for neighbourhood design, housing and density outcomes

(2) The following is general advice about satisfying the neighbourhood design, housing and density outcomes:-

(a) the urban structure and land use pattern of the Palmview Master Planned Area is based on the establishment of a number of neighbourhoods which:-

(i) aggregate to comprise the broader Palmview community and support the function of the Palmview District Activity Centre; and
(ii) are generally defined by a walkable catchment being a five minute walk (400 metres) from an activity centre.

(b) the neighbourhood design, housing and density outcomes of the **Palmview structure plan area code** seek to ensure that development within the Palmview Master Planned Area creates a number of neighbourhoods that:-

(i) support sustainable urban development through maximising land efficiency;
(ii) encourage alternative travel options to car based travel by promoting the attractiveness of walking, cycling and public transport and providing maximum choice for the end user;
(iii) promote good access and connectivity between new neighbourhoods while providing clear connection to surrounding development;
(iv) establish main street activity centres that promote walkable neighbourhoods and provision of employment;
(v) achieve lot and dwelling diversity particularly around activity centres and public transport;
(vi) protect areas of environmental value and incorporate cultural, environmental and key landscape features;
(vii) promote community health through the provision of a variety of public open spaces and the promotion of active transport modes;
(viii) promote perimeter block development that establishes an active interface between building frontage and streets to improve personal safety through increased surveillance and activity;
(ix) foster a sense of community and strengthen local identity and sense of place while catering to a range of differing lifestyles;
(x) promote environmentally sustainable urban water management; and
(xi) are complete integrated communities rather than a series of housing estates.

(c) the neighbourhood design, housing and density outcomes are primarily intended to be satisfied through the application of best practice neighbourhood design implemented through a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or the approval of another applicable development application;

(d) development should be designed through an integrated design approach that iteratively considers each component or network of a neighbourhood;

(e) development should provide neighbourhoods that are arranged to take account of the following:-

(i) elements of the major movement networks (i.e. spacing of sub-arterial roads and trunk collector roads);
(ii) the District Activity Centre;
(iii) precinct boundaries or transitions;
(iv) school sites;
(v) elements that are shared by more than one neighbourhood (i.e. schools and district parks); and
(vi) adjoining master plan boundaries.

(f) development should comply with the design outcomes for neighbourhood design specified in **Table SC6.20A (Neighbourhood design outcomes**).

Table SC6.20A Neighbourhood design outcomes

Column 1 Neighbourhood Element	Column 2 Design Outcomes
Neighbourhood Area	• Each neighbourhood is generally defined by a five minute walk (400 metres) from the neighbourhood centre. • Each neighbourhood has individual points of difference to strengthen identity. • A robust urban and neighbourhood structure is established that can accommodate a range of uses and which is flexible enough to change over time.
Movement Networks	• Street environments prioritise and encourage pedestrian and cycle movement throughout a connected walkable neighbourhood. • A highly permeable and integrated grid-based movement network of streets, pedestrian and cycle paths that maximise access to public transport is established. • The street network is focussed on the Local Activity Centres whilst providing for strong links between the Local Activity Centres and the District Activity Centre. • The layout of streets enables development to front all streets and public spaces. • Culs-de-sac are not provided, or where provided, no more than 10% of dwellings have frontage to a cul-de-sac. • There are efficient external connections, specifically for bicycles and pedestrians.
Activity Centres	• An activity centre is provided as a community focus for each neighbourhood. • Activity centres are located central to the walkable neighbourhood catchments, adjacent to principal movement arteries served by public transport. • Activity centres include a mix of compatible uses that provide for a variety of daily needs, community facilities and urban open space, such as a small square that reinforces a sense of community identity. • Transition between centre uses and residential uses occurs at mid-block property boundaries rather than at a street frontage so that similar forms of development front each other across a street. • All streets are fronted by development or public spaces to maintain street activity. • All off street vehicle parking areas are located to the rear of sites and do not have direct street frontage.
Residential Density	• A range of densities and variety of housing types are provided. • The concentration of housing density increases with proximity to activity centres. • The diversity and density of housing provided supports public transport use. • A wide range of lot sizes and building forms allow greater housing and lifestyle choice. • Residential developments involving gated communities, such as a retirement facility, are designed to ensure that the connectivity of road, public transport, bicycle and pedestrian networks are not compromised and that perimeter fences do not prevent surveillance of and integration with adjoining urban and non-urban open spaces and other public spaces. • Perimeter block development is provided in the District Activity Centre and adjacent to Local Activity Centres to promote a sense of enclosure and active streetscape while providing for casual surveillance.
Community Facilities	• Community uses and facilities are located in or adjacent to Activity Centre or major urban open space areas at locations that are highly accessible and easily identifiable. • Community uses and facilities are designed to have versatility and adaptability for a variety of functions over time. • Land for community uses and facilities may be located adjacent to open space where joint use of the facility with the space is envisaged.
Schools	• Strong, direct connections are provided from schools to the walking and cycling network in the surrounding neighbourhood areas. • The transport infrastructure in neighbourhoods around schools is to have sufficient capacity to service anticipated trip generation and to avoid any

Column 1 Neighbourhood Element	Column 2 Design Outcomes
	adverse impacts on surrounding land uses, the external transport network and public safety.
Employment Areas	• Employment areas are generally located in walking distance to public transport stops and an activity centre. • Open space areas for workers and visitors to the area are provided.
Block Sizes, Site Areas and Lot Orientation	• A range of block and lot sizes are provided that allow for a diversity in form and density of residential uses and for other uses to be accommodated in the area. • The layout of streets and lots provide for perimeter blocks of buildings fronting streets and create a relatively continuous street frontage. • Lots are oriented to front all streets, major roads, parkland and natural areas to provide good streetscape amenity and surveillance and to contribute to security and deterrence of crime. • Smaller lots are to predominate near activity centres and near public transport stops, to allow for pedestrian connectivity.
Public Open Spaces	• A wide range and diversity of public open spaces is provided. • At least one local park is provided per neighbourhood. • Most dwellings are within 500 metres of a park. • Regional wide and district parks are located on the edge of neighbourhoods to enable sharing amongst two or three neighbourhoods. • Parks are overlooked by development rather than backed onto by development to maximise casual surveillance of the park.

SC6.20.4 Sub-tropical and sustainable design outcomes

Preliminary

(1) This section applies to the sub-tropical and sustainable design outcomes in Performance Outcomes PO34 to PO35 in **Section 10.3.4.3 (Performance oOutcomes and aAcceptable oOutcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code** (sub-tropical and sustainable design outcomes).

General advice for sub-tropical and sustainable design outcomes

(2) The following is general advice about satisfying the sub-tropical and sustainable design outcomes:-

(a) the sub-tropical and sustainable design outcomes seek to ensure that neighbourhoods within the Palmview Master Planned Area:-

(i) have a distinctive relationship to site and landscape;
(ii) are characterised by parks and open spaces;
(iii) have sub-tropical streetscapes;
(iv) create sites for subtropical buildings;
(v) have a sub-tropical landscape; and
(vi) have walkable journeys that are comfortable;

(b) the sub-tropical and sustainable design outcomes also seek to ensure that development within the Master Planned Area is designed and operated to minimise the production of greenhouse gas emissions; and

(c) the sub-tropical and sustainable design outcomes are primarily intended to be satisfied by the application of best practice sub-tropical and sustainable design at all levels of the development approval process.

Advice for sub-tropical design outcomes

(3) The following is advice about satisfying Performance Outcome PO34(c) in **Section 10.3.4.3 (Performance oOutcomes and aAcceptable oOutcomes for the whole of the Master Planned Area)** of the **Palmview structure plan area code**:-

(a) development should comply with the design outcomes for sub-tropical design specified in **Table SC6.20B (Sub-tropical design outcomes)**.

Table SC6.20B Sub-tropical design outcomes

Column 1 Design principle	Column 2 Design outcomes
Ensuring a strong presence of nature and water	• Preserve and enhance the sub-tropical character of the region by designing developments in response to the climate while integrating and connecting to the surrounding landscape and other natural elements. • Incorporate significant native vegetation and large shade trees in private and public spaces, along pedestrian and cycle routes and in transport corridors. • Promote public access to any natural or artificial waterways by incorporating their existence into the design for pedestrian and cycle connectivity and recreational activity.
Creating an open and permeable built environment	• Promote an outdoor lifestyle with strong connection between indoor and outdoor living. • Promote an outdoor lifestyle for medium density development and to encourage outdoor recreation oriented lifestyles, development should ensure a diversity of open space is integrated into the urban fabric, connected through the pedestrian and cycle network. • Reflect proximity of the surrounding natural vegetation and open space by creating permeable urban environments and built form that promotes green access and constant engagement with the natural environment. • Support a sub-tropical lifestyle by promoting an open and permeable built form with a climate based outcome by using passive solar design principles such as orientation and solar access, window and awning size and orientation, materials and finishes, ventilation, insulation, thermal mass, natural light, awnings and pedestrian cover.
Incorporating local interpretations of sub-tropical architecture and landscape design	• Promote integration with the natural environment through shaded outdoor dining, entertainment and recreation, for both private and public locations, by incorporating appropriately sized balconies, decks, patios, colonnades, awnings, active streets, open space and green streets into the built form and urban fabric. • Provide for a seamless transition between internal and external areas including integration with street activity through appropriate street planting and integration of vegetation with the built form. • Incorporate deep soil planting within town centre locations to reflect the densely landscaped panorama and fauna habitation of the Sunshine Coast. • Incorporate the harvesting of rain water to support surrounding vegetation and building inhabitants. • Consider local character and design and recognise how contemporary design and appropriate building materials contribute to the sub-tropical environment's character and diversity. The built form should utilise appropriate materials and colours that diminish detrimental impact of heat gain and reflection and promote durability and serviceability for the subtropical climate.

SC6.20.5 Particular precinct outcomes

Preliminary

(1) This section applies to the performance outcomes in the following:-

(a) **Section 10.3.4.9 (Performance oOutcomes and aAcceptable oOutcomes for the District Activity Centre Precinct)** of the **Palmview structure plan area code**; and

(b) **Section 10.3.4.13 (Performance oOutcomes and aAcceptable oOutcomes for the Local Employment Area Precinct)** of the **Palmview structure plan area code**.

General advice for particular precinct outcomes

(2) The precinct-based outcomes of the **Palmview Structure Plan** seek to ensure that the Master Planned Area is developed with an appropriate land use pattern that is functionally efficient, effectively integrated with transport and other infrastructure networks and provides for the creation of interesting, attractive, sustainable and desirable places to live, work and recreate.

(3) The precinct-based outcomes provide a land use and development intent for each precinct and identify specific built form criteria.

(4) Whilst these criteria are generally self-explanatory and do not require further guidance, it is recognised that in respect to certain performance outcomes for the District Activity Centre Precinct and the Local Employment Area Precinct some additional detail is warranted.

Advice for district activity centre precinct outcomes (main street)

(5) The following is general advice about satisfying Performance Outcome PO8 in **Section 10.3.4.9 (Performance oOutcomes and aAcceptable oOutcomes for the District Activity Centre Precinct)** of the **Palmview structure plan area code**:-

(a) development provides for the main street in the District Activity Centre to:-

(i) be shared between pedestrians, cyclists, public transport and private vehicles; and
(ii) comply with the design objectives specified in **Table SC6.20C (Design outcomes for the main street)**.

Table SC6.20C Design outcomes for the main street

Design principle	Design outcomes	Potential treatments/features to achieve outcome
Create a safe environment for users	Lower traffic speed	• Provide pedestrian priority crossing at entry point intersections. • Create a gateway feature on entry to the main street. • Provide clear signage indicating entry into the main street. • Use pavement surface materials and colour which clearly distinguish the main street from regular road surface. • Use multiple materials rather than a large expanse of one material. • Incorporate traffic calming devices. • Restrict vehicle volumes. • Plant street trees. • Incorporate lighting sufficient to ensure the safety of pedestrians and cyclists and motor vehicles.
	Minimise the physical and visual impact of cars on people and the environment and design for equal priority amongst street users	• Use coloured and textural surface contrasts. • Bring active frontage such as pavement dining to road edge in appropriate locations.
	Enhance amenity	• Provide clear entry and exit statements to reinforce the main street and enhance visual amenity of street environment. • Use alternative pavement surface texture to delineate the main street and enhance street amenity.
	Reduce linear territory ownership created by street cross-sectional elements to promote the main street and equality of all end users	• Use landscaping, parking bays, seating areas and bollards to define the vehicular path without creating significant barriers to pedestrian movement or restricting driver visibility of pedestrian activity.
	Reduce proliferation of signs and posts	• Provide for pavement marking to delineate parking bays – remove standard signage to reduce visual clutter. • No basement access or driveway cross-over to occur along the main street. • Rear lane access only for sites fronting the main street to reduce pedestrian conflict and need for signage.
Incorporate environmental infrastructure	Implement sustainable best practice measures to deal with stormwater runoff and WSUD	• Design fall of carriage way and footpath to direct water runoff for collection at grates and / or pits visually integrated into street design. • Reduce potential for pooling of water at

Design principle	Design outcomes	Potential treatments/features to achieve outcome
		collection points and velocity of flow to ensure pedestrian and vehicular movement is not unduly affected. • Select hard and soft landscapes that will not be unduly affected by the water quantity and movement and to assist with water control and dispersement. • Consider the special needs of cyclists and disabled access with respect to material selection and gradients when designing street environment in response to stormwater and WSUD.
Create a high quality of visual and physical amenity to the main street	Provide shaded pedestrian friendly street environment	• Create an attractive streetscape that contributes to the local sense of place, community safety and security. • Extend the town centre park into the main street environment. • Maximise landscaping along both sides of the street. • Retain existing vegetation wherever possible. • Space trees at maximum 8m centres to ensure mature canopies establish to provide shade and enclose the street and ensure the trees are staggered with street lighting. • Provide landscaping which reinforces the local context and street orientation. • Enhance the character and amenity of the town centre and main street with attractive, practical and hardy landscaping which retains significant vegetation. • Maximise tree cover along footpaths, streets and in public areas and evoke the landscape character of the Sunshine Coast.
	Create a lively community street and memorable town centre that is fully inclusive of all and safe to play, socialise and travel in	• Design space to encourage intended end user activities. • Include social interaction opportunities that aren't reliant of retail / commercial function. • Contribute to overall pedestrian connectivity by creating a series of connected community spaces. • Use the main street landscaped environment to contribute to the creation of a vibrant public space. • Maximise pedestrian activity through reduction in restrictions of conventional street environments such as kerbs, signage and high speed traffic. • Design the street and adjacent spaces as a lively community place that attracts high volumes of pedestrian activity. • Provide active frontages[5] to built form promoting high interaction with pedestrians and street activity.

Advice for local employment area precinct outcomes

(6) For the purposes of Performance Outcome PO1(b) in **Section 10.3.4.13 (Performance oOutcomes and aAcceptable oOutcomes for the Local Employment Area Precinct)** of the **Palmview structure plan area code**, the following development may be considered to be low impact industry uses and complementary business and commercial uses in the Local Employment Area Precinct:-

[5] **'Active frontage'** means a part of a building which forms a close relationship with the street and contains a visually permeable facade such as a shopfront, retail store, cafe, outdoor dining, personal service and other high pedestrian generating use at street level.

(a) development for small to medium size service trades outlets and domestic services outlets, including hire outlets, servicing both business and households;

(b) development for business and commercial equipment repairs and services outlets (covering computers, office machines, communications equipment, office furniture and fittings, shop fittings);

(c) development for small scale manufacturing establishments; and

(d) development for incubator business opportunities that contribute to a start-up economy on the Sunshine Coast.

SC6.20.6 Road transport infrastructure network outcomes

Preliminary

(1) This section applies to the road transport infrastructure network outcomes in Performance Outcomes PO11 to PO13 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable outcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**.

General advice for road transport infrastructure network outcomes

(2) The following is general advice about satisfying the road transport infrastructure network outcomes:-

(a) the road transport infrastructure network outcomes seek to ensure that the Master Planned Area is developed with a highly interconnected and permeable road network that:-

(i) supports high levels of bicycle and pedestrian use and prioritises these modes;
(ii) supports high levels of access to public transport; and
(iii) effectively services the area;

(b) **Other Plans Map OPM P8 (Palmview Master Planned Area road transport infrastructure network)** in **Schedule 2 (Mapping)** identifies conceptually the higher order elements of the road transport infrastructure network planned for the Master Planned Area;

(c) **Figure SC6.20B (Specification of transport infrastructure)** identifies the location and extent of the types of sub-arterial road and district collector street servicing the Master Planned Area);

(d) **Other Plans Map OPM P7 (Palmview Master Planned Area development and transport infrastructure network sequencing)** in **Schedule 2 (Mapping)**, **Figure SC6.20B (Specification of transport infrastructure)** and the applicable infrastructure agreement specifically identify the sequence of the higher order elements of the road transport infrastructure network planned for the Master Planned Area;

(e) road transport infrastructure is required to be provided throughout the Master Planned Area in accordance with **Other Plans Map OPM P7 (Palmview Master Planned Area development and transport infrastructure network sequencing)**, **Other Plans Map OPM P8 (Palmview Master Planned Area road transport infrastructure network)** and the requirements of the applicable infrastructure agreement;

(f) the road transport infrastructure network is a key structural element that provides a framework for the following:-

(i) the pattern of land use;
(ii) the arrangement of neighbourhoods; and
(iii) the configuration and alignment of local streets and other infrastructure networks;

(g) the road transport infrastructure network outcomes are primarily intended to be satisfied by the following:-
(i) development providing the major road transport infrastructure in accordance with the applicable infrastructure agreement;
(ii) development ensuring that the road transport infrastructure to be provided is in accordance with the road transport infrastructure network and the standards for the road transport infrastructure network as specified in the **Palmview structure plan area code**; and

(iii) the detailed design and construction of the road transport infrastructure network incorporating appropriate urban design, landscape and environmental features and treatments.

Standards for road transport infrastructure network outcomes

(3) For the purposes of Performance Outcome PO11(b) in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following are the standards identified in the code for the road transport infrastructure network:-

(a) development accords with the development and transport infrastructure network sequencing specified on **Other Plans Map OPM P7 (Palmview Master Planned Area development and transport infrastructure network sequencing)** in particular the specified triggers for vehicle trips and Equivalent Dwellings, which is to be worked out as follows:

Equivalent dwelling or ED means the measure of the demand for the number of vehicle trips equivalent to that generated by a Dwelling calculated for the relevant development type in **Table SC6.20D (Applicable uses under the Structure Plan)** using the demand generation rates specified in **Table SC6.20E (Demand generation rate for development types)**.

(b) development provides for major roads which comply with the design characteristics specified in **Table SC6.20F (Road transport infrastructure network - summary of design characteristics)**;

(c) development provides for roads which comply with the typical cross sections for each road type specified in **Figures SC6.20C** to **SC6.20J**;

(d) development provides for roads which comply with the following:-

(i) cross sections and reserve widths vary to suit intersections, public transport priority treatments, turning lanes, bus stops, pedestrian crossing treatments, sewer pit requirements, lighting and other requirements;
(ii) verge areas are paved and landscaped in accordance with the typical cross sections in **Figures SC6.20C** to **SC6.20J**;
(iii) where medians are provided, street lighting is accommodated within the median;
(iv) where provided, on road cycle lanes are incorporated into the road carriageway and continued through intersections with right turn cycle lanes provided along with advance storage boxes at controlled intersections;
(v) where parking lanes are incorporated, the kerb is built out into the parking lanes to create landscaped kerb build-outs at regular intervals without impinging on cycle lanes;
(vi) channelised intersections (signalised where required) are provided where possible with the use of roundabouts minimised on higher order roads;
(vii) legible directional and informational signage is to be supplied as necessary;
(viii) landscaping and stormwater treatment on verge areas and medians does not inhibit direct pedestrian access to on street parking or pedestrian movement across streets;
(ix) landscaping includes appropriate root barrier protection to kerbs and adjacent services;
(x) medians contain pedestrian refuge areas;
(xi) stormwater treatments (i.e. median swales) where applicable, are not to impact on the location or functioning of pedestrian refuge areas; and
(xii) additional landscaping is provided consistent with the sub-tropical landscape character desired for the Master Planned Area;

(e) development provides for an infrastructure element within a major road corridor to comply with **Table SC6.20G (Minimum widths of infrastructure elements within road corridors)**; and

(f) development provides for a road to be designed and constructed in accordance with the **Planning scheme policy for the transport and parking code** and the **Planning scheme policy for development works**.

Table SC6.20D Applicable uses under the Structure Plan

Column 1 Development category	Column 2 Development type	Column 3 Uses under Structure Plan
Residential development	Attached dwelling	• Dual occupancy • Dwelling unit • Multiple dwelling • Residential care • Short term accommodation • Rooming accommodation • Caretakers accommodation • Community residence
	Detached dwelling	• Dwelling house
	Retirement dwelling	• Retirement facility
	Other uses	• Other uses not listed will be determined at the time of the Application
Non-residential development	Commercial	• Office • Health care service • Car wash • Sales office • Veterinary services
	Community purpose	• Community use • Place of worship • Educational establishment • Child care centre • Emergency services • Community care centre • Outdoor sport and recreation
	Industry	• Low impact industry • Service industry • Bulk landscape supplies • Research and technology industry • Warehouse • Utility installation
	Retail and entertainment	• Food and drink outlet • Nightclub entertainment facility • Shop • Shopping centre • Showroom • Hotel • Theatre • Club • Indoor sport and recreation • Garden centre • Function facility • Adult store • Service station • Hardware and trade supplies • Market
	Other uses	• Other uses not listed will be determined at the time of the Application

Table SC6.20E Demand generation rate for development types

Column 1 Development category	Column 2 Development type	Column 3 Unit of measure	Column 4 Trips per unit of measure	Column 5 Equivalent Dwelling per unit of measure
Residential development	Detached dwellings	Per dwelling	9	1
	Attached dwellings	Per dwelling	6	0.67
	Retirement dwellings	Per dwelling	5	0.56
Non-residential development	Commercial	100m^2 GFA	10	1.11
	Community purpose other than an Educational Establishment	100m^2 GFA	10	1.11
	Community purpose for an Educational Establishment	Per student and staff	1.46	0.16
	Industry	100m^2 GFA	5	0.56
	Retail and entertainment	100m^2 GFA	121	13.44

Table SC6.20F Road transport infrastructure network – summary of design characteristics

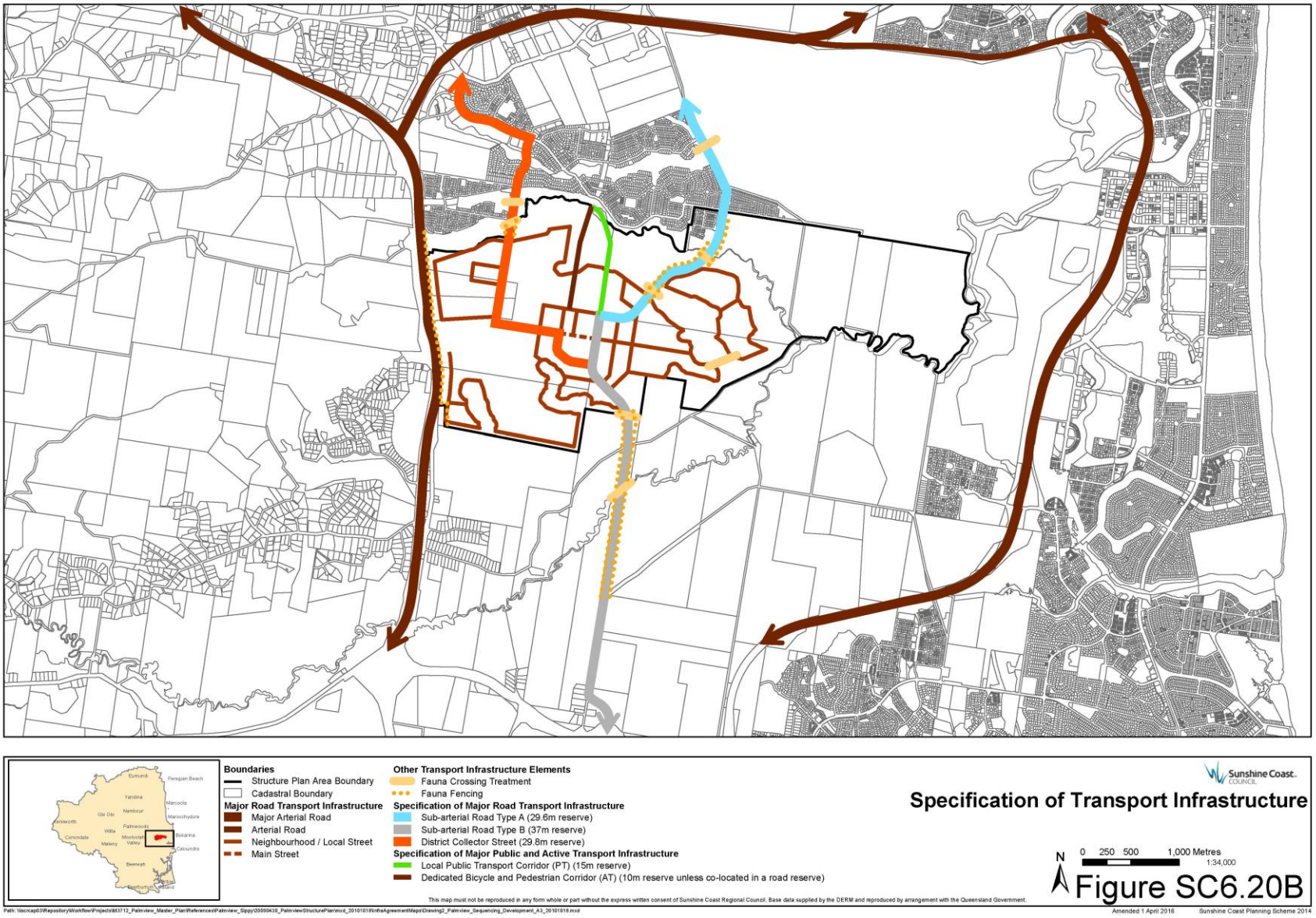
Road type	Minimum road reserve width	Typical features and treatments	Cross-section reference
Sub-arterial Road "Type A"	29.6 metres	• Two general movement lanes (one in each direction). • On-road dedicated cycle lane each side. • Landscaped median (where required by the applicable infrastructure agreement). • Indented bus bays. • Dual use path (3.0m minimum width) in each verge. • Direct property access to major development only. • Intersection spacing to be 300m minimum. • No on-road car parking generally, but if provided to be in indented parking bays with corresponding increase in minimum road reserve width. • Fauna fencing, crossings, and other structural/non-structural treatments as required.	**Figure SC6.20C, SC20.D and SC6.20E (Sub-arterial road type A typical cross section)**
Sub-arterial Road "Type B" (Note: this road is proposed to be constructed in two stages, as shown on the referenced cross-sections)	37.0 metres	• Four general movement lanes (two in each direction). • On-road dedicated cycle lane each side. • Landscaped median. • Dual use path (3.0m minimum width):- o in each verge for the section of road within the Palmview Structure Plan area boundary; and o in one verge only for the section of road outside the Palmview Structure Plan Area boundary; • Direct property access to major development only. • Intersection spacing to be 300m minimum. • No on-road car parking generally, but if provided to be in indented parking bays with corresponding increase in minimum road reserve width.	**Figure SC6.20F, SC6.20G and SC6.H (Sub-arterial road type B typical cross section)**

Road type	Minimum road reserve width	Typical features and treatments	Cross-section reference
		• Fauna fencing, crossings, and other structural/non-structural treatments as required.	
District Collector Street	29.6 metres	• Two general movement lanes (one in each direction). • On-street dedicated cycle lane each side. • Landscaped median. • Indented bus bays. • Dual use path (3.0m minimum width) in one verge and footpath (2.0m minimum width) in other verge. • Direct property access to major development only, or alternatively restricted to "left in/left out". • Intersection spacing to be 100m minimum. • Indented parking bays. • Fauna fencing, crossings, and other structural/non-structural treatments as required.	**Figure SC6.20I and SC6.20J (District Collector Street typical cross section)**

Table SC6.20G Minimum widths of infrastructure elements within road corridors

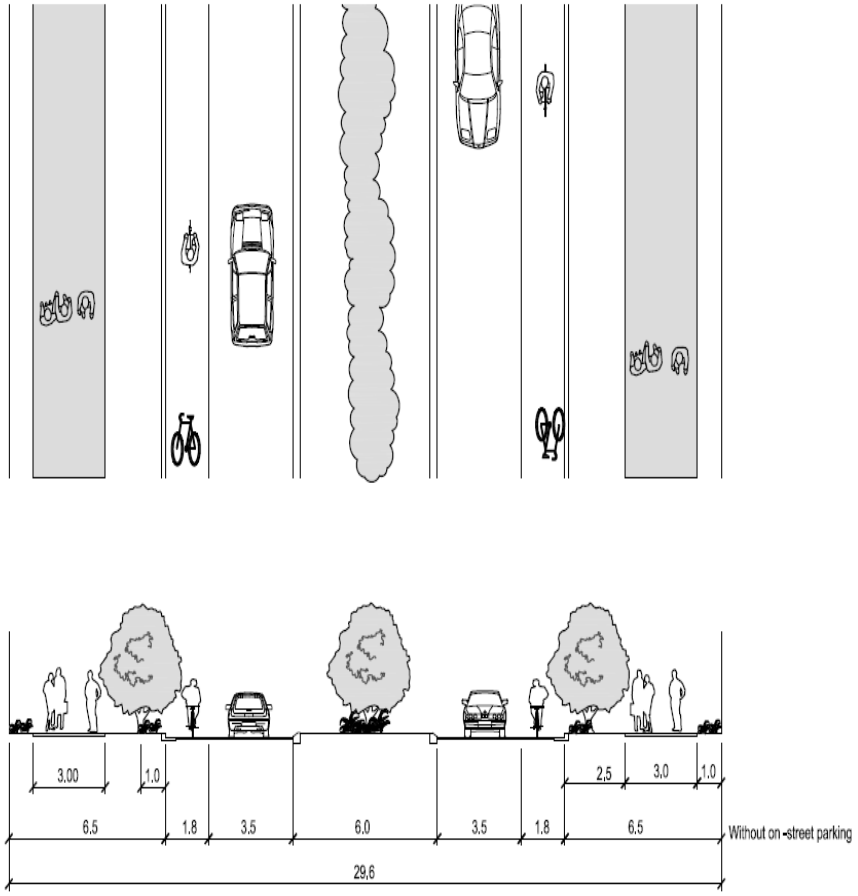
Infrastructure element	Minimum width
Roads (general traffic lanes)	3.5 metres on sub-arterial roads 3.3 metres on district collector streets
Parking lanes	2.3 metres
Dual use paths	3.0 metres
Footpaths	2.0 metres
Recreation paths	3.0 metres
Cycle lanes	1.8 metres on district collector streets 2.0 metres on sub-arterial roads
Median	6.0 metres on sub-arterial roads 3.0 metres on district collector streets
Verge	6.5 metres on sub-arterial roads 5.5 metres on district collector streets

Figure SC6.20B Specification of transport infrastructure



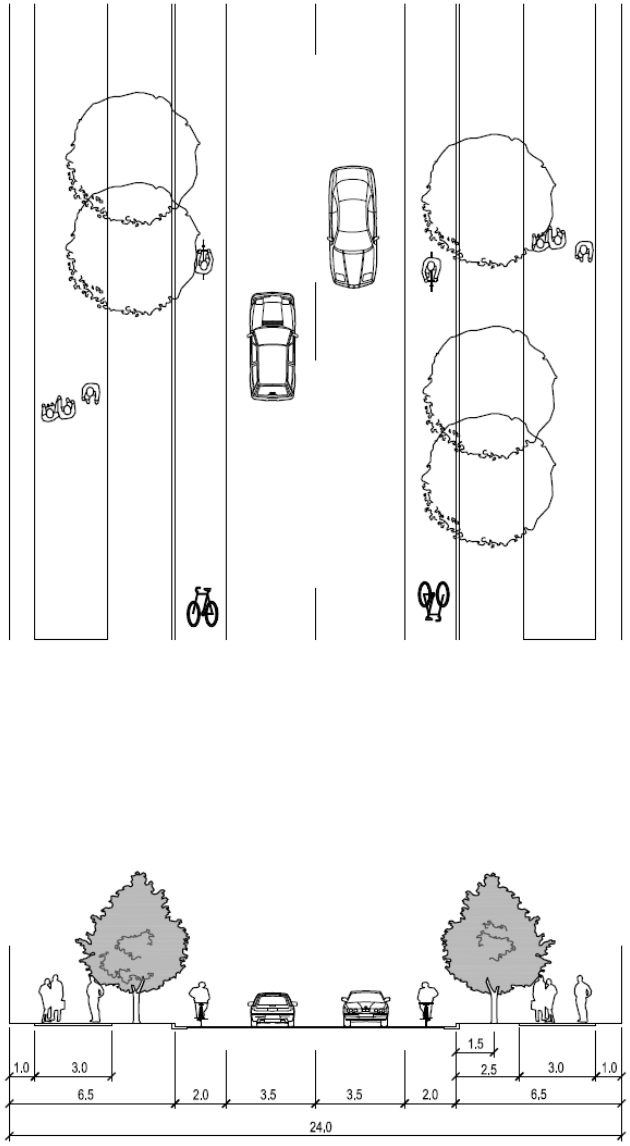
Schedule 6

Figure SC6.20C Sub-arterial Road Type A with centre median



Claymore Road Link

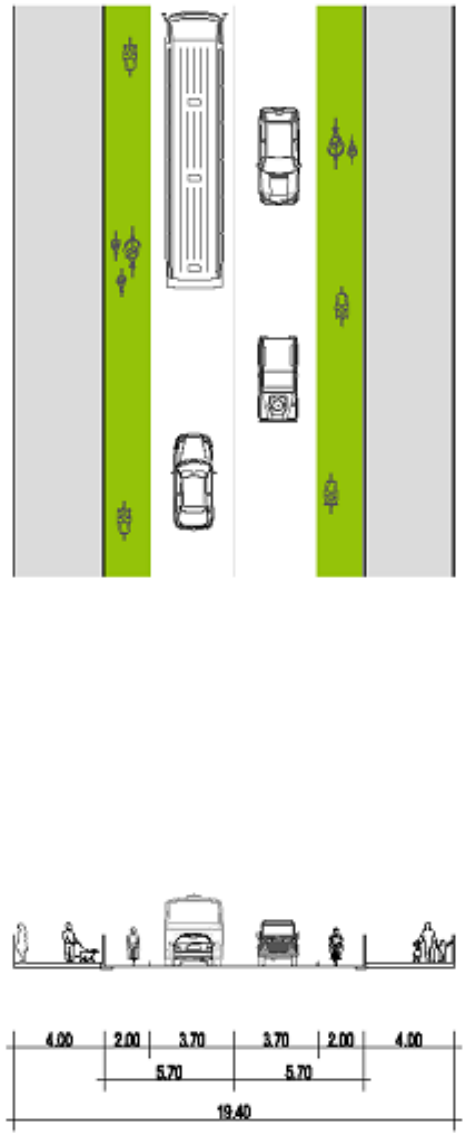
Figure SC6.20D Sub-arterial Road Type A with no centre median



Claymore Road Link

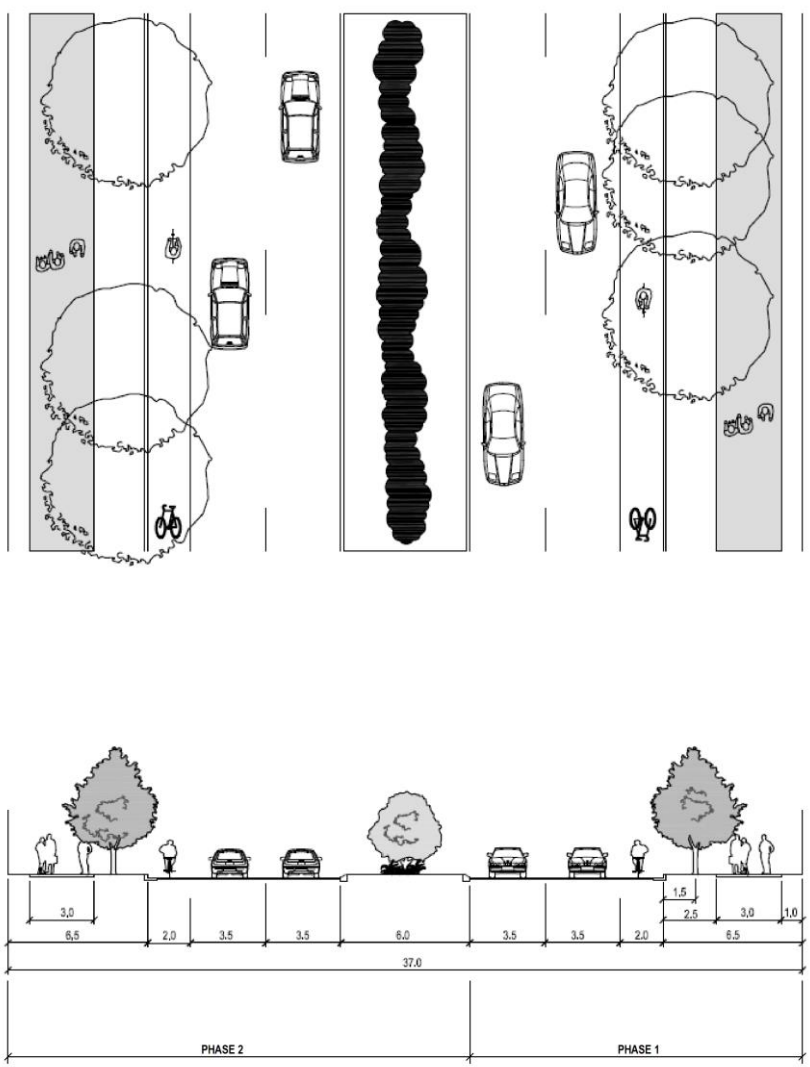
Schedule 6

Figure SC6.20E Sub-arterial Road Type A bridge



Claymore Road Bridge

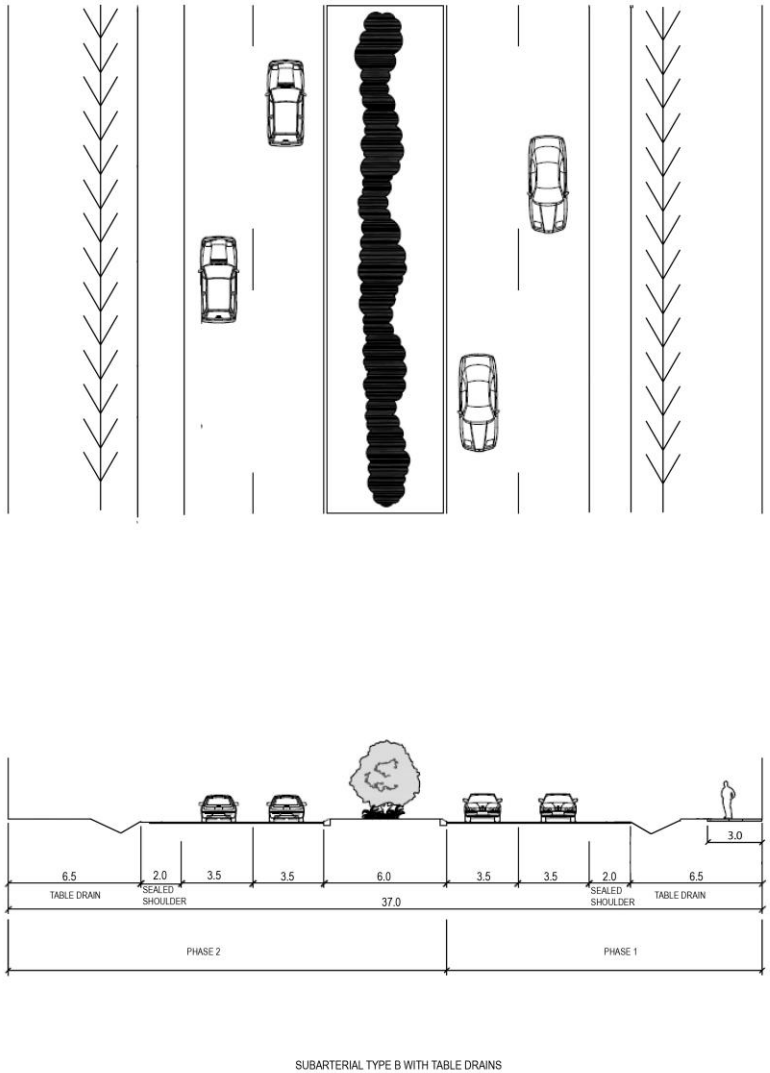
Figure SC6.20F Sub-arterial Road Type B with kerb and channel



Southern Road Link

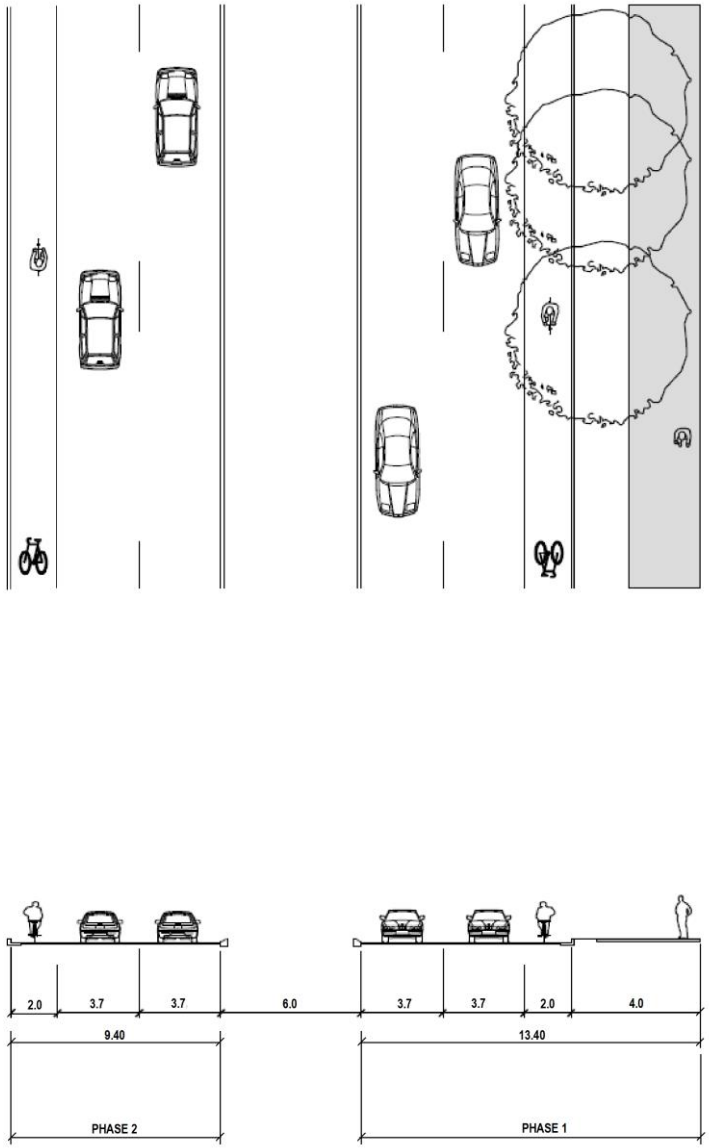
Schedule 6

Figure SC6.20G Sub-arterial Road Type B with table drains



Southern Road Link

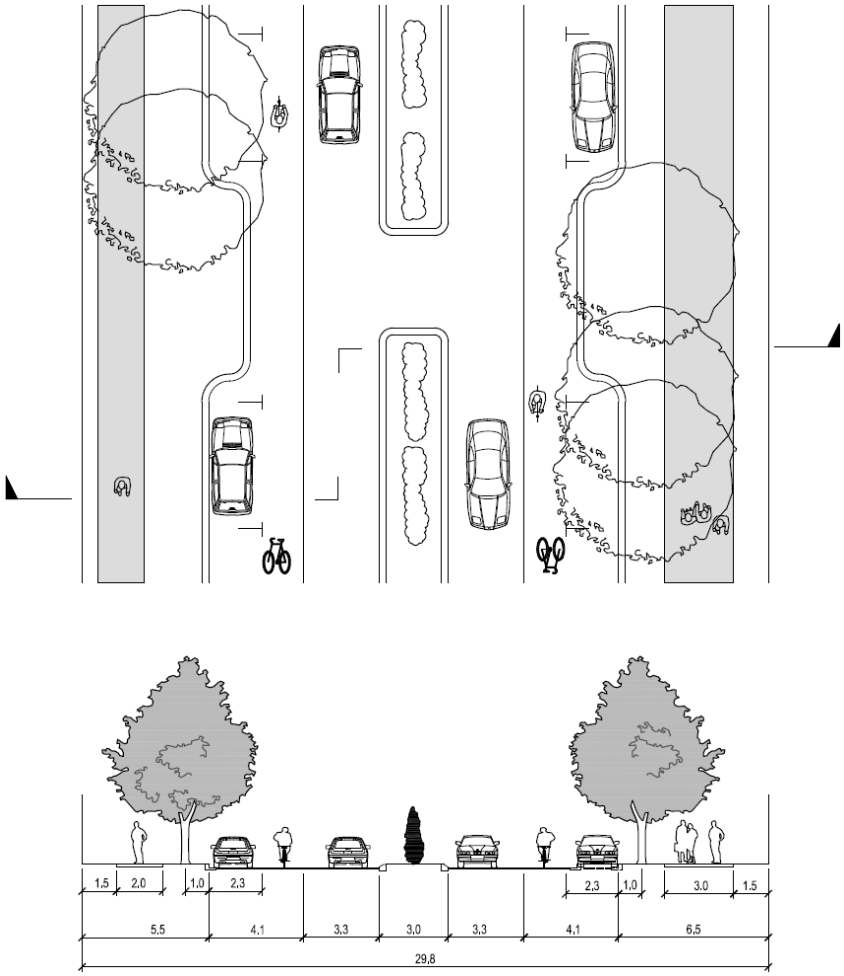
Figure SC6.20H Sub-arterial Road Type B bridge



Southern Road Link Bridge

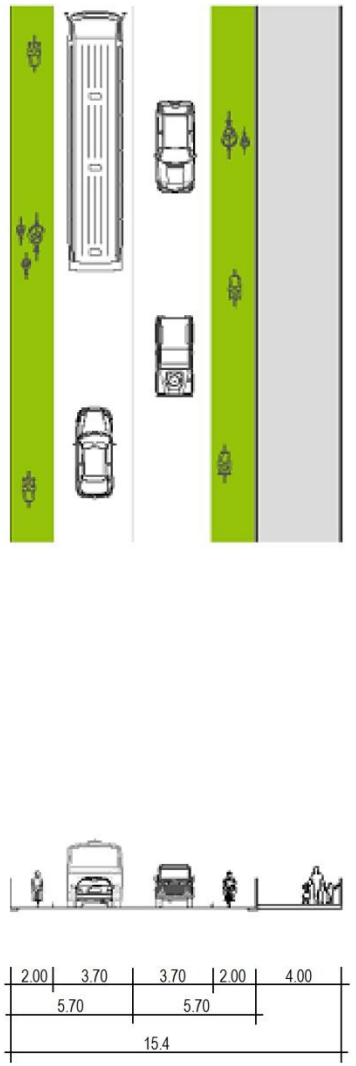
Schedule 6

Figure SC6.20I District Collector Street



District Collector Street

Figure SC6.20J District Collector Street Bridge



Springhill Drive Bridge

Schedule 6

Standards, guidelines and advice for fauna movement outcomes

(4) For the purposes of Performance Outcome PO11(b) in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following are the standards identified in the code for the fauna movement outcomes incorporated as part of the road transport infrastructure network:-

(a) development provides the fauna fencing in association with the road and public transport corridors in accordance with the specifications in **Figure SC6.20K (Typical fauna fence design)**; and

(b) development provides for the other fauna movement measures specified in **Table SC6.20H (Other fauna movement measures)**.

(5) For the purposes of Performance Outcome PO11(b) in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following are guidelines about satisfying the standards in the code for the fauna movement outcomes:-

(a) *Fauna Sensitive Road Design – Volume 1 - Past and Existing Practices* (Queensland Department of Main Roads, 2000);

(b) *Fauna Sensitive Road Design Manual – Volume 2– Preferred Practices* (Queensland Department of Transport and Main Roads, 2010);

(c) *Fish Passage in Streams – Guidelines for Design of Stream Crossings* (Queensland Department of Primary Industries and Fisheries, 1998); and

(d) *Breaking the Barriers – Engineering Solutions to Ecological Problems (Symposium)* (Environment Institute of Australia and New Zealand, 2009).

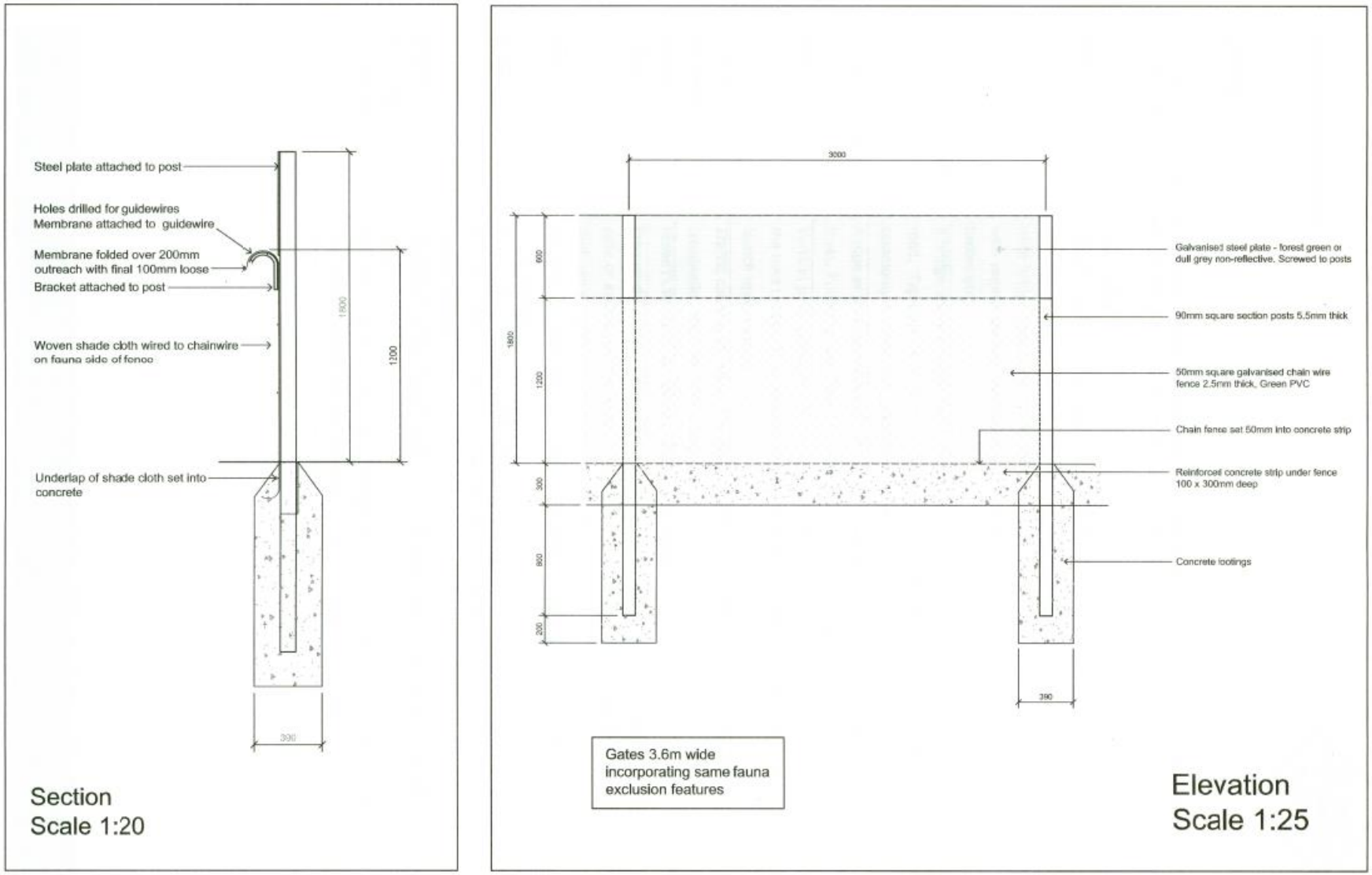
(6) For the purposes of Performance Outcome PO11(b) in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following is advice about satisfying the standards in the code for the fauna movement outcomes:-

(a) the design of fauna protection measures should reflect landscape context, site conditions and the species being targeted; and

(b) an applicant should consult with the Council to determine the most appropriate measures to be implemented.

Schedule 6

Figure SC6.20K Typical fauna fence design



Schedule 6

Table SC6.20H Other fauna movement measures

Measure	Descriptions
OVERPASS	PERMITS PASSAGE OF ANIMALS ABOVE THE ROAD
Land Bridge	Also known as a green bridge, eco-duct or wildlife bridge. Typically a 30 metre wide bridge that spans across the road. The bridge has soil over it, and is planted with vegetation and landscaped with habitat features (e.g. logs, rocks, small water bodies etc.).
Overpass (small roads)	A bridge above a major road, likely to allow human/stock access across the road. Typically of a narrow design and not hour-glass shape. An overpass is commonly a minor road, possibly unsealed or single lane configuration.
Canopy/Rope Bridge	A rope or pole suspended above traffic, either from vertical poles or roadside trees. Primarily established for arboreal and scansorial species.
Glider Pole	Vertical poles positioned in the centre median, on the road verge, or traversing the land bridge. They provide species that glide intermediary landing pads and launch opportunities.
Local Traffic Management	Traffic calming to reduce the speed or volume of traffic via signage, crosswalks, chicanes, road closures etc.
UNDERPASS	PERMITS PASSAGE OF ANIMALS BELOW THE ROAD
Culvert	Frequently square, rectangular or semi-circle in shape. Usually pre-cast concrete cells or arches made of steel. They may specifically be built for wildlife passage or stormwater or flood conveyance purposes or a combination of both.
Tunnel	Also known as eco-pipe. Commonly round pipes of reasonably small diameter (i.e. less than 1.5 metres)
Bridge	A structure that raises traffic above surrounding land or maintains the grade of the road. Often facilitating water underneath, movement of local traffic or assisting wildlife passage.
NON-STRUCTURAL MITIGATION	INCORPORATES MORE SENSITIVE ROAD DESIGN THAT ASSISTS 'NATURAL' PERMEABILITY
Corridor Plantings	Strips of vegetation, comprising of similar species either side of the road. Often crossing the road providing corridor movements for animals.

SC6.20.7 Public transport infrastructure network outcomes

Preliminary

(1) This section applies to the public transport infrastructure network outcomes in Performance Outcomes PO14 to PO18 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**.

General advice for public transport infrastructure network outcomes

(2) The following is general advice about satisfying the public transport infrastructure network outcomes:-

(a) the public transport infrastructure network outcomes seek to ensure that the Palmview Master Planned Area is able to be provided with a high quality public transport service connecting major employment, retail, business, education, recreation, sporting, cultural and health facilities;

(b) **Other Plans Map OPM P9 (Palmview Master Planned Area public transport infrastructure network)** in **Schedule 2 (Mapping)** conceptually identifies the principal elements of the public transport infrastructure network, including the following:-

(i) the local public transport corridor;
(ii) local bus services; and
(iii) bus stops and transit stations;

(c) increasing the proportion of public transport trips both within the Master Planned Area and to locations outside of the Master Planned Area will not only serve to improve the sustainability of the Palmview community but will also contribute to a healthier community;

(d) public transport services are intended to be bus-based and form part of Translink's Sunshine Coast Network Plan. The higher order road network has been carefully designed to support the efficient circulation of buses and to provide for priority movement along identified key routes;

(e) there is also a high level of functional integration between the public transport and bicycle and pedestrian infrastructure networks (including end of trip facilities) and it is intended that these networks be developed in unison to support the development of the Master Planned Area as a transit oriented community;

(f) the requirements for public transport infrastructure are to be complemented with a broader strategy for the provision and use of public transport services and are to deliver a 'seed' program for public transport during the first phases of development has provided for in the applicable infrastructure agreement; and

(g) the public transport infrastructure network outcomes are primarily intended to be satisfied by the following:-

(i) development providing public transport infrastructure in accordance with the applicable infrastructure agreement;
(ii) development ensuring that the public transport infrastructure to be provided, and in particular the local public transport corridor, is in accordance with the public transport infrastructure network and the standards for the public transport infrastructure network as specified in the **Palmview structure plan area code**; and
(iii) the detailed design and construction of the public transport infrastructure network incorporating appropriate urban design, landscape and environmental features and treatments.

SC6.20.8 Bicycle and pedestrian infrastructure network outcomes

Preliminary

(1) This section applies to the bicycle and pedestrian infrastructure network outcomes in Performance Outcomes PO19 to PO23 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code** (bicycle and pedestrian infrastructure network outcomes).

General advice for bicycle and pedestrian infrastructure network outcomes

(2) The following is general advice about satisfying the bicycle and pedestrian infrastructure network outcomes:-

(a) the bicycle and pedestrian infrastructure network outcomes seek to create an urban environment that supports and promotes walking and cycling and those using mobility aids, and thereby reduce demand for private vehicle trips;

(b) **Other Plans Map OPM P10 (Palmview Master planned area bicycle and pedestrian infrastructure network)** in **Schedule 2 (Mapping)** identifies conceptually the higher order elements of the bicycle and pedestrian infrastructure network including transit lanes, on-road dedicated bicycle lanes, on-road shared bicycle/parking lanes, off-road shared pedestrian/bicycle paths and off-road dedicated bicycle paths, bridge structures and timber boardwalks;

(c) increasing the proportion of 'active' transport trips will not only serve to improve the sustainability of the Palmview urban community but will also contribute to a healthier community in the long term;

(d) the Master Planned Area is well suited to walking and cycling because of its relatively flat topography, its relatively compact urban form and its reasonably high level of access to major facilities such as the University of the Sunshine Coast and the Sunshine Coast University Hospital. There is also a high level of functional integration between the various infrastructure networks for the Palmview Master Planned Area that underpins and takes maximum advantage of these active transport modes;

(e) the environmental and landscape context at Palmview also provides excellent opportunities for recreation trails, with easy access to significant planned recreation trails along the Mooloolah River and Sippy Creek, providing opportunities to use these trails as key links within the active transport network;

(f) the bicycle and pedestrian infrastructure network is extensive and is intended to be treated as the priority movement network in the Master Planned Area; and

(g) the bicycle and pedestrian infrastructure network outcomes are primarily intended to be satisfied by the following:-

(i) development providing bicycle and pedestrian infrastructure in accordance with the applicable infrastructure agreement; and
(ii) development ensuring that the bicycle and pedestrian infrastructure to be provided is in accordance with the bicycle and pedestrian infrastructure network and the standards for the bicycle and pedestrian infrastructure network as specified in the **Palmview structure plan area code**.

Standards and guidelines for bicycle and pedestrian infrastructure network outcomes

(3) For the purposes of Performance Outcome PO19(b) in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following are the standards identified in the code for the bicycle and pedestrian infrastructure network:-

(a) development provides for bicycle and pedestrian infrastructure in road transport infrastructure and public transport infrastructure to be in accordance with the typical road cross sections contained in **Section SC6.20.6 (Road transport infrastructure network outcomes)**and the **Planning scheme policy for transport and parking.**

SC6.20.9 Urban open space infrastructure network outcomes

Preliminary

(1) This section applies to the urban open space infrastructure network outcomes in Performance Outcomes PO31 to PO39 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code** (urban open space infrastructure network outcomes).

General Advice for Urban Open Space Infrastructure Network Outcomes

(2) The following is general advice about satisfying the urban open space infrastructure network outcomes:-

(a) the urban open space outcomes seek to ensure that the Master Planned Area is provided with an appropriate range of local, district and regional urban open space areas;

(b) urban open space plays an important role in supporting the development of social capital and creating a healthy community and is particularly important in new and emerging communities in terms of strengthening social interaction and encouraging a sense of place, providing for recreation activities and contributing to the amenity of their urban form;

(c) the urban open space outcomes also seek to ensure the establishment of a legible, accessible, connected open space network while creating public open spaces that respond to each individual neighbourhood;

(d) **Other Plans Map OPM P11 (Palmview master planned area urban open space infrastructure network)** in **Schedule 2 (Mapping)** identifies conceptually the higher order elements of the urban open space infrastructure network planned for the **Palmview structure plan area code**;

(e) local recreation park components of the urban open space infrastructure network are intended to be located so as to ensure all residents and workers of the Master Planned Area are within 500 metre walking distance of a local recreation park; and

(f) the urban open space infrastructure network outcomes are primarily intended to be satisfied by the following:-

(i) development providing the urban open space infrastructure in accordance with the applicable infrastructure agreement; and
(ii) ensuring that detailed design and construction of urban open space has regard to the following:-
(A) functional characteristics, user needs (social and recreational), lifecycle costs and incorporates high quality urban and landscape design which complies with CPTED principles; and

(B) the standards identified for the non-urban open space infrastructure network in **Appendix SC6.20A (Palmview Master Planned Area ecological and landscape protection and rehabilitation plan)**.

Standards for the urban open space infrastructure network outcomes

(3) For the purposes of Performance Outcome PO31(b) in **Section 10.3.4.21 (Performance Outcomes and Acceptable Outcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following are the standards identified in the code for the urban open space infrastructure network:-

(a) development provides for land for urban open space to be provided in one contiguous parcel which is regular in shape and fit-for-purpose;

(b) development provides for land for urban open space to be provided to the Council in freehold tenure;

(c) development ensures that urban open space is above the Q20 flood levels;

(d) development ensures that urban open space is free of hazards and constraints, including the following:-

(i) land listed on the Contaminated Land Register or Environmental Management Register;
(ii) land known or suspected as being contaminated;
(iii) land required for buffer or esplanade;
(iv) land required for or contains an above ground utility installation such as a sewerage pump station, transformer or high voltage power lines or lies within 50 metres of an easement;
(v) land required as an easement over sewerage/water lines or other underground utilities or services;
(vi) land required principally for drainage purposes;
(vii) land is required for stormwater treatment or detention;
(viii) land within a road reserve or subject to future proposed transport corridors;

(e) development ensures that local, district and regional level urban open space has direct access from a public road along one side for at least 50% of its perimeter; and

(f) development ensures that urban open space infrastructure is provided in accordance with the desired standards of service as stated in the following:-

(i) **Table SC6.20I (Provision of urban open space infrastructure network)** which states the provision rate of the urban open space infrastructure network; and
(ii) **Table SC6.20J (Urban open space infrastructure network attributes)** which states the attributes of the urban open space infrastructure network).

Table SC6.20I Provision of urban open space infrastructure network

Park type		Park characteristics		Park catchment	
Category	**Catchment**	**Minimum area**	**Minimum width**	**Catchment**	**Park provision**
Recreation parks	Local	1 ha	50m	500m (within 5 min. walk)	1 ha per 1,000 people
	District	5 ha	50m	5 km (within 30 min. walk, 20 min. cycle and 10 min. drive)	1.3 ha per 1,000 people
	Regional	20 ha	100m	30 km (public transport routes and cycleway and within 30 min. drive)	0.7 ha per 1,000 people
Sports parks	District	10 ha	150m	10 km (30 min. cycle, 10 min. drive)	1.5 ha per 1,000 people

Schedule 6

Table SC6.20J Urban open space infrastructure network attributes

Recreation park – Local

Description:

Primarily used by the community for informal recreation, social, cultural and leisure activities and which may provide for other complementary values (e.g. landscape amenity or biodiversity conservation). In community hubs they are visually and physically connected with the community and commercial activities to help activate the locality.

Size and topography

- Minimum of 1.0 ha.
- Where the topography is such that additional land is required to achieve the required facilities and setting, land area can be increased to accommodate these facilities.
- Minimum width 50m.
- Regular shape.

Access and location

- A short 5-10 minute walk or less than 500 metres from most residences.
- At least two sides or approximately 50% of perimeter to have road frontage.
- Key use areas meet disability access requirements.

Linkages

- Linked by quality recreation trail network or a pedestrian and bicycle network.
- Pathways networks located within open space not to conflict with primary park use.

Landscape and character

- Character reflective of local identity and heritage values/space.
- Retain existing trees at strategic locations. Plant new trees to contribute to broader amenity of the area.
- Where a park has been located to provide views, key viewpoints need to be protected.

Natural assets (vegetation)

- Planting to provide diversity of layers and qualities for wildlife needs – food sources, connection, protection and breeding.
- Planting style allowing for kick about cleared area.
- Protect and sustain Ee~~e~~cologically important areas / support local biodiversity consistent with primary function.

Safety and security

- The use of Crime Prevention through Environmental Design (CPTED) principles relevant to level of risk and nature of setting.
- Play spaces are located in safe areas (good surveillance).
- Safe access for pedestrians - lighting.
- Emergency vehicle access.

User benefits

- Open grassed area for passive recreation with shaded spaces for social interaction and provide visual amenity for external users.

Flood immunity

- Above Q20 (defined WSUD/flood event).
- Buildings are to be above Q100.
- Kick about and social spaces are well drained.

Activities

- Land use.
- Community Hubs.
- To meet the Desired Standards of Service of Social Infrastructure Strategy.

Recreation park – Town Park

Description

Primarily used by the community for informal recreation, social, cultural and leisure activities. Located in a community hub. A location for events, celebrations and community gatherings of a civic/ community nature.

Size and topography

- Minimum of 3 ha.
- Minimum width 100m.

Access and location

- At least one side or approximately 50% of perimeter to have road frontage.
- Key use areas meet disability access requirements.
- Co-located with retail/commercial spaces, community facilities, and/or schools to help activate the locality.

Safety and security

- The use of Crime Prevention through Environmental Design (CPTED) principles relevant to level of risk.
- Safe access.
- Emergency vehicle access.

User benefits

- Community meeting spaces for social, cultural and leisure activities and which may provide for other complementary values (e.g. Landscape amenity).
- Civic meeting and gathering space.

Linkages • Linked to quality recreation trail network or a pedestrian and bicycle network. • Central to key civic and community facilities. **Landscape and character** • Character reflective of local identity and heritage values/space. Designed and managed to support community and social adjoin activities.	**Flood immunity** • Land to be above Q20 (defined flood event). • Buildings are to be above Q100. • Grassed spaces are well drained. **Activities** • Provision of space for civic events/celebration. • Skate/youth facility. • Diverse range of recreational and social spaces. • Space for cultural and community events.
Recreation park – district	
Description Primarily used by the community for recreation, social, cultural and leisure activities and may provide for other complementary values (e.g. landscape amenity or biodiversity conservation). District recreation parks provide more diverse opportunities for recreation experiences and may support nature- based recreational experiences.	
Size and topography • 5 ha. • Where the topography is such that additional land is required to achieve the required facilities and setting, land area can be increased to accommodate these facilities. • Minimum width 50m. **Access and location** • 5 km from most residences. • Generally located in urban areas or areas of special interest and may adjoin other community facilities. • On or close to a distributor or arterial road and within walking distance to regular public transport. • At least one side or approximately 50% of perimeter to have road frontage. • Provision of off street car parking. **Linkages** • Located on a recreation trail or on a pedestrian and bicycle network. • May provide a trail head for urban and non-urban trails. • Pathways networks located within open space not to conflict with primary park uses. **Landscape and character** • Character reflective of local identity and heritage values. • Retain existing trees at strategic location and planting new trees to contribute to broader amenity of the area. • Kick about spaces to be retained for passive recreation opportunities and spaces to accommodate events. • Consider use of durable materials and more permanent features (e.g. walls). • Where a park has been located to provide views, key viewpoints need to be identified and planted with lower vegetation where replanting occurs.	**Natural assets (vegetation)** • 'Bushland' planting style while allowing for kick about cleared area, play spaces, event spaces and community garden areas. • Planting to provide diversity of layers and qualities for wildlife needs – food sources connection, protection and breeding. • Protect and sustain ecologically important areas/ support local biodiversity consistent with primary function. **Safety and security** • The use of Crime Prevention through Environmental Design (CPTED) principles relevant to level of risk and nature of setting. • Play spaces are located in safe areas. • Emergency vehicle access. • Pedestrian pathways to be lit. **User benefits** • District recreation parks provide a more diverse range of passive, social, cultural and recreational experiences through supporting land and infrastructure. **Flood immunity** • Land (minimum of 70%) to be above Q20 (defined flood event). • Buildings are to be above Q100. • Kick about and social spaces are well drained. • WSUD.

Recreation park – regional

Description

Primarily used by the community for informal recreation, social, cultural and leisure activities and which may provide for other complementary values (e.g. landscape amenity or conservation). Sunshine Coast wide recreation parks provide a wider range of experiences and opportunities that encourage longer stays for a diverse range of users.
Botanic Gardens are contained in this category.

Size and topography

- 20 ha.
- Minimum width 100m.

Access and location

- In urban areas <30 km most residences.
- On or close to arterial road with regular public transport to the site.
- At least two sides or approximately 50% of perimeter to have road frontage.
- Provision of dispersed onsite car parking essential to reduce visual impact.
- Located on a recreation trail.

Linkages

- Located on a recreation trail or on a pedestrian and bicycle network.
- Provides a trail head for urban and non-urban trails.
- Pathway networks located within open space not to conflict with primary park uses.
- Pedestrian pathways link activity areas.

Landscape and character

- Character reflective of local identity and heritage values.
- Retain existing trees at strategic locations and plant new trees to contribute to broader amenity of the area.
- Larger open spaces (e.g. kick about space) to be retained for passive recreation and social opportunities (e.g. major events).
- Consider use of durable materials and more permanent features (e.g. walls).
- Where a park has been located to provide views, key viewpoints need to be identified and planted with lower vegetation where replanting occurs.

Natural assets (vegetation)

- 'Bushland' planting style while allowing for kick about cleared area.
- Planting to provide diversity of layers and qualities for wildlife needs – food sources connection, protection and breeding.
- Protect and sustain ecologically important areas/ support local biodiversity consistent with primary function.

Safety and security

- The use of Crime Prevention through Environmental Design (CPTED) principles relevant to level of risk and nature of setting.
- Play spaces are located in safe areas.
- Emergency vehicle access.
- Safe light areas for night time use and pedestrian linkage.

User benefits

- Provides for a large range of outdoor and passive recreational experiences including play spaces, open space and informal kick about area, landscape and amenity and provides BBQ, shelters and major gathering spaces and opportunities for festivals and celebration.

Flood immunity

- Land to be above Q20 (defined flood event).
- Buildings are to be above Q100.
- Kick about and social spaces are well drained.

Recreational trails

Description

Recreation trails are provided for the primary purpose of recreational activities such as walking, horse riding and mountain biking. Recreation trails often traverse through a range of land tenures. These places have a different intent to the pedestrian and bicycle networks co-located with roads infrastructure, which exist primarily to expedite modes of movement.

Size and topography

- 12m wide corridor incorporating a 1.5 – 3m wide pathway.
- A variety of distances and circuits to be provided.
- Natural contours are to be followed to ensure even trail grades.
- Ensure local drainage is maintained along

Landscape and character

- Where space allows, without compromising the lands core function, the trail gently meanders to take advantage of natural and constructed features and provide an element of discovery.
- Desirable for 60% of trail to have access to shade from vegetation.
- Trails are to be interesting and routed through

water courses. • Poorly drained areas and areas with high erosion to be avoided. **Access and location** • Trails to connect to recreation parks, sports grounds, and traverse drainage reserves, appropriate environment reserves, Conservation/national parks to activate the open space network and create a sense of connection to and immersion in open space. • Trails to be located close to edges of parks to reduce impacts on park users. • Trail location to give consideration to the user and service vehicle access requirements for maintenance. **Provision** • Consider access for residents to be <500m from a recreation trail. **Linkages** • Trails are linked to community hubs (cafes, community facilities) parks, reserves and sports grounds, active transport networks and the non-urban trail networks.	different vegetation and landform. • Where determined, environmental and cultural features are outlined in interpretive information. • Recycled/sustainable construction materials preferred. Where not possible materials that are durable or can be reused are required. **Natural assets (vegetation)** • Taller trees for shading. • Planting to provide diversity of layers and qualities for wildlife needs – food sources connection, protection and breeding. • Trails constructed to so as not to impact on existing trees and reduce need for constant pruning. • Porous materials to be considered in suitable areas to improve water penetration and reduce sheet flow. **Safety and security** • The use of Crime Prevention through Environmental Design (CPTED) principles relevant to level of risk and nature of setting. • Trails are located a minimum of 5m from the constructed road. • Safety signage and fencing where necessary. **User benefits** • At planning stage determine what users (e.g. walking, cycling and equestrian) and level of accessibility. **Flood immunity** • The provision of appropriate drainage must be considered in the trail planning, design and construction process.
Sport grounds – district	
Description Facilities for formal sporting and active recreation activities including ovals, courts and circuits. They may also provide local recreation park facilities outside of formal sporting hours as well as recreation facilities for families attending sporting events. Contribute to amenity and local biodiversity by appropriate vegetation planting on boundaries.	
Size and topography • 10 ha. A number of sports may co-locate or adjoin district recreation parks creating a larger open space. • Principally a flat site with 5% gradient or less. • Minimum width 150m. **Access and location** • In urban areas <10 km. • Close to a collector road with on-site car parking provided. • At least two sides or approximately 50% of perimeter to have road frontage. • In higher density areas co-locate with community infrastructure where possible. • Located on public transport routes and stops.	**Natural assets (vegetation)** • Boundary area and corners of site substantially planted with locally native tree/shrub species. **Safety and security** • The use of Crime Prevention through Environmental Design (CPTED) principles relevant to level of risk and nature of setting. • Play spaces are located in safe areas. • Emergency vehicle access. • Perimeter fencing for safety of users. **User benefits** • District sports grounds provide community access to a variety of active formal sporting, cultural and recreation facilities. • Multi use and multi-function configuration

Linkages • Located on a recreation trail or on a pedestrian and bicycle network. • Connected to residential and school/community facilities. **Landscape and character** • Designed to reduce impact of flood lighting on adjacent areas. • Use of appropriate design and management principles (e.g. on-site water storage and treatment) to reduce nutrient flow and weed invasion from the site. • Designed to positively contribute to the amenity of surrounding areas. • Shade trees dividing fields, shaded car parking.	preferred. **Flood immunity** • Buildings and fenced areas above Q100. • Playing fields above Q20. • Wetland treatment areas above Q10. • Playing surfaces are well drained. **Activities** • Assessment of existing facilities within the district to inform preferred layout.

Standards for embellishments associated with urban open space infrastructure network

(4) For the purposes of Performance Outcome PO31(b) in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the standards identified in the code for the desired level of embellishments for each type of urban open space area are specified in **Table SC6.20K (Embellishment standards for urban open space infrastructure)**.

Table SC6.20K Embellishment standards for urban open space infrastructure

Embellishments	Local Recreation	District Recreation	Regional Recreation	District Sport	Town park
Earthworks (grading, levelling and grassing)	✓	✓	✓	✓	✓
Weed free	✓	✓	✓	✓	✓
Tree planting	✓	✓	✓	✓	✓
Signage (name / info)	✓	✓	✓	✓	✓
Interpretive signage		✓	✓		✓
Road access (external)		✓	✓	✓	✓
Vehicle access / road (internal / fire management)		✓	✓	✓	✓
Vehicle access (emergency vehicles)	✓	✓	✓	✓	✓
Public art			✓		✓
Car parking (on-site) - (10 formal spaces per ha plus additional on-street parking)		✓	✓	✓	
Vehicle barriers/ bollards	✓	✓	✓	✓	✓
Bicycle racks	✓	✓	✓	✓	✓
Footpath / bikeway (internal)		✓	✓	✓	✓
Footpath / bikeway (external linkage)		✓	✓	✓	✓
Flat, well drained play area	✓	✓	✓	✓	✓
Shade structures / shade sails	✓	✓	✓	✓	✓
Bench seating – 3 seats per ha	✓	✓	✓	✓	✓
Picnic table / shelters	✓	✓	✓	✓	✓
Barbecues		✓ (max 2 double BBQs)	✓ (max 4 double BBQs)		
Drinking fountains	✓	✓	✓	✓	✓
Toilet block - 8 stall unisex (including disabled)		✓ (1 block)	✓ (2 blocks)	✓ (1 block with change rooms)	✓ (1 block)
Skate park					✓
Play space / youth / fitness equipment with softfall and shade over equipment areas	✓	✓	✓	✓	✓
Lighting / security lighting pathways	✓	✓	✓	✓	✓

Schedule 6

Embellishments	Local Recreation	District Recreation	Regional Recreation	District Sport	Town park
Plaza – hard stand area					✓
Sports field lighting and 3 phase power				✓	✓
Fenced dog park		✓	✓		
Landscaping / gardens	✓	✓	✓	✓	✓
Multi-purpose fields				✓	
Multi-purpose courts				✓	
Storage sheds				✓	
Clubhouse / change rooms				✓	
Kiosk				✓	✓
Spectator seating				✓	
Bus set down			✓	✓	✓
Rubbish bins	✓	✓	✓	✓	✓
Drainage	✓	✓	✓	✓	✓
Fencing	✓	✓	✓	✓	
Design	✓	✓	✓	✓	✓
Suitable building sites		✓	✓	✓	
Serviced site with water, sewer, stormwater and electricity	✓	✓	✓	✓	✓

Guidelines for minimising ongoing lifecycle and management costs of the urban open space infrastructure network

(5) For the purposes of Performance Outcome PO39 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**, the following are guidelines about satisfying the standards in the code for the minimising ongoing lifecycle and management costs of the urban open space infrastructure network:-

(a) development provides for the use of landscape features such as mounding and stone walls rather than the provision of generic play equipment in the urban open space infrastructure network;

(b) development provides for the use of native endemic species in landscaping and the reduction of areas of manicured lawns in the urban open space infrastructure network;

(c) development provides for the inclusion of solar lighting in the urban open space infrastructure network; and

(d) development provides for the use of recycled water in the urban open space infrastructure network.

SC6.20.10 Community facilities infrastructure network outcomes

Preliminary

(1) This section applies to the community facilities infrastructure network outcomes in Performance Outcomes PO45 to PO47 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code**.

General advice for community facilities infrastructure network outcomes

(2) The following is general advice about satisfying the community facilities infrastructure network outcomes:-

(a) the community facilities infrastructure network outcomes seek to ensure that the Master Planned Area is provided with an appropriate range of community facilities;

(b) community facilities and services, and access to those, play an important role in supporting the development of social capital and are particularly important in new and emerging communities that need to establish local connections and a sense of place;

(c) **Other Plans Map OPM P13 (Palmview Master Planned Area community facilities infrastructure network)** of the **Palmview Structure Plan** identifies conceptually the higher

order elements of the community facilities infrastructure network planned for the Master Planned Area;

(d) the community facilities infrastructure outcomes are primarily intended to be satisfied by:-

(i) development providing community facilities infrastructure in accordance with the applicable infrastructure agreement and **Table SC6.20L (Attributes of community facilities infrastructure)**; and

(ii) ensuring that the detailed design and construction of community facilities has regard to functional characteristics, user needs, whole of lifecycle costs and incorporates high quality urban and landscape design; and

(e) developers are encouraged to complement requirements for community facilities infrastructure with a broader strategy for developing social capital and work in partnership with the Council to deliver a tailored community development program.

Table SC6.20L Attributes of community facilities infrastructure

<table>
<tr><th colspan="2">Community Facilities – District</th></tr>
<tr><td colspan="2">Description
General community use facility providing meeting spaces for social, educational and recreational activities, health/ support services and information</td></tr>
<tr><td>Size
• 1 ha land.
• 1,500m^2 GFA.

Access and location
• At least one side or approximately 25% of perimeter to have road frontage.
• Access, site and buildings meet disability access requirements.
• Co-located with retail/commercial spaces, other community facilities, open space and/or schools to help activate the locality and create a vibrant civic gathering space.

Linkages
• Linked to public transport and pedestrian/bicycle networks.

Landscape and character
• Location and design responds to the surrounding natural and built environment and respect and celebrate local identity, character and heritage.
• Where a facility has been located to provide views, key viewpoints need to be protected.</td><td>Safety and security
• Crime Prevention through Environmental Design (CPTED) principles address access, site and building design.
• Setting, site and building design maximises casual surveillance.
• Emergency vehicle access.

User benefits
• Multi-function, flexible spaces that responds to the diverse and changing needs of the community and encourages participation, creativity, healthy lifestyles and community wellbeing.
• Encourages community networks and activity, pride and ownership.

Flood immunity
• Buildings are to be above Q100.</td></tr>
<tr><th colspan="2">Community Facilities – Local/meeting space</th></tr>
<tr><td colspan="2">Description
General community use facility providing meeting spaces for social, educational and recreational activities, health/ support services and information</td></tr>
<tr><td>Size
• 3,000m^2 land.
• 300-800m^2 GFA.

Access and location
• At least one side or approximately 25% of perimeter to have road frontage.
• Access, site and buildings meet disability access requirements.
• Co-located with retail/commercial spaces,</td><td>Safety and security
• Crime Prevention through Environmental Design (CPTED) principles address access, site and building design.
• Setting, site and building design maximises casual surveillance.
• Emergency vehicle access.

User benefits
• Multi-function, flexible spaces that responds to the</td></tr>
</table>

other community facilities, open space and/or schools to help activate the locality and create a vibrant civic gathering space. **Linkages** • Linked to public transport and pedestrian/bicycle networks. **Landscape and character** • Location and design responds to the surrounding natural and built environment and respect and celebrate local identity, character and heritage. • Where a facility has been located to provide views, key viewpoints need to be protected.	diverse and changing needs of the community and encourages participation, creativity, healthy lifestyles and community wellbeing. • Encourages community networks and activity, pride and ownership. **Flood immunity** • Buildings are to be above Q100.
Aquatic Facility – District (minor)	
Description An aquatic centre consisting of lap swimming, water play and other ancillary infrastructure to cater for the district.	
Size and topography • Minimum 10,000m² usable unconstrained area which includes: o requirements for car parking o emergency vehicle access o pedestrian pathways within the complex o equitable access designs o Landscape buffers o space for sustainable initiatives i.e. solar, backwash water recycling. o Waterspace approx. 500m^2 **Access and location** • Co-location with compatible uses such as other community infrastructure such as libraries, youth spaces, neighbourhood centres, active recreation facilities, skate parks, business centres, schools and shopping centres. **Linkages** • Linked to public transport and pedestrian/bicycle networks. **Amenity impact** • Aquatic facilities can create a level of noise that could be considered excessive in relation to adjoining sensitive land uses. Consideration needs to be given to the land uses sharing a boundary with a potential site and if the facility is likely to cause impacts that will not be able to be mitigated. **Landscape and character** • Location and design responds to the surrounding natural and built environment and respects local identity, character and heritage.	**Safety and security** • Crime Prevention through Environmental Design (CPTED) principles address access, site and building design. • Emergency vehicle access. **User benefits** • Facility caters for a wide range of compatible experiences and uses and contributes to a physically active and healthy community. **Flood immunity** • Site is above Q100**.**

Skate/youth facility – District	
Description Facilities for skate, bicycle and youth activity to cater for a range of skill and levels to encourage physical activities and social engagement. May include a variety of element s- plaza, bowl, half pipe and street.	
Size • 500-1,000m^2 active space. • Located within the Town park. **Access and location** • On or close to a distributor or arterial road within walking distance to regular public transport. • Linked to a pedestrian and cycle network. • Co-located with compatible community purposes/facilities. • At least 2 sides – 50% road frontage. • High level of visual surveillance (24 hours). **User benefit** • Variety of challenge and skill levels provided for. • An activity vibrant, physically and healthy.	**Safety and security** • The use of CPTED principles. • Emergency access to the site. • Well-designed facility. • Safe access to public toilets, seating and shade. **Flood immunity** • Site to be above Q20 and well drained. **Amenity impact** • Excessive noise levels require compatible adjoining land uses. • At least 80m from residential land. • Character and identity of park to be considered.

SC6.20.11 Energy infrastructure network outcomes

Preliminary

(1) This section applies to the energy infrastructure network outcomes in Performance Outcomes PO48 to PO49 in **Section 10.3.4.21 (Performance oOutcomes and aAcceptable oOutcomes for the Development of Infrastructure and Services)** of the **Palmview structure plan area code.**

General advice for energy infrastructure network outcomes

(2) The following is general advice about satisfying the energy infrastructure network outcomes:-

(a) the energy infrastructure outcomes of the **Palmview structure plan area code** seek to ensure that the Master Planned Area is provided with reliable sources of energy and that opportunities for sustainable energy generation are incorporated into new development so as to reduce reliance on the predominantly coal fired power grid;

(b) it is anticipated that an emphasis on energy conservation and the use of alternative sources of energy will result in the Master Planned Area achieving a significant reduction in carbon emissions compared with the efficiency of urban development in 2009;

(c) **Other Plans Map OPM P14 (Palmview Master Planned Area Electricity Infrastructure Network)** in **Schedule 2 (Mapping)** identifies conceptually the higher order elements of the electricity infrastructure network for the Master Planned Area;

(d) the energy infrastructure network outcomes are primarily intended to be satisfied by development providing electricity infrastructure in accordance with an applicable infrastructure agreement and the requirements of the relevant Electricity Supply Authority; and

(e) additional advice regarding the implementation of design measures to minimise energy use in new development is specified in **Section SC6.20.4 (Sub-tropical and sustainable design outcomes)**.

SC6.20.12 Information requirements

(1) **Table SC6.20M (Compliance aAssessment requirements for documents)** specifies the documents which a preliminary approval to which section 242 of the Act applies variation approval or another applicable development approval may require to be prepared and submitted for compliance assessmentapproval by the Council.

(2) **Table SC6.20M (~~Compliance a~~Assessment requirements for documents)** also specifies the anticipated timing for the approval of the documents~~of compliance assessment~~.

(3) The Council may also require other supporting information in addition to that specified in **Table SC6.20M (~~Compliance a~~Assessment requirements for documents)** depending on the nature of the ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development application and the technical issues involved.

(4) Supporting information and ~~compliance assessment~~ documents should be prepared by a competent person with a disciplinary background relevant to the area of interest.

Editor's note–A variation approval or an applicable development application approved under the Act may include a development condition requiring the approval of a document.

Editor's note–Under section 319 (Compliance assessment of documents or works) of the Act compliance assessment of a document under chapter 6, part 10 of the SP Act continues to apply where a variation approval (being a preliminary approval to which the SP Act, section 242 applied) or another applicable development approval under the SP Act requires compliance assessment of the documents.

Schedule 6

Table SC6.20M ~~Compliance a~~Assessment requirements for documents

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
Local Ecological and Landscape Protection and Rehabilitation Plan	Subsequent to the approval of a ~~preliminary approval to which section 242 of the Act applies~~ variation approval and prior to the lodgement of another applicable development application.	To demonstrate that development in the applicable area will provide for the protection and rehabilitation of ecologically important areas and landscape protection areas in accordance with the provisions of the **Palmview Structure Plan**, this planning scheme policy and **Appendix SC6.20A (Palmview Master Planned Area ecological protection and rehabilitation plan)**.	Refer to **Section 10 (Requirements for Local Ecological and Landscape Protection and Rehabilitation Plans)** in **Appendix SC6.20A (Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan)**
Biodiversity Offset Plan	Subsequent to the approval of a ~~preliminary approval to which section 242 of the Act applies~~ variation approval and prior to the lodgement of another applicable development application.	To demonstrate how that the adverse impacts on ecologically important areas associated with providing infrastructure for the Master Planned Area are to be offset.	Project and site description • Provide a detailed description of the project including project proponent, proposed works schedule, including any temporary works, and timing. • Identify the potential environmental impacts of the project, including any temporary impacts, including impacts arising from vegetation clearing, changes in hydrology, destruction of habitat, impacts on fauna connectivity and movement. • Identify proposed mitigation measures to minimise the environmental impacts of the project. • Clearly identify the area the subject of the Biodiversity Offset Plan and calculate the total land area affected by the project. • Provide a description of the land affected by the project in terms of existing and potential environmental values, including but not limited to existing and potential values identified in the **Palmview Structure Plan** and/or the Palmview Master Planned Area Ecological and Landscape Protection Plan, in relation to vegetation communities, fauna, rehabilitation potential and habitat and faunal corridors.

Column 1 Description of the ~~compliance assessment~~ document	Column 2 Anticipated timing of approval~~compliance assessment~~	Column 2 Purpose of document	Column 3 Matters against which the document is to be assessed
			Environmental offsets proposal • Provide a detailed description of the proposed environmental offset package including a description of the proposed offset area, rationale for choosing environmental offsets, proposed timing and staging. • Describe how the environmental offset package meets the principles and requirements for environmental offsets detailed in this policy, in particular the requirement to achieve a 'net environmental benefit'. • Justify the selection of the proposed environmental offset site in terms of achieving "like for like or better" with respect to environmental values, vegetation, habitat, species, ecosystem, landscape, hydrology and physical area compared to the impact area. • Outline the relationship between the proposed offset area and the Master Planned Area. • Outline any proposed rehabilitation works to be undertaken as part of the proposal. • Identify the specific roles and responsibilities of all entities involved in the implementation of the Biodiversity Offset Plan. • Outline proposed short and long term tenure arrangements and demonstrate how long term security of tenure will be achieved under the Environmental Offset Plan. Ongoing maintenance • Provide details of the ongoing management and maintenance measures to be adopted as part of the Biodiversity Offset Plan. Ongoing maintenance measures are to address such issues as signage, fencing, access arrangements, site clean-up and waste removal, fire management, pest control, fauna management, replanting failure, erosion repair and watering. • Identify any potential risks to the long term viability of the environmental offset site such as bushfire and drought and how these risks are proposed to be addressed. Monitoring and reporting • Specify the indicators for monitoring the success of the environmental offset consistent with the objectives of this policy. • Identify how monitoring is to be reported to Council and the remedial action to be taken where failures are identified. Additional requirements and conditions • A financial bond may be required by Council as assurance for proposed offset activities.

Appendix SC6.20A Palmview master planned area ecological and landscape protection and rehabilitation plan

1. Short Title

This document may be cited as the Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Plan).

2. Purpose

The purpose of the Plan is to provide for the following:-

(a) the guidelines about satisfying the ecological and landscape protection outcomes (Section 5-9); and

(b) the requirements for Local Ecological and Landscape Protections and Rehabilitation Plans to be required in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or other applicable development approval (Section 10).

3. Application

(1) The Plan applies to the non-urban open space infrastructure network specifically identified on **Other Plans Map OPMP12 (Palmview Master Planned Area Non-urban Open Space Infrastructure Network)** which includes E~~e~~nvironmental protection areas, E~~e~~nvironmental enhancement areas Types A and B, E~~e~~nvironmental transition areas and the S~~s~~cenic amenity and highway acoustic buffer.

(2) The non-urban open space infrastructure network comprises the landscape units identified on **Other Plans Map OPMP12 (Palmview Master Planned Area Non-urban Open Space Infrastructure Network)** which are based on the following:-

(a) ecological functions and values;

(b) existing condition;

(c) short and long term land use; and

(d) the rehabilitation outcomes for the areas in the non-urban open space infrastructure network.

(3) An application for a ~~preliminary approval to which section 242 of the Act applies~~variation approval or another applicable development application should demonstrate compliance with the Plan.

(4) The Council may also require in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval the preparation of a Local Ecological and Landscape Protection and Rehabilitation Plan for a particular area or landscape unit which is consistent with the Plan.

4. Interpretation

In this Plan:-

Resilience-based condition assessment means a vegetation condition assessment tool:-

(a) which measures the inherent ability of the components of a degraded ecosystem to recover and produces condition maps that inform the development of rehabilitation strategies;

(b) which comprises the following components:-

(i) details of the assessment unit;
(ii) a suite of vegetation condition attributes that act as surrogates or indicators of biodiversity values;
(iii) benchmarks for each of the attributes for each regional ecosystem;
(iv) an assessment methodology; and
(v) a scoring system which provides a final condition score such as from 0 being no degradation and excellent resilience to 6 being extreme symptoms and nil resilience; and

(c) such as that outlined in *BioCondition, A Terrestrial Vegetation Condition Assessment Tool for Biodiversity in Queensland, Field Assessment Manual, Version 1.6* (T.J. Eyre, Al. Kelly, V. J Neldner.

Prepared for the Queensland Government, Environmental Protection Agency, Queensland Parks and Wildlife Service, 2008).

Vegetation means native grasslands, sedgelands, heathlands, woodlands, forest and wetlands. It includes existing stands of vegetation and areas undergoing natural regeneration, a community of vegetation and a singular plant, shrub or tree.

5. Guidelines for the ecological and landscape protection outcomes

The ecological protection and rehabilitation outcomes of the **Palmview Structure Plan** are intended to achieve the following end result for the non-urban open space infrastructure network:-

(a) the retention and enhancement of all of the existing biodiversity;

(b) the improvement of the healthy functioning and resilience of ecosystems;

(c) the maintenance and enhancement of ecosystem services;

(d) the recreation of wildlife habitat and corridor linkages;

(e) the improvement of recovery of threatened communities and species;

(f) the improvement of condition of riparian vegetation and aquatic habitat;

(g) the improvement of soil conditioning and land and stream bank stability;

(h) the management of threatening processes including impacts from development, climate change, invasive species and edge effects; and

(i) the provision of a diverse range of environmental areas and environmental recreation opportunities and outdoor experiences for the community.

6. Guidelines for areas and landscape units of the non-urban open space infrastructure network

(1) Development should provide for the use of the area in the non-urban open space infrastructure network in accordance with **Table 10.3.4.3A (Outcomes for Non-urban Open Space Infrastructure Area)** in the **Palmview Structure Plan**.

(2) Development should achieve the ecological protection and rehabilitation outcomes and associated management requirements for the landscape units are identified in **Table 10.3.4.3B (Palmview ecological and landscape protection and rehabilitation landscape units)** in the **Palmview structure plan**.

7. Guidelines for environmental protection areas and environmental enhancement areas

(1) A disturbed or degraded area should be revegetated or regenerated using appropriate indigenous plant species specific to the vegetation community to return it to a representative and largely self sustainable condition.

(2) Regeneration is the staged removal of weeds and the management of impacts in a natural area to facilitate natural recruitment of indigenous species with minimal planting at the speed of natural processes. Where regeneration will return the area to a representative and largely self sustainable condition within the agreed maintenance period it is the preferred option.

(3) Only site specific to the specific vegetation community indigenous plant species should be used in a natural area. No hybrid or select plant should be used. Where possible local provenance stock should be used.

(4) The successful rehabilitation of an Ee~~e~~nvironmental protection area occurs where:-

(a) all areas are clear of non-indigenous species and demonstrate multi-aged recruitment of indigenous species (to vegetation community species); and

(b) any random 1 metre square monitoring area demonstrates indigenous vegetation or multi-aged recruitment occupying at least 95% of the entire area, with bare areas less than 5%.

(5) The successful rehabilitation of an environmental enhancement area occurs where at the end of 5 years, any random 1 metre square monitoring area demonstrates the following:-

(a) 40 % ground coverage;

(b) 85 % projected foliage coverage in canopy;

(c) < 5% failure rate; and

(d) no environmental or declared weeds.

8. General guidelines

Fauna and flora translocation

(1) Any work involving the translocation of flora and fauna should be approved by the Council prior to the commencement of the works.

(2) All Federal and State government permits and approvals for the translocation of flora and fauna should be obtained and given to the Council prior to the commencement of the works.

(3) An accredited wildlife spotter should examine the site for presence of fauna and to supervise operations, where required.

C~~c~~reating or improving movement pathways for native animals

(4) Site development should complement the management of a non-urban open space area and address the safe movement of native animals through the development site and direct native animals away from those parts of uses and development that potentially cause harm to them. Threats may arise from a variety of sources including machinery, swimming pools, deep sided drains, domestic animals, security fencing, road traffic, lighting and noise.

(5) Specific consideration should be given to fauna exclusion fencing, fauna "funnelling" fences or structures, underpasses, overpasses, culvert design, fish passage and other fauna sensitive design features, as appropriate.

Controlling domestic pets and stock

(6) Development should ensure that domestic pets, especially dogs and cats, and stock do not enter a non-urban open space area. Critical boundaries between wildlife habitat and movement corridors and residential, commercial or industrial areas should be identified and managed appropriately.

Controlling pest plants and animals

(7) Development should prevent the introduction or spread or distribution of pest animals on the site and integrate any management requirements for pest animals on the site with other natural resource management activities.

(8) No equipment or materials (including mulch, soil, etc.) should be brought into a non-urban open space areas unless reasonably believed to be weed seed free.

(9) All declared plants (Land Protection (Pest and Stock Route Management) Act 2002 (QLD), and Environmental Weeds as identified in **Section SC6.14.7.5 (Management of weeds)** of the **Planning scheme policy for development works** should be removed in a manner that prevents the regrowth of the declared and weed species, prevents damage to non-target species and retains indigenous vegetation and community and conservation values.

(10) No declared plants (*Land Protection (Pest and Stock Route Management) Act 2002 (QLD)* or Environmental Weeds as identified in **Section SC6.14.7.5 (Management of weeds)** of the **Planning scheme policy for development works** should be planted.

(11) No native vegetation should be removed or disturbed from a non-urban open space area without the prior approval of the Council;

Site clean up and waste management

(12) Hazards and wastes should be removed from the site, with particular attention paid to the future public access and open space areas. This includes any wastes as defined in the *Environmental Protection Act 1994*, machinery, fencing, and equipment left over from past land uses and items of rubbish and litter.

Machinery and access

(13) No machinery, equipment, materials or personnel should enter a non-urban open space area unless directly and currently undertaking works that are required to meet the conditions of a development approval.

(14) Trees should be protected from any damage from development.

(15) No overburden or spoil should be pushed or deposited into a non-urban open space area.

(16) Vehicle barriers and access gates should be installed on the boundaries of a non-urban open space area, where appropriate to prevent unauthorised vehicle access. The purpose of the fencing is to protect a non-urban open space area against possible unauthorised vehicle damage and prevent unauthorised vehicular access to walking or management tracks via public entrances.

Tree hazard assessment

(17) A qualified arborist should conduct a tree hazard assessment of all trees within a 10 metre distance or within striking distance of a potential or existing residential lot, infrastructure including a retained or constructed footpath or road and the edge of open space and any trees where any disturbance of the earth, drainage or storage of materials has occurred during development.

(18) The qualified arborist should provide a written report of assessments and resultant hazard mitigation work to make safe for a period of 5 years to the satisfaction of the Council.

Fire management plan

(19) Development should comply with a Fire Management Plan required in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval which:-

(a) satisfies the following requirements:-

(i) address the whole of the proposed development site;
(ii) give consideration to the site's context within the broader area, particularly in relation to potential off-site sources of increased fire hazard;
(iii) identify the location and severity of potential bushfire hazard by means site-based assessment based on:-
(A) detailed data collected at the local level;
(B) factors such as vegetation type, slope, aspect, and fire history (if available);
(C) address on-and-off site hazard implications of the development, including those posed by any nearby bushland; and
(D) future land uses and ecosystem rehabilitation objectives;
(iv) recommend remedial measures such as specific features of the development design such as land use type, vehicular access, lot layout and house site location, proposed fire-fighting infrastructure such as water supply and fire maintenance trails, recommended standard of building construction, clearing and landscaping and advice to new residents;
(v) clearly state any impact of the chosen mitigation measures on the environmental values of the site and the measures taken to avoid or minimise this impact; and
(vi) consider the anticipated future bushfire hazard for the site that might arise as part of revegetation objectives, by allowing for the provision for future assessment in accordance with paragraph (iii); and

(b) has been approved by ~~a compliance certificate given by~~ the Council.

Editor's note–A variation approval or an applicable development application approved under the Act may include a development condition requiring the approval of a document.

Editor's note–Under section 319 (Compliance assessment of documents or works) of the Act compliance assessment of a document under chapter 6, part 10 of the SP Act continues to apply where a variation approval (being a preliminary approval to which the SP Act, section 242 applied) or another applicable development approval under the SP Act requires compliance assessment of the documents.

9. Guidelines for management

(1) Development should ensure that an environmental protection area and environmental enhancement area is provided in a tenure that complies with a plan required in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval and approved by the Council identifying the following:-

(a) the long-term security of tenure such as conservation estate, conservation covenant, nature refuge; and

(b) administrative and financial arrangements.

(2) Development should ensure that any third party contract arrangements relevant to the schedule of works in a Local Ecological and Landscape Protection and Rehabilitation Plan required in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development approval are approved by the Council.

(3) Development should ensure that a non-urban open space infrastructure area is maintained in a manner that at least maintains and preferably enhances the condition of the ecological areas for a period of 12 months after the Council has determined that the non-urban open space area has been developed in accordance with the approved Local Ecological and Landscape Protection and Rehabilitation Plan (Conditions Met Inspection).

(4) Development should ensure that an Ecological Protection and Rehabilitation bond is to be provided to the Council to ensure completion of the approved Local Ecological and Landscape Protection and Rehabilitation Plan and the repair of a non-urban open space area if an activities resulting from construction and development were to impact on the identified non-urban open space areas.

10. Requirements for local ecological and landscape protection and rehabilitation plan

(1) A Local Ecological and Landscape Protection and Rehabilitation Plan should be prepared for a landscape unit identified on **Other Plans Map OPMP12 (Palmview Master Planned Area Non-Urban Open Space Infrastructure Network)**.

(2) A Local Ecological and Landscape Protection and Rehabilitation Plan should be prepared prior to the commencement of any ecological or landscape protection or rehabilitation work and in accordance with the timing in a ~~preliminary approval to which section 242 of the Act applies~~ variation approval or another applicable development application.

(3) A Local Ecological and Landscape Protection and Rehabilitation Plan should be prepared by a competent person.

(4) A Local Ecological and Landscape Protection and Rehabilitation Plan should be consistent with:-

(a) the ecological protection and rehabilitation outcomes and management requirements for the landscape units identified in **Table 10.3.4.3B (Palmview ecological and landscape protection and rehabilitation landscape units)** of the **Palmview Structure Plan**; and

(b) any approved Local Ecological and Landscape Protection and Rehabilitation Plan for a surrounding area.

(5) A Local Ecological and Landscape Protection and Rehabilitation Plan should incorporate the following:-

(a) site description details, and in particular:-

(i) a definition of the site boundaries of the ecological area by reference to a plan showing the land subject to the Local Ecological and Landscape Protection and Rehabilitation Plan;
(ii) a description of the site, including geology, soils, acid sulphate soils, topography and drainage (including surface and groundwater), vegetation communities, significant wildlife habitat and corridor factors; and
(iii) a description of land use including the following:-
(A) past land use and management and any implications for proposed ecological protection and rehabilitation activities; and

(B) any current and future aspects of adjacent land that are likely to impact on the long term sustainability of the land and proposed ecological protection and rehabilitation activities.

(b) a resilience based condition assessment of the land the subject of the Local Ecological and Landscape Protection and Rehabilitation Plan, including an established and well documented photo-monitoring program;

(c) the proposed rehabilitation technique to be utilised within each non-urban open space area and any resultant secondary management zones with reference to the specific ecological protection and rehabilitation outcomes in **Table 10.3.4.3B (Palmview ecological and landscape protection and rehabilitation landscape units)** of the **Palmview Structure Plan**, including the following:-

(i) soil management – the measures proposed to ensure an adequate quantity of topsoil is obtained for rehabilitation which should entail procedures for stripping and stockpiling (if suitable material is on site), soil amendment and fertiliser requirements and management of noxious plant seed material (if soil is infected);
(ii) drainage, erosion and sediment control – the requirements for managing drainage, erosion (in particular active erosion) and sediment during rehabilitation consistent with the overall drainage, erosion and sediment control plan for the site from development to construction and post-occupancy;
(iii) waterways and wetlands – requirements for the enhancement of waterways and wetlands including improving bed and bank stability, aquatic habitat, riparian habitat, restoring natural water flows and watercourse processes and restoring natural flushing action to waterways having regard to the hydraulic effect of planting densities with reference to Manning's roughness coefficient;
(iv) site preparation techniques – the procedures for preparing the rehabilitation of each non-urban open space area and subsequent secondary management zone to demonstrate that suitable measures are to be undertaken to ensure that the seed bed and planting soil is in a condition which is able to support the rehabilitation and that soil moisture preparation, aeration, weed removal and mulching is adequate;
(v) slashing regime – the frequency and timing of slashing to achieve ecological and water quality outcomes;
(vi) species selection and planting – the procedures for sourcing and selecting species for revegetation, identification of suitable suppliers, quantity and timing of plant deliveries, types of plant stock to be used, planting procedures and drawings and protection measures from fauna and human activities and the like;
(vii) creation of fauna habitat and corridors – the procedures for enhancement of wildlife habitat and corridors including any requirements for the retainment of existing habitat features, creating or improving existing movement pathways for native animals, the use of fauna friendly fences or fauna "funnelling" techniques and fauna translocation; and
(viii) threatened species - where threatened species are present, background information on the species describing the current conservation status, demonstrating how the rehabilitation techniques selected will protect, manage and enhance the species and its habitat on the land (including individuals on the land) and including management actions that are in keeping with species recovery plans or conservation plans;

(d) a schedule of works including project duration, timing, stages and key milestones which is to be revised at each stage of development with reasons given for any delay in the schedule;

(e) the organisational structure, roles and responsibilities and reporting requirements for the schedule of works, including any third party contract arrangements;

(f) the materials and resources required, including equipment, supplies, plant material and other materials and estimate labour days required to carry out works for each stage as identified in the schedule of works;

(g) the on-going maintenance measures to ensure non-urban open space areas are properly maintained over the establishment phase and in the long-term having regard to the long term ownership and in particular the measures relating to the following matters:-

(i) signage;
(ii) fencing;
(iii) access management;
(iv) site clean-up, removal and management of rubbish, wastes and pollutants;
(v) fire management, including firebreaks and fire management access tracks;
(vi) pest animal and weed control;
(vii) fauna management;

(viii) the slashing regime, including slashing frequency and timing;
(ix) replanting failure;
(x) erosion repair;
(xi) watering; and
(xii) any other relevant maintenance requirement;

(h) details of all approvals necessary to carry out the work outlined in the Local Ecological and Landscape Protection and Rehabilitation Plan;

(i) indicators for monitoring the success of the ecological protection and rehabilitation in terms of the outcomes in **Table 10.3.4.3B (Palmview ecological and landscape protection and rehabilitation landscape units)** of the **Palmview Structure Plan** and in the resilience based condition assessment;

(j) reporting arrangements including details of the process for identifying and rectifying failures;

(k) the requirement for a progress report to be provided to the Council at the completion of each stage of works as identified in the schedule of works detailing the following:-

(i) the areas worked, rehabilitation methodologies undertaken, on-going maintenance requirements and estimated costs;
(ii) how outcomes have been met; and
(iii) as constructed plans of non-urban open space areas including accurate master plans, rehabilitation treatments, above and below ground land improvements, irrigation and any other infrastructure;

(l) mapping where necessary to complement or support the Local Ecological and Landscape Protection and Rehabilitation Plan which:-

(i) is accurate;
(ii) is easy to read and understandable,
(iii) is appropriately scaled;
(iv) provides an appropriate level of detail for site-specific assessment and management; and
(v) shows the direction of north and includes a scale, legend and title.

SC6.21 Planning scheme policy for biodiversity offsets

SC6.21.1 Purpose

The purpose of this planning scheme policy is to:-

(a) state standards identified in the **Biodiversity, waterways and wetlands overlay code** and **Vegetation management code** relating to biodiversity offsets; and

(b) identify and provide guidance about information that may be required to support a development application providing a biodiversity offset.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.21.2 Application

This planning scheme policy applies to assessable development providing a biodiversity offset for the removal of a native vegetation area.

SC6.21.3 Standards for biodiversity offset outcomes

For the purposes of Acceptable Outcome AO3 of **Table 8.2.3.3.2 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** in the **Biodiversity, waterways and wetlands overlay code** and Acceptable Outcome AO6.1 and AO7 of **Table 9.4.9.3.1 (Performance outcomes and acceptable outcomes~~Criteria~~ for assessable development)** of the **Vegetation management code**, the following are the standards in the codes for biodiversity offset outcomes:-

Biodiversity offsets generally[1]

(a) A biodiversity offset is:-

(i) not to replace or undermine existing environmental principles or regulatory requirements, and is not to be used to facilitate development in areas otherwise identified as being unacceptable through the planning scheme or legislation;

(ii) only to be used where it has been demonstrated that clearing cannot practicably be avoided and any impacts are effectively minimised;

(iii) to achieve an equivalent environmental outcome at maturity[2];

(iv) to be provided in a strategically important location, including within an identified state, regional and local biodiversity network;

(v) to commence prior to the vegetation clearing and be designed to minimise the time-lag between the impact and the offset reaching maturity;

(vi) to provide permanent protection of biodiversity values and additional management actions to improve biodiversity and broader environmental values over the longer term;

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1 The Queensland government *Offsets for Net Gain of Koala Habitat in South East Queensland Policy* sets out the minimum requirements for offsetting the clearing of non-juvenile koala habitat trees. The objective of this State policy is to ensure that where unavoidable impacts and the removal of koala habitat trees occur as a result of development activities, an offset achieving a net gain in koala bushland habitat is established. A koala habitat offset site should be provided in a strategic area located within the local biodiversity/habitat network and is suitable for koala habitat rehabilitation. All proposed koala habitat offset areas should meet the offset criteria as set out in the *Offsets for Net Gain of Koala Habitat in South East Queensland Policy*, and be assessed and approved by the relevant assessment manager. Any koala offset site is protected from future development impacts on habitat by permanently securing the site for conservation purposes and managed in accordance with an approved Koala Offset Area Management Plan.

2 Biodiversity offsets are considered to have achieved an equivalent environmental outcome when:-
(a) remnant vegetation status is achieved; and
(b) the quality of the environmental values are improved through the implementation of management actions which are additional to any existing management actions. In all cases quantifying environmental values are undertaken using an appropriate offset ratio as specified in **Table 9.4.9.3.2 (Biodiversity offset requirements of the Vegetation management code)**.

(vii) to be subject to binding arrangements that secure the use and management of the site for the conservation of any vegetation and other environmental values that are present for perpetuity; and

(viii) to be the responsibility of the applicant for the development or the vegetation clearing, including in terms of the payment of all costs associated with securing and managing a biodiversity offset.

Note— the primary purpose of a biodiversity offset is to mitigate development impacts in order to achieve a net environmental benefit and the nature of the offset ratio should have due regard to this outcome. The offset ratio will be determined based on the extent and nature of the values which are to be impacted. For example, if large areas of vegetation are proposed to be cleared, then an area-based approach to the offset ratio will be required in order to achieve the desired net environmental benefit, while a volume based metric is more relevant to the removal of a number of trees. Therefore, the nature of the offset ratio is to be determined on a site by site basis.

Biodiversity offset areas

(b) A biodiversity offset area is:-

(i) to be located on land:-
  (A) within the boundaries of the Sunshine Coast Council local government area; and
  (B) which has the same or very similar underlying geology, soils, aspect and drainage to re-establish (offset) the vegetation subject to clearing;

(ii) to be located in one of the following areas:-
  (A) an area within the boundaries of the development site;
  (B) a core habitat area identified on **Strategic Framework Map SFM5 (Natural Environment Elements)**;
  (C) an area contiguous with a core habitat area identified on **Strategic Framework Map SFM5**;
  (D) an area contiguous with a connecting habitat area within a biodiversity linkage identified on **Strategic Framework Map SFM5**;
  (E) an area identified as a local ecological linkage on a local plan elements figure;
  (F) an area suitable for koala habitat rehabilitation; and/or
  (G) an area identified as equivalent pre-cleared regional ecosystem vegetation by the Queensland Government Regional Ecosystem mapping;

(iii) not to be located:-
  (A) on land in which the vegetation is already protected or required to be retained by an existing approval issued under any Act administered by the Federal, State or local government;
  (B) within or adjacent to an area planned or identified for the provision of infrastructure (e.g. road, rail, power, water, sewerage and water storage) unless it can be demonstrated that the provision of the infrastructure will not impact on the biodiversity offset or its immediate environs;
  (C) on Land subject to the Extractive Resource Areas Overlay identified on the relevant overlay maps in the planning scheme; and
  (D) within an unconstrained area suitable for urban development unless the biodiversity offset area provides a reconnection between environmental areas or provides additional buffering to a core habitat area; and

(iv) to be capable of being designed and managed so as to:-
  (A) achieve remnant vegetation status and improve habitat functionality and ecological connectivity; and
  (B) be delivered in a spatial configuration that minimises edge effects.

Securement of biodiversity offsets

(c) Securement of a biodiversity offset is to be achieved through one or more of the following legal mechanisms:-

(i) an Environmental Covenant;
(ii) a nature refuge under the *Nature Conservation Act 1992*;
(iii) a reserve for environmental purposes under the L*and Act 1994*;
(iv) utilising (by agreement) land held by the Council which forms a part of Council's Ecological Reserve Estate; and
(v) utilising (by agreement) land owned by a non-government organisation (NGO) such as the Australian Wildlife Conservancy, Bush Heritage Trust, Australian Koala Foundation, Wildlife Land Fund Ltd for environmental protection which is *managed for* ecological objectives under a conservation covenant made under the *Land Act 1994* or the *Land Title Act 1994* and where a conservation agreement has been entered into with the Council.

Biodiversity offset agreement

(d) A biodiversity offset agreement is to be entered into between the applicant and the Council for each biodiversity offset, or for all related biodiversity offsets, that:-

(i) identifies the obligations of the applicant, the Council and any third party;
(ii) outlines that the biodiversity offset remains in effect until the biodiversity offset ends under the terms of the biodiversity offset agreement and associated biodiversity offset area management plan;
(iii) provides provisions for bringing a biodiversity offset agreement to an end;
(iv) provides for the area to be protected in perpetuity consistent with one of the securement mechanisms;
(v) provide provisions requiring a financial assurance (e.g. a bond) at the time of entering into the legally binding agreement, particularly where restoration works are undertaken[1]; and
(vi) includes provisions for transferring a biodiversity offset obligation to a third party.

Management of offset areas and biodiversity offset management plans

(e) A development application requiring the provision of a biodiversity offset is to demonstrate how the offset will be managed and is to include the following:-

(i) a biodiversity offset area management plan which conforms to the *South East Queensland Ecological Restoration Framework: Code of Practice, Guideline and Manual*;
(ii) the estimated management costs associated with achieving the offset management objectives, actions and outcomes;
(iii) the trust account details for the holding of funds for the ongoing management actions for the offset area;
(iv) details of the dispersal of funds for ongoing management actions based on the yearly schedule of management actions;
(v) the entity responsible for undertaking the management actions and the skills or expertise of the entity responsible for undertaking the management actions;
(vi) evidence that the landholder has received legal advice in regards to their obligations under the legally binding securement mechanism; and
(vii) details of all maintenance work to be undertaken for a period of 5 years.

Financial contributions in lieu of an on-ground biodiversity offset

(f) A financial contribution in lieu of providing an on-ground biodiversity offset may be accepted by the Council where an applicant can demonstrate that they are unable to secure a biodiversity offset and they have undertaken extensive investigations seeking to comply with the provisions of this planning scheme policy.

(g) The amount of any financial contribution will reflect the total cost of:-

(i) locating and purchasing new offset land or using existing Council owned offset land;
(ii) undertaking all revegetation and habitat rehabilitation works associated with the offset requirements; and
(iii) undertaking all maintenance works that ensures the biodiversity offset achieves an equivalent environmental outcome at maturity.

Advance biodiversity offsets

(h) An advance biodiversity offset may be established either by an applicant for a specific project or projects, or by a third party for any development which may require a biodiversity offset at a future date. The advance biodiversity offset may be used as a whole, or in part to provide an offset to meet one or more biodiversity offset requirements.

(i) The applicant or entity seeking in-principle approval of an advance biodiversity offset should provide Council:-

(i) the lot and plan numbers for the project or projects where the clearing is proposed;
(ii) the biodiversity values located on the land where the clearing is to occur and on the proposed advance biodiversity offset;
(iii) the extent of clearing proposed;
(iv) the lot and plan numbers for the proposed advance biodiversity offset area;
(v) information on how the advance biodiversity offset generally meets the criteria for biodiversity offsets;
(vi) timeframes associated with the advance biodiversity offset; and

[1] If all milestones outlined in the Biodiversity Offset Area Management Plan are met then the bond is released. Where poor performance occurs then Council may opt to use the bond to undertake restoration works on the site.

(vii) details of the legally binding mechanism proposed by the applicant or entity.

(j) The legally binding mechanism over the advance biodiversity offset should be finalised within four months of in-principle approval by Council. An advance biodiversity offset may be revoked by the applicant or entity prior to the area being used to acquit an offset requirement.

(k) approval in-principle of an advance biodiversity offset and registration by Council does not provide any indication that a development application lodged at a future stage will be approved.

SC6.21.4 Guidance for the preparation of a biodiversity offset area management plan

(1) A biodiversity offset area management plan prepared by a competent person is to be submitted for development proposing to provide a biodiversity offset.

Note—for the purposes of this planning scheme policy, a competent person is an appropriately qualified and experienced consultant with tertiary qualifications in environmental science, botany, zoology or another related discipline and with appropriate and proven technical expertise in preparing biodiversity offset management plans for sites within the South East Queensland Bioregion.

(2) A biodiversity offset area management plan is to include or identify the following:-

(a) an A3 size map at a scale of no greater than 1:500, including a scale on the plan;

(b) the proposed biodiversity offset area with associated Lot on Plan Global Positioning System (GPS) reference points, including any areas subject to specific management actions;

(c) the proposed vegetation clearing and the environmental values impacted as determined by an ecological assessment report[2];

(d) the environmental values of the proposed offset area as determined by the ecological assessment report;

(e) the management objectives and outcomes expressed as measurable and achievable criteria for the biodiversity offset area on which the performance of the floristic and structural re-vegetation components can be assessed annually over at least five years;

(f) the density and diversity of species reflecting the target regional ecosystem and how this is to be achieved by either planting, natural regeneration from seed stock, or reliance upon natural encroachment into the site;

(g) fencing, access limitations, and other restrictions imposed on the use of the offset area;

(h) a schedule of management requirements for the first five years (i.e. at least to achieve the management objectives and outcomes described in (e) and (f) above);

(i) a six monthly monitoring program with an annual report to be provided to Council for approval;

(j) all registered interests including mortgages, leases, subleases, covenants, profit á prendres, easements and building management statements that have been registered on title under the *Land Act 1994* or the *Land Title Act 1994*;

(k) management requirements to achieve an area that is weed[3] free within two years of the re-vegetation period; and

(l) bonding requirements, including:-

(i) a total bond amount of 1.5 times the schedule of works estimate of costs (plus GST) for the re-vegetation works, including maintenance for at least five years; and
(ii) triggers for the release of the bond at 10% for each year with the balance in the final year[4].

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2 Advice about the preparation of ecological assessment reports is contained within the **Planning scheme policy for the Biodiversity, waterways and wetlands overlay code**.

3 Weed includes declared plants under the *Land Protection (Pest and Stock Route Management) Act 2002* and sub-ordinate *Regulation 2003*, and the *draft Sunshine Coast Local Government Area Pest Management Plan 2011-2015* pest species of significance in Group 1, Group 2 and Group 6.

4 A bond may only be released provided performance of management objectives and outcomes of a biodiversity offset area management plan have been achieved for that year.

SC6.22 Planning scheme policy for other information local government may require

SC6.22.1 Purpose

(1) The purpose of this planning scheme policy is to identify information, other than that specified in another planning scheme policy, that Council may require to inform the proper assessment of a development application.

(2) In particular, this planning scheme policy provides advice and guidance about the circumstances when the following types of plans and reports may be required, as well as the typical content to be included in such plans and reports:-

(a) a site analysis plan;

(b) an economic impact assessment report;

(c) a community impact assessment report; and

(d) a safety and security management plan.

Note—nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 68(1) of~~in accordance with~~ the Act.

SC6.22.2 Application

This planning scheme policy applies to assessable development which, owing to its location, nature or scale requires specific information to determine its likely impacts and the measures necessary to be implemented to avoid or mitigate those impacts to acceptable levels.

SC6.22.3 General advice about preparation of site analysis plans

(1) Council is likely to require submission of a site analysis plan for most types of development.

(2) It is important that a development proposal recognises the natural and artificial characteristics of its site and the surrounding locality and minimises any negative impacts arising from the development proposal on the amenity of adjoining properties.

(3) A site analysis plan is a document which identifies and describes:-

(a) the key influences on the design of the development; and

(b) how proposed uses and buildings will relate to each other and to the immediate surroundings.

(4) A site analysis plan should be specifically relevant to the site and development in question, with the type and detail of information provided matched to the size, scale and nature of the proposed development.

(5) Typically, a site analysis plan should include the following:-

(a) in respect to the site, information pertaining to:-

(i) contours and pertinent spot levels;
(ii) type, size and location of existing vegetation;
(iii) past and present land uses, activities and buildings;
(iv) views to and from the site;
(v) access and connection points;
(vi) drainage, services and infrastructure;
(vii) orientation, microclimate and noise nuisance sources;
(viii) any contaminated soils and filled areas;
(ix) natural hazards (e.g. areas subject to flooding, bushfire, landslide, steep land etc);
(x) fences, boundaries, lot sizes, easements and any road realignment lines;
(xi) features of environmental, cultural or heritage significance; and
(xii) any other notable features; and

(b) in respect to the site surrounds, information pertaining to:-

(i) the use of adjacent and opposite properties and the location of buildings;
(ii) pedestrian and traffic circulation patterns;
(iii) where residential use adjoins the site, abutting secluded private open spaces and habitable room windows, which have outlooks towards the site;
(iv) views and solar access enjoyed by adjacent residents;
(v) major trees on adjacent properties;
(vi) extractive resource areas or infrastructure corridors;
(vii) characteristics of any adjacent public open space;
(viii) street frontage features such as poles, street trees, kerb crossovers, bus stops and services;
(ix) the built form and character of adjacent and nearby development, including characteristic fencing and garden styles;
(x) direction and distances to local shops, schools, public transport, parks and community facilities; and
(xi) the difference in levels between the subject land and adjacent properties.

(6) Photographs of the site and surrounds are helpful for assessment of development applications, and should also be included in a site analysis plan.

SC6.22.4 General advice about preparation of an economic impact assessment report

(1) Council is likely to require the submission of an economic impact assessment report for major retail and commercial development and other types of development with the potential to have adverse economic impacts.

(2) In particular, Council may require an economic impact assessment report for development which involves one or more the following:-

(a) the establishment of a business use exceeding a gross leasable floor area of 2,500m², where located in a centre zone, or the Specialised centre zone;

(b) the establishment of a business use exceeding a gross leasable floor area of 100m², where located in a zone other than a centre zone or Specialised centre zone; or

(c) the establishment of a business use which is identified as an inconsistent use in the applicable zone code or local plan.

(3) An economic impact assessment report is a report prepared by a competent person, which assesses and demonstrates the public need for, and the acceptable economic impact of a proposed development.

Note—for the purposes of this section of the planning scheme policy, a competent person is an appropriately qualified and experienced economist or economic analyst with appropriate and proven technical experience in providing advice about the economic impacts of development.

(4) Typically, an economic impact assessment report should include the following:-

(a) a description of the size, function and tenancy mix of the proposed development, together with details of any pre-commitments;

(b) an examination of the population growth prospects and socio-economic characteristics of a defined trade area;

(c) a description of the location, size, nature, function and tenancy mix of competitive centres likely to be affected by the proposed development;

(d) an assessment of the extent of inadequacy, if any, within the competitive network of activity centres;

(e) an assessment of the quantitative economic impact upon competitive centres likely to be affected by the proposed development describing the consequent effects upon those activity centres; and

(f) an assessment of the effect of the proposed development upon the Sunshine Coast Activity Centre Network as defined by the planning scheme.

SC6.22.5 General advice about preparation of a community impact assessment report

(1) Community impact assessment is a process of investigating the possible social effects of development on a community.

(2) While most development will impact on a community in some way, informed judgement is required to determine those impacts that are acceptable and those that are not. As with many other planning matters, measuring community impacts often relies on a combination of quantitative and qualitative analysis and judgement. The community impact assessment process provides a means to investigate social impacts in consultation with the affected community by addressing:-

(a) possible impacts in an objective and inclusive way;

(b) whether or not possible impacts are acceptable; and

(c) how possible impacts might be managed.

(3) While the range and severity of effects can vary, generic impacts that may affect communities include:-

(a) alteration in demand for community services and/or facilities;

(b) change in community activity, cultural activities and important places;

(c) changes to housing affordability, choice and mix;

(d) changes to accessibility;

(e) changes in character, identity and amenity;

(f) community cohesion/severance;

(g) unfair and/or inequitable opportunities for specific groups or individuals;

(h) reduction/enhancement in employment access and opportunities;

(i) financial gain/loss;

(j) community health and safety effects;

(k) opportunities for local economic development; and

(l) access to natural environment features/resources.

(4) Council is likely to require the submission of a community impact assessment report for development which involves one or more the following:-

(a) the establishment of any residential use involving more than 100 dwellings;

(b) the establishment of any entertainment/catering business use except for a food and drink outlet;

(c) the establishment of a high impact industry or special industry;

(d) the establishment of a club (where the use involves the serving of alcohol), major sport, recreation and entertainment and motor sport facility;

(e) the establishment of air services, major electricity infrastructure, port services, a renewable energy facility, telecommunications facility or utility installation except where a local utility; or

(f) the establishment of any use which is identified as an inconsistent use in the applicable zone code or local plan.

(5) A community impact assessment report is a document prepared by a competent person which:-

(a) provides an assessment of the potential effects of a development on the community; and

(b) includes:-

(i) a description of the proposed development;
(ii) a statement of the likely impacts on the community of the proposed development;
(iii) a statement of the measures to be used to avoid or mitigate negative impacts on the community of the proposed development and to enhance potential positive impacts on the community of the development; and
(iv) details of consultation undertaken with the community to determine impacts on the community of the development.

Note—for the purposes of this section of the planning scheme policy, a competent person is an appropriately qualified and experienced social planner with appropriate and proven technical experience in providing advice about the social impacts of development.

(6) Means of dealing with social impacts may include changes to a development proposal, compensation to affected communities or requirements for ongoing management of impacts in accordance with an agreed management regime.

SC6.22.6 General advice about preparation of a safety and security management plan

(1) Council is likely to require the submission of a safety and security management plan for development involving an entertainment/catering business use or sport and recreation use, where the use involves the serving of alcohol and/or extended evening hours operation.

(2) A safety and security management plan is a document prepared by a competent person, which assesses the likely safety and security issues associated with a development and identifies design and management measures to maintain the safety and security of patrons, premises and the general community.

Note—for the purposes of this section of the planning scheme policy, a competent person is an appropriately qualified and experienced security consultant with a proven technical experience in providing advice about safety and security management issues.

(3) Typically, a safety and security management plan should include the following:-

(a) a description of the proposed development;

(b) an assessment of the safety and security issues associated with the use, having regard to the characteristics of the use and the location and design of the premises;

(c) a statement as to the measures to be used to maintain the safety of patrons, premises and the general community; and

(d) details of consultation undertaken with the Queensland Police and other emergency services to identify safety and security issues and determine appropriate design and management measures.

SC6.23 Planning scheme policy for performance bonds

SC6.23.1 Purpose

(1) Council often imposes conditions of approval on development applications which seek to have the developer carry out works, make payments to Council or conduct construction and development in accordance with approved plans of development. As a means of achieving compliance with certain conditions, it is Council's practice to require security in the form of a cash bond or trading bank guarantee (bond).

Note—**Section SC6.14.11.7 (Bonding)** of the **Planning scheme policy for development works** provides further detail about bonding arrangements for operational works.

(2) The purpose of this planning scheme policy is to provide advice about the circumstances in which Council may require payment of a bond and the manner in which the amount of any bond will be determined.

SC6.23.2 Application

This planning scheme policy applies to development requiring imposition of a bond for security purposes.

SC6.23.3 General advice about imposition of bonds

The following is general advice about the imposition of bonds:-

(a) without limiting its powers under section ~~346~~65 of the Act, Council may impose conditions on a development approval requiring the lodgement of a bond;

(b) a bond is intended to provide an incentive to develop in accordance with conditions of approval, as very often, in the view of the community, particular conditions are critical to a satisfactory development outcome being achieved;

(c) a bond is to be of sufficient scale to ensure that:-

(i) causing a breach on the basis of deliberate action is not a desirable option; and
(ii) monitoring to ensure that contractors and employees do not unknowingly cause a breach is a desirable option;

(d) in determining the amount of a bond, Council will have regard to the following:-

(i) the critical attributes of the site;
(ii) the relative importance, in planning, environmental and engineering terms, of the Council's requirements;
(iii) the scale of the development and the specific matters against which security is required;
(iv) the likely degree of community concern should a breach occur; and
(v) the remedial action, if any can be taken, which may be required should a breach occur;

(e) Council will usually require the bond to be lodged prior to the commencement of development works;

(f) a bond will be returned following completion of development and fulfilment of all conditions the subject of the bond; and

Note—it is an applicant's responsibility to lodge a formal request with Council for the return of a bond at the completion of development works.

(g) in certain circumstances where compliance with conditions is essential to avoiding serious environment harm or other serious adverse impacts, Council may require a bond from the specific contractor or builders as well as from the developer, as a means of ensuring compliance with one or more conditions of approval.

Schedule 6