Contents of Part 11[1]

[1] The Planning Scheme Policies do not form part of the Planning Scheme, and therefore cannot regulate the use of premises. Under Section 2.1.23 (4) of the *Integrated Planning Act 1997*, a planning scheme policy may only do one or more of the following:

(a) state information the local government may request for a development application;
(b) state the consultation the local government may carry out under Section 3.2.5 of the *Integrated Planning Act (1997)*;
(c) state actions a local government may take to support the process for making or amending it's planning scheme; and
(d) contain standards identified in a code.

Maps in Part 11

Tables in Part 11

Figures in Part 11

Schedules in Part 11

Part 11 Planning Scheme Policies

11.1 Introduction

11.1.1 Preliminary

(1) This part contains the Planning Scheme Policies that support the interpretation and application of the Planning Scheme.

(2) Planning Scheme Policies provide:

(a) guidance on information that should typically be submitted with development applications;
(b) urban design guidelines and master plans for specific business centres and localities within Caloundra City; and
(c) guidance about ways to achieve certain specific outcomes identified in certain codes.

(3) To the extent that there is any conflict between the Planning Scheme Policies and the Planning Scheme, the Planning Scheme prevails.

11.1.2 Assessment Guidance: Explanation of Key Terms

(1) A term used in the planning scheme policies, which is not defined in clause (2) below, has the meaning assigned to that term pursuant to section 3.1.2 (Interpretation) of the Planning Scheme.

(2) Administrative definitions:

"competent person" means a suitably qualified and experienced person.

"landscape plan" means a plan prepared by a competent person which describes the design of landscaping on a site.

"structure plan" means a schematic plan of an emerging urban area that:

(a) provides the site planning and design framework for future development activities on the site; and
(b) shows the layout of future land uses, open space, roads, drainage and other infrastructure for the site and interrelationships with development on adjoining sites; and
(c) is prepared in accordance with the Structure Planning Code; and
(d) may be prepared as part of a preliminary approval which overrides the Planning Scheme.

Planning Scheme Policies Relating to Part 6 – Planning Area Codes

11.2 Caloundra Regional Business Centre Urban Design Planning Scheme Policy

11.2.1 Purpose

(1) The policy incorporates a Master Plan which has been developed to ensure that urban design and streetscape themes are appropriately implemented throughout the Regional Business Centre Precinct located in the Central Caloundra Planning Area.

(2) Ultimately the Master Plan, in conjunction with a Landscape Infrastructure Design Manual (to be developed in the future), will provide for the creation of integrated and coherent streetscapes with consistent use of materials, street furniture and landscaping.

(3) It is intended that the Master Plan will be progressively implemented through the redevelopment of sites in the Regional Business Centre Precinct.

(4) The Master Plan is intended to convey the preferred concepts and themes for the various streetscapes, public spaces and private land interfaces located in the Regional Business Centre Precinct. The policy provides a broad framework that will assist in guiding the overall identity and vitality of the Caloundra Regional Business Centre Precinct.

(5) It is intended that development of sites within the Regional Business Centre Precinct should:

(a) be in accordance with the ***Caloundra Regional Centre Concept Plan*** **(Map CCP7)**;
(b) have regard to the ***General Design Guidelines*** of this Policy, relating to both architectural and streetscape principles; and
(c) be in accordance with the particular urban design intents and criteria established for the various ***Master Plan Units*** identified on **Map CCP8** (as specified in **Schedule 11.1** to this policy).

11.2.2 Application of Policy

(1) This Planning Scheme Policy is to be read in conjunction with the Central Caloundra Planning Area Code.

(2) This policy applies to assessable development within the Regional Business Centre Precinct.

11.2.3 Components of the Master Plan

(1) The Master Plan comprises the following components:

(a) *Caloundra Regional Business Centre Concept Plan*

The Caloundra Regional Centre Concept Plan (refer to **Map CCP7**) provides a description of the various existing and proposed public spaces within the Regional Business Centre Precinct. It broadly outlines the preferred direction and combination of streetscape themes for particular street frontages and of public and open space uses and themes.

Part 11

(b) *General Design Guidelines*

General design guidelines are provided in this policy to highlight relevant architectural and streetscape principles that should be applied to development in the Regional Business Centre Precinct. The guidelines encourage site responsive design which is intended to consolidate the established townscape structure of the business centre.

Architectural Principles relate to: Business Centre Form; Building Design and Form; Prominent Corners; Building Alignment; Building Orientation; Scale of Development; Amenity; Access and Through-site Links; Pedestrian Protection (Awnings); and Internal Open Space.

Streetscape Principles relate to: Pavements; Street Furniture; Lighting; Sculptures and Artwork; and Planting.

The Council will encourage innovative variation where it can be demonstrated that the modification achieves in other ways the intent of the Master Plan.

(c) *Master Plan Units*

The Tourist Hub and Business Centre Core sub-precincts have been divided into various Master Plan Units as indicated on **Map CCP8**. The Master Plan Units provide further detail that will assist in defining and guiding the preferred form and character of new development and streetscape improvements.

Schedule 11.1 to this policy outlines the preferred character of streetscape improvements and associated development in the respective Master Plan Units that comprise the Tourist Hub and Business Centre Core sub-precincts.

11.2.4 Development Bonuses

(1) Proponents of development applications seeking bonuses as provided for in the Central Caloundra Planning Area Code will be required to demonstrate how the development contributes to the stated intent of the relevant Master Plan Unit in which the site is located (Refer to **Schedule 11.1**).

(2) The incorporation and development of other appropriate, original and innovative ideas/themes is not intended to be hindered by the stated intent of each Master Plan Unit outlined in **Schedule 11.1.**

(3) When assessing development proposals seeking bonuses as provided for under the Central Caloundra Planning Area Code, the Council will give significant weight to the extent to which the proposed development contributes to the implementation of the Master Plan.

11.2.5 General Design Guidelines: Architectural Principles

Business Centre Form

(1) The Regional Business Centre Precinct's structure is intended to focus upon the Tourist Hub with Bulcock Street, Otranto Avenue and The Esplanade being the main pedestrian activity spines within the business centre. Strong visual and pedestrian links between Bulcock Street and Bulcock Beach should be developed to provide human scale, pedestrian friendly, shaded and comfortable streetscapes.

(2) It is intended that the diverse streetscapes contained within the Regional Business Centre Precinct will invite a range of appropriate building forms, street frontages and innovative design solutions.

(3) The network of laneways in the Regional Business Centre Precinct provide a positive asset to the overall function, service access and pedestrian permeability of the business centre and should be enhanced by sensitive and appropriate treatment. In this regard, adjacent development should contribute to the provision of a comfortable and safe pedestrian environment along these laneways and maintain the traditional service based role of the laneways.

Building Design and Form

(4) Building form collectively plays a dominant role in determining the character of the Tourist Hub and Business Centre Core sub-precincts. In the evolution of the business centre, each decision on the form or shape of a new building is important.

(5) Generally, building shapes that complement the existing street pattern will assist in forming cohesive and legible public spaces. If the building form for each site is decided in isolation then the resulting streetscape is likely to consist of unrelated buildings that disregard their context and collectively create a disjointed character.

(6) For example, the maintenance of setback, vertical scale, frontage length and texture of the various shopfronts along Bulcock Street is essential to the overall character of the main street. This form has developed as a result of the historically fine-grained subdivision pattern (with narrow road frontages) along Bulcock Street. Future development on amalgamated sites may have a detrimental effect upon this character if this existing built form and scale is not reiterated or sensitively modified.

(7) The right combination of setback and tower heights above podium level should also be carefully determined to ensure that adjacent streetscapes and developments are not impacted upon by overshadowing and to ensure that streets are not overly dominated by building height and structure.

(8) The location and form of a building on its site can significantly affect views along streets. Therefore building design should take into account the way that it will be viewed. In particular, buildings in the following locations require careful consideration of siting and design issues so that views are not detrimentally affected:

(a) on a slope, ridgeline or other highly visible location;
(b) at the end of a street or vista;
(c) in the vicinity of an existing landmark or building of historic or community interest; and
(d) on the edge of the Regional Business Centre Precinct, or at one of the entrances to the Regional Business Centre Precinct or Tourist Hub sub-precinct.

(9) Design should incorporate elements integral to Caloundra's identity and generate site specific solutions. For example, development should contribute to associated footpath areas and be of a coastal sensitive and climate conscious design.

(10) Other architectural principles which should be considered in order to effectively integrate new development into the established streetscapes, are:

(a) composition and proportion: rhythm and pattern can create distinctive streetscape character;
(b) articulation and modelling of facades: visual interest and diversity, creation of shade and shadow;
(c) fenestration: placement of windows and building openings; and
(d) materials, colours and finishes (significant in blending new buildings with their setting).

Prominent Corners

(11) Within the Tourist Hub and Business Centre Core sub-precincts, buildings and public spaces on significant corner sites (particularly at the intersections of Bulcock Street with Knox Avenue,

Minchinton Street, Otranto Avenue, Tay Avenue and Centaur Street) are intended to play a vital role in enhancing the character and legibility of the business centre.

(12) Some of these corner sites will assist in defining entry points to the business centre. Gateway buildings on corners should be designed to be visual landmarks in the townscape. Some of these sites have been identified as Key Sites in the Central Caloundra Planning Area Code, which provides probable solutions for these sites.

(13) Corner building design outcomes can have a significant impact on the character of a street or precinct because of their visual exposure and prominence. Some general principles which should be considered in respect to buildings on significant and prominent corner sites are:

(a) contribution can be made to the definition of intersections and street entrances (often this will assist in establishing the desired linkages between Bulcock Street and Bulcock Beach);
(b) prominent corners can be enhanced through the use of well-scaled, vertical building elements;
(c) corner buildings can reflect the variable streetscape requirements of streets with differing widths and facade scale;
(d) at street level, a corner building can contribute to the extent and quality of public space and facilitate pedestrian flow by incorporating a setback that truncates the corner; and
(e) buildings in prominent gateway locations (such as those located on identified Key Sites) should be visually distinctive and be of a high design and construction standard as well as adhering to siting and scale requirements for a corner location.

Building Alignment

(14) Development which is consistent with the pattern of existing development is encouraged. A new building may disrupt this pattern when it is setback or placed at an angle which is inconsistent with the street.

(15) Building alignment at street level should define and relate to the major streets and public places. For example, in Bulcock Street it is intended that buildings create a relatively continuous building edge to define the street.

(16) In the Business Centre Core and Business Centre Frame sub-precincts, building alignment can be more variable than in the Tourist Hub sub-precinct as the established character may require different siting and setback design. Generally, the design should ensure that the building relates to neighbouring development and does not detract from the continuity of existing built form.

Building Orientation

(17) Building orientation relates to how a building is located on its site and the direction it faces. Building orientation should reflect and define the major streets and public spaces.

(18) The Tourist Hub sub-precinct is generally characterised by buildings which address their frontage. For development that incorporates a tall building, the desired orientation of both the podium base and the tower above should reflect the direction of the street grid.

(19) Design consideration should be given to all the elevations of a building particularly where such elevations are exposed to viewing from within the business centre, or for example if the building will be highly visible when entering the business centre. Building design and detailing which only considers the front facade of a building (the main address) or relates only to the orientation of internal spaces within the building can be detrimental to townscape and should be avoided.

Scale of Development

(20) To reinforce desired scale and character in the form of new buildings in the Caloundra Regional Business Centre Precinct, factors of scale, height and massing of the podium base and towers above podium should be carefully considered.

(a) *Height:* Achieving the correct ratio of building height (or podium height with tower setback) to street width will complement the spatial character of the established streetscape and will reduce the impacts of overshadowing on the street and neighbouring development.

(b) *Mass:* In order to complement the scale of the existing streetscape new buildings should blend with rather than dominate space. If a development is to be substantially bigger than its neighbours the new building should be articulated to reduce its apparent mass when viewed from the street. In combination with building articulation, well considered colour schemes can also be used to reduce visual impact.

(c) *Podium base*: On certain sites within the Tourist Hub sub-precinct the permitted height of new buildings may far exceed the established streetscape height. To minimise the impact of a new large-scale development within a streetscape a podium may be required. The podium or building base can be designed to fit within the existing streetscape. By creating a podium, new buildings can complement the existing scale and streetscape texture of development, reduce adverse amenity impacts and introduce additional detailing to improve pedestrian amenity at street level. For example, the podium can be more detailed in its design than the facade of the upper tower. The contribution of a new building to the streetscape is largely assessed by its presentation at ground level which is the entry point and the edge between the public space of the street and the private space of the building.

Amenity

(21) The Master Plan promotes a high quality public environment by encouraging development proponents to contribute to the amenity of adjoining public spaces. The Tourist Hub and Business Centre Core sub-precincts are places where the pedestrian should feel welcome and comfortable.

(22) Development can improve the public environment through the provision of pedestrian shelter, suitable access including through-site links and open space. Buildings should also incorporate design elements to minimise detrimental effects of overshadowing, wind (wind conditions are improved by a podium base to towers) and glare (limits on the use of reflective glass).

Access and Through-Site Links

(23) Pedestrian arcades and laneways add interest and assist in providing pedestrian permeability as well as providing service accesses. The quality of design detail and/or landscaping provided should enhance these public environments. A diversity of through-site links will be encouraged and may take the form of arcades, lanes, pedestrianised streets or widened footpaths.

Pedestrian Protection (Awnings)

(24) In identified locations in the business centre, development is to provide pedestrian shelter in the form of awnings, canopies, balconies or verandahs (refer **Map CCP6a** of the Central Caloundra Planning Area Code). In the Tourist Hub and Business Centre Core sub-precincts, existing development typically provides cantilevered awnings for rain and sun shelter. This form of pedestrian amenity is desirable along the full length of active frontages in the Tourist Hub and Business Centre Core sub-precincts.

(25) In areas where pedestrian shelter is not specifically required by the Central Caloundra Planning Area Code, shading of pedestrian areas may be provided by carefully designed structures such as light-weight free standing awnings as well as street 'canopy' tree plantings (in accordance with the Landscaping Code or established street tree species).

Internal Open Space

(26) In the Tourist Hub sub-precinct defacto public space can be incorporated and designed within the site boundaries of the development. Whilst it is generally required to build to the front boundary

for the length of developments fronting Bulcock Street and other areas in the Tourist Hub, it is still possible to locate dining areas (similar in effect to broader footpath spaces) within the site. This may be achieved through the use of bi-fold doors and the like. In these situations, level changes and appropriate pavement treatments need to be considered to define the boundary of the development.

11.2.6 General Design Guidelines: Streetscape Principles

(1) It is intended that the Council will ultimately develop a Landscape Infrastructure Design Manual which will detail specific streetscape treatments for the Regional Business Centre Precinct. This manual will detail and specify various streetscape elements for use in public spaces and private land interface areas. The manual will outline various elements, including required specification, treatments, materials and detailing for:

(a) pavement treatments;
(b) street furniture items;
(c) set-out requirements;
(d) colour schemes;
(e) directional and information signage;
(f) planting design; and
(g) lighting fixtures.

(2) Until such time as the Landscape Infrastructure Design Manual is developed and adopted by the Council, streetscape details are to be determined having regard to the following principles and in consultation with the Council's Urban Designer and Landscape Architects.

Pavements

(3) Typically, pavements are a significant expense within streetscape schemes, therefore the selection of materials is particularly important. Pavements within public spaces should be designed and constructed in accordance with the Landscape Infrastructure Design Manual. The approved pavement treatment(s) are to meet certain criteria, including:

(a) provision of a level and barrier free walking surface;
(b) provide footpaths and public spaces of an appropriate civic standard;
(c) be robust and able to endure high wear conditions over time (with predictable maintenance costs);
(d) be able to be applied in a creative manner in order to convey the preferred design and theme;
(e) ability to provide visual interest and to express individuality within the paving system;
(f) ability to incorporate art pieces and other integrated items and fixtures (pit covers etc.); and
(g) ability to be applied consistently throughout the business centre in terms of material, colour palette and surface textures.

(4) A consistent theme in footpath paving will act as a visually unifying element for the Tourist Hub sub-precinct and over time this area should be repaved to new and consistent designs to ensure that it is perceived as a coordinated and attractive centre. Materials and treatments will need to be carefully selected and set out, and footpaths will be sufficiently wide to comfortably cater for expected pedestrian volumes.

(5) Appropriate pavement layouts for the various streetscapes and spaces within the Regional Business Centre Precinct are outlined in **Schedule 11.1** to this policy for the Master Plan Units identified on **Map CCP8.** A controlled and semi-formal layout and patterning is preferred for Bulcock Street and the adjoining streetscapes to the north of Bulcock Street.

(6) In the Bulcock Beach and Esplanade areas, a more casual freeform set-out and patterning is intended to visually and thematically link public spaces to the beach and Pumicestone Passage.

(7) The streets connecting Bulcock Street to Bulcock Beach are intended to be the transitional areas creatively merging the two pavement themes.

Street Furniture

(8) Street furniture within public spaces and private land interfaces is to be in accordance with Council specification and the Landscape Infrastructure Design Manual. It is intended to develop a standard range of furniture items for the Regional Business Centre Precinct that is suited for use in the foreshore, open space and park settings in addition to the more civic and urban spaces in and around Bulcock Street.

(9) A selection of purpose designed items will be created and these will be coordinated in terms of materials, colours and style, and could incorporate themes developed by artists/designers to reflect the character of Caloundra. The furniture will be constructed from robust materials capable of withstanding coastal conditions in a contemporary style and able to incorporate preferred streetscape and cultural themes.

(10) Within the various open space and park areas associated with Bulcock Beach, furniture elements are to cater for families and other groups. Structures should be coordinated with street and park furniture and would include bus shelters, wind protection, shade structures and entry structures.

Lighting

(11) Lighting and lighting fixtures will be provided to Council specification and in accordance with the Landscape Infrastructure Design Manual. Appropriate lighting is critical to the Regional Business Centre Precinct being perceived as and being a safe night time area. The lighting will be designed to:

(a) be in accordance with Crime Prevention Through Environmental Design (CPTED) principles to provide personal safety and security in car parks and linking pathways;
(b) enable vehicular and pedestrian traffic to circulate safely;
(c) be visually and aesthetically interesting; and
(d) not create unwanted glare for residents of adjoining sites.

Planting

(12) Planting within public spaces and private land interfaces is to be designed and constructed subject to Council approval and in accordance with the Landscape Infrastructure Design Manual and the *Caloundra City Council Street Tree Manual.*

(13) Integration of appropriate flora within urban areas is desirable for aesthetic and environmental reasons. In the Tourist Hub sub-precinct landscaping will principally be limited to the provision of street trees, groundcovers and discrete planter areas.

(14) There is an opportunity to establish a green canopy and seasonal interest within the streets surrounding the Tourist Hub sub-precinct where this is not inhibited by awnings or other structures. In many cases this will include planting in footpath areas and possibly to the edge of carriageway areas.

(15) Generally, a broad palette of street tree species is envisaged with several thematic options available. Selection of street tree species is to be in accordance with the *Caloundra City Council Street Tree Manual*. Detailed planting design within precincts will necessitate the examination of each street, block or urban situation with planting set-out and species specified accordingly. The Council's Policy Statement *City Beautification – Street Tree Program* provides additional guidance on this issue.

(16) Siting of street tree and major shrub plant species should incorporate the assessment of potential to cause disturbance to underground infrastructure and adjacent structures. Prudent mitigation

measures should be taken to minimise potential disturbance, for example the provision of root-barriers and the implementation of a tree pruning regime.

(17) In the Business Centre Core and Business Centre Frame sub-precincts the landscaping area should be variously applied to enhance street appearance, soften the visual impact of buildings and hard paving areas, screen car parking areas and service areas and to act as buffer areas to adjoining development.

(18) **Table 11.A (Preferred Plant Species)** of the Landscaping Code provides guidance about appropriate plant species for this coastal setting.

Public Artwork

(19) The provision of public artwork is encouraged as part of new development in the Regional Business Centre Precinct.

(20) A program of adding public artwork to the streetscape over a number of years will improve the quality of the streetscapes and assist in capturing local distinctiveness and themes.

(21) Primarily, the focus will be upon the public spaces and private land interfaces in the Tourist Hub and Business Centre Core sub-precincts. The implementation of artworks is to be in accordance with the Council's adopted document titled *Caloundra Public Art Strategy and Procedures Manual* (Brecknock Consulting, 2000).

Map CCP7 – Caloundra Regional Centre Concept Plan

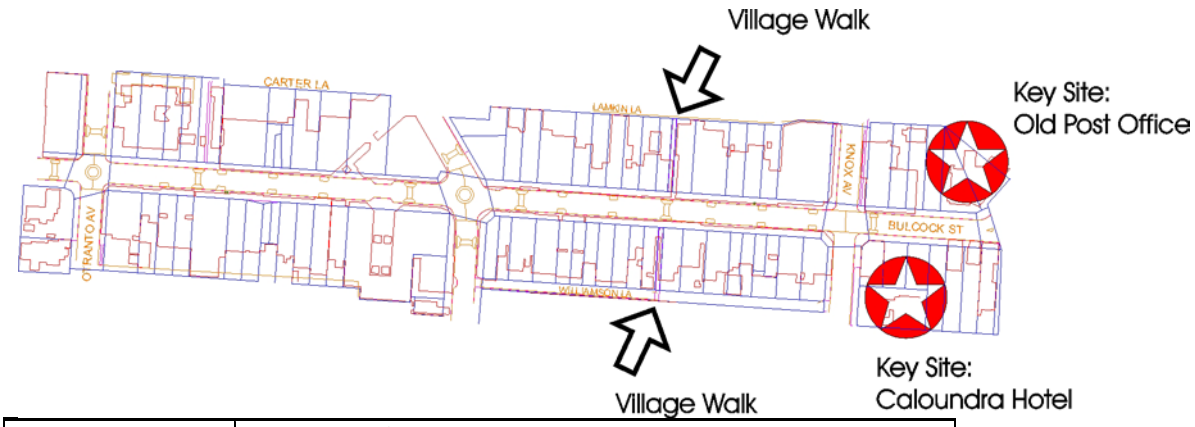
Part 11

Insert Map CCP8 – Caloundra Regional Centre Master Plan Units

Part 11

Upper Bulcock Street

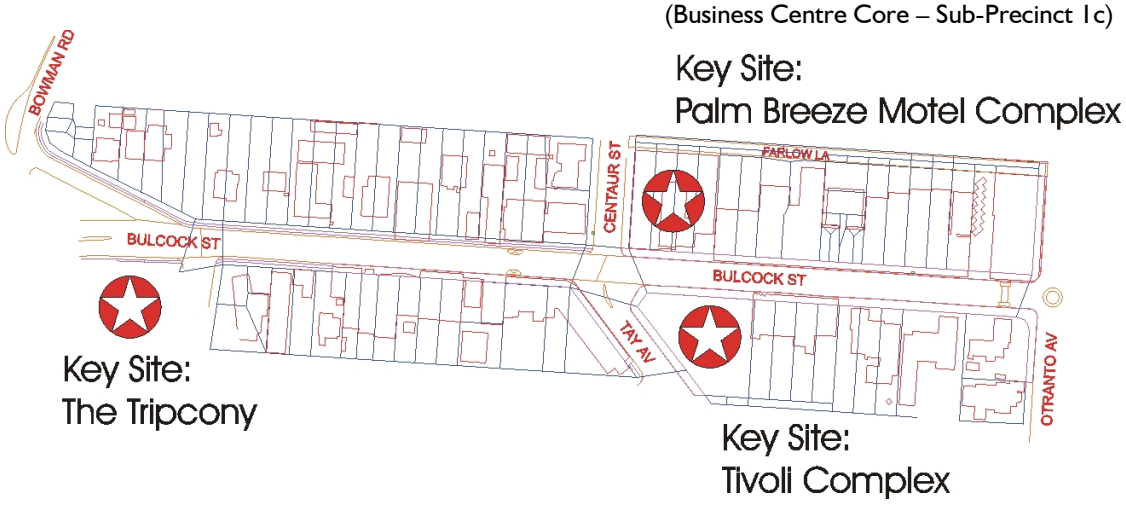
(Tourist Hub Sub-Precinct 2)



Intent	Upper Bulcock Street will be established as a responsive community place and tourist centre and will become the readily identifiable heart of the Caloundra Regional Centre. A high standard of design, integrated public space, richness, diversity and amenity will create a distinct address for the area's services and activities. Ultimately it is intended that a pedestrian priority area will be created following determination of the preferred parking regime and traffic system.
Urban Elements	The existing linear streetscape space is well defined by buildings and it is important to avoid non-contributory form, gaps, variation and disruption to this structure. Through-site links will be encouraged and dining space etc. should be incorporated behind the boundary line where possible. *Village Walk* is traditionally recognised as an important pedestrian linkage and any redevelopment should be designed to enhance and strengthen the functional and visual role of this path. It is to be upgraded and its intimate, personalised character is to be maintained and enhanced. Existing road intersections shall become barrier free pedestrian zones that allow natural desire-lines to be utilised.
Key Sites	The Key Sites indicated are to become a key gateway and a lively and prominent focus for activities. Future buildings on these sites are to define the corners and create associated quality public spaces. Public art will be integrated with these new spaces. Development will be sensitive to all views towards Golden Beach from nearby streets.
Shelter Element	All development is to incorporate footpath shelter consistent with, or appropriate to, the established form of cantilevered awnings. There is to be cohesion in awning designs on both sides of Bulcock Street. The awnings are required to provide shade, shelter and subtly identify entry locations. They should be constructed from materials capable of withstanding coastal conditions, detailed in a contemporary style. Detailing of awnings will reflect appropriate streetscape themes and could incorporate creative elements.
Streetscape Theme	A variety of themes should be incorporated to convey a vibrant, bustling and diverse character appropriate to the developing coastal centre. Themes could reflect urban and historical cultural (eg. Robert Bulcock) rather than purely natural concepts. The incorporation of water features will add to the ambience of the street and also strengthen seaside themes and associations.
Footpath Treatment	A controlled semi-formal treatment that establishes a suitable rhythm between spaces and shopfronts is preferred. Pavements should combine a high quality of materials and detailing. Opportunity exists to incorporate durable artistic elements such as mosaics, relief plaques and inlays.
Planting Theme	Street tree species will be capable of providing broad linking canopies across the street to create an enclosed, intimate and shady footpath environment. If the existing figs are removed *Cupaniopsis anarcadiodes* (Tuckeroo) is the preferred replacement street tree. In this instance ground level planters in combination with seating nodes are a preferred combination (of uses). Use of groundcovers and shrubs should be consistent. Palms will not be suitable unless they are used as emergents associated with canopy trees or as vertical accent plantings in informal groups at certain locations.

Lower Bulcock Street

(Business Centre Core – Sub-Precinct 1c)

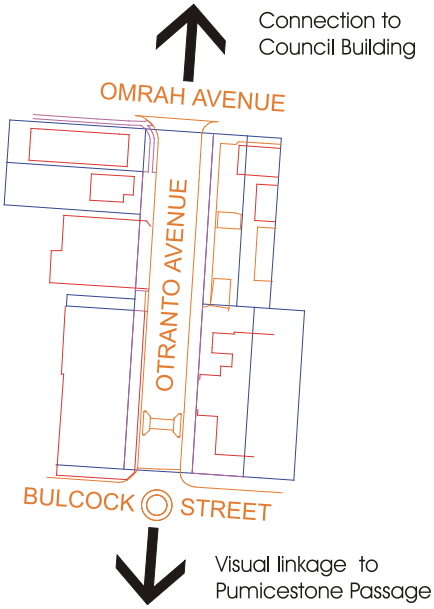


Intent	Lower Bulcock Street will provide an attractive entry and exit experience to the western end of the main street. It will lead into the centre and set the scene for Upper Bulcock Street. Generally the sense of activity in this Master Plan Unit should intensify along the street from west to east. The defined transition will be made from a broad and open setting to an enclosed pedestrian scale environment.
Urban Elements	The Master Plan seeks a greater integration of this Master Plan Unit with Upper Bulcock Street along with further definition and clarification of its role and function within the Regional Centre. Increasing streetscape enclosure by the use of facades, awnings and canopy tree plantings will reduce the perceived separation of Upper and Lower Bulcock Street. Buildings along its length will increasingly define the existing streetscape space. In the future it will be important to avoid major gaps and variation in this developing structure. The openness of the Master Plan Unit to the west should be maintained. It is recommended that this street remain a shared two-way vehicle and pedestrian street, possibly with selective widening of footpaths (eg. at the designated Key Sites).
Key Sites	*Tripcony-Hibiscus* has the potential to significantly add to the entry sequence into the Regional Centre. This site could provide an opportunity to create a highly significant landmark development, an entry parkland, foreshore access and through-site linkages within an overall site Master Plan. *Tivoli and Palm Breeze Sites* These Key Sites will become the key gateway to Bulcock Street from the west as well as prominent centres of activity. Future buildings on these sites are to define the corners and create associated quality public spaces. In particular, there is potential to further define the visual link along Tay Avenue to Pumicestone Passage. A corner setback at the Tivoli site would allow for the creation of a prominent public space.
Shelter Element	All development is to incorporate footpath shelter integrated and consistent with the established form of cantilevered awnings along Bulcock Street.
Streetscape Theme	The Master Plan Unit should be considered as an integral part of Upper Bulcock Street and a variety of themes are recommended. Maritime themes could possibly be incorporated into development on the Palm Breeze site. (Centaur Street named after a WW2 hospital ship).
Footpath Treatment	Treatments are to integrate with and match those of Upper Bulcock Street.
Planting Theme	Street tree plantings and under planting should continue from Upper Bulcock Street.

Part 11

Otranto Avenue - North

(Tourist Hub and Business Centre Core – Sub-Precincts 2 and 1c)



Intent	Otranto Avenue North is to be developed as a linking avenue and a high quality public space. There is potential to provide a central meeting place with an urbane mix of uses (café's, bistro's, etc.). Adjacent development will need to be sympathetic with the design of the public domain and streetscape. Visual links to the Council Administration building, Art Gallery and Pumicestone Passage should be enhanced.
Urban Elements	Development should further define the eastern streetscape edge and provide generous streetscape and landscape treatments where possible.
Shelter Element	On the western side of the street a continuous cantilevered awning is required to provide shade, shelter and identify entry locations. Street trees should be provided to provide shade on the eastern side of the street.
Streetscape Theme	The Master Plan Unit should be considered as an integral part of Upper Bulcock Street and a variety of themes are recommended. Generally themes should also reflect connection with the Civic Master Plan Unit.
Footpath Treatment	Footpath treatments shall engage and be visually consistent with the Bulcock Street pavements. Treatments shall merge and be integrated or compatible with the Otranto Street South and Civic Master Plan Unit footpaths in terms of themed elements, finishes and design.
Planting Theme	Plantings should allow for street level views with low in-ground plantings beneath awnings and well sited street trees. Species used should assist in integrating Bulcock Street and the strong planting scheme applied at the Council Adminstration Building. Mature vegetation shall be retained within the adjacent public carpark and Civic Master Plan Unit to provide a solid and pleasant landscaped buffer and backdrop.

Otranto Ave - South

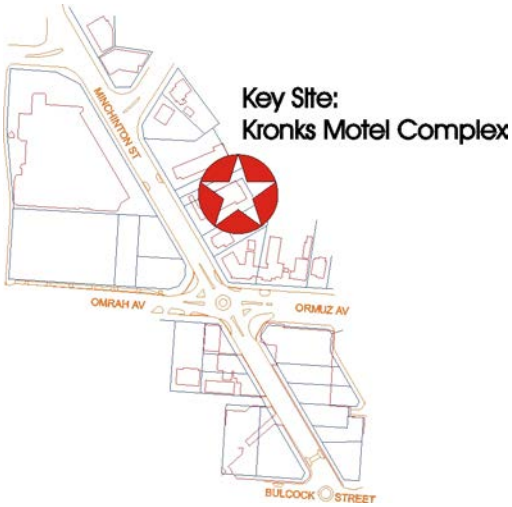
(Tourist Hub – Sub-Precinct 2)

Intent	Otranto Street South will strengthen the connection and linkage between Bulcock Street and Bulcock Beach by becoming a lively and interesting pedestrian avenue. The incorporation of active frontages is intended to add to the vibrancy and activity within the street life of this Master Plan Unit. Otranto Street South is an essential visual and physical linkage to Bulcock Beach. It connects town centre activities to Bulcock Beach and adds to the coastal flavour of the main street. Adjacent development will need to be sympathetic with the design of the public domain and streetscape providing increased definition of the street edges and a sense of transition from enclosure to exposure. Visual links to the Council Administration building and Pumicestone Passage should also be enhanced.
Urban Elements	Along Otranto Street South a building setback of 4 metres is intended to create a stronger visual link and a spacious and broad street. Localised topographic change within the street allows the opportunity to enhance the outlook towards the south.
Shelter Element	Shelter will be provided either as a continuous cantilevered awning at the building line. Shelter is required to provide a continuous all weather passageway along the street. Construction will be from materials capable of withstanding beachfront conditions and shelters are to be designed in a contemporary, coastal style. Shelter structures shall incorporate themed elements, appropriate detailing and may be used to emphasise building entries
Streetscape Theme	High standard finishes and detailing will reflect local coastal themes of Pumicestone Passage, Bulcock Beach, Bribie Island, horizon, sky and wind in a dynamic change from the cultural and urbane to more natural elements. Movement and temporal change may be conveyed by wind elements like sails, kinetic sculpture and/or other forms of public art. The incorporation of water features will add to the ambience of the street and also strengthen seaside themes and associations.
Footpath Treatment	Footpaths will be of an ample and consistent width. Materials, detailing and patterning will incorporate a transition from the pavement pattern of Bulcock Street to a freeform and flowing one (intended to reflect movement from an urban setting to the natural movement and meander of Pumicestone Passage). It may be appropriate to interweave the footpath with discrete planted areas in some locations.
Planting Theme	Broad planting areas shall be located adjacent to buildings to frame vistas combined with low seaside plantings within the road corridor. Street tree plantings will in combination with groundcover or other low plantings to create a visual gap beneath the tree canopy. Raised planters that obstruct views to the water shall be avoided. Existing mature vegetation is to be retained and incorporated where possible to achieve these aims.

Part 11

Minchinton Street - North

(Tourist Hub and Business Centre Core – Sub-Precincts 2 and 1c)

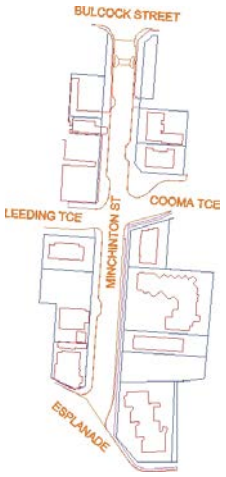


Intent	Minchinton Street North will become a busy circulation spine and avenue connecting important civic buildings and spaces with the Tourist Hub. A memorable walking experience and sequence should be developed on this street. Vehicle and pedestrian conflicts will be resolved at the existing intersections. The Master Plan Unit will provide a significant northern entry into the heart of the main street. Therefore, the design of the streetscape and buildings should reflect this role. Both entry and exit will be defined by a rationalised intersection (at Omrah and Omruz Street) with priority given to pedestrians.
Urban Elements	The intersection with Bulcock Street forms a central focus for activity and should become a visually cohesive node within the Tourist Hub. This will require full integration of pedestrian connections and desire paths. Through-site links should be encouraged to provide pedestrian permeability.
Key Sites	The amalgamation of the *Kronks Motel* site will provide significant opportunities to create a landmark development and fully integrate frontage streetscape enhancements. The development should be set back into generously landscaped surrounds and integrated streetscape treatments are to be provided to Council specification. Significant mature vegetation should be retained and incorporated. Due to the significant potential and opportunities provided by the possible amalgamation, an approved site master plan will guide the long-term development of the site.
Shelter Element	It is envisaged that a continuous façade will be established between Omruz/Omrah and Bulcock Streets and that a covered walk is to be provided along the frontages of the Kronks Hotel site. Shade tree plantings are to be provided on the Council Administration / Cultural Centre building site.
Streetscape Theme	The Master Plan Unit should be considered as an integral part of Upper Bulcock Street and a variety of themes are recommended. Generally themes should also reflect this Master Plan Units connection with the Civic Master Plan Unit.
Footpath Treatment	Footpath treatments shall engage and be visually consistent with the Bulcock Street pavements. Treatments shall merge and be integrated or compatible with the Minchinton Street South and Civic Master Plan Unit footpaths in terms of themed elements, finishes and design.
Planting Theme	Plantings should allow for street level views with low in-ground plantings beneath awnings and street trees. North of Omruz Avenue street tree plantings should create a boulevard style treatment on either side of Minchinton Street with a single species of street tree matching those in the Civic Master Plan Unit.

Part 11

Minchinton Street - South

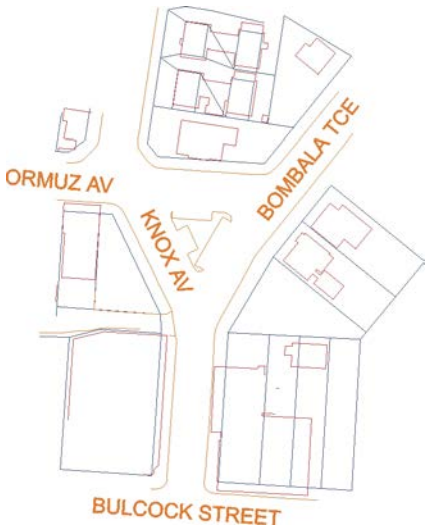
(Tourist Hub – Sub-Precinct 2)



Intent	Minchinton Street South will strengthen the connection and linkage between the Tourist Hub and Bulcock Beach and will be developed as an integrated set of sheltered and shady transitional street spaces. A memorable walking experience and sequence is to be developed, within a pedestrian friendly street. Design of the street shall consider accommodation of street events, parades and celebrations. Visual and physical linkages will connect the Esplanade and Bulcock Beach combining town centre activities to Bulcock Beach and adding to the coastal flavour in the main street. Adjacent development will need to be sympathetic with the design of the public domain and streetscape providing increased definition of the street edges and a sense of transition from enclosure to exposure. The intersection with Bulcock Street will form a central focus of activity and will become a visually cohesive node within the Tourist Hub.
Urban Elements	Along Minchinton Street South a building setback of 4 metres is intended to create a stronger visual link and a spacious street environment. Topographic change within the street allows the opportunity to enhance the outlook towards the west. The existing centralised space on the corner of Cooma Tce and Minchinton Street provides the opportunity to develop a small central plaza space.
Shelter Element	Shelter will be provided either as a continuous cantilevered awning at the building line. Discrete shelter structures may also be incorporated into the streetscape in conjunction with any pedestrianisation of the street space. Construction will be from materials capable of withstanding beachfront conditions and shelters are to be designed in a contemporary, coastal style. Shelter structures will incorporate themed elements, appropriate detailing and may emphasise building entries. Shade will be provided by regular street tree plantings of a suitable species on the western side of the street.
Streetscape Theme	High standard finishes and detailing will reflect local coastal themes of Pumicestone Passage, Bulcock Beach and Bribie Island. Movement and temporal change may be conveyed by appropriate detailing and integrated public art within a series of transitional spaces.
Footpath Treatment	High quality materials, elaborate detailing and patterning will incorporate a transition from the pavement pattern of Bulcock Street to a freeform and flowing one.
Planting Theme	Broad planting areas shall be located adjacent to buildings to frame vistas combined with low native seaside plantings within the road corridor. Street tree plantings will be used in combination with groundcover or other low plantings to create a visual gap beneath the tree canopy. Existing mature vegetation is to be retained and incorporated. Existing planters should be replaced by ground level planting.

Knox Avenue - North

(Tourist Hub and Business Centre Core – Sub-Precincts 2 and 1c)



Intent	This Master Plan Unit has high potential to become an important, memorable and distinct component of the Regional Centre. There is potential to provide a rich pedestrianised place with a mix of uses focused upon the three-way intersection. Proximity to existing residential areas and localised carparking creates the potential for an active and highly utilised public space in which tourists and residents can mix.
Urban Elements	The existing spatial layout of Knox Avenue and the three-way intersection provide significant interest and will be reinforced and adapted to create a well defined public space and entry point to the Tourist Hub. The spatial arrangement of this Master Plan Unit allows for the creation of a specific node connected to Bulcock Street by an avenue streetscape. Development should assist in enclosing the streetscape.
Key Sites	If amalgamated, the Old Post Office site provides the opportunity to create a highly significant landmark development and a lively and prominent focus for activities. Development will be sensitive to all views towards Golden Beach from nearby streets.
Shelter Element	It is envisaged that a continuous façade will be established along both frontages of Knox Avenue and those frontages that overlook the intersection. Shade tree plantings are to be provided at appropriate locations particularly within the three-way intersection space.
Streetscape Theme	The Master Plan Unit should be considered as an integral part of Upper Bulcock Street and a variety of themes are recommended. Public art will be integrated with this new space. Maritime themes could be incorporated into the streetscape, as both Bombala Terrace (named after a passenger steamer) and Ormuz Avenue are named after ships. The incorporation of water features will add to the ambience of the street and also strengthen seaside themes and associations.
Footpath Treatment	Footpath treatments shall engage and be integrated with the Bulcock Street pavements, but in order to create a distinct and memorable public place a unique treatment shall be established and consistently applied.
Planting Theme	Generally plantings should be compatible with treatments used within Upper Bulcock Street. Plantings may be planned and designed to define specific spaces and outdoor rooms. Shrub and accent plantings should be utilised and street tree plantings should be incorporated into broader pavement areas (with tree grates and guards incorporating artistic detailing).

Knox Avenue - South

(Tourist Hub – Sub-Precinct 2)

Intent	Located at the upper end of Bulcock Street the outlook from Knox Avenue to the south provides a window to far reaching views of Bribie Island and the Ocean. In conjunction with Cooma Street, linkages between the Tourist Hub and the foreshore parks at Deepwater Point should be fully developed and highlighted. These attributes should be built upon and strengthened in order to visually and physically connect town centre activities to the natural setting of Caloundra City and add to coastal flavour in the main street.
Urban Elements	Spaces associated with the intersection of Bulcock Street and Knox Avenue should be lively and interesting places. Therefore active frontages are preferred.
Key Sites	The Caloundra Hotel site provides the opportunity to create a highly significant landmark development and a lively and prominent focus for activities. The sensitive development of this site has potential to redefine the corner and create an associated public space. The building should utilise a scaled podium base with a tower setback to enable the development to be consistent with scale of adjacent development. Development will also be sensitive to all views towards Golden Beach from nearby streets.
Shelter Element	Shelter will be provided as a continuous cantilevered awning at the building line. Shade will also be provided by street tree plantings of a suitable species.
Streetscape Theme	The Master Plan Unit should be considered as an integral part of Upper Bulcock Street and a variety of themes are recommended. Themes should reflect and be consistent with views and foreshore linkages.
Footpath Treatment	Footpath treatments shall engage and be visually consistent with the Bulcock Street pavements. Treatments shall merge and be integrated with the Bulcock Street and Knox Avenue South footpaths in terms of themed elements, finishes and design.
Planting Theme	Broad planting areas shall be located alongside buildings to frame street vistas. This would be combined with low native seaside plantings towards the road corridor. Street tree plantings will be used in combination with groundcover or other low plantings to create a visual gap beneath the tree canopy. Existing mature vegetation is to be retained and incorporated.

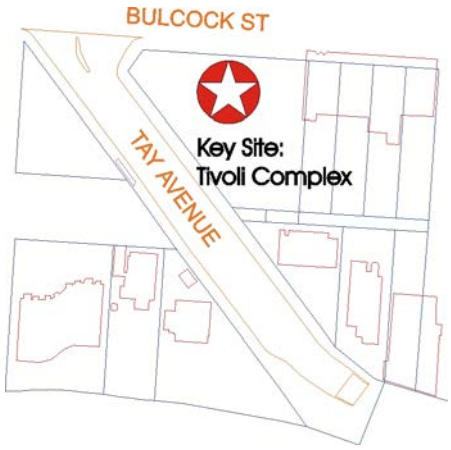
The Esplanade / Bulcock Beach

(Tourist Hub – Sub-Precinct 2)

Intent	This Master Plan Unit will evolve into a people-orientated place, focused on Pumicestone Passage and in harmony with its foreshore setting. Vibrant and attractive streets to Bulcock Street will connect a revitalised, diverse and festive Bulcock Beach. These streets will act as vista linkages and lively and interesting pedestrian connections. The regional linkage along the foreshore will be fully incorporated and strengthened, completing connections from King's Beach through Bulcock Beach and on to Golden Beach. The Esplanade and foreshore will continue to provide important regional landmarks and features of orientation.
Urban Elements	The Esplanade should be utilised as an interesting and attractive pedestrian promenade. Such features as outdoor or semi-outdoor seating areas (with appropriate wind screening), cafes and outwardly orientated active frontages that reflect a human scale should complement development adjacent to Bulcock Beach. Public art should be integrated with these new treatments. The existing boardwalk should be enhanced and foreshore parkland treatments should be upgraded in a contemporary coastal style.
Shelter Element	Shelter will be provided as a continuous cantilevered awning at the building line. Street tree plantings may also be used at the road edge to provide intermittent shade. Shelter is required to provide a continuous all weather passageway along the northern side of The Esplanade. Shelters are to be designed in a contemporary, coastal style and constructed from materials capable of withstanding beachfront conditions. Shelter structures shall incorporate themed elements, appropriate detailing and may emphasise building entries. On the southern side of the street individual shelters and street tree plantings will be incorporated. In particular suitably designed shade and wind shelters will be provided in parkland areas.
Streetscape Theme	Coastal, beach, environmental, ecological and recreational themes will be developed to convey a dynamic and fresh character. Upgraded street and park furniture integrated with public art elements should be used to develop these themes. Themes should also assist in revealing ecological processes.
Footpath Treatment	In the Bulcock Beach and Esplanade Master Plan Unit, a flowing and freeform set-out and patterning is intended to visually and thematically link public spaces to the beach and Pumicestone Passage. Materials should be of a high, durable quality and integrate fully with adjacent treatments. It may be appropriate to interweave the footpath with discrete planted areas in some locations.
Planting Theme	Street tree plantings will be consistent and compatible with existing mature vegetation and reflect the Pumicestone Passage foreshore location. A semi-formalised layout of beachside canopy (Cotton Trees, Tuckeroo, Banksia) and accent trees (Norfolk Pines) should be used in keeping with traditional Australian beachside planting design. The existing landmark Norfolk Island Pines will be retained and augmented.

Tay Avenue

(Tourist Hub and Business Centre Core – Sub-Precincts 2 and 1c)



Intent	Tay Avenue provides the western connection and linkage between Bulcock Street and Bulcock Beach. It provides direct access to Bulcock Beach from the western entry of Bulcock Street. Because of a diagonal layout within a gridlike street pattern, it is a distinctive streetscape. It is the closest link from Bulcock Street to Bulcock Beach and is an essential visual and physical linkage to the Esplanade and Bulcock Beach, connecting town centre activities to Bulcock Beach. The incorporation of an active frontage along the street is intended to add to the vibrancy and activity within the life of this street.
Urban Elements	Adjacent development will need to be sympathetic with the design of the public domain and streetscape providing increased definition of the street edges. Development that wraps around the corner of Tay Avenue into The Esplanade would be preferable to help integrate the two streets.
Key Sites	The Tivoli Complex site will become part of a key gateway to Bulcock Street from the west as well as a prominent focus for activities. Future buildings on this site will define the corner and create associated public spaces. The existing restaurant usage should be incorporated as ground level active frontage at the corner. The use of a scaled podium base with a tower setback will enable the development to be consistent with scale of adjacent development. In particular, there is potential to further define the visual link along Tay Avenue to The Esplanade. A corner setback at the Tivoli site would allow for the creation of a prominent public space. Within the grid layout of the centre this corner has a specific individuality and therefore impacts significantly upon the main street.
Shelter Element	It is envisaged that a continuous facade incorporating shelter as a cantilevered awning will be established along the eastern side of Tay Avenue. Shade tree plantings should also be provided along the western side of Tay Avenue particularly, to help link Maloja Avenue with the Esplanade as part of the Regional Trail System.
Streetscape Theme	High standard finishes and detailing should be used to reflect local coastal and maritime themes (eg. Bribie Island, fishing, Pumicestone Passage)
Footpath Treatment	Footpaths will be of an ample and consistent width. Materials, detailing and patterning will incorporate a transition from the pavement pattern of Bulcock Street to a freeform and flowing one (intended to reflect movement from an urban setting to the natural movement and meander of Pumicestone Passage).
Planting Theme	Where possible street tree plantings will incorporate a combination of groundcover or other low plantings to create a visual gap beneath the tree canopy. Otherwise discrete planters should be developed within footpath areas incorporating low native, seaside plantings. Existing mature vegetation (such as the Norfolk Pine on the western side of the street) is to be retained and incorporated within future development.

Maloja Avenue

(Business Centre Core - Sub-precincts 1b and c)

Key Sites:
The Tripcony / Hibiscus Site

Intent	Maloja Avenue will be developed as a pedestrianised linkage street to connect The Esplanade with the Tripcony/Hibiscus site. It will become a shady, safe and comfortable streetscape.
Urban Elements	There is an opportunity to pedestrianise the street in combination with broader footpath areas, possibly with a one-way traffic system and on-street parking areas.
Key Sites	The Tripcony/Hibiscus Site provides a green backdrop to Maloja Avenue and will ultimately incorporate the significant link in the foreshore trail system. The Site is an important estuarine element incorporating the mouths of two creeks into Pumicestone Passage. Mature trees upon the site are a valuable resource for the centre and should be protected and retained. The site has high potential to contribute to the development of a major public open-space in conjunction with a highly significant landmark development.
Shelter Element	Regular street (canopy) tree plantings will be incorporated to provide shade. Shelter structures (provided as a disconnected series of 'arbor' style structures) may be constructed at specific locations particularly within the parkland area.
Streetscape Theme	Introduced streetscape themes should integrate with various local coastal and maritime themes to be developed within The Esplanade and Tay Avenue.
Footpath Treatment	Footpaths will be of an ample and consistent width. Treatments shall engage and be visually consistent with the proposed Tay Avenue and Esplanade pavements.
Planting Theme	Where possible street tree plantings will incorporate a combination of groundcover or other low plantings to create a visual gap beneath the tree canopy. A single species of native, coastal tree shall be planted at regular intervals with associated underplantings. Discrete planting areas should also be incorporated in particular locations. Existing mature vegetation is to be retained and incorporated.

Ormuz Avenue

(Business Centre Core – Sub-Precinct 1c)

Intent	Ormuz Avenue will become a busy circulation spine and avenue with increased pedestrian linkages through to Bulcock Street. It will become further defined and punctuated by public nodes, facilities and other integrated elements (Kronks Site, Village Walk, Franklins Complex, Knox Avenue). Conflict between vehicles and pedestrians will be resolved at the existing intersection with Minchinton Street, Knox Avenue and Bombala Terrace. Ormuz Avenue may provide the key to assist in reducing the amount of traffic travelling through Bulcock Street.
Urban Elements	The streetscape space will be further defined by buildings (it will be important to create consistent frontages and avoid disruption to this pattern). Through-site links to Williamsons Lane and Bulcock Street should be encouraged where possible. *Village Walk* will be enhanced and strengthened to increase the functional and visual role of this path. Its intimate, personalised character is to be maintained and enhanced. Appropriate development, streetscape works and street tree planting will further define the streetscape. Carparking could be provided in structures as part of the built fabric taking advantage of a centralised location and easy walking distances to major facilities. Several vacant sites along this street allow for significant infill development.
Key Sites	The amalgamation of the *Kronks Motel* will provide significant opportunities to create a landmark development and assist in various integrated streetscape enhancements. The development should be set back into generously landscaped surrounds and integrated streetscape treatments are to be provided to Council specification. Significant mature vegetation should be retained and incorporated. Due to the significant potentials and opportunities provided by the possible amalgamation an approved site master plan will guide the long-term development of the site.
Shelter Element	Regular street (canopy) tree plantings will be incorporated to provide shade. Shelter structures may be constructed at specific locations particularly where they may become associated with entries/exits to through-site linkages. Incorporation of awning shelter should be encouraged.
Streetscape Theme	Ormuz Avenue should be developed as a boulevard with frequently spaced street tree plantings to create a shady and inviting street environment. Themes should integrate with those developed in Bulcock Street and other linking streets. The style of new development along this street should be of a contemporary coastal character.
Footpath Treatment	Footpaths should be of a consistent width and material. In order to engage and be visually consistent with the pavements within the Civic Master Plan Unit, certain elements (header courses, aggregates) should be consistently integrated. Above all a durable, level and low maintenance walking surface should be created.
Planting Theme	Consistent with Omrah Avenue, a single species of flowering street tree should be incorporated within footpath areas and possibly planters at specific locations in the parking lane. Generally there should be minimal shrub plantings to maintain view lines within the streetscape. Low accent plantings may be incorporated in association with the existing pedestrian crossing point.

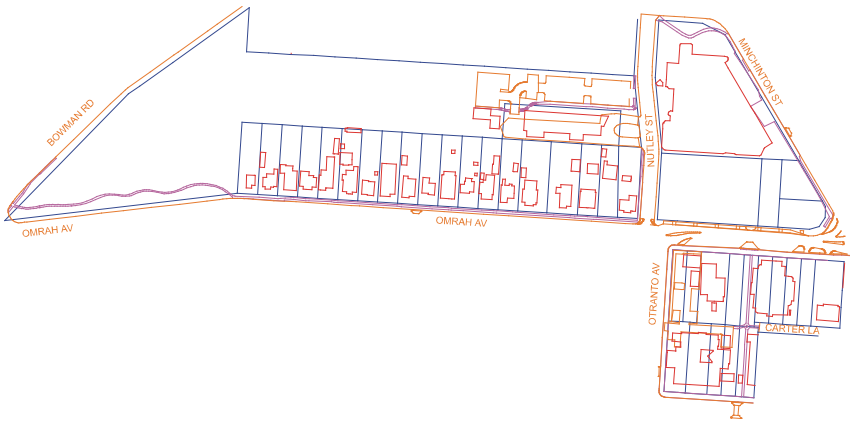
Omrah Avenue

(Business Centre Core – Sub-Precincts 1b and c)

Intent	It is intended that Omrah Avenue will continue to be utilised as a shared vehicular and pedestrian linkage. In particular, the role of Omrah Avenue as a pedestrian linkage will be enhanced and strengthened by creating a shady, safe and comfortable street environment. Development within the street has potential to capitalise on easy walking distances to Bulcock Street and Sunland Shopping Centre.
Urban Elements	It may become desirable to incorporate traffic calming within the streetscape, dependent upon future traffic conditions. On-street parking should be retained along the length of the street. The existing waterway through Bi-Centennial Park should be re-engineered and landscaped to provide a more visually accessible and natural creek-like appearance.
Shelter Element	Regular street (canopy) tree plantings will be incorporated to provide shade. Shelter structures may be constructed at specific locations particularly within the parkland area.
Streetscape Theme	Generally any introduced themes should integrate with those developed in Ormuz Avenue and Bulcock Street. Omrah Avenue should be developed as a boulevard with frequently spaced street tree plantings to create a shady and inviting street environment. The style of new development along this street should be of a contemporary coastal character. Composite buildings with well articulated facades and carefully considered building massing is preferred.
Footpath Treatment	Footpaths should be of a consistent width and material. In order to engage and be visually consistent with pavements within the Civic Master Plan Unit, certain elements (header courses, aggregates) should be consistently integrated. A durable, level and low maintenance walking surface should be created.
Planting Theme	Consistent with Ormuz Avenue, a single species of flowering street tree should be incorporated within footpath areas and possibly as planters at specific locations in the parking lane. Generally there should be minimal shrub plantings to maintain view lines within the streetscape. Low accent plantings may be incorporated in association with the existing pedestrian crossing points.

Civic Master Plan Unit

(Tourist Hub and Business Centre Core – Sub-Precincts 2 and 1c)

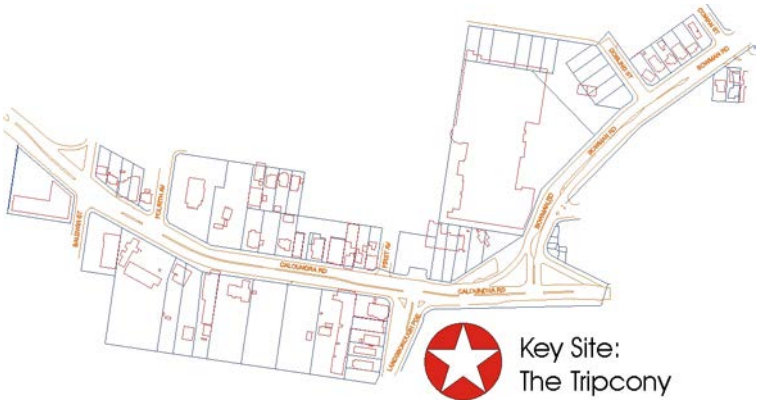


Intent	The Civic Master Plan Unit will be a comfortable public environment with high amenity. It will contain a mix of appropriate civic buildings and functions (Council Administration Building, Art Gallery, Library, Post Office, Government Services etc.). It will ensure that city functions and services are prominent and will continue to play a significant role in the development and establishment of city identity. Unit character will be emphasised by appropriate scale and formality of treatment. Development in this precinct will ultimately be in accordance with a Civic Precinct Master Plan. A prominent feature within this Master Plan Unit, is the interconnected Civic park system including Felicity Place, Bill Vernados Park and Bi-Centennial Park (linear park west of Council Administration Building). These park areas will continue to provide high pedestrian permeability, connection and increased variety and useability.
Urban Elements	Within the Civic Master Plan Unit the Council Administration Building and Cultural Centre stand out due to scale and façade, and this should be maintained. The site of the Bill Vernados Park provides the opportunity to develop a *Civic Plaza*. The design of this plaza should significantly improve pedestrian circulation and levels of appropriate use in this area. Throughout the Master Plan Unit building alignments will assist in enclosing and defining the major spaces. Development shall not cause unacceptable shading, reflective glare or wind tunnelling effects. A series of attractively landscaped and useable parks and spaces will be provided. They will become significant features, and contribute to the Caloundra City's identity and sense of place. Open space will enrich the visual amenity of the area and encourage passive recreation by town centre workers and visitors as places to have lunch or to rest. The existing waterway through Bi-Centennial Park should be re-engineered and landscaped to provide a more visually accessible and natural creek-like appearance.
Shelter Element	A suite of canopy trees should be used throughout the Civic Master Plan Unit to provide shelter. Shelter structures may be incorporated especially where the structures may assist in highlighting entry points to major public spaces.
Streetscape Theme	A variety of themes will convey a vibrant, bustling and diverse character appropriate to a growing coastal centre. Above all it is important to use urban cultural and civic themes to fully integrate this Master Plan Unit. (eg. to exhibit Council activities and operations a series of banner designs could be developed for use within the Master Plan Unit).
Footpath Treatment	Footpath treatments shall engage and be visually consistent with the Bulcock Street pavements. Treatments shall also merge and be integrated or compatible with the footpaths along Omrah Avenue in terms of themed elements, finishes and design.
Planting Theme	A suitable range of plant species including canopy and street trees, shrubs, accent plants and groundcovers will be developed. Species used should integrate with the strong planting scheme used at the Council Administration

Part 11

	Building and more recent plantings associated with the Art Gallery.

Caloundra / Bowman Road



(Business Centre Core – Sub-Precincts 1a and c)

Intent	Caloundra Road will be established as an entry boulevard and its intersection with Bowman Road will become a safe and legible entry gateway. This well-used road corridor contributes significantly to city identity and should be planned for accordingly. This is the major entry from the west and the roundabout at Nicklin Way marks the western edge of the Regional Centre.
Urban Elements	The intersection of Bowman Road and Bulcock Street is of high importance to the Regional Business Centre (it also has historical significance as the first place of settlement in Caloundra). The rationalisation and redesign of this area must include resolution of traffic circulation issues. Landscape features on the Tripcony/Hibiscus site will be developed and enhanced to accentuate the natural watercourses (and rehabilitate them) and provide links to public land. It is necessary to significantly minimise the variety of signage and visual clutter and develop an appropriate scale at this intersection. In particular, the area incorporating the vehicle bridges requires significant upgrade. As an important entry and bypass road the consideration of the scale of adjacent development is critically important.
Key Sites	The Tripcony/Hibiscus site has high potential to contribute to the development of a major public space at a critical intersection and location in conjunction with a highly significant landmark development. The sites will become part of a well defined and considered entry sequence, and provide a visual backdrop with intermittent views into the site towards Pumicestone Passage. The sites are an important estuarine element incorporating the mouths of two creeks into Pumicestone Passage. The mature trees located on these sites are a valuable resource for the centre and should be protected and retained.
Shelter Element	Shade and shelter will ultimately be provided by boulevard style street tree plantings.
Streetscape Theme	The streetscape should be consistent with the broader Caloundra City identity. The transition into the local traffic environment may be effectively defined and communicated through appropriate themeing.
Footpath Treatment	Footpaths of a consistent width and finish will be incorporated and integrated with shade provided by boulevard street tree plantings.
Planting Theme	Well planned landscape planning and treatment would assist in the creation of an appropriate and strong entry experience. The existing plantings associated with the roundabout and inbound lanes of Caloundra Road, establish a significant entry sequence when viewed from a travelling vehicle. This thematic planting should be continued as street tree and shrub plantings. A single species of tree lining both sides and plantings in central reservations will create an appropriate boulevard treatment.

Part 11

11.3 Maleny Main Street Master Plan Planning Scheme Policy

11.3.1 Purpose

(1) The purpose of this policy is to ensure that streetscape works undertaken as part of new development within Maleny's District Business Centre Precinct are consistent with the Maleny Main Street Master Plan.

(2) When preparing development applications for development in Maleny's District Business Centre Precinct fronting Maple Street, applicants should have regard to the guidelines contained in this policy.

11.3.2 Application of Policy

(1) This policy is to be read in conjunction with the Maleny Township Planning Area Code.

(2) This policy applies to assessable development within Maleny's District Business Centre Precinct where incorporating streetscape and frontage works along Maple Street.

(3) Further detail regarding streetscape solutions for Maple Street are detailed in the Council adopted document titled "*Maleny Main Street Masterplan"* (Tamsin Scott Landscape Architect and Buckley Vann Town Planning, 2001).

11.3.3 Maleny Main Street Master Plan

(1) It is intended that the streetscape enhancements outlined in the Maleny Main Street Master Plan (refer **Map MTP5**) will be progressively implemented over time as part of future Council streetscape improvement and infrastructure programs.

(2) In the interim, applicants proposing streetscape and frontage works in conjunction with new development fronting Maple Street should have regard to the following guidelines.

Footpath Treatments

(3) The Master Plan nominates PGH "Kimberley Sunset" (50mm) laid in a "Herringbone" as the appropriate colour and texture of footpath paving to be used in Maleny's business centre. All future paving should match this style, pattern and quality of paver.

(4) Paved areas should be carefully designed and constructed to match and join adjacent pavement patterns and surface levels. Where possible pavements should be graded so that the footpath surface level meets the floor level of adjacent doorways and shopfronts, avoiding steps.

Street Furniture

(5) The Master Plan recommends that specialist furniture designers develop a suite of street furniture specific to the Range Towns (Maleny, Witta and Conondale). Such a furniture range would include seating benches, tables, litter bins, signs and streetlights. The style and character should be robust and in keeping with a rural feel but not necessarily heritage style. The preference is for a combination of timber and steel materials. Natural looking finishes and textures are preferred as opposed to artificial coloured, painted, epoxy coated or powder-coated finishes. Bins are to be lockable enclosures for 120-140 litre wheelie bins designed with input from the Council's Waste Management Officers.

(6) Until a street furniture range is developed as part of the Council's Streetscape Program, elements are to be to selected and approved in consultation with the Council's Landscape Architects. In the

interim, seating benches are to match the existing 'bush furniture style' slab seats with concealed footings and fixtures.

Planting

(7) As part of the Master Plan process, the community strongly conveyed a preference for using a variety of local native (endemic) rainforest species particularly in the main street and open spaces. A variety of tree species (as opposed to the tradition of using one specific type of tree repetitively in a streetscape) should be used such that the Maleny business centre and Maple Street in particular becomes a showcase of local flora.

(8) The following tree species are recommended for use in and around Maple Street:

BOTANICAL NAME	COMMON NAME
Acacia bakeri	Marble wood
Acmena hemilampera	Blush Satinash
Acronychia oblongifolia	Common Aspen
Alangium villosum	Muskwood
Alectryon subcinicerus	Bush Quince
Arytera spp.	Tamarinds
Buckinghamia celssisima	Ivory Curl Flower
Castanospora alphandii	Brown Tamarind
Choricarpia subargentea	Scrub Ironwood
Cinnamomum oliverii	Olivers Sassafras
Diospyros australis	Ebony
Dipliglottis cunninghamiana	Tamarind
Elaeocarpus eumundii	Eumundi Quandong
Elattostachys nervosa	Green Tamarind
Grevillea hilliana	White yiel-yiel
Harpullia hillii	Blunt-leaved Tulip
Harpullia pendula	Tulipwood
Melicope elleryana	Pink Melicope
Pararchidendron pruinosum	Snow-wood
Rhodamnia argentea	Silver Myrtle
Rhodosphaera rhodanthema	Deep Yellow Wood
Scolopia braunii	Flintwood
Stenocarpus sinuatus	Firewheel
Symplocos thwaitesii	Hazelwood
Synoum glandulosum	Scentless Rosewood
Toechima dasyrrache	Blunt-leaved Steel Wood
Waterhousea floribunda	Weeping Watergum

Public Artworks

(9) The provision of public artworks is encouraged as part of new development. Such works may take the form of integrated artworks (seating, drinking fountains, balustrading, tree grills and the like), pavement treatments, signage and sculpture. All public artwork projects should be managed in accordance with the Council's adopted document titled "*Artworks: Caloundra Public Art Strategy and Procedures Manual*" (Brecknock Consulting, 2000).

(10) An indicative list of artwork themes that are appropriate to Maleny township are outlined below:

(a) rainforest leaves;
(b) gumboots;
(c) Obi Obi Creek;
(d) livestock;
(e) Bunya Pines;
(f) mist / rain;
(g) green hills;
(h) bullock teams;
(i) native flora and fauna;
(j) red soil;
(k) music;
(l) utes / 4WD's; and
(m) faces.

Map MTP5 – Maleny Main Street Master Plan

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11.4 Landsborough Urban Design Guidelines Planning Scheme Policy

11.4.1 Purpose

(1) The purpose of this policy is to provide:

(a) urban design principles and background information to the probable solutions contained in the Landsborough Township Planning Area Code relating to urban design; and
(b) refurbishment guidelines for specific buildings of cultural heritage significance within Landsborough township.

(2) When preparing development applications for development in the Landsborough Township Planning Area, applicants should have regard to the urban design principles and objectives detailed in this policy.

11.4.2 Application of Policy

(1) This policy is to be read in conjunction with the Landsborough Township Planning Area Code.

(2) This policy applies to assessable development within Landsborough township's:

(a) Local Business Centre Precinct;
(b) Core Industry Precinct; and
(c) Specialist Retail Area Precinct.

(3) Further detail regarding development and streetscape solutions for Landsborough township are detailed in the *Landsborough Urban Design Guidelines* (Roger Todd and Deicke Richards Architecture, 2001).

11.4.3 Urban Design Guidance for Development in the Local Business Centre Precinct

(1) Specific Outcome O10 of the Landsborough Township Planning Area Code addresses built form and urban design outcomes for development in Landsborough's Local Business Centre Precinct.

(2) The information detailed in this sub-section provides guidance for achieving Specific Outcome O10 of the Landsborough Township Planning Area Code.

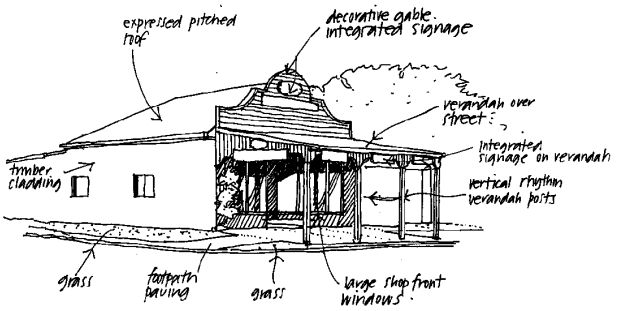
Urban Character in the Local Business Centre Precinct

(3) Urban character is concerned with those building and landscaping elements that enhance the urban quality of a place. In good urban places buildings of similar types share a range of qualities which contribute to the character of the area. The urban character of buildings is influenced by their location within the settlement (for example in the centre, main street, inner urban, outer urban or rural areas) and by uses (such as commercial, residential, industrial, community use or public service).

(4) Landsborough's Local Business Centre Precinct has a number of 'traditional' shop buildings which exhibit good urban design 'manners' and streetscape relationships (see figure 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.

(5) Other good urban design principles that characterise some of the older retail frontages and which are appropriate to Landsborough's Local Business Centre Precinct include:

(a) large shopfront and entry doors;
(b) 'light' verandah structures over footpath areas;
(c) visible pitched roof forms;
(d) timber walls;
(e) verandah supported by posts with parapets on the gable end
(f) facing the street;
(g) use of grass and simple paving materials on footpaths;
(h) signage that is integrated with the building; and
(i) front facade proportions are square or not too horizontal (less than a double square).



Built Form in the Local Business Centre Precinct (Active Street Frontages)

(6) Good urban design is concerned with the location of building footprints in relation to streets and location of building frontage (including active street frontage) on specific facades of buildings. Good urban places have a built form in which building footprints are close to and possess a good relationship with the street. This can be achieved by locating active frontages that clearly define the streets, public spaces and pedestrian routes.

(7) Active street frontage locations are shown on **Map LTP3** of the Landsborough Township Planning Area Code.

(8) Active street frontages are generally ground level locations of buildings which directly face the street and pedestrian spaces. They are generally built up to the street frontage and have active uses (eg uses which are visually penetrable) with windows and entrances at ground floor level. Surveillance of the street is enhanced by an active frontage. Upper floors should provide opportunities to overlook the street.

(9) As a general guide, 85% of active street frontage (at street level) should be windows, doors and balconies. Within Landsborough's Local Business Centre Precinct, active frontages should incorporate pedestrian shelter through the use of awnings and/or other built structures. Awnings or similar are to be integrated within developments to form an inter-connected system of sheltered walkways through Landsborough's Local Business Centre Precinct.

(10) Gaps in frontages, blank walls, louvre grilles for plant rooms or car parking areas and rows of fire escapes on any level of the building facade are not considered to be active frontages. Whilst this applies specifically to the lower floors of a building, all levels of a building may contribute to an active frontage.

11.4.4 Urban Design Guidance for Development in the Core Industry and Specialist Retail Area Precincts

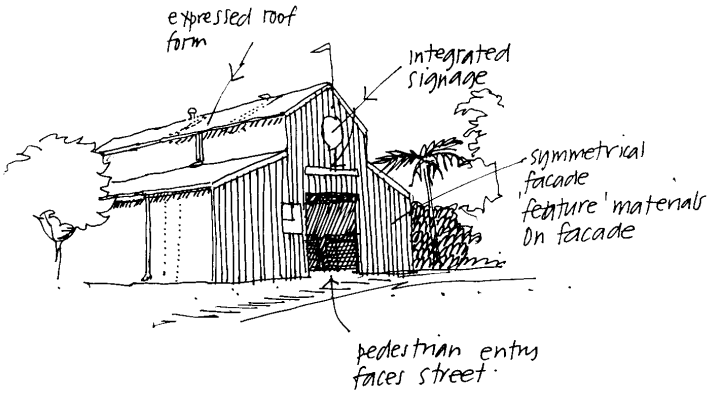
(1) The Core Industry Precinct and Specialist Retail Area Precinct provide significant employment opportunities for the Landsborough district. However, most of the existing buildings in these precincts are not sympathetic to the urban character established in Landsborough's business centre.

(2) While the functional needs of development in these precincts require structures of a differing scale, some of the business centre qualities can be achieved through careful consideration of vehicle movements, pedestrian routes and facade treatment. There are however, a number of examples of industrial type buildings in Landsborough that exhibit good urban qualities.

Existing industrial development demonstrates some of the good qualities of urban character as listed below.

(3) Qualities of the urban character of the Core Industry Precinct and Specialist Retail Area Precinct are summarised below:

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



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.

(4) Built form elements which detract from the potential quality of streetscapes within the Core Industry and Specialist Retail Area Precincts include:

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

11.4.5 Urban Design Guidance for Architectural and Heritage Character

Principles

(1) Built examples from various periods help explain our cultural background and generate a "sense of place". The Burra Charter gives detailed guidance for conservation work, and should be the benchmark for acceptable development applications and negotiated settlements with the Council.

(2) It is commonly recognised that once buildings outlive their usefulness, neglect, disrepair and decay soon follow. Changes which maintain viable use are often essential for the continued life of buildings. These should, however, be planned within the context of adequate research into the building's fabric and history, and respect those things which contribute to significance.

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

(a) new work should respond to the scale, rhythm, texture and functional expression of the original design, but should not try to imitate detail;
(b) 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;
(c) original building forms should be reinstated for buildings of heritage significance eg. verandah posts along footpaths; and
(d) sensitive reinterpretation of older building forms such as detached house/shop combinations should be encouraged.

Specific Guidance

(4) Landsborough's Local Business Centre Precinct contains a number of buildings with heritage and architectural character. With suitable conservation and interpretation they will add interest to visitors, be meaningful to local residents and provide a backdrop to newer buildings and architectural styles.

(5) These buildings have been specifically identified in the Cultural Heritage and Character Areas Code.

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

(a) Mellum Club Hotel;
(b) former butcher shop;
(c) former bakery;
(d) former jewellers shop; and
(e) Cribb Street houses.

Mellum Club Hotel

(7) 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.

(8) 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.

(9) Refurbishment guidelines for this particular site are detailed below:

(a) progressive reinstatement of verandah
(b) remove existing awnings over street
(c) open out Mill Street facade to street
(d) open out Cribb Street facade to street with doors and windows
(e) widened footpath with outdoor dining and new shade structures
(f) appropriate colour scheme for a late nineteenth century building, for example:

(i)	walls generally	30BG 19/094
(ii)	inner walls to verandahs	30BG 49/074
(iii)	top rail to new balustrade	30BG 19/094
(iv)	balustrade	45YY 77/183
(v)	doors	90RR 14/151
(vi)	roof	90RR 14/151
(vii)	bull nosed awning	As is
(viii)	front lattice detail	90RR 14/151
(ix)	lattice background	45YY 77/183

Former Bakery and Butcher Shops

(10) 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.

(11) Refurbishment guidelines for these particular sites are detailed below:

(a) appropriate additional development is in-filled between the buildings;
(b) additional development is setback 3 metres to accentuate existing buildings;
(c) additional development includes continuous verandah and active frontage along street;
(d) footpath is widened and may incorporate outdoor dining;
(e) traditional shopfront is reinstated on the old butcher shop;
(f) small extension to north of wedding cake shop is removed;
(g) additional car parking areas are provided at the rear; and
(h) existing colour schemes are retained.

Former Jewellers Shop

(12) 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. Presently closed, but urgent need to re-establish an active frontage on the corner. The building should be incorporated into the linkage between the School of Arts Hall and the museum.

(13) 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 (eg. kitchen and dining verandah) to suit usage requirements.

(14) Refurbishment guidelines for this particular site are detailed below:

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

(i)	weatherboards	30RB 26/067
(ii)	roof sheeting	90YR 43/311
(iii)	door	90YR 43/311
(iv)	top edge to façade	90YR 43/311
(v)	upper facade	50RB 10/027
(vi)	trim, posts, fascia, guttering	50RB 10/027

Cribb Street Houses

(15) 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 Cultural Heritage and Character Areas Code.

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

(17) Refurbishment guidelines for these particular sites are detailed below:

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

11.5 Glass House Mountains – Beerburrum Streetscape Master Plan Planning Scheme Policy

11.5.1 Purpose

(1) The purpose of this policy is to ensure consistency in the design of streetscape works undertaken as part of new development within Glass House Mountain's and Beerburrum's Local Business Centre Precincts.

(2) When preparing development applications in Glass House Mountains' and Beerburrum's Local Business Centre Precincts, applicants should have regard to the guidelines contained in this policy.

11.5.2 Application of Policy

(1) This policy is to be read in conjunction with the Glass House Mountain's Township Planning Area Code and the Beerburrum Township Planning Area Code.

(2) This policy applies to assessable development within Glass House Mountains and Beerburrum's Local Business Centre Precincts where incorporating streetscape and frontage works.

(3) Further detail regarding streetscape solutions for Glass House Mountains and Beerburrum is contained in the *Glass House Mountains – Beerburrum Streetscape Master Plan*, Caloundra City Council, 2002.

11.5.3 Streetscape Treatments for Glass House Mountains and Beerburrum

(1) It is intended that the streetscape enhancements outlined in the *Glass House Mountains – Beerburrum Streetscape Master Plan* will be progressively implemented over time as part of future Council streetscape improvement and infrastructure programs.

(2) The respective concept plans for these streetscape enhancements within the business centres of Glass House Mountains and Beerburrum are included as **Map GHM4** and **Map BBT4** to this policy.

(3) Applicants proposing streetscape and frontage works in conjunction with new development in Glass House Mountains and Beerburrum's Local Business Centre Precinct should have regard to the following guidelines.

Footpaths

(4) Convenience and amenity of pedestrian and cyclist access through the area should be improved by the staged provision of paths and streetscape works.

(5) Shopfront footpaths in the Local Business Centre Precinct should be consistently constructed from suitably appealing and functional materials such as exposed aggregate, or coloured concrete with clay paver header courses. Other general footpaths within the Local Business Centre Precinct could be constructed from coloured concrete (oxide colour) with a broomed finish.

Street and Park Furniture

(6) The "Pineapple and Timber Range" is suggested as a possible style of street furniture items for use in the township of Glass House Mountains. The range reflects pineapple industry and railway themes (see **Figure 11.1**). Colorbond "Mist Green" has been selected as a suitable colour for use on street furniture items (epoxy based coatings should be used on all items).

(7) All items in the street furniture specified for Glass House Mountains Local Business Centre Precinct should be consistent in materials, colour, visual textures and forms used eg. park picnic tables and

benches, parkland (sleeper) bollards, lamp posts, tree guards, drinking fountains and balustrading. Additional items are to be developed as required in consultation with the Council's Landscape Architect.

(8) In Beerburrum's Local Business Centre Precinct where a "timber town" theme is preferred, a more rustic and simple style of furniture should be developed and used.

Street Trees

(9) The following tree species are suggested for use in and around the Local Business Centre Precinct of Glass House Mountains and Beerburrum respectively.

BOTANICAL NAME	COMMON NAME
Glass House Mountains	
Backhousia citriodora	Lemon Scented Myrtle
Buckinghamia celsissima	Ivory Curl Flower
Elaeocarpus reticulatus	Blueberry Ash
Flindersia schottiana	Cudgerie
Peltophorum pterocarpum	Yellow Flame Tree
Beerburrum	
Elaeocarpus obovata	Hard Quandong
Eucalyptus curtisi	Plunkett Mallee
Eucalyptus ptycocarpa	Rose Bloodwood
Grevillea baileyana	Brown Silky-Oak
Grevillea "Coochin Hills"	Coochin Hills Grevillea

Public Artworks

(10) The provision of public artworks is encouraged as part of new development in the Local Business Centre Precinct of Glass House Mountains and Beerburrum.

(11) Such works may take the form of integrated artworks integrated with seating, drinking fountains, balustrading, tree grills and the like, pavement treatments, signage and sculpture.

(12) All public artwork projects are to be managed and commissioned in accordance with the *Caloundra Public Art Strategy and Procedures Manual* (Brecknock Consulting, 2000).

(13) Suitable themes for public art should be developed through consultation with the local community and regional artists.

Figure 11.1 Street and Park Furniture: Beerburrum and Glass House Mountains

This range has been designed to incorporate themes of significance to the local area. These themes include the timber industry and pineapple plantations and railway heritage.

Pineapple and Timber Range

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Map GHM4 – Glass House Mountains Town Centre Concept Plan

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Map BBT4 – Beerburrum Town Centre Concept Plan

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11.5A Moffat Beach Business Park Planning Scheme Policy

11.5A.1 Purpose

(1) The purpose of this policy is to provide urban design principles and background information to the assessment criteria contained in the Caloundra Eastern Beaches Planning Area Code that specifically apply to the Moffat Beach Business Park.

(2) In particular, this policy is intended to provide urban design guidance for extensions or refurbishment to existing buildings or the development of new buildings in the Moffat Beach Business Park.

(3) When preparing development applications for sites located in the Moffat Beach Business Park, applicants should have regard to the guidelines contained in this policy.

11.5A.2 Application of Policy

(1) This policy is to be read in conjunction with the Caloundra Eastern Beaches Planning Area Code.

(2) This policy applies to assessable development within the allocated Low Impact Industry Precinct of the Caloundra Eastern Beaches Planning Area (The Moffat Beach Business Park).

(3) Further detail regarding Council's adopted vision, strategies and action statements for the Moffat Beach Business Park are contained in the *Moffat Beach Business Park Action Plan* (Caloundra City Council, 2006).

11.5A.3 Urban Design Guidance for Development in the Moffat Beach Business Park

General

(1) Council has prepared and adopted the Moffat Beach Business Park Action Plan as a result of investigations into the future use and development of the Moffat Beach industrial area.

(2) The Action Plan includes the following overall vision statement:

> *"The Moffat Beach Business Park will be recognised throughout the Sunshine Coast and beyond as a unique, well planned low impact industrial, commercial and technology area which proudly services the community."*

(3) In partial fulfilment of this vision, Council is seeking to achieve a coherent and attractive overall image for the business community of the Moffat Beach Business Park. In particular, there is a need to create immediate first impressions of a high quality business area, not only for the surrounding land uses but equally important for the owners of and visitors to the companies located in the Moffat Beach Business Park.

(4) To this end, Specific Outcome O15 of the Caloundra Eastern Beaches Planning Area Code addresses built form and streetscape outcomes for development in the Moffat Beach Business Park.

(5) The provisions contained in this sub-section of the policy provide guidance for achieving Specific Outcome O15 of the Caloundra Eastern Planning Area Code.

Design Directives

(6) Through the Moffat Beach Business Park Action Plan, Council has adopted ten key design directives to guide building form, landscaping and other elements (including signage and lighting) within the Moffat Beach Business Park.

(7) New development (including extensions and additions to existing buildings) within the Moffat Beach Business Park should positively respond to these design directives which are outlined below:

(a) New development achieves a high standard of appearance through good site layout, building design and landscaping.

(b) Building setbacks should be provided proportionate to the scale of the structure and in consideration of existing development adjacent to it. Larger structures require more setback area for a balance of scale and so as not to impose on neighbouring uses.

(c) Where industrial uses are adjacent to non-industrial uses, appropriate buffering techniques such as setbacks, screening, landscaping need to be provided to mitigate any negative effects of industrial operations.

(d) The industrial area will be an image of quality buildings with clear lines constructed of architectural metal, glass and steel, manufactured or natural stone, and precast concrete being the preferred materials used on buildings.

(e) Buildings are recommended to have a consistent use of the same materials on all elevations, or the materials should be compatible and designed in a unified manner.

(f) Signage, including corporate, tenant and traffic signage, should be coordinated on each property and be consistent with the branding for the whole industrial area.

(g) All service areas shall be screened from view from streets with landscape screening and shall be located at the sides or rears of the buildings.

(h) Floodlighting of buildings is encouraged, particularly to emphasize buildings with a strong architectural form. Lights are preferred to be ground mounted within landscaped settings, or mounted on the building itself.

(i) Where buildings are located on corner lots, consideration should be given to the exposed exterior side walls visible from the street. These side elevations should incorporate design features to provide some architectural interest. Details which create a rhythm, such as changes in texture, or coloured trim, could be incorporated.

(j) Streetscape planting will be informal and allow for sight lines to view the main façade of the building, while screening parking areas, loading areas etc. from the street.

Improvements and Enhancements to the Public Realm

(8) As well as private sector investment, Council is also seeking to achieve the overall vision for the Moffat Beach Business Park by the progressive implementation of a suite of supporting strategies as follows:-

- Revitalisation strategy
- Streetscape strategy
- Signage strategy
- Traffic Management Strategy
- Safety and Security Strategy
- Open Space Strategy
- Other Improvements Strategy

An overall schematic plan which summarises the key improvements and enhancements to the public realm that have been identified for the Moffat Beach Business Park are included as **Map CEB4** (Moffat Beach Business Park – Schematic Improvements Plan) to this policy.

(9) Applicants proposing streetscape and frontage works in association with new development in the Moffat Beach Business Park should have regard to **Map CEB4.**

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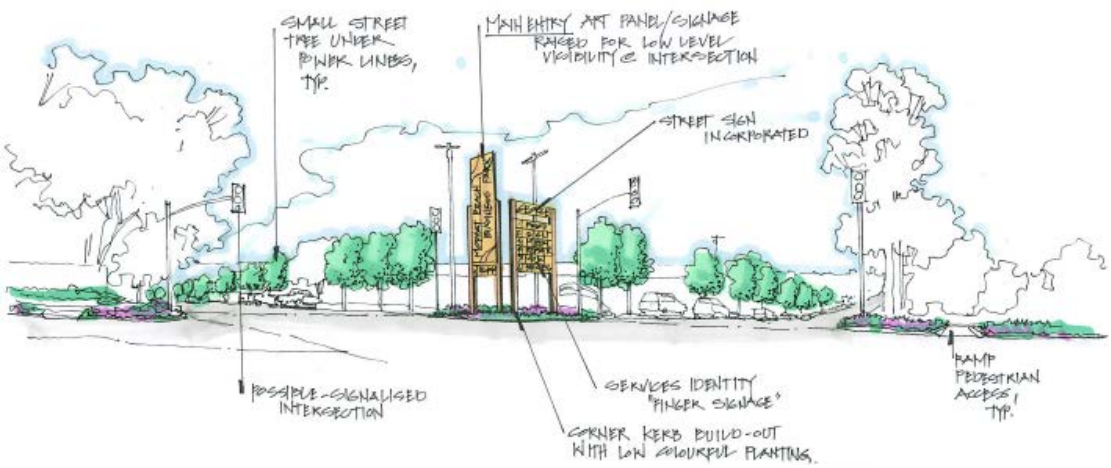
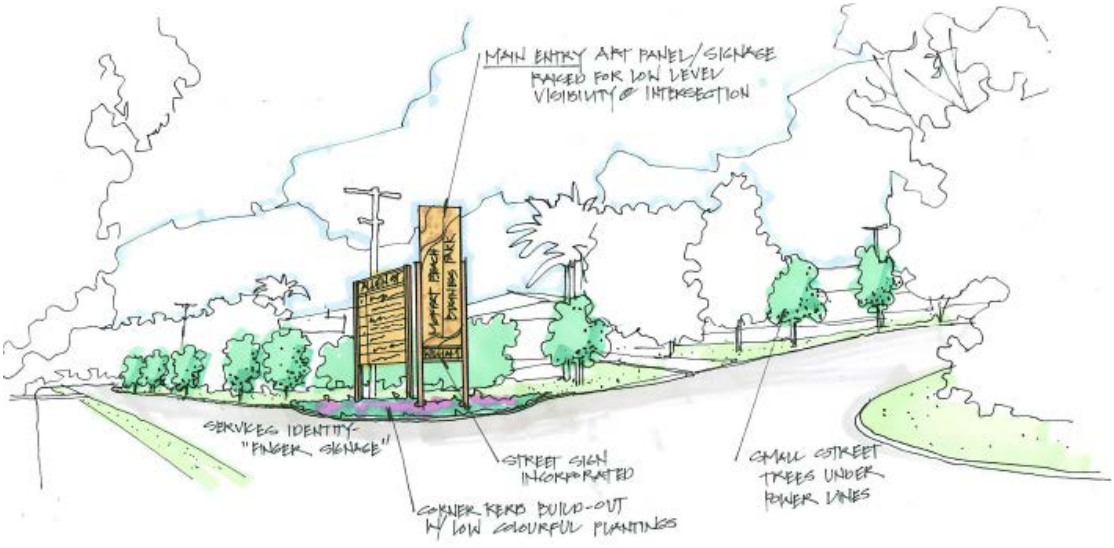


Sketch 1 - George/ William Street Main Entry

Sketch 2 - George/Allen Street – Internal Services "Finger Sign"



Sketch 3 - Allen Street Main Entry

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Sketch 4 – Allen/Lyn Street – Services Identity "Finger Sign"

Sketch 5 – Buzzacott Reserve Rest/Interpretive Area

Sketch 6 – William Street Buffer Planting – Street Trees

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Planning Scheme Policies Relating to Part 7 – Overlay Codes

11.6 Overlays Planning Scheme Policy

11.6.1 Purpose

(1) The purpose of this Planning Scheme Policy is to provide guidance to development applications which require assessment against an Overlay Code(s) and that may require additional information to be submitted in order to facilitate the proper assessment of the application.

(2) This information may be provided:

(a) at time of lodgement accompanying a development application; or
(b) as part of the applicant's response to an information request where not provided accompanying a development application.

11.6.2 Application of Policy

(1) This policy applies to assessable development which triggers the following Codes:

(a) Acid Sulfate Soils Code (Section 7.2);
(b) Aviation Affected Area Code (Section 7.3);
(c) Biting Insects Code (Section 7.4);
(d) Bushfire Hazard Management Code (Section 7.5);
(e) Coastal Management Code (Section 7.6);
(f) Cultural Heritage and Character Areas Code (Section 7.7);
(g) Extractive Resource Areas Code (Section 7.8);
(h) Flood Management Code (Section 7.9);
(i) Habitat and Biodiversity Code (Section 7.10);
(j) Natural Waterways and Wetlands Code (Section 7.11);
(k) Steep Slope/ Stability Code (Section 7.12); and
(l) Visual Management Code (Section 7.13).

11.6.3 Guidance Relevant to Acid Sulfate Soils Code

Guidance for Achieving Specific Outcome O1

(1) The achievement of Specific Outcome O1 of the Acid Sulfate Soils Code may be demonstrated by:

(a) Treating excavated material before it is removed from or placed within the site (assuming the excavated material is actually PASS or AASS) with pure fine lime at the ratio of 5kg/m^3, and the proposed development is building work involving the excavation of between 10m^3 and 50m^3 of soil.

Note: This approach will not be appropriate in instances where lime is used to treat non-ASS or neutral pH soils as this has the potential to lead to an alkaline discharge.

OR

(b) A report prepared by a competent person, detailing sampling, analysis, and interpretation, which properly describes:

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(i) the presence, extent and intensity of any AASS and PASS; and
(ii) the implications for design, construction and operation of the proposed development in accordance with the procedures described in *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998 (Ahern et al, 1998)*, as produced and updated by the Department of Natural Resources, Mines and Energy.

(2) Where disturbance of AASS or PASS cannot be avoided, the achievement of Specific Outcome O1 may be demonstrated by an Acid Sulfate Soils Management Plan prepared by a competent person which properly addresses, describes or includes the following specific requirements:

(a) the mapped extent of 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) prevent the oxidation of pyrite (including avoiding the disturbance of ASS by excavation or changes to groundwater levels);
  (ii) treat or manage the ASS (which may include burial, neutralisation, and separation and treatment);
  (iii) prevent, control or minimise the escape of acid sulfate leachate to the surrounding environment;
  (iv) allow for the 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.

(3) If reports are prepared pursuant to (1)(b) and (2) above, it will be necessary to reference the provisions outlined in the following documents:

- *Guidelines for sampling and analysis of lowland acid sulfate soils (ASS) in Queensland 1998 (Ahern et al, 1998);*
- *State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soil;*
- *State Planning 2/02 Guidelines: Acid Sulfate Soils (Qld Govt, 2002); and*
- *Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines*[1].

11.6.4 Guidance Relevant to Aviation Affected Area Code

Guidance for Achieving Specific Outcome O1(c)

(1) In order to minimise the potential for creation of favourable habitat for waterfowl, the proposed design and management of any waterbodies will ensure that favourable habitat conditions for attracting waterfowl are minimised. These actions include:

(a) grading the banks of water bodies to a steep slope so that birds will be discouraged from using the water. Steep banks make it difficult for birds to see predators. Also, steep banks allow grass to be mowed to a clearly defined edge, which reduces the boundary habitat;
(b) ensuring that there are limited areas of shallow water within the waterbodies. Shallow waters encourages diving waterfowl (ducks, geese and similar) to browse for food (invertebrates, plant matter);
(c) riparian and instream plants used for nutrient stripping purposes are species which are not "habitat" friendly to water fowl and do not provide resources to these species. The plant species chosen in the landscaping include emergent species which do not provide roosting, shelter or other resources to waterfowl and macrophyte aquatic species which do not provide any potential food sources; and

[1] Dear SE, Moore NG, Dobos SK, Watling KM and Ahern CR (2002). Soil Management Guidelines. In *Queensland Acid Sulfate Soil Technical Manual*. Department of Natural Resource and Mines, Indooroopilly, Queensland, Australia.

(d) landscaping along the verges of waterbodies comprises larger shrubs and trees interspersed with areas of lawn, and does not include species that may offer shelter or other resources to birds (eg fleshy edible fruits).

11.6.5 Guidance Relevant to Biting Insects Code

General Guidance

(1) Applicants seeking approval of residential or community uses within an area identified on a Planning Area Overlay Map as being subject to the Biting Insects Code will be requested to undertake impact assessment studies to determine if a proposed development is ecologically sustainable and viable (from a public health perspective), with respect to densities and numbers of biting insects in a subject locality.

(2) Such impact assessment studies will be prepared in accordance with terms of reference satisfactory to Council to ensure that assessments and studies are properly prepared and are undertaken during representative times of the year when biting insects are in seasonal abundance.

Guidance for Achieving Specific Outcome O1

(3) The achievement of Specific Outcome O1 of the Biting Insects Code may be demonstrated by suitable design considerations which include but not necessarily limited to residential development not being located within 2,000 metres of a waterway or natural wetland.

Guidance for Achieving Specific Outcome O2

(4) The achievement of Specific Outcome O2 of the Biting Insects Code may be demonstrated by suitable design considerations which:

(a) do not result in, or create ponding areas containing stagnant water in the event of rainfall, when involving:
  (i) cut and fill construction methods;
  (ii) site levelling; and/or
  (iii) landscaping (e.g. ponds or channels); and
(b) involve filling existing ditches or artificial drainage contributing to breeding sites where there is no adverse impact on natural environmental processes.

Guidance for Achieving Specific Outcome O3

(5) The achievement of Specific Outcome O3 of the Biting Insects Code may be demonstrated by a report prepared by a competent person, that confirms any proposed waterbody, wetland or detention basin is designed to minimise biting insect breeding, and which properly describes the design measures relied upon to minimise biting insect breeding.

(6) Suitable design measures in the report should include, but not be limited to:

(a) water depth - limiting areas of shallow water;
(b) organic material from decaying plant matter - large amounts of decaying organic material should be removed as it provides food and shelter resources to mosquito larvae;
(c) riparian verge treatment - comprising larger shrubs and trees interspersed with areas of lawn, and not including landscaping elements such as dense shrub/long grass areas;
(d) still waters with low dissolved oxygen and high nutrient levels - promoting free water flow in waterbodies and between waterbodies to ensure that there is continual water exchange minimising opportunities for stagnation;
(e) easy access for control of vegetation; and
(f) biological controls such as predatory native fish species.

Guidance for Achieving Specific Outcome O4

(6) The achievement of Specific Outcome O4 of the Biting Insects Code may be demonstrated by suitable design considerations which include, but not necessarily limited to:
   (a) not creating ponding areas or increasing the area of existing breeding sites;
   (b) buffering Residential and Community Uses from spray drift for biting insect control by a minimum distance of 300 metres; or
   (c) a vegetated buffer to act as a barrier from spray drift in accordance with Appendix 2 of *Planning Guidelines: Separating Agricultural and Residential Land Uses (DNR and DLGP, August 1997).*

11.6.6 Guidance Relevant to Bushfire Hazard Management Code

Guidance for Achieving Specific Outcomes

(1) In areas affected by the Bushfire Hazard Management Overlay, it is necessary to investigate and determine confirmed and extreme bushfire hazard areas and identify suitable hazard reduction measures, in order to achieve the Specific Outcomes of the Bushfire Hazard Management Code. This can be achieved by undertaking a site specific Bushfire Hazard Assessment Report prepared by a competent person and having regard to the following matters:-

   (a) The Caloundra City Bushfire Management Planning Study identifies *"Potential Bushfire Hazard Areas"*. This analysis forms the basis of mapping provided on the Planning Area Overlay Maps. The analysis was conducted at a City-wide scale and requires confirmation at a local scale.
   (b) The Bushfire Management Planning Study details the criteria to be used in preparing a Bushfire Hazard Assessment Report. The relevant criteria are vegetation type, topography and aspect. Fire history is not included as a criterion due to the absence of reliable fire history information outside of State Forest Reserves and National Parks.
   (c) The potential bushfire hazard is to be determined from the total sum of the loading factors mentioned in (h) below (determined from site investigation), which takes into account not only the subject site but also the risk from surrounding lands. Where a development site has varied topography and vegetation communities, the assessment may need to divide the land into parts with differing topography and vegetation communities.
   (d) Extreme Bushfire Hazard Areas are those areas that have a total sum of loading factors of 10 to 15. These areas are prone to uncontrollable fire (wildfire) and have the highest potential for devastation, property damage and loss of life. Development applications which seek to establish new urban, rural residential or community premises in an Extreme Bushfire Hazard Area, or which results in any significant intensification of an existing use which could be "put at risk" by bushfire are likely to compromise the Overall Outcomes of the Bushfire Hazard Management Code.
   (e) Confirmed Bushfire Hazard Areas are those areas that have a total sum of loading factors of 7 to 9.99. In these areas, the layout and design of premises should incorporate measures which assist in:
      (i) control of any bushfire in the locality in an emergency;
      (ii) prevention of damage to property; and
      (iii) prevention of damage to persons.
   (f) Appropriate siting, design and construction measures are described elsewhere in the Bushfire Hazard Management Code.
   (g) Low Bushfire Hazard Areas are those areas which have a total sum of loading factors less than 7. If a site specific Bushfire Hazard Assessment Report identifies the subject site as a Low Bushfire Hazard Area, bushfire is not considered to pose a hazard and does not require further assessment against the Bushfire Hazard Management Code.
   (h) The loading factors for the criteria of topography, aspect and vegetation type are specified below.

Topography

The following loading factors indicate the degree topography influences fire hazard:

Slope	Loading Factor
0 - 3%	1
3 - 10%	2
10 - 20%	3
20 - 30%	4
> 30%	5

Aspect

The following loading factors indicate the degree of fire risk with different aspects:

Aspect (Bearing)	Loading Factor
349 to 10 – N	4
11 to 79 – N to NE	3
80 to 101 – E	2.5
102 to 168 – E to S	2
169 to 191 – S	2.5
192 to 258 – S to W	3
259 to 281 – W	3.5
282 to 303 – WNW	4
304 to 326 – NW	4.5
326 to 348 – NNW	5

Vegetation Type

Vegetation assessment should be based upon examination of the vegetation on the subject site and surrounding the subject site. The vegetation communities outlined below are consistent with the vegetation communities detailed in the *Remnant Native Vegetation Mosaics of Lands within Caloundra City Council (2000)* and the *Caloundra City Habitat and Biodiversity Planning Study (2001)*.

Vegetation Community	Loading Factor
Casuarina cunninghamiana / *Eucalyptus tereticornis* & *Waterhousia floribunda* Riparian Associations	3
Eucalyptus tereticornis Communities	4
Vine Forests of the Coastal Rivers riparian area	1
Vine Forests on Basalt including *Eucalyptus grandis*	1
Coastal Lowlands Vine Forest	1
Littoral Vine forests	2
Vine forests on metasediments & acid-volcanics	1
Vine forests on sedimentary rocks	1
Mixed Eucalypts on metasediments & acid-volcanics (western areas)	5
Mixed Eucalypts on sedimentary rocks	5
Mixed Eucalypts on Basalt	5
Corymbia racemosa on sandstones	5
Melaleuca quinquenervia monoculture	4
Melaleuca quinquenervia / *Eucalyptus robusta* / *Lophostemon suaveolens* Associations	4
Melaleuca quinquenervia / *Eucalyptus tereticornis* / *Lophostemon suaveolens* Associations	4
Sedgeland	1

Vegetation Community	Loading Factor
Wet Heaths of the coastal plain	5
Dry Heaths	5
Wet Heaths with *Banksia aemula*	5
Heaths with *Eucalyptus bancroftii*	5
Rocky Heaths	3
Mangroves	1
Saltmarsh	1
Casuarina glauca Communities	2
Foredunes	3
Sandstone headlands	4
Pine Plantation	4
Rural Clearing	3
Urban Clearing	1

Bushfire Management Plan

Guidance for Achieving Specific Outcome O1

(2) The achievement of Specific Outcome O1 (in relation to hazard reduction measures) of the Bushfire Hazard Management Code may be demonstrated by a Bushfire Management Plan prepared by a competent person, which properly addresses the following specific requirements:

(a) is documented in writing, supported by appropriately scaled maps as required to assist in relating the Bushfire Management Plan to the particulars of the proposed development;
(b) includes a statement of the aim and objectives, or purpose, of the plan (eg. to define the level of hazard on the land and identify actions and responsibilities for the management of the hazard);
(c) summarises the results of any Bushfire Hazard Assessment Report prepared for the land, including identification of whether the land or different parts of the land have been determined to be Extreme Bushfire Hazard Areas, Confirmed Bushfire Hazard Areas or Low Bushfire Hazard Areas;
(d) is prepared by a suitably qualified and experienced person, incorporating consultation with the local Fire Brigade and where the land adjoins Council, State or Commonwealth land, the relevant land manager;
(e) covers the whole of the proposed development site, including any parts of the land on which no development is to occur;
(f) includes consideration of potential off-site sources of fire hazard including particular land uses or physical features of the surrounding area;
(g) addresses the impact 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;
(h) addresses any implications for significant ecological areas or areas of cultural heritage significance, including the potential impact on these areas of specified fire hazard mitigation measures and steps taken to avoid or minimise such impact;
(i) specifies fire hazard mitigation measures such as:
    (i) elements of the development design, including the layout of roads and driveways, the location, size and orientation of allotments, and the location and orientation of buildings;
    (ii) specifications and materials for building design and construction;
    (iii) fire fighting infrastructure, including water supply storage, equipment and fittings, fire breaks and maintenance/access trails;
    (iv) specifications for vegetation clearing and landscape design, installation and maintenance;
    (v) information for occupants, including required training for persons employed on the site during both the construction and operational phases;
    (vi) details of long term management requirements including the frequency, extent and intensity of burning in areas proposed to be subject to regular controlled ignitions;

(vii) details of areas subject to mosaic or patch burning techniques, manual fuel reduced zones (without controlled burning), intentionally unburnt zones to promote successional rainforest emergents.

(viii) site specific flora and fauna management considerations / objectives and proposed management techniques.

(j) identifies specific responsibility for actions to be taken under the Bushfire Management Plan.

11.6.7 Guidance Relevant to Coastal Management Code

Guidance for Achieving Specific Outcome O3

(1) The achievement of Specific Outcome O3 of the Coastal Management Code may be demonstrated by a Risk Assessment Report, prepared by a competent person in accordance with the *Australian/New Zealand Risk Management Standard 4360:1999*, the *Commonwealth Emergency Risk Management Applications Guide*, and the *Disaster Risk Management Book* by the QLD Department of Emergency Services.

11.6.8 Guidance Relevant to Cultural Heritage and Character Areas Code

"Character Area" *is a term used in the Cultural Heritage and Character Areas Code and means an area that exhibits a relatively homogenous trait such as a common architectural theme, development style, or period of construction. Character Areas are identified in* ***Table 7.3*** *of the Cultural Heritage and Character Areas Code.*

"Conservation Plan" *means a plan prepared by a competent person that addresses the matters set out below for Specific Outcome O1 of the Cultural Heritage and Character Areas Code.*

"Design Philosophy Assessment Report" *means a report prepared by a competent person that addresses the matters set out below for Specific Outcome O7 of the Cultural Heritage and Character Areas Code.*

"Heritage Place" *is a term used in the Cultural Heritage and Character Areas Code and means a site; area; region; building or other structure (together with associated contents and surroundings) that has heritage value. Heritage Places of Non-indigenous and indigenous significance are identified in* ***Tables 7.1*** *and* ***7.2*** *of the Code respectively.*

"Indigenous Cultural Heritage Management Plan" *means a plan prepared by a competent person that addresses the matters set out below for Specific Outcome O6 of the Cultural Heritage and Character Areas Code.*

Guidance for Achieving Specific Outcome O1

(1) The achievement of Specific Outcome O1 of the Cultural Heritage and Character Areas Code may be demonstrated by a Conservation Plan prepared by a competent person, in accordance with the Australian ICOMOS Charter.

Guidance for Achieving Specific Outcome O6

(2) The achievement of Specific Outcome O6 of the Cultural Heritage and Character Areas Code may be demonstrated by an Indigenous Cultural Heritage Assessment Report, prepared by a competent person, which properly documents the significance or non-existence of indigenous cultural heritage places.

(3) The Indigenous Cultural Heritage Report should be prepared where the proposed development site wholly or partly includes land identified below:

(a) land within or contiguous to lots containing sites, places or landscapes of indigenous cultural heritage significance listed on the Queensland Heritage Register of the *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987*;
(b) any land which is the subject of a Native Title claim;
(c) ridgelines and escarpments with native forest cover;
(d) areas within the Open Space Precinct Class or reserved as public open space or maintained open space under Council freehold ownership;
(e) any land retaining native vegetation cover proposed to be developed, where the proposed land uses are considered by the Council or its delegate, as likely to be irreconcilable with indigenous cultural heritage values;
(f) any land in the Open Space – Conservation and Waterways Precinct;
(g) any land made known to the Council or its delegate to be of indigenous cultural heritage value; and
(h) landscapes, places and sites (such as spiritual sites) known by traditional owners to be of indigenous cultural heritage value.

(4) In addition, provision should be made for accidental discovery during excavation.

(5) Where an Indigenous Cultural Heritage Assessment Report confirms the presence of a heritage place, the achievement of Specific Outcome O6 may be demonstrated by an Indigenous Cultural Heritage Management Plan, prepared by a competent person, which properly addresses the following specific requirements:

(a) the significant values of the place;
(b) the impact of the proposed development on the significance values of the place; and
(c) policies/recommendations for management of the place, in particular, strategies for including traditional owners in the ongoing management of the place.

Note:

In undertaking and developing Indigenous Cultural Heritage Assessment Reports and Management Plans, it is imperative that traditional owners are consulted and fully involved in the process. Various groups have identified themselves as traditional owners within Caloundra City. Any consultation regarding indigenous sites should be as inclusive as possible.

Guidance for Achieving Specific Outcome O7

(6) The achievement of Specific Outcome O7 of the Cultural Heritage and Character Areas Code may be demonstrated by a Design Philosophy Assessment Report prepared by a competent person, which properly addresses, describes, or includes how the proposed development relates to the streetscape and how architectural elements of character buildings have been reflected in any new building's appearance.

11.6.9 Guidance Relevant to Extractive Resource Areas Code

Guidance for Achieving Specific Outcome O1

(1) The achievement of Specific Outcome O1 of the Extractive Resource Areas Code may be demonstrated by an Extractive Industry Impact Assessment Report prepared by a competent person, which properly addresses, describes or includes:

(a) the likely impacts of the proposed development on the future exploitation of the resource;
(b) the likely impacts arising from the entire winning of the resource, including noise, dust and land stability;
(c) the potential for land use conflicts between the proposed development and impacts arising from winning of the extractive resource;
(d) the provision of treatment buffers; and

(e) other solutions which overcome land use conflicts, but which are not imposed on the extractive resource or its operation.

11.6.10 Guidance Relevant to Flood Management Code

"ARI" *is a term used in the Flood Management Code and means the Average Recurrence Interval of a particular flood event, e.g. 100 year ARI means an event that occurs on average only once every 100 years.*

Guidance for Achieving Specific Outcome O1

(1) The achievement of Specific Outcome O1 of the Flood Management Code may be demonstrated by a Flood and Stormwater Impact Report prepared by a competent person, which properly addresses, describes or includes:

(a) accurate hydrologic and hydraulic modelling of the waterway network and assessment of existing flooding and flood levels of major waterway systems;
(b) modelling of the 5, 10, 50 and 100 year ARI flood events to determine locations that are prone to flooding and the recommended management systems for mitigation;
(c) where appropriate, a qualitative assessment of the piped drainage and hydraulic analysis of the drainage network; and
(d) an assessment of the potential impact of development and land use change on water quality, waterways and the general environment.

11.6.11 Guidance Relevant to Habitat and Biodiversity Code

Guidance for Achieving Specific Outcomes O1, O2, O3 and O4

Solutions that are consistent with the principles and practices outlined in the Queensland Department of Main Roads' Fauna Sensitive Road Design: Volume 1 – Past and Existing Practices are more likely to satisfy Specific Outcomes O1, O2, O3 and O4 of the Habitat and Biodiversity Code:

(1) Background
  (a) There are a number of measures that can be taken to reduce the impact of development on habitat and biodiversity, such as road or fence design and construction. These guidelines establish the principles and practices in this regard, which should be used by assessment managers to devise measures (including conditions of approval) appropriate to the particular development proposal and its site.

(2) Design Objectives
  (a) The design objectives include:
    (i) the protection of undisturbed areas where native fauna live in conservation and open space areas;
    (ii) providing continuous connections of habitat and minimise disruptions by roads and structures;
    (iii) buffering existing habitat from the impacts of construction, clearing, fire, weed invasion, operation and maintenance; and
    (iv) minimising impacts from road traffic.
  (b) Innovative layout, fencing, including fauna habitat within parks, street-scaping and sensitive road alignment can all help achieve biodiversity conservation objectives as well as other sustainable development objectives.

(3) Habitat Links
  (a) The most important characteristics of a habitat link are that it connects two or more areas of habitat, and provides a relatively safe area for movement and refuge for native wildlife.
  (b) Habitat links are maintained, protected and improved whenever an opportunity is identified and should incorporate the following principles:
    (i) links are provided to habitat beyond the boundary of the development site;

(ii) multiple links between habitat areas of varying diversity are provided to maximise connectivity;
(iii) links are based on existing natural features, such as watercourses and associated riparian vegetation, and significant areas of remnant bushland;
(iv) enhancement of vegetation mosaics and ecotones within the context of the surrounding landscape;
(v) land unsuitable for development, including flood-prone land or steep land is also used to provide links;
(vi) links are made as wide as possible (links 100m in width or greater are most desirable as they minimise 'edge effects', but may not be achievable in all circumstances);
(vii) where links include cleared or partially cleared areas, these are revegetated and include the planting of native endemic plants; and
(viii) roads or other service corridors are located outside native fauna habitat or links between habitats, as far as practical.

(4) Road Design and Construction
(a) A significant threat to native fauna in Queensland is injury sustained from strikes by vehicles. To mitigate this threat in the most practicable manner, the strategies used in road design should have regard to the number of vehicles likely to use the proposed roads, the anticipated vehicle speeds, and the likely volumes of traffic between the hours of 7pm and 5am.
(b) Taking these factors into account, the following road design and construction techniques can be implemented as appropriate according to the road function:
(i) Using native fauna exclusion fencing along the road to direct fauna to:
1. overpasses, underpasses or culverts; or
2. designated fauna crossings with the following features:
i increased lighting and warning signs;
ii speed reduction devices; or
3. reducing vehicles speeds on roads other than arterial roads by incorporating:
i curving and winding road sections;
ii speed reduction devices;
iii awareness signs;
iv signed low speed limits (residential roads); and
v other traffic calming devices.

(5) Fence design
(a) Fences are a major obstacle to fauna movement. A 'fauna friendly fence' does not hinder the movement of, nor trap, fauna.
(b) The following approaches to fence design are aimed at reducing the impact of fences on fauna movement and mortality:
(i) allow fauna to climb easily through or over the fence by:
I choosing materials, such as a timber post-and-rail or chain wire, that fauna can easily grip and climb;
II using rails or slats that are not more than 15cm wide; and
III leave at least a 30cm gap between ground level and the first rail or strand; and
(ii) provide a means for fauna to get over a fence that cannot be easily climbed by:
I installing a timber post leaning against the fence at a 45 degree angle on either side;
II planting vegetation within very close proximity (branches touching) on either side of the fence to provide a natural ladder; and
III installing panels or planks horizontally along the top of the fence to provide a walkway.

(6) Reducing the Impacts of Utility Services
(a) The installation of utility services:
(i) shall consider an alignment that minimises clearing and damage to native fauna habitat trees and their roots;
(ii) avoid vehicles or works within the 'drip line' of trees;

(iii) avoids damage to the roots of trees and other significant habitat by using shared trenches (where practicable) and offsets of service alignments; and
(iv) includes root barriers where necessary to protect utility services from root damage.

(7) Landscaping
(a) Plants used for landscaping:
(i) shall comprise locally endemic native plant species, consistent with and replicating the significant vegetation that naturally occurs for the particular soil type or types on the site.

Guidance for Achieving Specific Outcomes O2 and O6

Solutions that are consistent with the following are more likely to satisfy Specific Outcomes O2 and O6 of the Habitat and Biodiversity Code:

(1) Background
(a) Clearing trees within native fauna habitat can result in the death of or serious injury to native fauna that are present in those trees or in trees adjacent to those trees being cleared.
(b) A development approval permitting tree clearing in an area of significant vegetation should include conditions based on the practices set out in this Guidance relevant to the Habitat & Biodiversity Code.

(2) Responsibility of a person authorised to clear trees
(a) Prior to the commencement of tree clearing it is the responsibility of the person authorised to fell the trees, or that person's delegate, to appoint a native fauna spotter.[1]
(b) During clearing operations, the person authorised to clear the trees must:
(i) liaise with the on-site native fauna spotter; and
(ii) ensure that each tree identified by the native fauna spotter as being a risk to fauna if felled, is not felled or damaged until obtaining a rehabilitation permit granted under the *Nature Conservation Regulation 1994*, and either:
I the native fauna has moved from the site of its own volition; or
II the native fauna is moved from the tree and transported from the site to prescribed natural habitat[2] in accordance with the conditions of the permit;
(c) The person authorised to clear trees, or that person's delegate, must ensure that the clearing of trees is undertaken only by sequential clearing, as described below.
(d) Sequential clearing is a method of felling trees where operations are conducted in discrete stages such that native fauna are provided sufficient time and space to move from the clearing site of their own volition without the need for human intervention to remove and relocate them (clearing of all trees on site in a single, uninterrupted operation is not sequential clearing).
(e) Sequential clearing requires the clearing of limited numbers of trees at any one time and not clearing any tree where native fauna is present. Native fauna habitat corridors and links are to be maintained during sequential clearing to allow the natural movement of wildlife from the site being cleared to neighbouring habitat areas.

(3) Responsibility of a native fauna spotter
(a) A native fauna spotter is a person who holds a tertiary qualification in biology or zoology, or who is clearly experienced in the identification and location of native fauna in their natural habitat. For example, a native fauna keeper employed by a licensed Wildlife Exhibitor (i.e. a zoo) may be capable of demonstrating competence in locating native fauna.
(b) Prior to the commencement of, and during clearing operations, it is the responsibility of the native fauna spotter to:
(i) be present at the site of clearing operations; and

[1] The Environmental Protection Agency may be able to provide a list of animal handlers that can act as native fauna spotters.
[2] A prescribed natural habitat is native fauna habitat within 1 km of the place from where the native fauna was taken in the wild; OR (if that native fauna habitat is inaccessible to native fauna or is insufficient to sustain the native fauna within the area), is native fauna habitat within 5 km of the place from where the native fauna was taken in the wild.

(ii) identify any tree at the site within which native fauna is present, as well as any tree that has a crown which is intermeshed or overlapping with such a tree; and
(iii) advise the person who is authorised to conduct the clearing operations, or that person's representative, of the precise location of each such tree by effective tagging or marking methods.

Guidance for Achieving Specific Outcomes O3, O4 and O5

Solutions that are consistent with the following are more likely to satisfy Specific Outcomes O3, O4 and O5 of the Habitat and Biodiversity Code:

(1) Enhancement and / or rehabilitation
- (a) When to rehabilitate
  - (i) Rehabilitation of a site commences progressively where development is to occur in stages and as soon as practicable after completion of works for each stage of the development.
- (b) Plant species for revegetation
  - (i) The plant species to be used in revegetation are consistent with the pre-clearing regional ecosystem. Applicants are encouraged to use plants propagated from local seed stock wherever practicable.
- (c) Site Preparation
  - (i) Prior to planting, the site must be adequately prepared, which involves (but is not limited to):
    1. ensuring the soil is appropriate for replanting (e.g. stockpiled topsoil should be replaced) and appropriately tilled; and
    2. removing competition from non-native species.
- (d) Planting
  - (i) The revegetation species are planted:
    1. at densities that replicate adjacent healthy remnant; or
    2. at similar densities and species composition to those found in regional ecosystems of the area.
- (e) Post-planting monitoring
  - (i) Planted vegetation is monitored for not less than one year to ensure its survival. During the monitoring period, any planted vegetation that dies is replaced with healthy plant(s) meeting the requirements above.
  - (ii) Replacement plants should be planted in the same locality and continue to be monitored.
  - (iii) Weed maintenance is carried out to remove competition from non-native species.
- (f) Landform restoration
  - (i) If the landform has been altered from its natural condition, it is restored in a manner which minimises long term obstructions to the movement of native fauna across the site. The proposed restoration should be described as part of the development application. For example, a developer may identify how they intend to re-profile faces and benches to provide for the movement of native fauna within or across the site, or identify areas which are to be filled to maximise the potential for successful revegetation.
- (g) Mitigating hazards for native fauna
  - (i) The developer is responsible for ensuring that any building, structure or any other works that would be a hazard to the well-being of native fauna, is isolated from contact by native fauna (for example, by erecting a native fauna exclusion fence).

Guidance for Achieving Specific Outcome O6

Solutions that are consistent with the following are more likely to satisfy Specific Outcome O6 of the Habitat and Biodiversity Code:

(1) Background
- (a) Under the *Water Act 2000* the Environmental Flow Objective is to protect the health of natural ecosystems for the achievement of ecological outcomes.

(b) An environmental outcome is defined in the *Water Act 2000* to mean 'a consequence for an ecosystem in its component parts specified for aquifers, drainage basins, catchments, sub-catchments and watercourses.

(c) Fish passage in Queensland rivers is crucial to allow:
    (i) adult fish to breed;
    (ii) juvenile fish to spread upstream;
    (iii) adult fish to return from spawning ground;
    (iv) fish to repopulate following drought;
    (v) fish to return upstream after being washed downstream during floods, and
    (vi) fish access to food supplies and different habitats.[1]

There are a number of actions that can be taken to minimise the adverse impacts of activities within waterways and wetlands. The following aspects of environmental flow are to be managed to within naturally occurring limits i.e. volume, velocity, quality.

(2) Responsibility of Applicant:

(a) It is the responsibility of the applicant to ensure flow variations are managed to avoid short term or permanent degradation of ecological processes.

(b) Variations to flows (volume/velocity/quality) must:
    (i) imitate variations (seasonal or otherwise) that occur naturally; or
    (ii) be of a temporary nature such that an excess, or deficit, of flow will not significantly or permanently damage natural processes or environmental values nor compromise the Water Quality Objectives for that water body as described by the Queensland Water Quality Guidelines; or
    (iii) meet or exceed minimum environmental flow objectives required under the Mary Basin Water Resource Plan 2006 and Moreton Water Resource Plan 2007 where relevant, and subsequent amendments.[2]

(c) Perform the activity at a time of year when environmental flow is least likely to be impacted ie. dry season; outside breeding season for significant water-relatedspecies (flora and fauna).

(d) Tidal areas – perform the activity during low tide where the temporary diversion or removal of flows can be completed before the incoming tide.

(e) Construction works in flowing waterways will not significantly adversely affect natural processes/ecosystems, e.g. flume pipe, bunding and staged Coffer dams – to be used in preference to diverting or stopping flows.

(f) Works in waterways eg. excavation/dredging, instream impoundments and crossings – to be carried out during seasonal low flows. Tunnelling instead of excavating pipelines, ensuring structures are above or below flow regimes eg by tunnelling or locating on piles located outside of flow limits.

(g) Produce a waterway environmental risk assessment/management plan prior to implementing any actions that could adversely impact on flow characteristics or ecosystem health.

11.6.12 Guidance Relevant to Natural Waterways and Wetlands Code

Guidance for Achieving Specific Outcome O2

(1) The achievement of Specific Outcome O2 of the Natural Waterways and Wetlands Code may be demonstrated by a Waterbody Impact Assessment Report prepared by a competent person, which properly identifies that:

(a) no lining or engineering of the stream channel, bed or banks, except where essential works are required due to pre-existing development and/or upstream development conditions;

[1] Department of Primary Industries and Fisheries can provide further guidance for fish passage in streams and appropriate design layouts and techniques.

[2] The Department of Natural Resources and Water can provide information on applicable Water Resource Plans.

(b) in stream habitat elements (e.g. fallen logs, overhangs, rocks) to be left in-situ, replaced or restored;
(c) channel designs which simulate, as near as practicable, natural waterway conditions with meandering pools, riffles and bars; and
(d) hydraulic calculations which allow for the presence or establishment of a vegetated (closed canopy) waterway area to improve bank stability and in-stream ecological values and restrict weed growth.

Guidance for Achieving Specific Outcome O3

(2) The achievement of Specific Outcome O3 of the Natural Waterways and Wetlands Code may be demonstrated by design outcomes where:

(a) discharge of stormwater to a wetland or waterway only occurs where the water has been treated prior to discharge to remove or reduce contaminants such as sediment, litter and excess nutrients;
(b) development does not increase nutrient loading or nutrient enrichment (particularly nitrogen and phosphorus); and
(c) stormwater and on-site wastewater does not contaminate ground water flows to wetlands and waterways.

Guidance for Achieving Specific Outcome O5

(3) The achievement of Specific Outcome O5 of the Natural Waterways and Wetlands Code may be demonstrated by design outcomes where:

(a) any cleared, degraded or otherwise disturbed areas are rehabilitated; and
(b) stormwater management measures are installed and maintained so that over time, there is no increase in the nutrient loads or nutrient enrichment of waterways and wetlands resulting from development run-off.

(4) The achievement of Specific Outcome O5 may require the preparation of an Environmental Management Plan (EMP), prepared by a competent person, which properly addresses, describes or includes information and measures necessary to achieve the Specific Outcome. In this regard, the Environmental Assessment and Management Planning Scheme Policy provides guidance for preparing an EMP.

11.6.13 Guidance Relevant to Steep Slope/Stability Code

Guidance for Achieving Specific Outcome O1

(1) The achievement of Specific Outcome O1 of the Steep Slope/Stability Code may be demonstrated by a Slope Stability Assessment Report prepared by a competent person, which properly addresses, describes or includes:

(a) In relation to stability:
  (i) potential stability problems;
  (ii) the impacts of the proposed development on the site; and
  (iii) recommended solutions to ensure the long-term stability of the site and proposed development.
(b) In relation to slope:
  (i) an accurate assessment and mapping of the extent of land on the site that has a slope of:
    (A) 15 to 20%;
    (B) 20 to 25%;
    (C) above 25%; and
  (ii) recommended solutions to:
    (A) limit the necessity for cutting and filling and visible retaining walls;

(B) provide readily useable driveways and pedestrian paths; and
(C) to limit earthworks necessitating vegetation clearance.

11.6.14 Guidance Relevant to Visual Management Code

Guidance for Achieving Specific Outcome O2

(1) The achievement of Specific Outcome O2 of the Visual Management Code may be demonstrated by a Visual Impact Assessment Report prepared by a competent person, which properly addresses, describes or includes:

(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, Glasshouse Mountains or rural tablelands;
(c) how the design seeks to minimise impact on surrounding views by siting, stepping, chamfering, or breaking up the visible mass of the building form or roofline, or by other design solutions; and
(d) the visual impact of the proposal when seen from the roads and other public spaces and how the design seeks to minimise the visual impacts by providing a high quality design solution.

(2) It is expected that Probable Solutions will:

(a) avoid development on steep slopes or unstable land, in accordance with the Probable Solutions of the Steep Slopes/Stability Code;
(b) retain or rehabilitate drainage paths to their natural condition, including retain endemic vegetation and provide supplementary planting to reinforce endemic vegetation along drainage paths;
(c) retain and reinforce vegetation on ridgelines;
(d) keep building heights below the canopy height of surrounding trees, except where specifically provided for in the Caloundra City Plan or where an opportunity exists to create a landmark structure which enhances the significant views referred to in **Table 7.5 (Significant Views)** and shown on **Map 7.9 (Significant Views)** of the Visual Management Code;
(e) retain established mature trees and stands of existing vegetation and avoid the unnecessary removal of existing vegetation;
(f) use non-reflective roofing materials and colours;
(g) use building materials and colours that are drawn from, complement or reflect the natural landscape of the locality;
(h) avoid extended straight lengths of new road or driveway in areas of hilly topography or where inconsistent with the established road pattern in the locality;
(i) in rural or non-urban coastal settings, avoid treatments for fencing, walls, gates, landscaping and lighting that are distinctly 'urban' in appearance, materials and scale, or otherwise incongruous in the locality. For example, high brick walls, ornate gates, ornamental hedges, extensive lighting and large areas of hard paving are likely to be incongruous in most rural or non-urban coastal settings;
(j) provide 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 existing buildings in the locality; and
(k) locate buildings and other structures so as not to obscure or interrupt significant views referred to in **Table 7.5 (Significant Views)** and shown on **Map 7.9 (Significant Views)** of the Visual Management Code.

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11.7 Cultural Heritage and Character Areas Planning Scheme Policy

11.7.1 Purpose

(1) The purpose of the Planning Scheme Policy is to:

(a) identify the cultural heritage values which have led to places and areas being included in the Cultural Heritage and Character Areas Code;
(b) identify the values which should be respected by development affecting these places and areas; and
(c) identify criteria for the subsequent inclusion of other places or areas of cultural heritage or character significance in the Cultural Heritage and Character Areas Code.

11.7.2 Application of Policy

(1) The policy applies in assessing development which is:

(a) identified in Part 4 (Development in Planning Areas) as being subject to the Cultural Heritage and Character Areas Code; or
(b) is on land the subject of a development application, where during the course of preparation or assessment of that development application, cultural heritage values have been identified.

11.7.3 Places of Cultural Significance Listed in the Cultural Heritage and Character Areas Code

(1) **Schedule 11.2** and **Schedule 11.3** to this policy contain explanations of the values of non-indigenous places and character areas that meet criteria for cultural heritage significance based on the *Queensland Heritage Act (1992)* and which have been identified in the Planning Scheme as being subject to the Cultural Heritage and Character Areas Code.

(2) In preparing development applications on land subject to the Cultural Heritage and Character Areas Code and in particular when preparing Conservation Plans or Cultural Heritage Management Plans, applicants should take into account the significance statements provided in **Schedule 11.2** and **Schedule 11.3.**

11.7.4 Criteria for Inclusion of Additional Places and Areas in the Cultural Heritage and Character Areas Code

(1) The list of places included in the Cultural Heritage and Character Areas Code is not final. It is intended that additional places and areas will be added as future investigations are undertaken.

(2) A place or area may be entered in **Tables 7.1**, **7.2** or **7.3** (Heritage Places of Non-indigenous Cultural Significance; Heritage Places of Indigenous Cultural Significance; Character Areas) of the Cultural Heritage and Character Areas Code if it satisfies one or more of the following criteria:
(a) the place or area has the ability to demonstrate aspects of the history of the Caloundra City region;
(b) the place or area has the potential to yield information that will contribute to knowledge of the history of the Caloundra City region;
(c) the place or area has the ability to demonstrate architectural or technical achievements of the Caloundra City region;
(d) the place or area has a special association with a community or cultural group for cultural, spiritual or social reasons; and
(e) the place or area has a special association with a particular person or group of importance to the Caloundra City region.

Schedule 11.2 Significance Statements for Places Identified in Cultural Heritage and Character Areas Code

The following schedule contains places in Caloundra City which have been identified as being of cultural heritage significance. This schedule should not be considered final as other identified places with possible significance need to be assessed. In addition, other places that have not previously been studied may in the future be identified as having cultural heritage significance.

Former Beerwah Forest Station & Arboretum
Roys Road, Beerwah (BH06)

An experimental station was established at Beerwah in 1924 to trial the plantings of exotic pine species from the United States. A nursery was established in 1931 to propagate *Pinus eliottii* and *Pinus taeda*. Trial plantings of hardwoods were also undertaken. Beerwah was the headquarters for forest operations in the district until 1958 when they were transferred to Beerburrum. Research continued to be carried out until 1980. A number of buildings and plantings of the period when the site was used for research remain on the site.

Significance
The Beerwah Forest Station and Arboretum is significant for the role it played in the introduction and development of exotic pine species in forest plantations. Exotic pine plantations became a major activity of the Queensland Department of Forestry. After World War 2, private companies also developed extensive exotic pine plantations.

Beerwah Hotel
Beerwah Parade, Beerwah (BH10)

Erected in 1937, this hotel replaced an earlier building. The building was based on the designs of AT Longland, a Brisbane based architect, who was also responsible for the rebuilding of the Hotel Francis in Caloundra. The builder for the project was L Hammer. The Beerwah Hotel is two storeys and was built partly in response to the growing volume of motor vehicle traffic passing through Beerwah as a result of the construction of the Bruce Highway in the mid 1930s. The first declared section of the Bruce Highway ran from Rothwell near Redcliffe to Eumundi. In particular, it boosted traffic to Caloundra and Maroochydore.

Significance
The Beerwah Hotel is significant as an example of a 1930s hotel and as evidence of the growth of Beerwah in the 1930s following the construction of the Bruce Highway in the mid 1930s.

Beerwah Railway Station
Simpson Street, Beerwah (BH25)

The section of the North Coast line between Caboolture and Landsborough was opened on 1 February 1890. Beerwah was opened shortly afterwards.
The station building is a standard 19th century design with three stages of additions. The core comprises the waiting shelter and office. A signal cabin was added to the south end and ladies waiting room and toilet to the north end.

Significance
This station is significant as an example of a standard 19th century station which was distinguished by the roof line sloping away from the platform. It is similar to the station at Glass House but the Beerwah station is more complete, retaining the signal cabin structure.

Site of Coochin Homestead (BH31)
Old Gympie Road, Beerwah

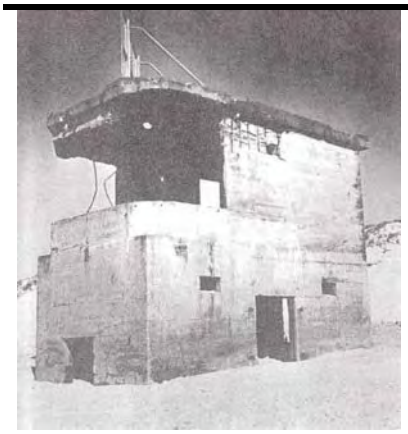
Coochin Homestead was established by John Simpson on land selected in 1878. Simpson developed his run into a substantial property and was also involved in the timber industry. The house and associated structures no longer remain, but a group of mature trees survive from the period and indicated the location of the homestead close to Old Gympie Road and Mellum Creek.

Significance
The site of Coochin homestead is significant for its association with John Simpson and the early European occupation of the Beerwah area. The homestead was situated close to the Old Gympie Road and was a stopping point for travellers.

Beerburrum Scientific Area No 1
Beerburrum State Forest, Beerwah (BH32)

Reserved in 1968, during a period of widespread exotic pine plantation establishment, Scientific Area 1 in the Beerburrum Forestry District was the first scientific area to be reserved in Queensland. Occupying an area of land in close proximity to newly-established exotic pine plantations, the reservation of this, and subsequent scientific areas, was consistent with the recognition from the late 1960s of the importance of preserving viable samples of ecosystems, particularly those undergoing conversion to exotic softwood plantations on the coastal lowlands. The area comprises 620 ha and is bounded by Roys Road, Mawsons Road and the Bruce Highway. It consists principally of wallum and eucalypt forest.

Significance
The Beerburrum Scientific Area No 1 is significant as evidence of changing attitudes to forestry management in the 1960s. Previously any native vegetation in the Beerburrum and Beerwah area had been progressively cleared and planted with exotic pines. The decision to preserve this area was a recognition of the need to protect areas of scientific importance.



Bribie Island World War 2 Fortifications
North end of Island, Bribie Island (BI04)

Fortifications were constructed on Bribie Island between 1939 and 1942 as part of a network of defence installations to protect Moreton Bay. Fort Bribie was located on the northern end of the island and comprised two concrete gun emplacements, mine control huts (of concrete) and a camp for personnel. Both gun emplacements and the mine control huts survive as well as remnants of the camp.

Significance
The Bribie Island World War 2 fortifications are significant as evidence of the coastal defence measures developed between 1939 and 1942. These fortifications indicated the seriousness given to the possibility of enemy attack.

Campbellville Settlement and Cemetery
Roys Road and Coochin Creek, Pumicestone Passage (BI06)

James Campbell established a sawmill on the banks of Coochin Creek in 1881 to mill timber from the Blackall Ranges. A settlement grew up around the mill. The mill closed in 1890 when the railway line reached Landsborough. The settlement was abandoned and only remnants of the settlement and mill survive. The most significant evidence of the settlement is the cemetery which contains approximately nine graves.

Significance
Campbellville settlement is significant as evidence of the patterns of timber exploitation in the district. The mill was located on the banks of Coochin Creek to facilitate ease of transportation of the milled timber. The remnants of the settlement are evidence of the rise and decline associated with timber settlements.

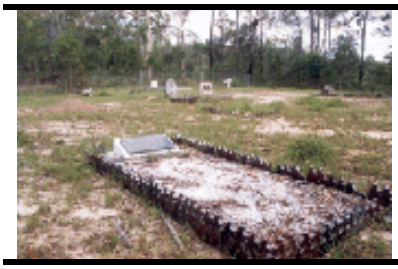
Cowiebank site (BI07)
Tripcony Bight, Pumicestone Passage

Cowiebank was the home of Thomas Tripcony who was a prominent identity in the Bribie/Pumicestone area in the 19th century. Tripcony moved to the site where he built his home Cowiebank in the 1860s to take up oystering. Tripcony also selected 1100 acres on the passage between Glass Mountain Creek and Hussey Creek. Cowiebank became a well known location on the passage. Thomas Tripcony died in 1896 but his family continued oystering into the 20th century. The house was destroyed by fire in 1990.

Significance
The site of Cowiebank is significant for its association with the Tripcony family and the oyster industry in the Pumicestone Passage. Thomas Tripcony was a well known identity in the area and acknowledged as one of the first permanent European residents along the Passage.

Beerburrum Cemetery
Via Beerburrum Road, Beerburrum (BM02)

The Beerburrum cemetery is located west of the township and set amidst open scrub. It contains graves from early settlers of the



Soldier Settlement. About 12 graves are still visible. The cemetery was officially closed in 1970.

Significance
The Beerburrum Cemetery is significant as evidence of the Soldier Settlement scheme in the district following World War 1.

Beerburrum Forestry Station barracks
Red Road, Beerburrum (BM03)

The Beerburrum Forest Station was established in 1947 as part of the expansion of the pine plantations in surrounding state forest areas. An office, barracks and sheds were erected. Other buildings were erected, as the Beerburrum station became the principal centre in place of the Beerwah Forest station.
Significant buildings on the site include barracks, and office.

Significance
The Beerburrum Forest station barracks are significant as evidence of the expansion of the pine plantations in the Beerburrum area. The barracks are significant as examples of accommodation for forestry workers in the post war period.

School of Arts Hall
6/7 Anzac Avenue, Beerburrum (BM04)

This building was erected c1920 following the establishment of the Beerburrum Soldier Settlement scheme. This scheme was an extensive program to provide returned soldiers with opportunities to take up farming.
Beerburrum became the centre of the scheme and the School of Arts Hall was erected as a community hall. The town prospered briefly but the soldier settlement scheme was a failure. The town declined and a number of buildings including shops were moved elsewhere. The school of Arts Hall remained and continues as a venue for community activities.

Significance
The Beerburrum School of Arts Hall is significant for its associations with the Beerburrum Soldier Settlement scheme. The scheme was a failure and many of the buildings erected in association with the scheme were either demolished or relocated. The School of Arts Hall is one of the few buildings that survived this period in Beerburrum.

Former Beerburrum Bakery
5 Anzac Avenue, Beerburrum (BM10)

This building was erected c1920 following the establishment of the Beerburrum Soldier Settlement scheme. This scheme was an extensive program to provide returned soldiers with opportunities to take up farming.

Beerburrum became the centre of the scheme and the bakery was one of a group of shops erected in Anzac Avenue. The town prospered briefly but the soldier settlement scheme was a failure. The town declined and a number of buildings including shops were moved elsewhere. The bakery was the only retail building

to remain.

Significance
The former Beerburrum Bakery is significant as evidence of the development of Beerburrum as the centre of the soldier settlement scheme after World War 1. The scheme was one of the largest soldier settlement schemes in Australia but was an abject failure. The former bakery is one of the few remaining structures in Beerburrum erected to service the soldier settlement scheme.

Anzac Avenue Memorial trees
Anzac Ave, Beerburrum (BM12)

An avenue of trees was planted in Anzac Avenue to commemorate those who had served in World War 1. The most common form of memorial throughout Australia was either in stone or an honour board. The marking of the landscape with trees was a less common form of memorial. In Queensland approximately six avenues were planted after World War1.
This avenue comprises camphor laurels and weeping figs.

Significance
The Anzac Avenue Memorial trees are an uncommon example of a first world war avenue of honour. These trees, along with the few other avenues of honour, demonstrate a different response to remembering and honouring those who served in the war.

Unlike the memorials of stone or buildings which attempted to make statements about permanence and remembrance always, the avenues of honour expressed the view that trees, like all living things must grow, age, decay and die.

Kings Beach Bathing Pavilion
The Esplanade, Kings Beach, Caloundra (CA02)

King's Beach bathing pavilion was constructed in 1937 by the Landsborough Shire Council. The pavilion was built as part of a larger scheme to improve the facilities at Caloundra, which was growing in popularity as a seaside resort. The pavilion was designed by CE Plant, and was constructed for a cost of 3030 pounds. The building comprised a small kiosk, entrance vestibule and open air change rooms.

The building continues to be used as public toilets and change rooms.

Significance
The King's Beach Bathing Pavilion demonstrates the development and expansion of Caloundra as a seaside resort in the 1930s. The construction for the Bruce Highway and a connecting road to Caloundra was a catalyst for Caloundra's growth in the late 1930s. This building is one of the few which survive from the period which demonstrate this pattern of growth. The building is also significant as an example of a 1930s public bathing pavilion with its open air change rooms and with the exterior exhibiting Spanish Mission architectural influences.

Caloundra Cemetery
Queen Street, Caloundra (CA04)

An area was reserved as a cemetery in 1910.

Significance
The Caloundra cemetery is significant in providing evidence of the social history and development of Caloundra.

The former Caloundra Lighthouse
Canberra Terrace, Caloundra (CA47)

This lighthouse was erected in 1896 replacing an earlier timber structure. It was constructed on land owned by Robert Bulcock. The lighthouse functioned until 1966 when a new lighthouse was erected adjacent.

The lighthouse was relocated to a site at Golden Beach in 1969. It has recently been relocated back to its original site.

Significance
The former Caloundra lighthouse is significant as evidence of the use of the Caloundra headlands for navigation from the late 1890s. Located on the highest ridge in the town, the lighthouse was a landmark in the district. It became a symbol of the town and remains as one of the most important structures associated with the early development of Caloundra.

Landsborough Monument
Landsborough Parade, Golden Beach, Caloundra (CA49)

The William Landsborough Monument was erected in 1939.

William Landsborough (1825-1886) migrated to New South Wales in 1841. He undertook a number of successful expeditions throughout northern Australia in the 1850s and early 1860s. He led the first north-south crossing of the continent by Europeans. Landsborough served as the Police Magistrate and Commissioner for Crown Lands for the Burke district (1866-1870) and then took up road surveying and tin mining.

Landsborough purchased Loch Lamerough on Pumicestone Passage in 1881. He died in 1886 and was buried beside the sea near his home. In 1939 his grave was uncovered during the construction of a road to the Military Jetty. His remains were re-interred in the Toowong Cemetery and a memorial cairn erected.

Significance
William Landsborough is regarded as one of the more successful Europeans explorers in northern Australia. His expeditions were achieved with little drama such as confronted by Burke and Wills. He was also instrumental in establishing government services in the remote Gulf of Carpentaria.

SS Dicky wreck
Dicky Beach, Caloundra (CA59)

During a cyclone in early 1893, the SS Dicky was washed ashore north of Caloundra Head. No lives were lost but the ship was

unable to be refloated.
The wreck has been a prominent feature of the Dicky Beach landscape. When still reasonably intact, it was used as a dressing shed by bathers.

Significance
The SS Dicky wreck is a reminder of the dangers associated with sea travel in the 19th and early 20th century. Sea travel was a common means of transport and accidents involving vessels off the Queensland coast were a common occurrence. Most vessels sank at sea, while some such as the SS Dicky were grounded ashore.

Queen of the Colonies Monument
Queen of the Colonies Parade Moffat Beach, Caloundra (CA60)

This monument commemorates the rescue of a group of fourteen sailors from the 'Queen of the Colonies'. The Queen of the Colonies was an immigrant ship which arrived in Moreton Bay in April 1863. The ship anchored off Moreton Island in order to bury a deceased passenger. While returning to the ship, the crew were separated during a severe storm and were eventually washed ashore at Moffat Beach. They carved the letters '1863 - Q of C' on a Pandanas palm. The tree survived until the 1930s. A small concrete monument was erected in 1933 to commemorate the event.

Significance
The Queen of the Colonies Monument is significant as evidence of the ever present dangers of sea travel in the 19th century. Numerous lives were lost at sea along the Queensland coast. Although no lives were lost in this episode, the monument is reminder of the dangers faced in sea travel.

The Landsborough Tree
34 Landsborough Parade Golden Beach, Caloundra (CA64)

This tree was planted as a seedling in 1880. It was planted by the Butler family, who had brought it from Kilcoy Station.

Significance
The Landsborough Tree is significant for its associations with William Landsborough and as a local landmark.

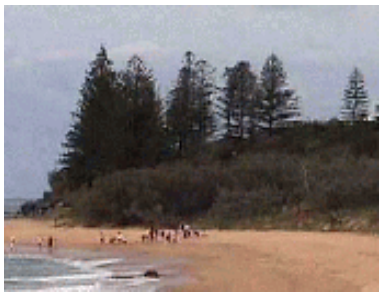
William Landsborough owned Loch Lamerough and comprised much of the area now known as Golden Beach. Landsborough is regarded as one of the more successful Europeans explorers in northern Australia. His expeditions were achieved with little drama such as confronted by Burke and Wills. He was also instrumental in establishing government services in the remote Gulf of Carpentaria.

Military Jetty
The Esplanade, Diamond Head, Golden Beach, Caloundra (CA67)

This jetty was erected in 1941 to assist in the transportation of goods and personnel to Fort Bribie.

Significance
Military jetty is significant as evidence of the use of the Caloundra district for military operations during World War 2. In particular,

it highlights the importance of Fort Bribie in the defence of Moreton Bay.



Norfolk pines along esplanade
Caloundra Esplanades, Caloundra (CA66)

The tradition of planting Norfolk pines along the foreshore at certain seaside locations dates from the 19th century. Norfolk pines became a signature tree at seaside resorts, most notably at Manly in Sydney. The concept spread north and local authorities took up the practice along the Queensland coast, including Caloundra. These trees are now a distinctive part of the Caloundra landscape.

Significance
The Norfolk pines along the Caloundra foreshore are a significant part of the landscape and contribute to the distinctive character of the Caloundra beaches.

Elaman Creek Recreational Reserve
Maleny-Kenilworth Road, Conondale (CS19)

The Elaman Creek recreational reserve is located 5 km east of Conondale. The reserve was gazetted c 1930s and was also known as Green Park. It was the centre for outdoor recreation activities in the Conondale district including horse racing, cricket and tennis. Evidence of the horse racing survives with timber rails adjacent to the track, judge's box and catering shed.
A motor cycling race track has also been constructed on the reserve.

Significance
The Elaman Creek recreational reserve is significant for its association with outdoor recreational activities in the Conondale district. It is also significant as an example of a country picnic race facility.

Bankfoot House
Old Gympie Road, Glass House (GE09)

Bankfoot House was erected in 1878 with later extensions. William and Mary Grigor built the first Bankfoot House in 1868 to provide accommodation and meals for travellers to the Gympie goldfields. Their house became a staging post for coaches on the Gympie route. A second building was erected in 1878 and various additions were undertaken, including the verandah in 1930.
Other buildings on the site include a dairy, hay shed and two mature bunya pines trees planted in 1879.

Significance
Bankfoot House is significant as evidence of the site of a major coaching stop on the Brisbane-Gympie road built to serve the Gympie goldfields. Coaching stops were common throughout 19th Century Queensland but little evidence remains of many of these sites. Bankfoot House and associated structures and features is one of the most intact of a coaching stop.

Flinders Monument
Flinders Park, Tibrogargan Reserve, Glass House (GE11)

When exploring the Moreton Bay region on board the Norfolk in

1899, Matthew Flinders undertook a short overland journey to the Glass House Mountains. This monument was erected to commemorate his visit. It was erected jointly by the Royal Historical Society of Queensland and the Department of Main Roads.

Significance
The Flinders Monument is significant for its association with the commemoration of the visit to the Glass House region by Matthew Flinders in 1899.

Grigor Graves
Old Gympie Rd near Coonowrin Creek, Glass House (GE21)

William and Mary Grigor erected a house in 1868 on the route to the Gympie goldfields. Bankfoot House provided accommodation and meals for travellers. Three of their children died in a five year period and were buried nearby. The small burial ground contains the graves of David (1874), Margaret (1878) and Robert (1879). The burial ground also contains the grave of an Aboriginal child.

Significance
The Grigor Graves are significant for their association with the Grigor family and Bankfoot House. Bankfoot House and the associated structures and features are the most intact evidence of a staging post on the Old Gympie Road. The graves are also significant as evidence of the hardships faced by families in rural Queensland in the 19th century. The presence of the grave of an Aboriginal child indicates that relationships with local indigenous groups were not always hostile but rapport did exist.

Glass House Mountains Railway Station
Reed Street, Glass House (GE22)

Glass House railway station was opened in February 1890, soon after the completion of the Caboolture-Landsborough section of the North Coast Line. The station was known as Coonowrin until 1914 when the name was changed to Glass House Mountains.
The station building was a standard 19th century plan distinguished by a mono-plane roof sloping away from the platform. Additions were undertaken and the building now comprises office, waiting shed, store and toilets.

Significance
The Glass House Mountains station is an example of a late 19th century small timber station distinguished by a mono-plane roof with platform shelter.

Uniting Church
Landsborough Maleny Road, Landsborough (LH10)

The Landsborough Uniting Church was erected c1892 as the Landsborough Primitive Methodist Church. Primitive Methodist services commenced in the district in the 1870s. With the expansion of the township following the construction of the railway line in 1889, the congregation expanded and a small timber church was built on the corner of Myla Road and Old Gympie Road. The church became the Landsborough Methodist Church in 1902 with the amalgamation of the Primitive Methodists and Wesleyan Methodists.

In 1932 the church was moved from its site near the school to its present location. The church was placed on high blocks and the ground level was later enclosed to provide a hall. The church became the Landsborough Uniting Church in 1977.

Significance
The Landsborough Uniting Church is significant as an example of a Primitive Methodist church building. The Primitive Methodists emphasised simplicity and plainness in worship which is reflected in this building. It is one of only a few Primitive Methodist churches which survive in Queensland.
The building also demonstrates the development of Landsborough following the extension of the railway line from Caboolture in 1889. It is one of a number of buildings erected as the town developed as a rail centre for the district.

Former Landsborough Shire Chambers
6 Maleny Street, Landsborough (LH11)

The Former Landsborough Shire Council offices were erected in 1924. The Landsborough Shire Council was formed in 1912 when parts of Caboolture Shire were subdivided for the new local authority. The Landsborough Shire erected a Council residence and one room office in1913. The first purpose built chambers were opened in 1924.
The building was designed by Brisbane architect WC Voller and constructed by AE Round. It comprised a council chamber, two offices and strong room.
The building ceased to operate as council offices when the administration function was relocated to Caloundra in 1974. The building now forms part of the Landsborough Historical Museum

Significance
The former Landsborough Shire Council Chambers are significant for associations with local government in the district and evidence of the former central role of Landsborough in the Shire.

Landsborough Court House
Caloundra Street, Landsborough (LH12)

The Landsborough Court House was erected in 1940. The building contained offices and a small court room at the rear. The plan was a standard plan for court houses which had evolved from the 1870s.

Significance
The Landsborough Court House is significant as an example of a small rural court house.

Former Police Station
40 Maleny Street, Landsborough (LH13)

The former Landsborough Police Station was erected in 1889 for a cost of 480 pounds. It was situated at the junction of what was then the main intersection with Old Gympie Road and the Maleny Road. The building contained an office and quarters for the constable.
The building ceased to function as a police station when a new police station and court house was erected in 1941 in Caloundra

Street.

Significance
The former Landsborough police station is one of a group of buildings in the town that was erected following the extension of the railway line from Caboolture. The building provides evidence of the growth in the town resulting from the railway line's extension.

Landsborough School of Arts Memorial Hall
Old Landsborough Road, Landsborough (LH16)

The Landsborough School of Arts Memorial Hall was erected in 1923. The hall was built as a memorial to those men from the district who had served in World War 1.
The hall is a large timber building with a T plan. This plan was typical of school of arts buildings in Queensland with a large hall and two small rooms at the front. One room was usually the school of arts library, the other used for meetings.
The building is in good condition and continues to serve as a community hall.

Significance
The Landsborough School of Arts Memorial Hall is a good example of early 20th century school of arts building. It is also significant for its associations with the Landsborough community.

Mellum Club Hotel
Cribb Street, Landsborough (LH17)

The Mellum Club Hotel was erected in 1882 on the corner of Old Gympie Road and Maleny Road. It served travellers to and from Gympie. The hotel was moved to its present location c1915 principally to be closer to the railway station. Alterations and additions have been undertaken but the early core of the building remains.

Significance
The Mellum Club Hotel is significant for its associations with the development of Landsborough.

Leeding House
10 Maleny Street, Landsborough (LH18)

This house was the residence of Arthur Leeding who worked as a blacksmith in Landsborough from 1910 to 1946. The house is lowset, timber and was likely to be erected in the period 1900-1914.

Significance
The Leeding House is significant as an example of an early 20th century timber house. It is part of a group of late 19th and early 20th century timber houses in Maleny Street that contribute to the character of this part of Landsborough.

Dyer House
26 Maleny Street, Landsborough (LH19)

This house was erected by Henry Christopher Dyer in 1888. Dyer arrived in Landsborough in 1886 and later became the lessee of the Mellum Creek Hotel. He operated a general store and

butcher shop. Dyer established a sawmill in 1896 which operated until 1923.
Dyer's house was a large lowset timber building, with core rooms enclosed by a verandah on three sides.

Significance
Dyer House is significant as a fine example of a 19th century timber house. It is also significant for its associations with Henry Dyer who played a prominent role in the early development of Landsborough.

The Palms
Gympie Street North, Landsborough (LH20)

The Palms was erected c 1915 for John Tytherleigh. The house is built on the site of the first hall in Landsborough. In 1894 Tytherleigh rented part of the hall and opened a small store. Tytherleigh later purchased the hall. C1915 he moved the hall to Cribb Street, opposite the railway station. A lowset timber house was erected on the site.

A group of mature palms are located along the southern boundary and are an important local landmark.

Significance
The Palms is significant as a local landmark and good example of an early 20th century timber house.

Former Shire Office
51 Landsborough-Maleny Rd, Landsborough (LH22)

The Landsborough Shire Council was formed in February 1912 when 423 acres were excised from the northern end of the Caboolture Shire Council. A house/office was erected for the first Shire Clerk in 1913 opposite the Peace Memorial Park. This building was used for Council meetings until purpose-built Chambers were erected in 1924.

Significance
The former Landsborough Shire Office building is significant for its associations with the early development of the Landsborough Shire Council.

Landsborough Railway Station and Air Raid Shelter
Cribb Street, Landsborough (LH34)

The Caboolture-Landsborough section of the North Coast line was opened on 1 February 1890. A standard plan station building was erected. Additions were undertaken shortly afterwards and by 1893 the building comprised an office, waiting room, bar, dining room, kitchen, ladies room and closets. The office was extended in 1906 and a post office added in 1914.

During World War 2, a concrete air raid shelter was constructed on the southern end of the platform.
The shelter is of reinforced concrete and the original purpose is still very evident. Most shelters attached to railway stations were demolished after the war or converted to other uses. The Landsborough shelter is one of only three surviving examples in Queensland on a railway station.

Significance
The Landsborough Railway station is significant as an example of a timber station building of the late 19th century with later additions.

The Landsborough air raid shelter is significant as a rare intact example of a public air raid shelter. It is also a rare example of a World War 2 air raid shelter erected within the grounds of a railway station.

Peace Memorial Park
Landsborough-Maleny Road, Landsborough (LH36)

Throughout Australia, the most common response to remember and honour those men and women who had served in the Great War of 1914-1918 was the erection of a monument of stone situated in a highly visible location. Some communities chose more practical memorials such as hospitals, community halls, avenues of trees or, in the case of Landsborough, a memorial park.
The land for the park was donated by Arthur Bennett in 1919. A formal entrance comprising concrete posts and metal gates was erected in 1922 and inscribed LPMP (Landsborough Peace Memorial Park). A rotunda (later demolished) was erected in 1926.
The park contains a number of mature trees including a Sausage Tree *(Kigelia africana)*.

Significance
The Landsborough Peace Memorial Park was the response by local residents to the loss and suffering experienced by the community as a result of World War 1. The park is significant as a less common form of World War 1 memorial. It was a practical expression of commemoration rather than the more common memorial of stone.

Former Landsborough Post Office
Caloundra Street, Landsborough (LH37)

The former Landsborough Post Office Building was relocated to Landsborough in the late 1930s.

Significance
The former Landsborough Post Office is an example of a small country post office. It is significant for its association with postal services in the Landsborough district.

Former Jewellers shop
Cnr Old Landsborough and Maleny Roads, Landsborough (LH47)

This shop was erected in 1933 for Mr Richardson. It is a timber building with residence attached. A corrugated iron awning supported by timber posts extends over the footpath.

Significance
The former Jeweller's shop is an important part of the Landsborough townscape, situated prominently on the corner of Old Landsborough and Maleny Roads. It is one of a group of small

timber shops which contribute to the identity of Landsborough.

Former Butcher Shop
26 Cribb St, Landsborough (LH48)

The former Butcher Shop is a lowset timber and masonry building. It was erected in 1926 for GE Hyde.

Significance
The former Butcher Shop is significant as one of a group of retail buildings in Cribb Street.

Former Bakery (LH49)
28 Cribb Street, Landsborough

The former bakery comprises a timber shop fronting Cribb Street with brick bakehouse attached to the rear. The building was erected in 1922 for Dick Orrell.

Significance
The former Bakery is significant as one of a group of retail buildings in Cribb Street.

Mooloolah Cemetery
Glass House Mountains Road, Glenview (MH07)

The Mooloolah Cemetery was gazetted in 1876. It is situated on the southern side of the Glass House Mountains Road near the Bruce Highway junction.
The cemetery contains graves of early European settlers in the district including Patrick Murray (1876), Edmund Lander (1888) and Elizabeth Westerway. Landsborough Shire Council assumed responsibility for the cemetery from local trustees in 1937.

Significance
The Mooloolah Cemetery is significant in providing evidence of the social history and development of the Mooloolah district.

Ewen Maddock house site (MH13)
Mooloolah Connection Road, Mooloolah

Ewen Maddock arrived in the Mooloolah district at the age of five years. He attended the Mooloolah Plains Provisional school and worked in the district fencing, timber getting, and driving bullock teams. He later took up dairying.
Maddock took up land adjacent Mooloolah Road and erected a house which was called 'Koongomoon'. The house had been demolished but mature trees including hoop and bunya pines remain. Other vegetation also distinguishes the site.

Significance
The Ewen Maddock house site is significant for its associations with Ewen Maddock. Maddock was a prominent identity in the Mooloolah and Landsborough districts and associated with the early European development of the area.

Mooloolah railway shelter
Bray Road, Mooloolah (MH32)

Although the railway passed through the Mooloolah district in 1891 with the extension of the line from Landsborough to

Eumundi, a railway station was not established at Mooloolah until 1912.
The station now only comprises only a timber shelter for passengers.

Significance
The Mooloolah railway shelter is significant as an example of a plain timber shelter. It is also significant as evidence of the role of the railway in the development of the township.

Dularcha Railway Tunnel
Tunnel Ridge Road, Mooloolah (MH38)

The Dularcha railway tunnel was constructed in 1890-1 as part of the North Coast Railway line from Brisbane to Gympie. This line was part of the section from Caboolture to Yandina which was built between 1888 and 1891. The tunnel was only one of two on the North Coast line. The tunnel is built through a sandstone ridge and is concrete lined. It is slightly curved and approximately 100m long.
In 1932 a new line was built between Landsborough and Mooloolah bypassing the Dularcha tunnel.

Significance
The Dularcha railway tunnel is significant as a good example of a concrete lined railway tunnel built in the 19th century. It is significant also for its association with the Dularcha National Park which was gazetted in 1922. The boundaries of the park were created around the railway line to enable passengers to view a part of Queensland's forests.

Witta Cemetery
Witta Road, Witta (MY08)

The Witta Cemetery was originally known as the Teutoberg Cemetery. The first burial was of a child in 1899 with the first adult interred in 1902. The cemetery comprises two sections. The front section contains graves with generally plain headstones. The back and newer section is a lawn cemetery. A small shelter shed and World War 2 memorial is located in the centre of the cemetery. An unusual headstone is that of 'Mitchell Aboriginal' Mitchell died in the Spanish flu pandemic in 1919 and lived with the local Harris family.

Significance
The Witta Cemetery is significant as evidence of the social history and development of the Witta district. In particular, it provides evidence as to the role of German migrants in the development of the district. The marked grave of 'Mitchell Aboriginal' is unusual in Queensland cemeteries of this era.

Former Baptist Church & Hall
76 Maple St, Maleny (MY10)

The former Maleny Baptist Church is situated at the western end of Maple Street. The church was erected in 1913 and constructed of local timbers.

Significance
The former Baptist Church is significant as evidence of the role of the Baptist Church in the Maleny district. It is also significant for its landmark qualities.

Former Bakery (MY100)
Maple Street, Maleny

Significance
The former Bakery is significant as a group of shops in Maple Street with different retail functions. Maple Street is significant as an example of an early-mid 20th century country town main street.

The Butchers Shop
Maple Street, Maleny (MY101)

The Butcher's shop is a single storey timber building.

Significance
The Butcher's shop is significant as a group of shops in Maple Street with different retail functions. Maple Street is significant as an example of an early-mid 20th century country town main street.

Former Anglican Church of St George
15 Bunya Street, Maleny (MY12)

This church was erected c1925 in Beerburrum. After the demise of the soldier settlement scheme the building was demolished and rebuilt in Maleny.
The Anglican church sold the building when a new church was erected on the outskirts of the town. It is currently used as a pottery and retail outlet.

Significance
The former Anglican Church of St George is significant for its associations with the Anglican community in the Maleny district.

Presbyterian Church
Cedar Street, Maleny (MY13)

The first Presbyterian services were held in Maleny in 1907. Services were held in the Union Church which was shared by several denominations. A small timber church was opened in 1939 and services continue to be held regularly in the building.

Significance
The Maleny Presbyterian Church is a fine example of a small timber church in a country town. The building is significant for its associations with the Presbyterianism within the Maleny district.

Good Shepherd Lutheran Church
Witta Road, Maleny (MY14)

The Good Shepherd Lutheran Church was opened and dedicated on 22 January 1911.
The first German farmers arrived in the area in the late 1880s and early 1890s as part of a group settlement scheme. They called the district Teutoberg.
The Lutheran Church commenced services in the district in 1892. A small timber church was erected in 1892 and regular services of worship continue to be held in the building.

Significance
The Good Shepherd Lutheran Church is significant as evidence of the role of the Lutheran Church in the Witta district. In particular, it is evidence of the prominent role played by German settlers in the development of Witta district.

Soldiers Memorial Hall
Bunya Street, Maleny (MY22)

The Soldiers Memorial Hall was erected in the late 1940s. Material for a surplus Army building in Maryborough was used in its construction.

Significance
The Soldiers Memorial Hall is significant as a memorial erected after World War 2 and as an important venue for community activities.

Former Masonic Hall
Beech Street, Maleny (MY24)

The former Masonic Hall was erected in 1920 on land donated by Francis Dunlop. Although it now functions as a veterinary surgery, the original function is evident in the windows set high on the two side walls, a typical feature of Masonic halls and temples where privacy was paramount.

Significance
The former Masonic Hall is significant for its association with Freemasonry in the Maleny district.

Maleny Lodge Guest House
58 Maple Street, Maleny (MY25)

This building was erected for Alfred Cooke in 1909. Cooke was the so-called father of Maleny. Built by Harry Bate, the house was known as 'Rosedale'. The building was converted to a guest house in 1930 and has been used for this purpose subsequently.

Significance
The Maleny Lodge Guest House is significant as an example of an early 20th century house in Maleny. It is also significant as a guest house as evidence of the development of the tourist industry in Maleny from the 1930s.

Mountain View Homestead
Mountain View Road, Maleny (MY27)

This house was constructed c1915. It has been used as guest house for a substantial period.

Significance
Mountain View Homestead is significant as an example of a large early 20th century timber house in the Maleny district. It is also significant as a guest house as evidence of the development of the tourist industry in Maleny from the 1930s.

Yarunga
10 Cedar Street, Maleny (MY44)

Yarunga was erected in 1914 for Andy Maclean. The house is situated on a triangular shaped allotment amidst mature trees. The house is timber with weatherboard cladding.

Significance
Yarunga is significant as an example of an early 20th century timber house in the Maleny district. The grounds are significant for a number of mature trees which have landmark qualities within the Maleny townscape.

Nothlings House
Curramore Road, Witta (MY74)

House and cottage built c 1900.
Selections in the Witta district were taken up in the late 19th century, in particular by German families. Expressions of German identity were evident in religion with the establishment of a Lutheran Church and also in building form such as in the Nothling house.

Significance
Nothlings house and cottage are significant as examples of early farm buildings in the Witta district erected by German settlers. The high-pitched gable roof is unusual for a late 19th century house in Queensland and suggests the influence of German building form.

Bergann farm house
Bergann Road, Witta (MY76)

This house was built in the early 1920s for Charlie Bergann. Bergann was one of a group of German migrants who took up selections in the Witta district.

Significance
This Bergann Farm house is significant as an example of a 1920s farm house and for its association with the Bergann family who were early settlers in the district.

Mary Cairncross Scenic Reserve
Mountain View Road, Maleny (MY81)

Mary Cairncross Park and reserve comprises 50 ha on Mountain View road. In 1943 Mabel and Elizabeth Thynne donated 40 ha (100 acres) to the Landsborough Shire Council in memory of their mother Mary (nee Cairncross). An additional 10 ha (25 acres) was

added to the park by the Landsborough Shire Council to form the park which was opened by Sir Henry Abel Smith in 1960.

Significance
Mary Cairncross Park is significant both as an area of remnant vegetation and also the vistas to the Glass House Mountains, Sunshine Coast and Pumicestone Passage.

Dunlop Graves
Maleny State School, Bunya Street, Maleny (MY82)

Two headstones are situated on the front boundary of the Maleny State School. The headstones marked the graves of Margaret Hankinson and Jane Dunlop. Jane Dunlop was the first female European to live permanently on the Maleny plateau

Significance
The Dunlop Headstones are significant for associations with the Dunlop family, early European settlers on the Maleny plateau.

Woolston Wood
Off Mary Cairncross Drive, Maleny (MY83)

Prior to European occupation, the Blackall ranges were covered with rainforest. Most of the vegetation had disappeared by 1900 following timber getting and the establishment of dairying. Small pockets of rainforest survived including this area to the east of Maleny township.

Significance
Woolston Wood is significant as a rare example of the vegetation which formerly covered the Blackall ranges.

Porter's Wood
Obi Lane, North Maleny Road, Maleny (MY84)

Prior to European occupation, the Blackall ranges were covered with rainforest. Most of the vegetation had disappeared by 1900 following timber getting and the establishment of dairying. Small pockets of rainforest survived including this area to the north of Maleny township.

Significance
Porter's Wood is significant as a rare example of the vegetation which formerly covered the Blackall ranges.

Old Witta School Community Centre
Witta Road, Maleny (MY98)

A provisional school was opened in the Teutoberg district in 1892. The first Europeans to settle permanently in the area were principally German families from the Logan district who came as part of a group settlement scheme. The first school was a simple timber structure.
This building was replaced by a new building in c1920. This building was a standard 'sectional plan' school comprising two classrooms enclosed by verandahs on two sides. One verandah was later enclosed when the school closed and children from the district were bussed to school in Maleny.

The grounds comprise a cricket pitch, a row of mature trees along Witta Road and an extensive stand of hoop pines at the rear of the site.

Significance
The former Witta State School is significant as a good example of an interwar 'sectional plan' school. Although no longer in use as a school, evidence of the original use survives. The site is significant for its associations with education in the Witta district. The mature trees and landscaping enhance the significance of the site.

Peachester Cemetery
Cemetery Road, Peachester (PR06)

Peachester Cemetery is located several kilometres west of Peachester township. The cemetery was gazetted in 1905 and contains the graves of a number of local identities including Inigo Jones.

Significance
The Peachester Cemetery is significant as a record of social history of the Peachester district.

Peachester Uniting Church
Peachester Road, Peachester (PR07)

This building was erected in 1922 as the Peachester Methodist Church. The land was donated by K Hendren, materials supplied by W Grigor and the building erected by voluntary labour. The name was changed in 1977 with the formation of the Uniting Church in Australia.

Significance
The Peachester Uniting Church is significant as an example of a small timber church and for its associations with the Methodist Church in the Peachester district.

Inigo Jones Farm Site
Crohamhurst Road Crohamhurst, Peachester (PR12)

Inigo Jones (1872-1954) was a noted meteorologist and long-range weather forecaster. At the age of 16 years, he joined the staff of the Meteorological Office in Brisbane. In 1893 he left the office to undertake long range weather forecasting on his father's dairy farm near Peachester. Crohamhurst became the base for his work over the next 35 years. Dairying continued as the major activity on the farm and in 1927 Jones realised that more substantial premises were required for his work. In 1935 a new Observatory was constructed on a hill to the north of the farm house.

In 1950 Jones gifted the northern part of his farm to the State, including the house site, on the condition that he and his wife could live on the property until their deaths. Jones died in 1954.

The site, on the lower bank of a side road off Crohamhurst Road, is denoted by four large mango trees and a house site that is situated to the north of the mango trees in an excavated area below the road.

Significance
The Inigo Jones site is significant for its association with Inigo Jones. Jones was a pioneer in long range weather forecasting in Queensland. He gained a reputation as a forecaster in a state where the weather played a critical role in the development of primary industries.

Peachester Hall
Peachester Road, Peachester (PR13)

The Peachester Hall was erected in 1947, replacing an earlier building which had been constructed in 1888. Some of the materials in the 1888 building were used to construct the new hall in 1945 which was built by voluntary labour. Various additions and alterations have been undertaken subsequently to increase the floor area.
The hall continues as a venue for a wide range of community activities in the Peachester district.

Significance
The Peachester Hall is significant as an example of a rural community hall and as a focal point for community activities in the Peachester district.

Site of Peach Trees Settlement
Peachester Road, Peachester (PR14)

This site was the location of the first European settlement in the area. It was originally known as Peach Trees, reputedly after wild peaches which had grown in area. Grigor's sawmill was established on the site and a large fig now denotes the site

Significance
This site is significant as evidence of the first European settlement in the Peachester district.

Crohamhurst Observatory
Crohamhurst Road, Peachester (PR21)

Inigo Jones (1872-1954) was a noted meteorologist and long-range weather forecaster. At the age of 16 years, he joined the staff of the Meteorological Office in Brisbane. In 1893 he left the office to undertake long range weather forecasting on his father's dairy farm near Peachester. Crohamhurst became the base for his work over the next 35 years. Dairying continued as the major activity on the farm and in 1927 Jones realised that more substantial premises were required for his work. In 1935 a new Observatory was constructed on a hill to the north of the farm house.

The Observatory was officially opened by the then Governor, Sir Leslie Wilson, on 13 August 1935. The work of the Observatory was to take daily observations of the sun and in all weather conditions so as to test the possibility of the immediate solar control of the weather and the applications of these possibilities to the weather of Australia, to issue forecasts to the press, and to test the hypothesis of seasonal repetitions through cycles.

	In 1953 Inigo Jones employed Robert Lennox Walker as an assistant. Walker took over the work in 1954 following Jones' death. Walker subsequently became well known as Queensland's long range weather forecaster.
	Significance Crohamhurst Observatory is significant for its associations with long range weather forecasting in Queensland since the mid 1930s. The site is synonymous with Inigo Jones and Lennox Walker who established national reputations as long range weather forecasters.

Part 11

Schedule 11.3 Significance Statements for Character Areas Identified in the Cultural Heritage and Character Areas Code

Several character areas within Caloundra City have been identified as significant cultural heritage values.

A character area is more than just a collection of individual heritage items. It 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. Frequently, these areas contain places that may not in themselves be of cultural heritage significance but are significant as a group.

The following character areas have been identified in Caloundra City. The measures required for the protection of these character areas may differ from that adopted for individual places, depending on the reasons for significance.

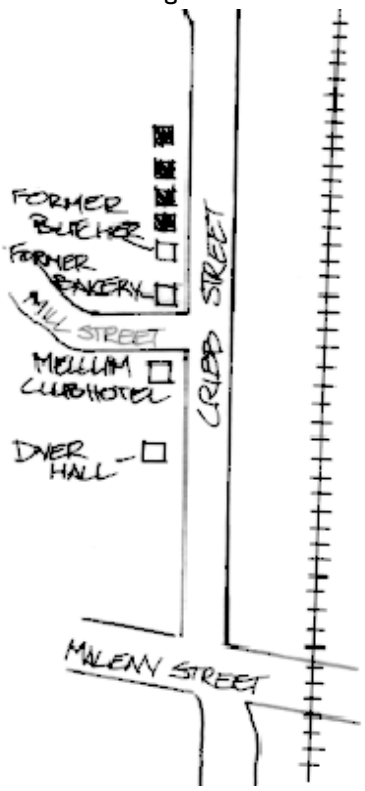
Landsborough - Cribb Street

Cribb Street became the commercial centre of Landsborough following the extension of the railway line from Caboolture in 1890. Businesses gradually relocated from Old Gympie Road to Cribb Street. By 1915, after the Mellum Club Hotel had relocated, Cribb Street was the centre of the town.

This character area comprises shops, hotel and houses. Several of the shops and the hotel are listed individually. The shops, despite some changes, retain their original or early form: lowset timber with corrugated galvanised iron awnings supported by timber posts.

The houses at 16, 18, 20, 22 Cribb Street contribute to the significance of the character area. These houses are characteristic of Queensland houses in the early 20th century: high-set on timber stumps, detached, constructed of timber with corrugated galvanised iron roofs (with the exception of no. 22).

This character area is significant as reflecting the character of Landsborough in the early 20th century.



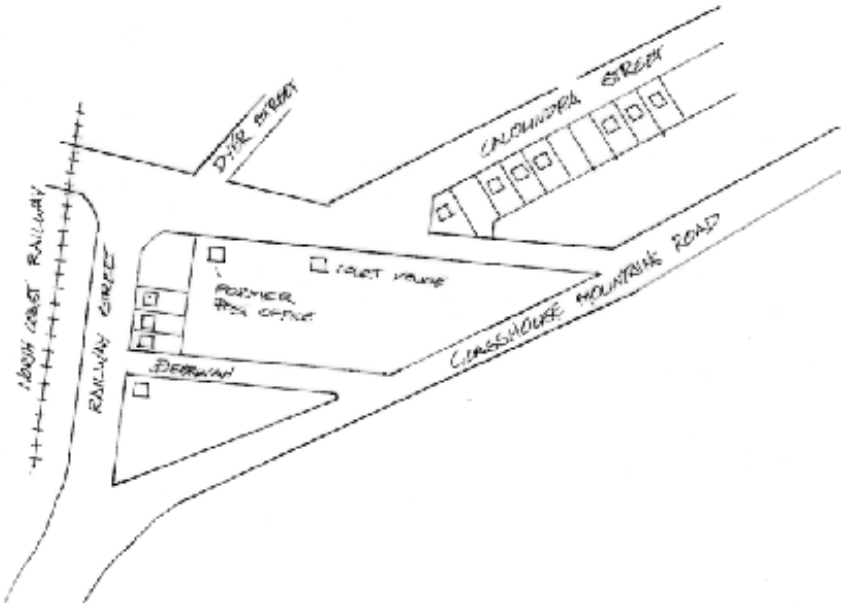
Part 11

Landsborough - Eastern Residential Area

This character area comprises a group of houses principally along the southern side of Caloundra Street. These houses are characteristic of Queensland houses in the early 20th century and include the following features:

- located on allotments of 24 perches or more;
- timber frame and cladding (most commonly weatherboards);
- corrugated galvanised iron roofs (hipped form earlier, gable roof later); and
- medium to high set on timber stumps.

This character area is significant in comprising a group of early 20th century houses.



Part 11

Planning Scheme Policies Relating to Part 8 – Use Codes

11.8 Use Codes Planning Scheme Policy

11.8.1 Purpose

(1) The purpose of the policy is to assist applicants in understanding how compliance may be demonstrated for certain specific outcomes and probable solutions within the Use Codes listed below in 11.8.2.

(2) The applicant should provide this information at time of lodgement accompanying a development application.

11.8.2 Application of Policy

(1) This policy applies to assessable development which triggers the following codes:

(a) Multi Unit Code (Section 8.9);
(b) Native Forest Harvesting Code (Section 8.13);
(c) Business Code (Section 8.15);
(d) Extractive Industry Code (Section 8.17); and
(e) Telecommunication Tower Code (Section 8.23).

11.8.3 Guidance Relevant to Multi Unit Code

Guidance for Achieving Specific Outcome O1

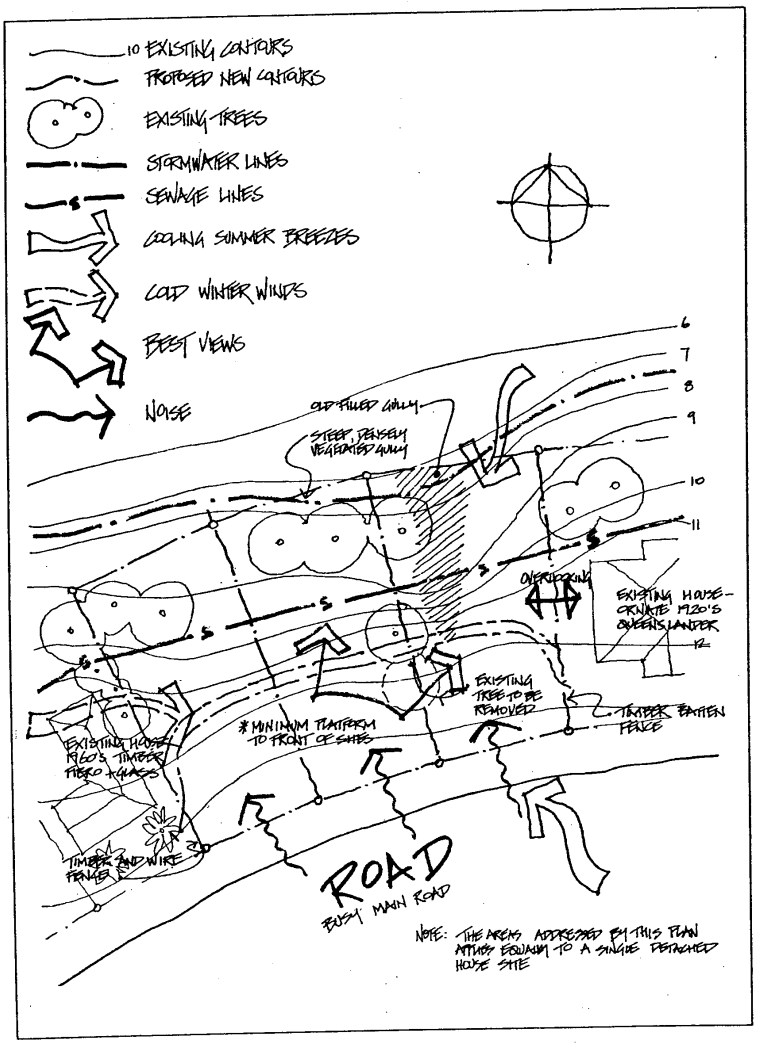
(1) The achievement of Specific Outcome O1 of the Multi Unit Code may be demonstrated by a Site Analysis Report (prepared by a competent person and submitted as part of a development application for Material Change of Use), which addresses the following matters:

(a) topography and site features including slope and vegetation;
(b) natural drainage lines, services and easements;
(c) buildings existing on the site and adjacent land;
(d) the streetscape character of adjoining streets;
(e) items of natural conservation or heritage value;
(f) orientation and microclimate; and
(g) views and vistas.

(1) **Figure 11.2 (Typical Site Analysis Plan)** provides an example of a site analysis plan that should accompany a Site Analysis Report.

Part 11

Figure 11.2 Typical Site Analysis Plan



Source: Queensland Residential Guidelines.

(2) In addition to a Site Analysis Report, where a proposed building exceeds four storeys or 13.5 metres in height, the achievement of Specific Outcome O1 may be demonstrated by an Amenity Impact Analysis Report (prepared by a competent person and submitted as part of a development application for Material Change of Use) which addresses the following matters:

(a) the impact of the building on the views from dwelling units on adjoining land and public spaces (streets and parks);
(b) how the building design seeks to minimise those impacts by siting, stepping, or chamfering the building form or by other design solutions; and
(c) the shadowing impact of the building and in particular demonstrating that sunlight is not precluded to the habitable rooms of adjacent buildings or to adjacent public parkland at the hours of 9.00am and 3.00pm on the 21st September and 21st of March.

Guidance for Achieving Specific Outcome O27

(1) In the Mixed Use Residential Precinct, expectations of residential amenity will be lower than in the Multi Unit Residential Precinct because of the intended mix of uses, but higher than expected in the Business Centre Precinct Class. Mixed use residential development is expected to place emphasis on:

(a) limits on the hours of operation of non-residential uses (e.g. 24 hour use would be inappropriate);
(b) detailed layout design to limit amenity impacts (e.g. positions of servicing, mechanical plant and car parking);
(c) location of non-residential uses to limit unavoidable mixing of residents and customers (e.g. primary street frontages);
(d) separation of residential and commercial traffic and pedestrian movements (e.g. for safety and convenience purposes); and
(e) lesser requirements for communal and private open space.

11.8.4 Native Forest Harvesting Code

Guidance for Achieving Specific Outcomes O1 and O2

(1) The achievement of Specific Outcomes O1 and O2 of the Native Forest Harvesting Code may be demonstrated by an Ecological Assessment Report (EAR), prepared by a competent person in accordance with the Environmental Assessment and Management Planning Scheme Policy, and addressing the following matters:

(a) the extent of significant ecosystems likely to be affected by the proposal;
(b) the existence of any species of significance as contained in **Tables 11.12** and **11.13** of the Environmental Assessment and Management Planning Scheme Policy or scheduled in the *Nature Conservation Act 1992* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*;
(c) the potential impacts (including edge effects) of the proposal on any significant ecosystems; and
(d) recommended management measures to be adopted in the conduct of native forest harvesting to minimise impacts upon significant ecosystems.

(2) In conjunction with Specific Outcomes O1 and O2, a Forestry Management Plan is prepared by a competent person, having regard to the Ecological Assessment Report, and details the following matters:

(a) the real property description of the subject site;
(b) neighbouring properties, including their current use and tenure;
(c) species of existing trees;
(d) species proposed for any enrichment planting;
(e) location of any access tracks and roads;
(f) treatment of constrained areas such as land adjacent to watercourses and steep land;
(g) proposed treatment of any environmentally sensitive areas and measures for the protection of the values of these areas;
(h) proposed harvest cycle;
(i) proposed rehabilitation measures; and
(j) confirmation that the use can occur and be managed in a manner consistent with the *State Code of Practice for Native Forest Timber Production*.

(3) Management and harvesting is undertaken in a manner consistent with the Forestry Management Plan.

11.8.5 Guidance Relevant to Business Code

General Guidance

(1) Probable Solutions that demonstrate consistency with the following matters are more likely to satisfy the Specific Outcomes and Overall Outcomes sought by the Business Code:

(a) each individual development occurs in a logical and integrated manner consistent with any relevant business centre master plan and planning scheme policy applicable to the centre in which the site is located;
(b) retail and commercial development demonstrates a design which contributes to the vitality, appearance and character of the local area enhancing community identity, culture and sense of belonging; and
(c) development promotes integration of community facilities for the relevant catchment, identified as needed in the Council's Community Services and Facilities Plan.

Guidance for Achieving Specific Outcome O5

(2) The achievement of Specific Outcome O5 of the Business Code may be demonstrated by a roof form that includes the following:

(a) eaves with a minimum of 600mm;
(b) hips and gullies with a minimum slope of 22.5%;
(c) non-reflective materials; and
(d) integrates mechanical plants and services.

Guidance for Achieving Specific Outcome O15

(3) Where a proposed building exceeds three storeys or 11 metres in height (whichever is the lesser), the achievement of Specific Outcome O15 may be demonstrated by a shadow analysis (prepared by a competent person and submitted as part of a development application for Material Change of Use), which demonstrates that direct sunlight reaches more than 50% of outdoor public space for a minimum of 3 hours between 9.00am and 3.00pm on 21 June.

A proposed building exceeding 11 metres in height must not have unacceptable micro-climatic impacts, especially on areas likely to be used by pedestrians, by way of:

(a) being located and shaped to avoid creation of 'wind tunnel' effects;
(b) incorporating appropriate shelter for pedestrian paths and areas such as colonnades, verandahs or awnings;
(c) unreasonable shadowing impacts of open space; and
(d) providing screens and landscaping to reduce the effects of strong winds.

(4) The achievement of Specific Outcome O15 may be demonstrated by reports (prepared by a competent person and submitted as part of a development application for Material Change of Use), which addresses the following matters:

(a) shadow analysis for the summer and winter solstice and equinox at the time of 9.00am, noon and 3.00pm; and/or
(b) wind affect analysis.

Guidance for Achieving Specific Outcome O18

(5) Mixed use residential development within the Business Centre Precinct Class generally has a reduced emphasis on:

(a) private open space (e.g. the ability to provide courtyards or large balconies may not be feasible in some instances);
(b) car parking requirements (e.g. business centres, especially larger business centres, typically have greater access to public transport);
(c) amenity (e.g. it is unreasonable to expect a residential dwelling unit in a centre to have the same level of amenity as that in a low density suburban location, as centres are the generally the focus of higher density commercial, retail, entertainment and community functions);

(d) communal clothes drying facilities (e.g. given the desire for ground level buildings to maintain a commercial appearance the provision of drying facilities at ground level may not be feasible and energy efficient dryers may be required); and
(e) landscaping requirements (e.g. given the desire for ground level buildings to maintain a commercial appearance – including the provision of podiums – significant landscaping at ground may not be feasible, whereas podium landscaping and planter boxes may be more appropriate).

Guidance for Achieving Specific Outcome O29

(6) The achievement of Specific Outcome O29 may be demonstrated by suitable public transit facilities (typically providing for buses and taxis), which are:

(a) planned for, and integrated with, the design of the centre from the outset in consultation with relevant transport providers and authorities and retrofitted into existing centres;
(b) placed in a location that is suitable to service operators;
(c) highly visible;
(d) convenient to access for all users;
(e) attractive, comfortable and safe; and
(f) designed as architecturally important buildings and structures.

(7) The integration of public transport services will be sought where the development is a significant traffic generator and sufficient public transport services are not located within 400 metres of the main pedestrian entrance to the development.

11.8.6 Extractive Industry Code

Guidance for Achieving Specific Outcome O2

(1) The achievement of Specific Outcome O2 of the Extractive Industry Code may be demonstrated by an Environmental Management Plan (EMP) prepared by a competent person, and which addresses environmental impacts in relation to:

(a) site establishment works;
(b) method and staging of operations; and
(c) restoration works; and

which describes:

(a) the EMP's objectives;
(b) all protection and mitigation measures;
(c) implementation responsibilities;
(d) clean-up and emergency procedures;
(e) monitoring programmes; and
(f) performance achievement criteria.

(2) The Environmental Assessment and Management Planning Scheme Policy provides further guidance on the preparation of EMPs.

(3) Development for which an approved environmental impact study, environmental management plan, and/or other suitable report or statement has been prepared, is to demonstrate that adequate management, technical and financial resources are to be provided to meet environmental management commitments.

11.8.7 Telecommunication Tower Code

Guidance for Achieving Specific Outcome O6

(1) The achievement of Specific Outcome O6 of the Telecommunication Tower Code may be demonstrated by an Environmental Management Plan (EMP) prepared by a competent person, detailing management measures to be implemented during the construction and operational phases of the development.

(2) The EMP is to be prepared in accordance with the Environmental Assessment and Management Planning Scheme Policy.

Planning Scheme Policies Relating to Part 9 – Other Codes

11.9 Development Design Planning Scheme Policy

The Development Design Planning Scheme Policy is provided under separate cover.

Part 11

11.10 Landscaping Planning Scheme Policy

11.10.1 Purpose

(1) The purpose of this Planning Scheme Policy is to provide guidance to applicants preparing Landscape Plans and Maintenance Programs for landscaping works undertaken in association with development.

11.10.2 Application of Policy

(1) This Planning Scheme Policy is to be read in conjunction with the Landscaping Code.

(2) This Planning Scheme Policy applies to landscaping work that involves the preparation of a Landscape Plan and/or Maintenance Program to demonstrate compliance with the Specific Outcomes of the Landscaping Code.

11.10.3 Guidance Relevant to the Landscaping Code

Guidance for Achieving Specific Outcome O1

(1) Specific Outcome O1 of the Landscaping Code may be demonstrated by the submission of a Landscape Plan prepared by a competent person in accordance with the following guidelines:

Landscape Plan

(a) The Landscape Plan is appropriately scaled and annotated, including written specifications, that clearly indicates the following:

(i) Project Details

- Date;
- Scale;

Drawing Type	Scale
Concept Plan	1:200 / 500
Working Drawing	1:100
Parkland Plan	1:200
Sections and Elevations	1:50
Construction Details	1:10 / 1:20

- north point;
- legend;
- plan and drawing numbers;
- schedule and date of amendment;
- real property (RP) description;
- project description and client; and
- name and credentials of designer(s) and/or design company;

(ii) Site Analysis and Opportunities

- statement of character and amenity issues;
- significant views and vistas;
- natural features (water courses, rock outcrops etc);
- topography (slope and orientation);
- site conditions (breezes, exposure, soil types, solar access, shadowing);
- neighbouring development and adjacent streetscape;

- site restrictions (easements, flood lines, airport noise contours);
- location of underground and overhead services; and
- photographs of the site and its context (as required).

(iii) Existing Trees and Shrubs

- location and botanical name;
- size (diameter at breast height, overall height and spread), age and condition; and
- trees and shrubs proposed to be retained or removed.

(iv) Site Layout and Buildings

- location of buildings and structures (including temporary structures);
- location of proposed storage areas, driveways, parking areas, refuse bins, gas cylinders, electricity substations and other utilities;
- details of hard landscape elements like fences and gates, retaining walls, pathways, street and park furniture; and
- location and details of any proposed displays and/or signage.

(v) Landscape Treatments

Grading and Drainage

- details of retaining walls, fencing, walls, entry features and water features;
- proposed levels (spot levels, contours) and surface treatments;
- details of earth cuts, fills or mounding and the method of erosion control (particularly for slopes steeper than 1 in 4); and
- surface and sub-surface drainage and collection points.

Planting

- set-out and dimensions of garden beds and details of proposed edging treatment;
- location, spacing and species of proposed plants;
- plant schedule with botanical names, common names, height, spread and/or pot sizes, quantities and other plant requirements and information as required;
- planting, mulching, fertilising and staking details;
- method of protecting trees within car parking and streetscape areas;
- method of preventing potential damage caused by the root systems of certain species (eg. where *Ficus spp.* are proposed within 5 metres of paths, 10 metres of private lots and 15 metres of any structures a root barrier is provided);
- details of growth media profiles, introduced soils and cultivation required;
- irrigation specifications and/or layout; and
- soil depths and proposed drainage measures for any planter boxes on a structure.

General

- sections and elevations sufficient to convey how the established landscape will assist in softening the built form and enhance the amenity of the development;
- notation sufficient to outline how the design has responded to particular performance criteria; and
- details of other landscape elements where necessary.

Guidance for Achieving Specific Outcome O2

(2) Specific Outcome O2 of the Landscaping Code may be demonstrated by the submission of a Maintenance Program for the proposed landscaping works prepared by a competent person in accordance with the following guidelines:

Maintenance Program

(a) The Maintenance Program comprises a written and/or tabulated program and specification which (in conjunction with the Landscape Plan) addresses the following:

(i) *Efficient and effective maintenance*

General
- establishment and on-going maintenance of the landscape in a healthy condition to achieve the design intent;
- provision of landscaping which will endure the intensity of the proposed use;
- plant maintenance requirements (pruning, crown lifting);
- selection of plant species with life expectancy and litter drop, pruning, water and fertiliser requirements consistent with the level of expected maintenance.

Mowing
- access for lawn and garden maintenance equipment; and
- ease of mowing (eg. turf/garden interfaces with sweeping curves and 100mm minimum width mowing strip edging).

Mulching
- provision of suitable mulching material and adequate mulch depths over time (eg. for trees in lawn mulching a minimum of 50% within the canopy drip line until established or for 5 years).

Fertilising
- Fertiliser application schedule including plant nutrient requirements, proposed products and application rate.

Irrigation
- provision of sub-surface irrigation suitable to the site, planting, and the nature of the development (eg. reticulated irrigation systems in commercial, medium to high density residential developments, common landscape or recreation areas and for podium planters);
- provision of water proofing for podium planters; and
- access to a hose cock for private landscape and recreation areas.

(ii) Sustainable Design and Management

- minimisation of maintenance requirements and environmental impact through appropriate landscape design, planting selection, drainage, irrigation, mulching and plant protection;

- conservation of water through water harvesting, grey-water reuse, treated effluent reuse, appropriate planting design and growth media specification, mulching, irrigation design and control (eg. rain-switches and soil moisture meters); and

- minimisation of artificial fertiliser and herbicide use by consideration of the horticultural requirements of the landscape through plant selection and cultivation requirements, fertiliser specification, mulching, drainage and irrigation design.

Guidance for Achieving Specific Outcome O4

(3) Specific Outcome O4 of the Landscaping Code may be demonstrated by the submission of a Landscape Plan prepared by a competent person which incorporates the preferred species and avoids the use of non-preferred species (environmental weeds or poisonous plants to people) as identified in the following supporting tables to this policy.

(a) Table 11.A Preferred Plant Species;
(b) Table 11.B Environmental Weeds; and
(c) Table 11.C Poisonous Plants to People.

Guidance for Achieving Specific Outcome O16

(4) Local native plant species are used in the landscape to support fauna species known to frequent the site, and to promote fauna species suspected of inhabiting the local area.
(5) Special consideration for use of plants compatible with the use of the landscape is required. This mitigates potential fauna conflicts with the landscaping. For example – inappropriate placement of high nectar producing plants *(such as Grevillea spp.)* adjacent roads.

Table 11.A Preferred Plant Species

LEGEND	
√	ENDEMIC TO THE SUNSHINE COAST REGION
ZONES	
C	COASTAL AREAS
H	HINTERLAND AREAS
M	MOUNTAIN / MALENY PLATEAU / BLACKALL RANGE
FEATURES	
EC	SUITABLE FOR EXPOSED COASTAL AREAS
EC1	SUITABLE FOR FRONT LINE COASTAL CONDITIONS
FE	ATTRACTIVE TO FRUIT EATING BIRDS
NFS	NON-FIRE STIMULANT SPECIES
K	KOALA FOOD TREE
NF	ATTRACTIVE TO NECTAR FEEDING BIRDS
PWR	SUITABLE TREE UNDER POWERLINES
S	ATTRACTIVE TO SEED EATING BIRDS

TREES AND LARGE SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Acacia aulacocarpa	Ironbark Wattle	✓	6	2	**C,H**	**EC**
Acacia complanata	Flat Stem Wattle	✓	4	3	**C**	**EC,S**
Acacia concurrens	Late Flowering Black Wattle	✓	4	3	**C**	**EC,S**
Acacia fimbriata	Brisbane Wattle		5	4	**C,H,M**	**EC**
Acacia longifolia	Sydney Golden Wattle		5	3	**C,H,M**	**EC**
Acacia melanoxylon	Blackwood	✓	20	6	**H,M**	
Acacia sophorae	Coastal Wattle	✓	3	2	**C**	**EC1**
Acmena hemilampra	Blush Satinash	✓	10	5	**C,H,M**	**FE,NFS**
Acmena smithii	Lilly Pilly	✓	5	3	**C,H,M**	**PWR,FE,NFS**
Acronychia imperforata	Logan Apple	✓	3	2	**C,H**	**FE,NFS**
Acronychia oblongifolia	Yellow Wood	✓	6	3	**M,H**	**FE,NFS**
Agathis robusta	Kauri Pine	✓	30	7	**C,H,M**	**S**
Alectryon coriaceus	Beach Birds Eye	✓	5	5	**C**	**EC,PWR,FE,NFS**
Alphitonia excelsa	Red Ash	✓	10	5	**C,H,M**	**EC,FE**
Angophora costata	Smooth Barked Apple	✓	20	6	**C,H**	
Araucaria bidwillii	Bunya Pine	✓	35	15	**C,H,M**	**EC**
Araucaria cunninghamiana	Hoop Pine	✓	35	15	**C,H,M**	**EC,FE**
Araucaria heterophylla	Norfolk Pine		35	12	**C**	**EC1**
Argyrodendron actinophyllum	Booyong	✓	15	6	**M**	**NFS**
Argyrodendron trifoliatum	White Booyong	✓	15	6	**H,M**	**NFS**
Arytera lauteriana	Corduroy Tamarind	✓	10	3	**C,H,M**	**FE,NFS**
Austromyrtus bidwillii	Python Tree	✓	6	2	**H,M**	**FE,NFS**
Austromyrtus hillii	Scaly Myrtle	✓	5	3	**H,M**	**FE,NFS**
Austromyrtus inophloia	Shaggy Myrtle	✓	5	3	**H,M**	**FE,NFS**
Backhousia citriodora	Lemon Myrtle	✓	10	4	**C,H,M**	**PWR,FE**
Backhousia myrtifolia	Carrol	✓	6	4	**M**	**PWR,FE**
Banksia aemula	Wallum Banksia	✓	5	3	**C**	**EC,PWR,NF,S**
Banksia integrifolia	Coastal Banksia	✓	6	4	**C**	**EC1,PWR,NF,S**
Banksia serrata	Old Man Banksia	✓	5	6	**C**	**EC,PWR,NF,S**
Barklya syringifolia	Crown of Gold Tree		8	3	**H,M**	
Brachychiton acerifolius	Flame Tree	✓	15	3	**H,M**	**NFS**
Brachychiton discolor	Qld Lace Bark	✓	10	3	**H,M**	**NFS**
Buckinghamia celsissima	Ivory Curl Flower		10	4	**C,H,M**	**PWR**
Callistemon citrinus	Lemon Bottle Brush	✓	5	2	**C**	**EC,PWR,NF**
Callistemon "Dawson River"	Dawson River		8	4	**C**	**EC,PWR,NF**
Callistemon "Eureka"	Eureka		6	3	**C**	**EC,PWR,NF**

TREES AND LARGE SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Callistemon salignus	Pink Tip Bottle Brush	✓	10	4	**C,H,M**	**EC,PWR,NF**
Callistemon viminalis	Weeping Bottlebrush	✓	8	5	**C,H,M**	**EC,PWR,NF**
Callitris columellaris	Bribie Island Pine	✓	10	5	**C**	**EC,S**
Canthium coprosmoides	Coast Canthium		5	2	**C**	**EC,FE,NFS**
Castanospermum australe	Black Bean	✓	15	6	**H,M**	**NF,NFS**
Castanospora alphandii	Brown Tamarind	✓	10	3	**H,M**	**NFS**
Casuarina cunninghamiana	River She-Oak	✓	20	5	**C,H,M**	**S,NFS**
Casuarina equisitifolia	Horsetail She-Oak	✓	7	4	**C**	**EC1**
Casuarina glauca	Swamp Oak	✓	15	5	**C**	**EC,S**
Allo Casuarina littoralis	Black She-Oak	✓	7	4	**C,H**	**EC,S**
Allo Casuarina torulosa	Forest She-Oak	✓	8	4	**H,M**	**S**
Ceratopetalum apetalum	NSW Christmas Bush		5	4	**M**	
Ceratopetalum "Wildfire"	Wildfire – NSW Christmas Bush		5	2	**M**	
Commersonia bartramia	Brown Kurrajong	✓	10	3	**H,M**	**S**
Corymbia citriodora	Spotted Gum		20	4	**C,H,M**	**EC,K**
Cryptocarya glaucescens	Silver Sycamore	✓	10	4	**H,M**	**FE,NFS**
Cryptocarya laevigata	Glossy Laurel	✓	4	2	**H,M**	**FE,NFS**
Cryptocarya triplinervis	Brown Laurel	✓	5-8	4	**C,H,M**	**EC,FE,NFS**
Cupaniopsis anacardioides	Tuckeroo	✓	10	6	**C,H**	**EC,PWR,FE,NFS**
Davidsonia pruriens	Davidson's Plum	✓	8	3	**H,M**	**FE,NFS**
Diploglottis australis	Native Tamarind	✓	10	6	**M**	**FE,NFS**
Dysoxylum fraseranum	Rosewood	✓	10	2	**H,M**	**FR**
Elaeocarpus eumundii	Eumundi Quandong	✓	10	4	**H,M**	**FE,NFS**
Elaeocarpus grandis	Blue Quandong	✓	20	6	**H,M**	**FE,NFS**
Elaeocarpus obovatus	Quandong	✓	10	4	**C,H,M**	**FE,NFS**
Elaeocarpus reticulatus	Blue Berry Ash	✓	4	3	**C,H**	**EC,PWR,FE,NFS**
Elaeocarpus reticulatus "Prima Donna"	Pink Prima Donna		5	2	**M**	**EC,PWR,FE,NFS**
Endiandra discolor	Tickwood	✓	10	3	**C**	**FE,NFS**
Endiandra sieberi	Corkwood	✓	10	4	**C**	**EC,FE,NFS**
Eucalyptus bancroftii	Tumble Down Gum	✓	10	5	**C,H**	**NF**
Eucalyptus conglomerata	Swamp Stringybark	✓	10	4	**C,H**	**EC,NF**
Eucalyptus crebra	Red Iron Bark	✓	20	3	**C,H,M**	**EC,K,NF**
Eucalyptus curtisii	Plunkett Mallee	✓	6	4	**C,H,M**	**EC,K,NF**
Eucalyptus siderophloia	Qld Grey Iron Bark	✓	20	5	**C,H**	**K,NF**
Eucalyptus grandis	Flooded Gum	✓	30	5	**C,H**	**K,NF**
Corymbia intermedia	Pink Bloodwood	✓	10	4	**C,H,M**	**EC,NF,S**
Eucalyptus microcorys	Tallow Wood	✓	18	3	**C,H**	**K**
Eucalyptus propinqua	Qld Grey Gum	✓	30	6	**C,H**	**K,NF**
Corymbia ptychocarpa	Pink Bloodwood		6	2	**C,H,M**	**PWR,NF**
Eucalyptus resinifera	Red Mahogany	✓	30	6	**C,H**	**K,NF**
Eucalyptus robusta	Swamp Mahogany	✓	10	5	**C,H**	**EC,K,NF**
Eucalyptus seeana	Narrow Leaf Red Gum	✓	10	4	**C,H**	**K,NF**
Eucalyptus signracemosa	Scribbly Gum	✓	8	5	**C,H**	**EC,K,NF**
Eucalyptus tereticornis	Forest Red Gum	✓	30	6	**C,H**	**EC,K,NF**
Corymbia tesselaris	Moreton Bay Ash	✓	20	6	**C,H**	**EC,NF**
Euroschinus falcata	Ribbonwood	✓	10	4	**C,H**	**FE,NFS**
Flindersia australis	Crow's Ash	✓	20	5	**H,M**	**S,NFS**
Flindersia bennettiana	Bennet's Ash	✓	10	5	**C,H,M**	**S**
Flindersia schottiana	Bumpy Ash	✓	25	5	**H,M**	**S,NFS**
Geissois benthamii	Red Carabeen		8	2	**H,M**	**NFS**
Glochidion ferdinandii	Cheese Tree	✓	6	4	**C,H,M**	**EC,FE,NFS**
Glochidion sumatranum	ButtonWood	✓	6	3	**C,H,M**	**EC,FE,NFS**
Gmelina leichhardtii	White Beech	✓	20	6	**C,H,M**	**FE,NFS**

TREES AND LARGE SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Grevillea hilliana	Hills Silky Oak	✓	15	4	**H,M**	**NF**
Grevillea robusta	Silky Oak	✓	20	6	**H,M**	**EC,NF,FE**
Harpullia hillii	Tulip Wood	✓	10	4	**H,M**	**FE,NFS**
Harpullia pendula	Tulip Wood	✓	10	4	**C,H,M**	**FE,NFS**
Hibiscus tiliaceus	Cotton Wood	✓	7	8	**C**	**EC**
Hymenosporum flavescens	Native Frangipani	✓	8	3	**H,M**	**NF,NFS**
Jagera pseudorhus	Pink Foam Bark	✓	6	4	**H,M**	**PWR,FE,NFS**
Lophostemon confertus	Brush Box	✓	10	6	**C,H,M**	**EC,PWR,K**
Lophostemon suaveolens	Swamp Box		8	4	**C,H,M**	**EC,PWR,NF**
Macadamia "Home Beauty"	Qld Nut		5	3	**C,H,M**	**NF,NFS**
Macadamia integrifolia	Qld Nut	✓	8	3	**C,H,M**	**NF,NFS**
Macadamia tetraphylla	Qld Nut		8	3	**C,H,M**	**NF,NFS**
Macaranga tanarius	Macaranga	✓	5	4	**C,H,M**	**EC,FE,NFS**
Mallotus discolor	White Kamala	✓	8	4	**C,H,M**	**FE,NFS**
Mallotus philippinensis	Red Kamala	✓	8	5	**C,H**	**FE,NFS**
Melaleuca bracteata "Revolution Gold / Green"	Tea Tree	✓	10	5	**C,H**	**EC,PWR,NF**
Melaleuca quinquenervia	Paper Bark	✓	15	5	**C,H**	**EC1,NF**
Melaleuca sieberi	Swamp Tea Tree	✓	6	3	**C**	**NF**
Melaleuca stypheloides	Prickly Leaf Paperbark		6	3	**C**	**NF**
Melaleuca viridiflora	Red/Green Flower Paper Bark		7	4	**C**	**EC,NF**
Melia azedarach	White Cedar	✓	8	4	**H,M**	**EC,NF,NFS**
Melicope elleryana	Pink Euodia	✓	15	5	**M**	**EC,NF,FE,NFS**
Thaleropia queenslandicus	Qld Golden Myrtle		6	2	**H,M**	**NF,NFS**
Neolitsia dealbata	White Bolly Gum	✓	5	2	**H,M**	**FE,NFS**
Oreocallis wickhamii	Qld Tree Waratah		8	3	**H,M**	**FE,NFS**
Pandanus pedunculatus var. tectorius	Beach Pandan	✓	5	4	**C**	**EC1,PWR**
Peltophorum pterocarpum	Yellow Flame Tree		10	5	**C,H,M**	
Pittosporum rhombifolium	Diamond Laurel	✓	6	2	**C,H,M**	**PWR,FE,NFS**
Pittosporum undulatum	Mock Orange	✓	6	4	**C,H,M**	**FE,NFS**
Pleiogynium timorens	Burdekin Plum		10	3	**H**	**FE,NFS**
Podocarpus elatus	Brown Pine	✓	10	5	**H,M**	**FE,NFS**
Polyscias elegans	Celery Wood	✓	10	4	**C, M**	**FE,NFS**
Pongamia pinnata	Indian Beech		8	4	**C,H**	**PWR,EC,NFS**
Pullea stutzeri	Hard Alder		5	3	**H,M**	
Randia fitzalanii	Yellow Mangosteen	✓	6	2	**H,M**	**NFS**
Rhodosphaera rhodanthema	Deep Yellow Wood	✓	8	4	**M**	**NFS**
Stenocarpus sinuatus	Wheel of Fire	✓	10	2	**C,H,M**	**NF,FE,NFS**
Sterculia quadrifida	Peanut Wood		6	2	**C,H,M**	**FE,NFS**
Syncarpia glomulifera	Turpentine	✓	20	3	**C,H,M**	
Syzygium australe	Scrub Cherry	✓	6	4	**C,H,M**	**EC,PWR,NF,FE,NFS**
Syzygium forte	White Apple		6	3	**H,M**	**EC,PWR,NF,FE,NFS**
Syzygium francissii	Water Gum		7	3	**H,M**	**NF,FE,NFS**
Syzygium johnsonii	Rose Satinash		5	2	**C,H,M**	**EC,PWR,NF,FE,NFS**
Syzygium kuranda	Kuranda Satinash	✓	10	3	**H,M**	**NF,FE,NFS**
Syzygium leuhmannii	Cherry Satinash	✓	8	4	**C,H,M**	**PWR,NF,FE,NFS**
Syzygium moorei	Coolamon		10	4	**C,H,M**	**NF,FE,NFS**
Syzygium oleosum	Blue Lilly Pilly	✓	7	3	**H,M**	**NF,FE,NFS**
Syzygium paniculatum	Magenta Cherry	✓	8	3	**C,H,M**	**PWR,NF,FE,NFS**
Syzygium papyraceum	Paperbark Satinash		6	3	**H,M**	**NF,FE,NFS**

TREES AND LARGE SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Syzygium tierneyanum	River Cherry		6	3	**H,M**	**PWR,NF,FE,NFS**
Tristaniopsis laurina	Water Gum	✓	10	4	**C,H,M**	**EC,S,NFS**
Waterhousea floribunda	Weeping Lilly Pilly	✓	10	5	**C,H,M**	**PWR,NF,FE,NFS**
Waterhousea unipunctata	Roly Poly Satinash		5	3	**H,M**	**PWR,NF,FE,NFS**
Xanthostemon "Fairhill Gold"	Fairhill Gold		3	2	**C,H,M**	**PWR,NF,NFS**
Xanthostemon chrysanthus	Golden Penda		15	4	**C,H,M**	**NF,NFS**

MEDIUM SIZED SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Acacia longifolia var sophorae	Coastal Wattle		1	3	**C**	**EC1**
Acmena "Normanby River"	Red Myrtle		3	2	**H,M**	**FE,NFS**
Acmena smithii var minor	Dwarf Lilly Pilly	✓	1.5	2	**C,H,M**	**EC,FE,NFS**
Alchornea ilicifolia	Native Holly	✓	3	2	**H,M**	**NFS**
Alocasia macrorrhiza	Cunjevoi	✓	1	1	**C,H,M**	**NFS**
Alpinia arundelliana	Dwarf Ginger		1.5	1	**C,H,M**	**NFS**
Alpinia caerulea	Native Ginger	✓	1.5	1	**C,H,M**	**NFS**
Anigozanthos spp.	Kangaroo Paw		0.5	1	**C**	**NF**
Backhousia citriodora topiary	Topiary Lemon Myrtle	✓	3	1	**C,H,M**	
Baeckea camphorata	Camphor Bush	✓	2	2	**C,H,M**	
Baeckea "Clarence River"	Clarence River		3	2	**C,H,M**	
Baeckea linarifolia	Weeping Baeckea		2	1.5	**C,H,M**	
Baeckea "Mount Tozer"	Mount Tozer		2	1.5	**C,H,M**	
Baeckea virgata	Weeping Heath Myrtle	✓	3	2	**C,H,M**	
Banksia ericifolia	Heath Banksia "Golden Candles"		3	3	**C**	**EC,NF**
Banksia oblongifolia	Dwarf Banksia	✓	2	2	**C**	**EC,NF**
Banksia robur	Swamp Banksia	✓	3	2	**C**	**EC,NF,S**
Banksia spinulosa	Hairpin Banksia	✓	3	2	**C**	**EC,NF**
Callistemon "Candy Pink"	Pink Bottle Brush		2.5	2	**C,H,M**	**EC,NF**
Callistemon "Captain Cook"	Captain Cook		2	1.5	**C,H,M**	**EC,NF**
Callistemon "Captain Cook" – dwarf	Dwarf Captain Cook		1	1	**C,H,M**	**EC,NF**
Callistemon "Endeavour"	Endeavour		2	2	**C,H,M**	**EC,NF**
Callistemon "Ewan Road"	Ewan Road		1.5	2	**C,H**	**EC,NF**
Callistemon "Firebrand"	Firebrand		2	1.5	**C,H**	**EC,NF**
Callistemon "Hannah Ray"	Hannah Ray		2	3	**C,H**	**EC,NF**
Callistemon "Harkness"	Harkness		3	3	**C,H**	**EC,NF**
Callistemon "Injune"	Injune		4	3	**C,H**	**NF**
Callistemon "Little John"	Little John		1.5	2	**C,H,M**	**EC,NF**
Callistemon pachyphyllus	Wallum Bottlebrush	✓	2	1.5	**C,H**	**EC,NF**
Callistemon "Taree Pink"	Taree Pink		3	2	**C,H,M**	**EC,NF**
Callistemon "Violet Clusters"	Violet Clusters		3	3	**C,H,M**	**EC,NF**
Callistemon "Wilderness White"	Wilderness White		3	2	**C,H,M**	**EC,NF**
Callistemon "Wildfire"	Wildfire		4	3	**C,H,M**	**EC,NF**
Ceratopetalum "Alberys Red"	Alberys Red – NSW Christmas Bush		3.5	1.5	**H,M**	
Ceratopetalum apelatum	NSW Christmas Bush		4	2	**H,M**	
Clerodendron floribundum	Lolly Bush	✓	3	2	**C**	**EC,FE**
Clerodendron inerme	Lolly Bush	✓	3	2	**C**	**EC1,NFS**
Cordyline stricta	Slender Palm Lily	✓	2	1	**C,H,M**	**FE,NFS**
Cordyline terminalis	Palm Lily		2	1	**C,H,M**	**FE,NFS**
Crinum pedunculatum	Swamp Lily	✓	1.5	1.5	**C**	**EC,NFS**

MEDIUM SIZED SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Cyathea australis	Rough Tree Fern	✓	5	3	**H,M**	
Cyathea cooperi	Common Tree Fern	✓	5	3	**C,H,M**	
Dianella caerulea	Flax Lily	✓	1	0.5	**C**	**EC,FE**
Dianella congesta	Flax Lily	✓	0.75	0.5	**C**	**EC,FE**
Dicksonia antarctica	Soft Tree Fern	✓	5	6	**C,H,M**	
Dillwynia floribunda	Flowery Parrot Pea		1	1	**C**	**EC**
Dillwynia glaberrima	Heath Parrot Pea		1	1	**C**	**EC**
Dillwynia retorta	Eggs and Bacon		1	1	**C**	**EC**
Dillwynia sericea	Showy Parrot Pea		1	1	**C**	**EC**
Doryanthes excelsa	Palm Lily		2	2	**C,H**	**NF,NFS**
Doryanthes palmeri	Spear Lily		2	2	**C,H**	**NF,NFS**
Eugenia reinwardtiana	Beach Cherry	✓	1.5	1.5	**C**	**EC,NF,FE,NFS**
Evodiella muelleri	Evodiella		5	3	**C,H,M**	**NF,NFS**
Graptophyllum ilicifolium	Holly Fuschia		1.5	1	**H,M**	**NF,NFS**
Grevillea alpina	Mountain Grevillea		2	1.2	**H,M**	**NF**
Grevillea banksii	Red Silky Oak	✓	5	2	**C**	**EC1,NF**
Grevillea banksii alba	White Banksia	✓	3	2	**C**	**EC1,NF**
Grevillea "Burgundy Beauty"	Burgundy Beauty		3	3	**C,H,M**	**NF**
Grevillea "Coastal Glow"	Coastal Glow		3	2	**C**	**EC,NF**
Grevillea "Coconut Ice"	Coconut Ice		2	1.5	**C,H,M**	**NF**
Grevillea "Coochin Hills"	Coochin Hills Grevillea		5	3	**C,H,M**	**NF**
Grevillea formosa	Mount Brockman Grevillea		1	2	**C,H,M**	**NF**
Grevillea "Honey Gem"	Honey Gem		4	3	**C,H,M**	**NF**
Grevillea "Kay Williams"	Kay Williams		3	1.5	**C,H,M**	**NF**
Grevillea "Majestic"	Majestic		4	2	**C,H,M**	**NF**
Grevillea "Magic Lantern"	Magic Lantern		1.5	1	**C,H,M**	**NF**
Grevillea "Moonlight"	Moonlight		5	2	**C,H,M**	**NF**
Grevillea "Ned Kelly"	Ned Kelly		2.5	1.5	**C,H,M**	**NF**
Grevillea "Orange Marmalade"	Orange Marmalade		4	2	**C,H,M**	**NF**
Grevillea "Pink Surprise"	Pink Surprise		4	2	**C,H,M**	**NF**
Grevillea "Robyn Gordon"	Robyn Gordon		2	1.5	**C,H,M**	**NF**
Grevillea "Sandra Gordon"	Sandra Gordon		5	2	**C,H,M**	**NF**
Grevillea "Suberb"	Superb		2	1.5	**C,H,M**	**NF**
Grevillea venusta	Rusty Grevillea		4	3	**C,H,M**	**NF**
Hakea florulenta	Point Arkwright Hakea	✓	2	1	**C,H**	**EC,S**
Hakea gibbosa	Hairy Hakea		2	1.5	**C,H**	**EC,S**
Hibiscus diversifolius	Swamp Hibiscus	✓	1.5	1.5	**C,H**	
Hibiscus heterophyllus	Coast Hibiscus	✓	3	3	**C,H**	
Hibiscus insularis	Lord Howe Island Hibiscus		3	1.5	**C**	**EC**
Hibiscus splendens	Hollyhock Tree	✓	3	2	**C,H**	
Hovea lanceolata	Purple Pea		2	1	**C,H**	**EC**
Hovea purpurea	Velvet Hovea		2	2	**C,H**	**EC**
Jacksonia scoparia	Dogwood	✓	3	1.5	**C**	**EC**
Leptospermum "Cardwell"	Cardwell Tea Tree		2	2	**C**	**EC**
Leptospermum flavescens	Tea Tree	✓	3	2	**C**	**EC**
Leptospermum laevigatum	Coastal Tea Tree	✓	4	2	**C**	**EC1**
Leptospermum "Pacific Beauty"	Pacific Beauty		1	1.5	**C**	**EC**
Leptospermum petersonii	Lemon Tea Tree	✓	4	2	**C**	**EC**
Lomandra hystrix	Mat Rush	✓	1	1	**C,H,M**	**EC**
Lomandra longifolia	Long Leaved Mat Rush	✓	1	1	**C,H,M**	**EC**
Lomandra multiflora	Mat Rush	✓	1	1	**C,H,M**	**EC**
Melaleuca "Claret Tops"	Claret Tops		1.5	1	**C**	**NF**
Melaleuca "Golden Gem"	Golden Gem		1.5	2	**C**	**NF**
Melaleuca nodosa	Prickly Heath Paperbark		3	2.5	**C**	**EC,NF**

MEDIUM SIZED SHRUBS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Melaleuca "Snowstorm"	Snowstorm		2	2	**C**	**NF**
Melaleuca "Snow in Summer"	Snow in Summer		4	3	**C**	**NF**
Melaleuca thymifolia	Thyme Honey Myrtle		0.8	1.5	**C**	**NF**
Melastoma affine	Blue Tongue	✓	1	1	**C,H,M**	**EC,NF**
Melastoma polyanthum	Native Lasiandra	✓	1	1	**C,H,M**	**EC,NF**
Homolanthus populifolius	Bleeding Heart	✓	5	3	**H.M**	**FR**
Petalostigma pubescens	Quinine Bush	✓	5	4	**C,H**	**EC**
Pultenaea villosa var.	Bush Pea	✓	1	2	**C,H,M**	
Syzygium australe	Scrub Cherry		6	3	**C,H,M**	**EC,NF,NFS**
Syzygium "Aussie Compact"	Aussie Compact		4	2	**C,H,M**	**NF,NFS**
Syzygium "Aussie Copper"	Aussie Copper		3	1.5	**C,H,M**	**NF,NFS**
Syzygium "Aussie Dazzler"	Aussie Dazzler		4	2	**C,H,M**	**NF,NFS**
Syzygium "Aussie Southern"	Southern Scrub Cherry		5	3	**C,H,M**	**NF,NFS**
Syzgium "Beach Ball"	Beach Ball		1	1	**C,H,M**	**EC,NF,NFS**
Syzygium "Blaze"	Blaze Cherry		4	2	**C,H,M**	**NF,NFS**
Syzygium "Bush Christmas"	Bush Christmas		3	1.5	**C,H,M**	**NF,NFS**
Syzygium paniculatum "Elite"	Elite Cherry		4	2	**C,H,M**	**NF,NFS**
Syzygium wilsonii	Powder Puff Cherry		3	2	**C,H,M**	**NF,NFS**
Viburnum odoratissimum	Sweet Viburnum		4	2	**C,H**	
Vitex purpurea	Purple Leaf Vitex		2	1.5	**C**	**EC,NF**
Westringia fruticosa	Coastal Rosemary	✓	2	1.5	**C**	**EC1**
Westringia "Jervis Gem"	Jervis Gem		1.5	1	**C**	**EC1,NF**
Westringia longifolia	Winged Westringia		1.5	1	**C**	**EC1**
Westringia "Wynyabbie Gem"	Wynyabbie Gem		2	1.5	**C**	**EC**
Xanthorrhoea australis	Grass Tree		variable	variable	**C,H,M**	

GROUNDCOVERS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Ajuga australis	Austral Bugle		prostrate	0.3	**C**	
Aristolochia deltantha	Native Dutchman's Pipe		climber	climber	**C,H,M**	
Aristolochia pravenosa	Richmond Bird Wing Butterfly Vine	✓	climber	climber	**C,H,M**	
Artanema fimbriatum	Koala Bells		0.5	0.5	**C**	
Asplenium spp.	Birds Nest Fern	✓	0.5	1.5	**H,M**	
Austromyrtus "Blushing Beauty"	Blushing Beauty		0.5	2	**C,H,M**	
Austromyrtus dulcis	Midyim	✓	0.5	2	**C**	**EC**
Baeckea virgata "La petite"	La Petite		1	1	**C,H,M**	
Baeckea virgata miniature	Dwarf Baeckea	✓	1.5	2	**C,H,M**	
Banksia integrifolia – (prostrate)	Dwarf Coastal Banksia	✓	0.5	2	**C**	**EC,NF**
Banksia spinulosa (prostrate)	Coastal Cushion	✓	0.75	1	**C**	**EC,NF**
Bauera rubioides	Dog Rose		0.5	1	**C,H,M**	
Blandfordia grandiflora	Christmas Bells		0.5	0.25	**C**	
Blechnum spp.	Water Fern		0.5	1	**C,H,M**	
Brachycome multifida	Native Daisy		0.5	0.8	**C**	**EC**
Callistemon "Rocky Rambler"	Rocky Rambler		0.75	1	**C,H,M**	
Carpobrotus glaucescens	Pigface	✓	prostrate	1.5	**C**	**EC1,NFS**
Cissus antarctica	Kangaroo Vine	✓	climber	climber	**H,M**	**NFS**
Cissus hypoglauca	Water Vine	✓	climber	climber	**H,M**	**NFS**
Cymbopogon refractus	Barb Wire Grass	✓	0.4	0.2	**C,H,M**	**EC**
Dampiera spp.	Dampiera		0.4	1	**C,H,M**	
Dillwynia prostrata	Prostrate Dillwynia		0.2	1.5	**C**	**EC**
Goodenia ovata	Prostrate Hop Goodenia	✓	0.5	2	**H,M**	
Grevillea banksii alba – (prostrate)	White Banksia		0.8	4	**C**	**EC1,NF**

GROUNDCOVERS						
BOTANICAL NAME	COMMON NAME	ENDEMIC	HEIGHT (metres)	SPREAD (metres)	ZONE	FEATURES
Grevillea "Bronze Rambler"	Bronze Rambler		0.75	4	**C,H,M**	**NF**
Grevillea "Fanfare"	Fanfare		0.75	5	**C,H,M**	**NF**
Grevillea "Royal Mantle"	Royal Mantle		0.5	5	**C,H,M**	**NF**
Grevillea "Ruby Red"	Ruby Red		0.5	3	**C**	**EC,NF**
Ipomoea pes-caprae	Goat's Foot	✓	prostrate	3	**C**	**EC1,NFS**
Hardenbergia "Bushy Blue"	Bushy Blue Vine		0.75	0.75	**C,H,M**	
Hardenbergia "Mini Haha"	Mini Haha Vine		0.75	0.75	**C,H,M**	
Hardenbergia violacaa	Sarsaparilla Vine	✓	climber	climber	**C,H,M**	
Helichrysum "Hastings Gold"	Paper Daisy		0.5	0.5	**C,H,M**	**EC**
Helichrysum ramosissimum	Everlasting Daisy		0.2	1	**C,H,M**	**EC**
Hibbertia scandens	Snake Vine	✓	climber	climber	**C**	**EC1,NFS**
Lomandra confertifolia	Matting Lomandra	✓	0.5	0.5	**C**	
Lomandra "Little Joey"	Little Joey		0.2	0.20	**C,H,M**	
Myoporum ellipticum – (prostrate)	Coastal Myoporum	✓	0.5	3	**C**	**EC,NFS**
Myoporum parvifolium	Creeping Boobaella		0.2	2	**C**	**EC,NFS**
Pandorea jasminoides var.	Bower of Beauty		climber	climber	**C,H,M**	**NF,NFS**
Pandorea pandorana	Jasmine Vine		climber	climber	**C,H,M**	**NF,NFS**
Phyla nodiflora	Condamine Couch		0.5	suckering	**C,H,M**	
Piper novae hollandiae	Native Pepper	✓	climber	climber	**H,M**	**NFS**
Pratia pendunculata (blue,white)	Matted Pratia		0.2	suckering	**C**	**EC**
Restio tetraphyllus	Foxtails	✓	1	0.5	**C,H**	**EC**
Ricinocarpus pinifolius – (prostrate)	Wedding Bush	✓	1	1.5	**C**	**EC**
Scaevola albida (blue, white)	Fanfare		0.5	2	**C**	**EC,NFS**
Scaevola "Purple Fanfare"	Purple Fanfare		0.75	2		**EC,NFS**
Tecomanthe hillii	Fraser Island Climber	✓	climber	climber	**C**	**EC,NFS**
Themeda triandra	Kangaroo Grass	✓	0.3	0.3	**C**	**EC,S**
Viola hederacea	Native Violet	✓	0.5	suckering	**C,H,M**	**NFS**
Vitex ovata	Prostrate Vitex		1	2	**C**	**EC,NFS**
Westringia "Xena"	Dwarf Rosemary		0.5	0.5	**C**	**EC**
Zieria prostrata	Carpet Star		0.2	1		

PALM AND CYCAD SPECIES			
BOTANICAL NAME	COMMON NAME	HEIGHT (metres)	SPREAD (metres)
Archontophoenix cunninghamiana	Bangalow / Picabeen Palm	15	3
Howea forsteriana	Kentia Palm	12	2.5
Lepidozamia hopei	Zamia Palm	17	3
Lepidozamia peroffskyana	Shining Burrawang	7	2
Linospadix monostachya	Walking Stick Palm	2	1
Livistona australis	Cabbage Tree Palm	10-20	3
Livistona decipiens	Weeping Cabbage Tree Palm	8	3
Ptychosperma elegans	Elegant Palm	5	2
Wodyetia bifurcata	Fox Tail Palm	6-15	2

Table 11.B Environmental Weeds

	Botanical Name	Common Name
1.	*Acacia farnesiana*	Mimosa bush
2.	*Acanthocereus tetragonus*	Sword pear
3.	*Acanthospermum hispidum*	Star burr
4.	*Acetosa sagittata*	Rambling dock
5.	*Acetosella vulgaris*	Sheep sorrel
6.	*Aeschynomene paniculata*[1]	Pannicle jointvetch
7.	*Agave* spp. *(A. americana, A. sisalana, A. vivipara* var. *vivipara)*	Century plant, sisal, agave
8.	*Ageratina* spp. *(A. adenophora, A. riparia)*	Crofton weed, mistflower
9.	*Ageratum houstonianum*	Blue billygoat weed
10.	*Ailanthus altissima*	Tree of heaven
11.	*Alternanthera pungens*	Khaki weed
12.	*Amaranthus* spp. *(A. spinosus, A. viridis)*	Spiny amaranth, green amaranth
13.	*Ambrosia artemisiifolia*	Ragweed
14.	*Anagallis arvensis*	Pimpernel, scarlet pimpernel, blue pimpernel
15.	*Andropogon virginicus*	Whisky grass
16.	*Anredera cordifolia*[2]	Lamb's tail, madeira vine
17.	*Araujia sericifera*	Moth vine (white moth vine)
18.	*Archontophoenix alexandrae*	Alexander palm
19.	*Ardisia* spp. *(A. crispa, A. humilis)*	Coral berry, spice berry
20.	*Argemone ochroleuca*	Mexican poppy
21.	*Aristolochia elegans*[2]	Calico Dutchman's pipe
22.	*Arrhenatherum elatius*	Tall oatgrass, false oatgrass
23.	*Arundinaria* spp.	Running bamboo
24.	*Asclepias curassavica*	Red cotton bush
25.	*Asparagus* spp. *(A. aethiopicus 'Sprengeri'*[2]*, A. africanus*[2]*, A. densiflorus, A. falcatus, A. plumosus*[2]*, A. virgatus)*	Ground asparagus fern, climbing asparagus fern
26.	*Aster subulatus*	Wild aster
27.	*Asystasia gangetica* ssp. *micrantha*[3]	Chinese violet (a form of)
28.	*Avena sativa*	Common oats
29.	*Baccharia pingraea*[1]	Chilquilla
30.	*Barleria prionitis*[3]	Barleria
31.	*Bidens pilosa*	Cobbler's pegs
32.	*Brachiaria* spp. *(B. decumbens, B. mutica)*	Signal grass, para grass
33.	*Brillantaisia lamium*[1]	Brillantaisia
34.	*Briza* spp. *(B. maxima, B. minor)*	Quaking grass, lesser quaking grass
35.	*Bryophyllum* spp. *(B. daigremontianum, B. pinnatum, B. tubiflorum)*	Mother of millions, resurrection plant (live leaf)
36.	*Caesalpinia decapetala*	Thorny poinciana (caesalpinia)
37.	*Cakile edentula*	American sea rocket
38.	*Callisia fragrans*	Purple succulent
39.	*Calluna vulgaris*[3]	Scotch heather
40.	*Canna indica*	Canna lily
41.	*Capsella bursa-pastoris*	Shepherd's purse
42.	*Cardiospermum grandiflorum*[2]	Balloon vine, heart seed vine
43.	*Cardiospermum halicacabum* var. *halicacabum*	Small balloon vine
44.	*Carduus nutans*	Nodding thistle
45.	*Carthamus lanatus*	Saffron thistle
46.	*Cascabela thevetia*[2]	Yellow Oleander
47.	*Catharanthus roseus*	Pink periwinkle
48.	*Celtis sinensis*[2]	Chinese elm
49.	*Cenchrus* spp. *(C. caliculatus, C. ciliaris, C. echinatus)*	Hillside burrgrass, buffel grass, Mossman River grass
50.	*Centaurea eriophora*[1]	Mallee cockspur, wild sand heath
51.	*Cerastium vulgare*	Mouse ear chickweed
52.	*Cestrum parqui*	Green cestrum
53.	*Chamaecrista rotundifolia*	Round leaf cassia (Wynn cassia)
54.	*Chloris gayana*	Rhodes grass

	Botanical Name	Common Name
55.	*Cinnamomum camphora*[2]	Camphor laurel
56.	*Cirsium vulgare*	Spear thistle
57.	*Commelina benghalensis*	Hairy wandering jew
58.	*Conium maculatum*	Hemlock
59.	*Conyza* spp. *(C. bonariensis, C. canadensis, C. parva, C. sumatrensis)*	Flax-leaf fleabane, Canadian fleabane, Canadian goldenrod, fleabane, tall fleabane
60.	*Coreopsis lanceolata*	Coreopsis
61.	*Cortaderia selloana*	Pampas grass
62.	*Corymbia torelliana & Corymbia torelliana hybrids*	Cadaghi (and hybrids)
63.	*Cotoneaster* spp. *(C. glaucophyllus, C. pannosus))*	Large-leaf cotoneaster, silver-leaf cotoneaster
64.	*Crassocephalum crepidioides*	Thickhead
65.	*Crocosmia x crocosmiiflora*	Montbretia, crocosmia
66.	*Crocus* spp.	Buttercup
67.	*Crotalaria* spp. *(C. goreensis, C. grahamiana, C. lanceolata, C. montana, C. pallida, C. spectabilis)*	Gambia pea, cho cho, lance leaf rattlebox, rattlepod, streaked rattlepod, showy rattlepod, cusara pea
68.	*Crupina vulgaris*[1]	Common cuprina, bearded creeper
69.	*Cryptostegia madagascariensis*[2]	Purple rubber vine
70.	*Cuscuta* spp. *(C. campestris, C. suaveolans*[1]*)*	Golden dodder, Chilean dodder
71.	*Cyclospermum leptophyllum*	Slender celery
72.	*Cynodon* spp. *(C. aethiopicus, C. dactylon, C. nlemfuensis)*	Giant stargrass, Bahama couch grass, African stargrass
73.	*Cynoglossum creticum*[3]	Blue hound's tongue
74.	*Cyperus* spp. *(C. brevifolius, C. eragrostis, C. esculentus, C. involucratus , C. papyrus nana, C. rotundus, C. sesquiflorus, C. sphacelatus, C. teneristolon*[1 and 3]*)*	Mullumbimby couch, umbrella sedge, yellow nutgrass, African sedge, dwarf papyrus, nut grass, kyllinga weed, roadside flatsedge, cyperus
75.	*Cytisus multiflorus*[3]	White spanishbroom
76.	*Dactylis glomerata*	Cocksfoot
77.	*Datura* spp.	Thornapples
78.	*Desmodium* spp. *(D. intortum, D. uncinatum)*	Greenleaf desmodium, silverleaf desmodium
79.	*Dietes* spp.	Wild iris
80.	*Digitaria* spp. *(D. ciliaris, D. didactyla, D. eriantha, D. violascens)*	Summer grass, Qld blue couch, pangola grass, violet crabgrass
81.	*Dioscorea* spp. *(D. bulbifera, D. alata)*	Air potato, winged yam
82.	*Dittrichia viscosa*[3]	False yellowhead
83.	*Drymaria cordata*	Tropical chickweed
84.	*Duranta* spp. *(D. erecta, D. repens)*	Duranta
85.	*Echinochloa* spp. *(E. colona, E. crus-galli, E. esculenta)*	Awnless barnyard grass, barnyard grass, Japanese millet
86.	*Echium plantagineum*	Patterson's curse
87.	*Eclipta prostrata*	White eclipta
88.	*Egeria densa*	Dense water weed
89.	*Eleocharis parodii*[1]	Parodi spike rush
90.	*Eleusine indica*	Crowsfoot grass
91.	*Elodea canadensis*	Elodea
92.	*Emex australis*	Spiny emex
93.	*Emilia* spp. *(E. sonchifolia, E. sonchifolia* var. *javanica)*	Emilia
94.	*Eragrostis* spp. *(E. bahiensis, E. curvula, E. pilosa, E. tenuifolia)*	Bahia lovegrass, African lovegrass, soft lovegrass, elastic grass
95.	*Erechtites valerianifolia*	Brazilian fireweed
96.	*Erythrina crista-galli*	Cockspur coral tree
97.	*Eugenia uniflora*	Brazil cherry
98.	*Euphorbia* spp. *(E. cyathophora, E. heterophylla, E. prostrata)*	Painted spurge, milk weed, red caustic-creeper
99.	*Flindersia brayleyana*	Queensland maple
100.	*Florestina tripteris*	Sticky florestina
101.	*Fraxinus griffithii*	Mountain ash
102.	*Froelichia floridana*[1]	Snake cotton
103.	*Furcraea* spp. *(F. foetida, F. selloa)*	Cuban hemp, hemp
104.	*Galinsoga parviflora*	Yellow weed, potato weed, galinsoga
105.	*Gazania* spp. *(G.ringens)*	Seaside daisy

	Botanical Name	Common Name
106.	*Gloriosa superba*	Glory lily
107.	*Gomphocarpus physocarpus*	Balloon cotton bush
108.	*Harungana madagascariensis*[2]	Harungana
109.	*Hedychium gardnerianum*	Ginger lily
110.	*Helianthus annuus*	Sunflower
111.	*Heliotropium amplexicaule*	Blue heliotrope
112.	*Hieracium aurantiacum*[3]	Orange hawkweed
113.	*Hiptage benghalensis*	Hiptage
114.	*Holcus lanatus*	Yorkshire fog
115.	*Hydrocleys nymphoides*	Water poppy
116.	*Hyparrhenia hirta*	Coolatai grass
117.	*Hypericum tetrapterum*[1]	Square-stemmed St. John's wort
118.	*Hypochaeris radicata*	Catsear, flatweed
119.	*Hypoestes* spp. *(H. phyllostachya, H. sanguinolenta)*	Polka-dot plant, freckle face.
120.	*Impatiens* spp.	Impatiens
121.	*Ipomoea* spp. *(I. alba, I. batatas, I. cairica, I. indica*	Moon flower, sweet potato, coastal morning glory, blue morning glory
122.	*Jacaranda mimosifolia*	Jacaranda
123.	*Juncus articulatus*	Jointed rush
124.	*Justicia betonica*	Squirreltail
125.	*Koelreuteria elegans*[3]	Golden rain tree, pride of India
126.	*Kummerowia striata*	Japanese clover, Japanese lespedeza
127.	*Lachenalia reflexa*[3]	Yellow soldier
128.	*Lactuca serriola*	Prickly lettuce
129.	*Lantana* spp.[2] *(L. camara*[2]*, L. montevidensis*[2]*)*	Lantana, creeping lantana
130.	*Leontodon saxatilis*	Lesser hawkbit
131.	*Lepidium virginicum*	Virginian pepperweed
132.	*Leptochloa mucronata*	Red sprangletop
133.	*Leucaena leucocephala*	Leucaena, coffee bush
134.	*Ligustrum* spp.[2] *(L. lucidum*[2]*, L. sinense*[2]*)*	Broad-leaved privet, small-leaved privet
135.	*Lilium formosanum*	Taiwan lily
136.	*Lonicera japonica*	Japanese honeysuckle
137.	*Lotononis bainesii*	Lotononis
138.	*Ludwigia peruviana*	Peruvian primrose wattle
139.	*Macfadyena unguis-cati*[2]	Cat's claw creeper
140.	*Macroptilium atropurpureum*	Siratro
141.	*Macrotyloma axillare*	Perennial horse gram, Axillaris
142.	*Medicago polymorpha*	Burr medic
143.	*Megathyrsus* spp. *(M. maximus* var. *pubiglumis, M. maximus* var. *maximus)*	Green panic, giant panic
144.	*Melinis* spp. *(M. minutiflora, M. repens)*	Molasses grass, red natal grass
145.	*Mimosa pudica*	Common sensitive plant
146.	*Mirabilis jalapa*	Four o-clock bush
147.	*Mitracarpus hirtus*	Tropical girdlepod
148.	*Mollugo verticillata*	Indian chickweed
149.	*Murraya paniculata* (fertile form)	Mock orange
150.	*Myriophyllum aquaticum*	Parrot's feather
151.	*Nassella* spp. *(N. charruana*[3]*, N. hyalina*[3]*)*	Lobed needle grass, cane needle grass
152.	*Neonotonia wightii*	Glycine
153.	*Nephrolepis cordifolia*	Fishbone fern
154.	*Nicotiana glauca*	Tobacco tree
155.	*Nymphaea* spp. *(N. caerulea* subsp. *zanzibarensis, N. mexicana)*	Blue lotus, yellow waterlily
156.	*Ochna serrulata*	Ochna, mickey mouse bush
157.	*Oenanthe pimpinelloides*[1]	Meadow parsley
158.	*Oenothera drummondii* subsp. *drummondii*	Beach evening primrose
159.	*Olea africana*	African olive
160.	*Onopordum tauricum*[1]	Taurian thistle
161.	*Oxalis* spp. *(O. corniculata, O. corymbosa, O. latifolia, O. pes-caprae)*	Creeping Oxalis (yellow wood-sorrel), lilac oxalis (pink shamrock), fishtail oxalis, soursob

	Botanical Name	Common Name
162.	*Paspalum* spp. *(P. conjugatum, P. dilatatum, P. mandiocanum, P. notatum, P. paniculatum, P. urvillei)*	Paspalum, dallies grass, broad-leaf paspalum, bahia grass, Russell River grass, vasey grass
163.	*Passiflora* spp. *(P. edulis, P. foetida, P. suberosa, P. subpeltata)*	Edible passionfruit, stinking passionflower, corky passionflower, orange-flowered passionfruit
164.	*Paulownia tomentosa*	Paulownia
165.	*Pavonia hastata*	Pink pavonia
166.	*Pelargonium alchemilloides*[3]	Geranium (a form of)
167.	*Pennisetum* spp. *(P. clandestinum, P. purpureum, P. setaceum*[2]*, P. thunbergii)*	Kikuyu grass, elephant grass, African fountain grass, Thunberg's pennisetum
168.	*Pereskia aculeata*[3]	Leaf cactus
169.	*Persicaria* spp. *(P. lapathifolia, P. strigosa)*	Pale persicaria, prickly smartweed (native)
170.	*Phyllanthus tenellus*	Long stalk phyllanthus
171.	*Phyllostachys* spp. *(P. aurea, P. pubescens)*	Fishpole bamboo, running bamboo
172.	*Physalis philadelphica*	Tomatillo (Mexican ground cherry)
173.	*Phytolacca octandra*	Inkweed
174.	*Pilea microphylla*	Creeping charlie
175.	*Pinus* spp. *(P. caribaea, P. elliottii, P. radiata, P. taeda)*[4]	Carribean pine, slash pine, radiata pine, loblolly pine
176.	*Piptochaetium montevidense*[3]	Uruguayan rice grass
177.	*Plantago major*	Greater plantain
178.	*Polygala* spp. *(P. paniculata, P. virgata)*	Island snake root, purple broom
179.	*Praxelis clematidea*[3]	Praxelis
180.	*Prunella vulgaris*	Self heal
181.	*Prunus munsoniana*	Wild goose plum
182.	*Psidium* spp. *(P. guajava, P. guineense)*	Common guava (yellow guava), Brazilian guava
183.	*Pueraria lobata*	Kudzu
184.	*Pyrostegia venusta*	Flame vine
185.	*Radermachera sinica*	Asian bell tree
186.	*Raphanus raphanistrum*	Wild radish
187.	*Retama raetam*[3]	White weeping broom
188.	*Rhaphiolepis indica*	Indian hawthorn
189.	*Richardia brasiliensis*	White eye, Mexican clover
190.	*Ricinus communis*	Castor oil plant
191.	*Rivina humilis*	Baby pepper
192.	*Rorippa* spp. *(R. nasturtium-aquaticum, R. sylvestris*[1]*)*	Watercress, creeping yellow cress
193.	*Rubus* spp. *(R. anglocanadicans*[2]*, R. bellobatus, R. discolour, R. ellipticus, R. fraxinifolius, R. fruticosus*[2] agg.*)*	Kittatinny blackberry, blackberry, yellowberry, NQ native raspberry
194.	*Ruellia* spp.	Ruellia
195.	*Rumex* spp. *(R. crispus, R. sagittatus)*	Curled dock, climbing dock
196.	*Ruppia maritima*	Sea tassel
197.	*Sagittaria graminea var. platyphylla*	Sagittaria arrowhead
198.	*Salix* spp. *(S. chilensis*[2] syn. *S. humboldtiana, S. matsudana*[2]*)*	Pencil willow, tortured willow
199.	*Salvia coccinea*	Red salvia
200.	*Sambucus canadensis*	American elder
201.	*Sansevieria trifasciata*	Mother-in-law's tongue
202.	*Schefflera actinophylla*	Queensland umbrella tree
203.	*Schinus terebinthifolius*[2]	Broad-leaved pepper tree
204.	*Senecio* spp. *(S. glastifolius*[3]*, S. tamoides)*	Holly leaved senecio, canary creeper
205.	*Senna spp. (S. floribunda, S. pendula var. glabrata, S. septemtrionalis)*	Smooth cassia, easter cassia, arsenic bush
206.	*Setaria* spp. *(S. italica, S. palmifolia, S. pumila* ssp. *pallidefusca* & ssp. *pumila, S. sphacelata)*	Italian Millet, palm leaf setaria, pale pigeon grass, South African pigeon grass
207.	*Sida* spp. *(S. cordifolia, S. rhombifolia, S. subspicata)*	Flannel weed, paddy's lucerne (sida retusa), spiked sida
208.	*Sigesbeckia orientalis*	Indian weed
209.	*Silybum marianum*	Variegated thistle
210.	*Sisyrinchium micranthum*	Scourweed
211.	*Solanum* spp. *(S. americanum, S. capsicoides, S. erianthum, S. hispidum, S. linnaeanum, S. mauritianum, S. nigrum* ssp. *nigrum, S. pseudocapsicum, S. seaforthianum, S. torvum)*	Glossy nightshade, devil's apple, tobacco bush, giant devil's fig, apple of sodom, wild tobacco tree, blackberry nightshade, Jerusalem cherry, Brazilian

	Botanical Name	Common Name
		nightshade, devil's fig
212.	*Solidago canadensis* var. *scabra*	Canadian goldenrod
213.	*Sonchus oleraceus*	Common sowthistle
214.	*Spathodea campanulata*[2]	African tulip tree
215.	*Spergula arvensis*	Corn spurry
216.	*Sphagneticola trilobata*[2] *(*Syn. *Wedelia trilobata)*	Singapore daisy
217.	*Stachys arvensis*	Stagger weed
218.	*Stachytarpheta jamaicensis*	Jamaica snakeweed
219.	*Stellaria media*	Chickweed
220.	*Stenotaphrum secundatum*	Buffalo grass
221.	*Striga curviflora*	Witch weed
222.	*Stylosanthes* spp. *(S. guianensis, S. humilis, S. scabra)*	Stylo, Townsville stylo, shrubby stylo
223.	*Syagrus romanzoffiana (*Syn. *Arecastrum romanzoffianum)*	Cocos palm, queen palm
224.	*Tagetes minuta*	Stinking roger
225.	*Tamarix aphylla*[2]	Athel pine
226.	*Tecoma stans*[2]	Yellow bells
227.	*Tephrosia* spp. *(T. candida, T. glomeruliflora)*	White hoary pea, pink tephrosia
228.	*Themeda quadrivalvis*	Grader grass
229.	*Thunbergia alata*	Black-eyed susan
230.	*Tipuana tipu*[3]	Tipu tree, pride of bolivia
231.	*Tithonia diversifolia*	Japanese (or Mexican) sunflower
232.	*Tradescantia* spp. *(T. albiflora, T. zebrina)*	Wandering jew, zebrina (striped wandering jew)
233.	*Trianoptiles solitaria*[3]	Subterranean cape sedge
234.	*Triumfetta rhomboidea*	Chinese burr
235.	*Tropaeoleum majus*	Garden nasturtium
236.	*Urena lobata*	Urena weed, urena burr
237.	*Verbena* spp. *(V. bonariensis, V. caracasana, V. officinalis, V. tenuisecta)*	Purple top, verbena, common verbena, Mayne's pest
238.	*Verbesina encelioides*	Crownbeard (wild sunflower)
239.	*Vigna radiata*	Mung bean, golden gram
240.	*Vinca* spp.	Periwinkle, vinca
241.	*Watsonia meriana* var. *bulbillifera*	Bulbil watsonia
242.	*Xanthium pungens*	Noogoora burr, Australian burr
243.	*Xanthosoma violaceum*	Blue taro
244.	*Zephryanthes grandiflora*	Pink grandiflora
245.	*Zingiber officinale*	Ginger
246.	*Zinnia peruviana*	Wild zinnia

Notes:
[1] Bureau of Rural Sciences Sleeper Weeds List (2003)
[2] Declared Plant Class 3 (*Land Protection (Pest & Stock Route Management) Act 2002*)
[3] Federal Government's Alert List for Environmental Weeds (2001)
[4] Plantation use only

Table 11.C Poisonous Plants to People

Botanical Name	Common Name
Introduced / Exotic	
Acokanthera spp.	Wintersweet, bushman's poison
Aconitum spp.	Monkshood, wolfbane
Agapanthus orientalis	African lily
Agave spp.	Agave
Aglaonema commutatum	Chinese lucky plant
Allamanda spp.	Yellow allamanda
Araujia sericifera	Moth vine
Argemone ochruleuca	Mexican poppy
Asclepias spp. *(A. curassavica, A. fruticose, A. physocarpa)*	Red-headed cotton bush, swan plant, balloon cotton bush
Atropa balladonna	Belladonna, deadly nightshade
Brugmansia spp.	Angel's trumpet
Bryophyllum spp. *(B.daigremontianum, B.pinnatum)*	Mother of millions, resurrection plant (live leaf)
Buddleja madagascariensis	Buddleja
Buxus spp.	Boxwood
Caladium hortulanum	Caladium
Canna indica	Canna lily
Cascabela thevetia	Yellow oleander
*Catharanthus roseus (*Syn. *Vinca rosea)*	Pink periwinkle
Cestrum spp. *(C. diurnum, C. nocturnum, C. parqui)*	Day-blooming cestrum, day jessamine, lady of the night, night jessamine, green cestrum
Clematis microphylla	Small-leaf clematis
Clivia miniata	Clivia
Codiaeum variegatum	Croton
Colchicum autumnale	Autumn crocus, crocus, meadow saffron
Conium maculatum	Hemlock
Consolida spp.	Larkspur
Convallaria majallis	Lily-of-the-valley
Cycas spp.	Cycad, zamia
Cytisus scoparius	English broom
Daphne spp.	Daphne, garland flower, lilac daphne, mezereon, rose daphne, spurge laurel, winter daphne
Datura spp.	Angel's trumpet, thorn apple, false castor oil
Delphinium spp.	Delphinium, larkspur
Dieffenbachia spp.	Dumbcane
Digitalis spp.	Foxglove
Duranta spp. *(D. erectal, D. lorentzil, D. repens)*	Golden dewdrop, Sheenas gold, Aussie 2000
Euonymus spp.	Spindle tree
Euphorbia spp.	Snow flake, naked lady, poinsettia
Gloriosa superba (& cultivars)	Climbing lily, glory lily
Gomphocarpus spp. *(G. fruticose, G. physocarpus)*	See *Asclepias* spp.
Hedera spp.	Ivy
Helleborus spp.	Christmas rose, Corsican hellebore, Easter rose, hellebore, Lenten rose
Hippeastrum spp.	Hippeastrum
Hydrangea sp.	Hydrangea
Hyoscyamus niger	Black henbane, henbane
Jatropha spp. *(J. multifida, J. podagrica)*	Coral plant, coral bush, physic nut
Laburnum spp.	Golden chain tree, golden rain, laburnum, scotch laburnum
Lantana camara	Common lantana
Lepidozamia spp.	Cycad, zamia
Ligustrum sinense	Small-leaved privet
Lilium candidum	Madonna lily
Lobelia cardinalis	Cardinal flower
Lonicera japonica	Japanese honeysuckle
Macrozamia spp.	Cycad, zamia, pineapple zamia

Botanical Name	Common Name
Monstera deliciosa	Monstera
Nerium oleander	Oleander, white and pink oleander
Oenanthe crocata	Hemlock water drop-wort
Ornithogalum spp.	Common star of Bethlehem, chincherinchee, giant chincherinchee, star of Bethlehem
Philodendron spp.	Philodendron
Phytolacca octandra	Inkweed
Rheum rhabarbarium	Garden rhubarb
Ricinis communis	Castor oil plant
Solanum spp. *(S. dulcamara, S. mauritianum, S. nigrum, S. pseudocapsicum, S. seaforthianum)*	Bittersweet, wild tobacco, climbing nightshade, black nightshade, common nightshade, Brazilian nightshade
Spathiphyllum	Peace lily
Stropanthus spp.	Corkscrew flower, spider tresses, stropanthus
Synadenium grantii	African milk bush
Toxicodendron succedaneum	Rhus, rhus tree, wax tree, poison sumac
Urtica dioica	Stinging nettle
Veratrum spp.	False hellebores
Vinca major	Periwinkle
Wisteria sinensis	Chinese wisteria
Zantedeschia aethiopica	Arum lily
Native / Endemic	
Abrus precatorius	Crab's eye, gidee-gidee, jequirity bean, rosary bean
Alocasia spp. *(A. brisbanensis, A. macrorrhizos)*	Cunjevoi, giant taro, giant elephant ear
Calophyllum inophyllum	Beauty leaf
Castanospermum australe	Black bean
Cheilanthes spp.	Rock fern
Cycas spp.	Cycad, zamia
Dendrocnide spp. *(D. moroides, D. excelsa, D. photinophylla)*	Stinging tree, giant stinging tree, Gympie stinging tree
Excoecaria spp. *(E. agallocha, E. dallachyana)*	Mangrove blind-your-eye, scrub blind-your-eye
Hoya australis	Wax flower
Lepidozamia spp.	Cycad, zamia
Lobelia spp.	Cardinal flower, lobelia
Macadamia ternifolia	Maroochy nut
Macrozamia spp.	Cycad, zamia, pineapple zamia
Melia azedarach	White cedar
Mucuna gigantea	Burney bean
Pimelea spp.	Rice flowers
Pteridium spp.	Bracken fern
Ranunculus lappaceus	Australian buttercup
Rhodomyrtus macrocarpa	Cooktown laquat, finger cherry, wannakai
Sarcostemma viminale ssp. *brunonianum*	Caustic vine, caustic bush, pencil
Solanum aviculare	Kangaroo apple
Trema tomentosa	Native poison peach

11.11 Nuisance Planning Scheme Policy

11.11.1 Purpose

(1) The purpose of this policy is to assist applicants in understanding how compliance may be demonstrated for certain Specific Outcomes included in the Nuisance Code.

11.11.2 Application of the Policy

(1) The policy applies to development applications requiring assessment against the Nuisance Code.

11.11.3 Guidance Relevant to Road Traffic Noise

Guidance for Achieving Specific Outcomes O1, O2 and O3

(1) Solutions that are consistent with the following principles are more likely to satisfy the Specific Outcomes included in the Nuisance Code:

(a) Adoption of best practice design measures, such as appropriate building orientation and/or use of existing site features to minimise noise exposure where possible.
(b) Reducing facade apertures (such as windows) when facing the road traffic noise source to minimise internal noise exposures.
(c) Where mitigation measures in the form of site boundary barriers are considered necessary, measures to minimise detrimental effects on visual amenity and the potential for reduced natural light are provided.

(2) For a proposed noise sensitive development located adjacent to a road as defined in Specific Outcome O1 of the Nuisance Code, the proponent submits a report prepared by a competent person that provides information relating to the following:

(a) Location plan identifying the subject site, any noise sources in the locality that could potentially affect noise sensitive receptors at the development and any significant features such as topographic variation, barriers and intervening buildings.
(b) Predicted receptor 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 at each potentially affected receptor.
(c) The measures proposed to achieve Specific Outcomes O1 and O2 of the Nuisance Code.

(3) For a proposed new or altered road, the proponent submits a report prepared by a competent person that provides information relating to the following:

(a) Location plan identifying the subject site and the nearest potentially affected receptors (including residential, commercial, educational, health and industrial) and any significant features such as topographic variation, barriers and intervening buildings.
(b) Predicted receptor noise levels based on traffic flows for a 10 year growth horizon from the first year of the use of the road for each floor and occupancy type at each potentially affected receptor.
(c) The measures proposed to achieve Specific Outcome O3 of the Nuisance Code.

Note: At the time of issuing a development permit, the Council may implement a property noting system to record properties identified as being potentially subject to road or noise impacts.

11.11.4 Guidance Relevant to Rail Noise and Vibration

Guidance for Achieving Specific Outcomes O4 and O5

(1) For a proposed new railway, the proponent submits a report prepared by a competent person that presents information relating to the following:

(a) Location of nearest potentially affected receptors.
(b) Forecast rail movements for a 10 year growth horizon including hours of operation and type.
(c) Predicted receptor noise and vibration levels for the 10 year growth horizon.
(d) Mitigation measures that are to be adopted at the subject site to achieve Specific Outcome O5 of the Nuisance Code.

(2) For a proposed development that has the potential to be affected by noise and/or vibration from an existing railway, the proponent submits a report prepared by a competent person that presents information relating to the following:

(a) Location of site in relation to the railway corridor.
(b) Forecast rail movements for a 10 year growth horizon including hours of operation and type.
(c) Predicted receptor noise and vibration levels for the 10 year growth horizon.
(d) Mitigation measures that are to be adopted at the subject site to achieve Specific Outcome O4 of the Nuisance Code.

11.11.5 Guidance Relevant to Noise Amenity

Guidance for Achieving Specific Outcome O6

(1) Where the noise levels specified in **Table 9.6 (Noise Impact Assessment Criteria)** of the Nuisance Code cannot be achieved, mitigation measures are adopted to achieve an appropriate degree of acoustic amenity at the affected noise sensitive place. Such measures, in order of preference, include one or more of the following:

(a) Reduction of source noise levels to prevent the impact occurring (this includes provision of additional sound insulation to the building housing the noise source);
(b) Redesign of building layouts and orientation to maximise buffer distances and noise shielding;
(c) Provision of noise barriers to provide noise reductions to eternal and internal spaces; and
(d) Acoustic treatment of buildings to achieve the 'satisfactory' design sound levels for internal occupancies as specified in *AS2107:2000 Acoustics – Recommended Design Sound Levels and Reverberation Times for Buildings Interiors*.

(2) In the case of a noise emitting development locating in an area with potentially sensitive receptors, the proponent submits an acoustic report prepared by a competent person that includes the following:

(a) Location plan identifying the subject site and the nearest potentially affected receptors (including residential, commercial, educational, health and industrial) and any significant features such as topographic variation, barriers and intervening buildings.
(b) Results of measurements of background L_{A90} noise levels at a location representative of the nearest potentially affected receptors to the subject site in the absence of noise emissions from the subject site. The background noise levels are to include time periods that are most likely to be sensitive from a noise perspective (generally at night). The background noise monitoring is to be completed for a sufficient period of time to establish 'the average minimum background noise levels' for the locality.
(c) Comparison of the background with predicted noise levels from the proposed activity at the nearest potentially affected receptor to determine compliance with the criteria as defined in **Table 9.6 (Noise Impact Assessment Criteria)** of the Nuisance Code.
(d) Specification of appropriate control measures if necessary.

(3) Where noise sensitive receptors are proposed in a locality with existing noise sources, the proponent submits an acoustic report prepared by a competent person that includes the following:

(a) Location plan identifying the subject site, any noise sources in the locality that could potentially affect noise sensitive receptors at the development and any significant features such as topographic variation, barriers and intervening buildings.
(b) Results of measurements of L_{A10}, L_{Aeq} and background L_{A90} noise levels at the subject site. The noise measurements are 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 the local emission sources. The noise monitoring is to be completed for a sufficient period of time to establish typical and worst case pre-existing noise levels for the subject site.
(c) Analysis of the measured noise levels to determine compliance with the criteria as defined in **Table 9.6 (Noise Impact Assessment Criteria)** of the Nuisance Code.
(d) Specification of appropriate control measures if necessary.

11.11.6 Guidance Relevant to Live Entertainment, Amplified Music and Voices

Guidance for Achieving Specific Outcome O8

(1) The achievement of Specific Outcome O8 may be demonstrated by:

(a) For an existing premises, an acoustic report prepared by a competent person that includes the following:

(i) Location plan identifying the subject site and the nearest potentially affected receptors (including residential, commercial, educational, health and industrial) and any significant features such as topographic variation, barriers and intervening buildings.
(ii) Results of measurements of octave band background noise levels as $L_{A90,Oct}$ noise levels at a position representative of the nearest potentially affected receptors 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.
(iii) Results of measurements of octave band noise levels as $L_{A10,oct}$ noise levels at the nearest potentially affected receptors 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. 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 (eg, if doors and windows would normally be open, this is to occur for the test).
(iv) Comparison of the background and source noise measurements at the nearest potentially affected receptor to determine compliance with the criteria as defined in **Table 9.6 (Noise, Impact Assessment Criteria)** of the Nuisance Code.
(v) Comment is to be provided on potential noise impacts associated with patron noise at the premises and noise from departing patrons associated with the entertainment event.
(vi) Specification of appropriate control measures if necessary (eg, operational conditions such as closed windows, or mitigation measures such as improved acoustic insulation).
(vii) Specification of the maximum source noise level to be emitted at the premises for each type of event, each room and each event configuration (eg for different positions used for a live band in the same venue) as appropriate.

(b) For a proposed premises, an acoustic report prepared by a competent person that includes the following:

(i) Location plan identifying the subject site and the nearest potentially affected receptors (including residential, commercial, educational, health and industrial) and any significant features such as topographic variation, barriers and intervening buildings.

(ii) Identification of design measures that are to be incorporated into the design to minimise the risk of receptor noise impacts.
(iii) In this instance, following completion of the proposed premises a supplementary report is to be lodged with the Council which includes the results of the on-site noise tests (as detailed in (1)(a)(ii) – (vii) above) to demonstrate compliance with the acoustic criteria specified in **Table 9.6 (Noise Impact Assessment Criteria)** of the Nuisance Code.

(c) Acoustic reports as detailed in (b) and (c) above are to be submitted to the Council prior to the issue of a development permit for the activity to which they relate.

11.11.7 Guidance Relevant to Odour

Guidance for Achieving Specific Outcome O9

(1) In relation to odour, the Nuisance Code seeks to achieve an appropriate degree of amenity for odour sensitive land uses.

(2) In this regard, an odour report is to be prepared by a competent person in the following circumstances:

(a) where there is potential for odour emissions from a proposed activity to be detected at existing sensitive development, or
(b) where there is potential for odour emissions from existing activities to be detected at a proposed sensitive development.

(3) Odour assessment and analysis is a complex field hence probable solutions are not defined in the Nuisance Code. Odour reports should make reference to the most appropriate guidelines, criteria and methods for a particular type of source or activity in order to demonstrate that Specific Outcome O9 of the Code can be achieved. A justification for the selected guidelines, criteria and methods is to accompany the odour report.

11.11.8 Guidance Relevant to Lighting

Guidance for Achieving Specific Outcome O11

(1) The achievement of Specific Outcome O11 may be demonstrated by:

(a) building facades which have no flashing lights;
(b) suitable boundary fencing and landscaping to prevent lighting overspill;
(c) suitable lighting design (eg directional measures) to prevent overspill; and
(d) external areas are lit in accordance with *AS4282 – Control of the Obtrusive Effects of Outdoor Lighting*.

11.12 Reconfiguring a Lot Planning Scheme Policy

11.12.1 Purpose

(1) The purpose of this Planning Scheme Policy is to identify considerations applying to the assessment of development applications for Reconfiguring a Lot.

11.12.2 Application of Policy

(1) This policy applies to development which requires assessment against the Reconfiguring a Lot Code.

11.12.3 Guidance Relevant to Reconfiguring a Lot Code

General Guidance (Site Contamination and Site History)

(1) In determining the suitability of a site for a reconfiguring a lot proposal, a Site History Analysis should be submitted to the Council which takes into account:

(a) present and past land uses and on-site activities;
(b) present and past processes carried out on the site and their location;
(c) waste disposal practices and chemical spills; and
(d) earthmoving activities carried out on the site and the source of any fill imported to the site.

Guidance for Achieving Specific Outcomes O1 and O2

(2) The achievement of Specific Outcomes O1 and O2 of the Reconfiguring a Lot Code may be demonstrated by a Site Analysis Report prepared by a competent person, which:

(a) identifies the constraints of the site;
(b) highlights the site's opportunities; and
(c) shows the important aspects of the surrounding environment.

(3) The submission of a site analysis plan (refer to **Figure 11.3 – Typical Site Analysis Plan**) will assist in the development assessment process and is necessary should more innovative design solutions be proposed. As a minimum, the site analysis plan should include:

(a) existing and proposed contours;
(b) where practicable, identification of previously filled areas;
(c) drainage paths adjoining and entering the site;
(d) all existing services and easements on the site or adjoining properties;
(e) all existing and proposed roadways; and
(f) existing buildings, fences, vegetation or other natural site features of identified conservation or heritage value.

(4) In addition, other matters which may be relevant depending on the specific circumstance include:

(a) orientation, significant noise sources and micro-climate (eg: maintaining potential for breezes);
(b) views to and from the site;
(c) prevailing winds;
(d) built form and character of adjacent and nearby development; and
(e) in the Rural Precinct Class, the effluent disposal area.

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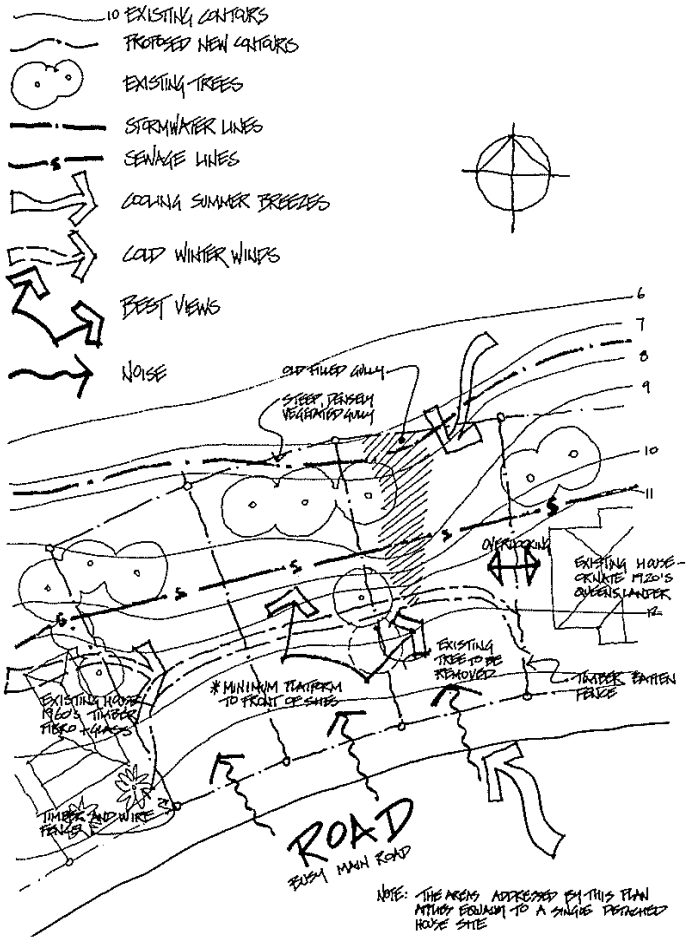
Figure 11.3 Typical Site Analysis Plan



Guidance for Achieving Specific Outcome O2

(5) The achievement of Specific Outcome O2 (*Calculating Slope*) of the Reconfiguring a Lot Code may be demonstrated by a slope assessment using the following methodology:

(a) Any slope is assessed prior to any earthworks.
(b) The slope assessment includes an analysis for each proposed lot, where any land is shown on a Planning Area Overlay Map as subject to the Steep Slope/Stability Code.
(c) Calculate the gradient (rise over run) of the proposed lots, using the following principles:
    (i) provide cross-sections 10 metres in length perpendicular to the fall of contours (using a minimum of 1 metre contours);
    (ii) determine the gradient for each horizontal 10 metre cross-section; and
    (iii) provide an overall gradient for the entire lot.

Guidance for Achieving Specific Outcome O2

(6) The achievement of Specific Outcome O2 *(Steep Slope/Slope Instability)* of the Reconfiguring a Lot Code may be demonstrated by a Slope Stability Assessment Report prepared by a competent person, which properly addresses, describes or includes:

(a) In relation to stability:
    (i) potential stability problems;
    (ii) the impacts of the proposed development on the site; and

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(iii) recommended solutions to ensure the long-term stability of the site and proposed development.

(b) In relation to slope:
  (i) an accurate assessment and mapping of the extent of land on the site that has a slope of:
    (A) 15 to 20%;
    (B) 20 to 25%;
    (C) above 25%; and
  (ii) recommended solutions to:
    (A) limit the necessity for cutting and filling and visible retaining walls;
    (B) provide readily useable driveways and pedestrian paths; and
    (C) to limit earthworks necessitating vegetation clearance.

(7) The achievement of Specific Outcome O2 *(Driveways)* of the Reconfiguring a Lot Code may be demonstrated by a proposed lot that does not require:

(a) retaining walls exceeding 1 metre in height resulting from driveway construction;
(b) driveways steeper than 20% due to safety considerations;
(c) the separation of garage/carports from the position of the dwelling necessitated by slope; and
(d) the relaxation of Standard Building Regulation boundary clearances for garages or carports.

Guidance for Achieving Specific Outcome O2

(8) The achievement of Specific Outcome O2 *(Building Envelopes)* of the Reconfiguring a Lot Code may be demonstrated by a proposed lot which:

(a) contains sufficient space for a building area consistent with the type of dwelling envisioned for the lot;
(b) can efficiently contain any required effluent disposal system and irrigation area;
(c) provides suitable vehicular access arrangements;
(d) maximises native vegetation protection and vegetation retention;
(e) avoids the need for cutting or filling;
(f) can accommodate any easements or buffer requirements; and
(g) is not located on unstable land or land steeper than 10%.

Guidance for Achieving Specific Outcome O17

(9) The achievement of Specific Outcome O17 *(Density Bonuses for Environmental Protection)* of the Reconfiguring a Lot Code may be demonstrated by using the following approach:

(a) Land which is contained in the Rural Precinct Class may be eligible for increased subdivision potential (compared to the requirements of **Table 9.7 – Minimum Lot Size and Dimensions** of the Reconfiguring a Lot Code) in return for the protection of areas with high habitat and biodiversity values which could not otherwise reasonably be required as part of the development permit conditions of an application to create additional lots.
(b) Ordinarily, site area for the purposes of identifying the maximum number of lots would be determined based on the total area of the precinct. Any adjoining land included in the Open Space - Conservation and Waterways Precinct (where owned by the applicant) would not be included in the calculation.
(c) However, where additional lands are provided for vegetation protection by the applicant (above and beyond that required by the Reconfiguring a Lot Code), the land included in the Open Space - Conservation and Waterways Precinct (where not located below the 100 year ARI flood level) may be included in the calculation of the total site area for the purposes of identifying the maximum number of lots.
(d) In addition, where additional lands are provided for vegetation protection by the applicant (above and beyond that required by the Reconfiguring a Lot Code), a minimum average lot size approach may be employed, rather than the minimum lot size approach.
(e) This means that lots smaller than the prescribed minimum are achievable, provided that the averaged total of all lot sizes is in accordance with the prescribed minimum of the Reconfiguring a

Lot Code. For example, the provision of additional lands for vegetation protection may enable a larger number of smaller lots on flatter parts of a development site.

11.13 Structure Planning Planning Scheme Policy

11.13.1 Purpose

(1) The purpose of the policy is to provide guidance in order to facilitate the proper assessment of proposals which trigger the Structure Planning Code and which are likely to require additional information in relation to the Specific Outcomes of the Code. It is intended that this information be provided at time of lodgement accompanying a development application.

11.13.2 Application of Policy

(1) This policy applies to assessable development which requires assessment against the Structure Planning Code.

11.13.3 Assessment Guidance: Explanation of Terms

"sensitive receiving environments" *means a residential use, business and commercial use, community use or land included in a Residential Precinct or the Emerging Community Precinct.*

11.13.4 Specific Outcome Guidance

Guidance for Achieving Specific Outcome O1 and O2

(1) The achievement of Specific Outcome O1 and O2 of the Structure Planning Code may be demonstrated by the preparation of a structure plan which:

(a) provides the general information requirements contained in (i) below; and
(b) incorporates the structure planning principles of relevance contained in (ii) and (iii) below.

(i) *General Information Requirements*

(A) a site analysis which depicts topography, landscape, significant vegetation, environmental constraints and opportunities and which accurately identifies the detailed location of each of the matters shown on Planning Area Overlay Maps and Planning Area Code Maps relevant to the site;
(B) details of surrounding land uses;
(C) location, mix and density (e.g. lot yield for the range of proposed land uses);
(D) the relationship to and the proposed position in the overall road hierarchy and transport network, including proposed road connections and any public transport routes;
(E) notional pedestrian/cycle network, with links to community and commercial facilities, public transport interchanges, and to adjoining development;
(F) relationship to existing and potential development on adjoining and nearby lots;
(G) location of the major stormwater flow paths within and through the site;
(H) location of proposed public open space networks and linkages;
(I) description of physical infrastructure to be provided;
(J) approximate location of community and commercial facilities; and
(K) demonstration that proper consideration has been given to all relevant environmental and social issues, including cumulative impacts.

(ii) *Residential Development Structure Planning Principles*

(A) incorporation of specific elements identified on the applicable Planning Area Code Map;
(B) protection of land subject to environmental, landscape and cultural heritage constraints;

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(C) development on land subject to physical constraints (e.g. steep slopes, flood prone land) is designed to mitigate the development's impact on these constraints or to otherwise limit the potential impacts of the constraints on development;
(D) interconnection of road, pedestrian, bikeways and other infrastructure systems;
(E) ease of access to public transport, open space, educational establishments, shops and other community facilities;
(F) medium and high density housing concentrated close to public transport, business centres or open space;
(G) well serviced commercial and community facilities co-located in a small number of convenient locations appropriate to the population catchment being served;
(H) buffering to incompatible land uses and sensitive receiving environments;
(I) incorporates facilities with extensive land requirements, such as sports fields and educational establishments; and
(J) incorporates land for facilities requiring smaller sites (such as community meeting halls, child care centres, libraries, shops and churches) in a cluster.

(iii) *Industrial Development Structure Planning Principles*

(A) incorporation of specific elements identified on the applicable Planning Area Code Map;
(B) protection of land subject to environmental, landscape and cultural heritage constraints;
(C) buffers and acoustic attenuation measures to buffer incompatible land uses and sensitive receiving environments from the impacts of industrial development;
(D) a range of lot sizes to cater for different forms of industrial use;
(E) provision of safe and effective vehicular access with all new lots served by an internal road system;
(F) a high standard of presentation, with buildings designed and finished to have a high quality, modern appearance;
(G) buildings are sited and designed to maximise energy efficiency and be responsive to local climatic conditions; and
(H) a total site stormwater management solution which maintains the quality of water entering downstream waterways and wetlands.

11.14 Parking and Access Planning Scheme Policy

11.14.1 Purpose

(1) The purpose of this Policy is to provide guidance to achieve certain specific outcomes of the Parking and Access Code.

11.14.2 Assessment Guidance: Explanation of Key Terms

"high traffic generating capacity" *means development with:*

(a) hourly traffic movements/turnover exceeding the planned capacity of roads as classified in the Caloundra City road hierarchy;
(b) on-site car parking areas comprising more than 100 parking spaces; or
(c) direct access to an arterial or sub-arterial road.

"manoeuvrability" *the ability of a vehicle to be skillfully moved.*

"manoeuvring areas" *the area designated for the movement or parking of a vehicle.*

"passive transport modes" *cycling, walking and public transport. Those modes not including driving and dependence on a car.*

"traffic generation" *the likely increase in vehicles as a direct result of development.*

11.14.3 Application of Policy

(1) This policy applies to assessable development that requires assessment against the Parking and Access Code.

(2) Guidance for achieving Specific Outcomes 01, 02, 03, 04, 08 and 014 of the Parking and Access Planning Scheme Code are detailed in the Guideline table at the end of each section of this policy.

11.14.4 Strategic Transport Network

(1) *Refer to* ***Table 11.1 (Strategic Transport Network Guidelines)*** *for guidance to achieve Specific Outcomes 01, 02 and 03 of the Parking and Access Code.*

11.14.4.1 Transportation Network

(1) Developing a sustainable transport system will help Caloundra City respond to future population growth and the expected global traffic forecast increase of 10% by planning horizon year 2011.

(2) In this regard, Integrated Regional Transport Plan (IRTP) for South-East Queensland outlines targets for:

(a) The increase in cycling as a transport mode to from 2% to 8% of all trips by 2011 as well as an increase in walking trips from 13% to 15%. Caloundra City is committed to facilitating the achievement of these targets by incorporating travel mode choice into the transport network.

Note: The Caloundra City Strategic Network of pedestrian and cyclist links is included in the Parking and Access Code **(Map 9.3** and **9.4)**.

(b) An increase in the use of public transport by 50% (as a proportion of all trips) by 2011. Caloundra City is committed to encouraging public transport by improving access to bus and rail networks.

(c) Travel demand management: by giving priority to passive transport modes, ride-sharing vehicles and public transport, the IRTP suggests a movement away from single occupant vehicle commuter trips and car dependency.
(d) An improvement in public transport.
(e) A shift in land use and development to encourage these targets.

11.14.4.2 Traffic Network

(1) Traffic impact assessment should be for development applications of high traffic generating capacity to determine the travel demands placed upon the traffic network as a result of the development's current and future uses. Development applications should consider the following solutions in determining development traffic impacts:

(a) the redirection of traffic flows to alternative routes;
(b) the need to provide for increased through traffic; and
(c) the need to provide appropriate site access, parking, and appropriate facilities and manoeuvrability for public transport, pedestrians, cyclists and service vehicles.

(2) A Traffic Impact Assessment Report prepared by a competent person, should accompany development applications involving high traffic generating capacity. The impact of traffic generated by such development should be investigated, and characteristics that are significant to the planning horizon 2016 should be addressed. The report should also detail the proposed solutions designed to address identified traffic impacts. A traffic network capacity comparison is required to check and recognize future and existing infrastructure improvement.

(3) Traffic demands can be seasonal, especially in tourist areas, and these fluctuations should also be addressed within future traffic forecasts.

(4) For development applications of high traffic generating capacity, the likely impacts on the wider road network should be assessed for adequacy, including links to the strategic road network, intersections and the State Controlled Road Network.

(5) If the development is planned to be implemented in stages, a strategy for managing the staged traffic flow should be submitted.

11.14.4.3 Bicycles and Pedestrians

(1) The provisions for bicycles and pedestrians are paramount to encourage use of transport integration across modes such as walking, cycling and public transport. **Tables 11.9** and **11.10** outline design standards for Pedestrian and Cycle Access Management Controls.

Note: The Caloundra City Strategic Network of pedestrian and cyclist links is included in the Parking and Access Code (**Maps 9.3** and **9.4**).

(2) Off-road pedestrian pathways, catering to the needs of all users, should be provided to allow equitable, safe access to and from the site, and providing linkages to surrounding facilities and amenities.

(3) Developments should comply with the bicycle parking requirements of **Table 9.10 (Minimum On-site Parking Rates)** of the Parking and Access Code. In addition, business, commercial and industrial use developments should provide end-of-trip facilities, showers, change rooms and drinking water in accordance with the Parking and Access Code.

11.14.4.4 Public Transport

(1) The collector street system and road network in urban areas should be designed such that 90% of urban development dwellings are within 400 metres of their nearest bus stop for peak period public transport services. Developments should provide pedestrian access to bus and rail facilities to facilitate and encourage public transport use and integration with daily trip making.

Table 11.1 Strategic Transport Network Guidelines

Specific Outcome	Policy Guidance	Supporting Information
Strategic Transport Network O1 Traffic generation is considered in a City-wide and localised context to ensure that development: (a) is consistent with Caloundra City's road Hierarchy;	Meet requirements of the functional classification of the vehicular traffic network *(Refer to Section: 11.14.4.2)*.	• Development should comply with **Table 11.4 (Road Hierarchy Classifications).** Defines road hierarchy, traffic capacity and desired function of road. • Development should comply with **Table 11.5 (Access Controls and Appropriate Design Speeds).**
(b) includes measures to upgrade the network to meet the imposed demand;	Submit a Traffic Impact Assessment Report outlining the impact the development will have on the vehicular traffic network *(Refer to Section: 11.14.4.2)*.	Traffic generation rates shall be derived from: • Queensland Transport's "Draft Transport Assessment Guide" • "RTA Guide to Traffic Generating Developments"; and • the "Sunshine Coast Travel Forecasting Model" compiled by Sinclair Knight Merz (2002). The report should contain the following information: • the maximum number of employees to be engaged on the premises; • the maximum number of persons, other than employees, anticipated to attend the premises at any time; • the hours of operation of the development; • the location of the site and the nature of existing and proposed buildings; • likely development in the vicinity of the site; • the existing operating conditions of the roads in the vicinity of the site; • the position and nature of vehicular access to the site and the need for any changes to existing road infrastructure; • the expected demand for site access and loading areas by trucks and other delivery vehicles; • the anticipated demand for bus, coach and taxi set down and parking; • a design drawing of the access intersection; • the likely use of other modes of transport; • the frequency and proximity of existing or proposed public transport services; • assignment of development-generated traffic to the road network and prediction of operating conditions within and without the proposed development for the appropriate design years, currently the planning horizon year 2016; and • any other relevant information requested by Council or its delegate.
(c) is located appropriately in relation to public transport facilities to	Meet requirements for public transport in the design phase (*Refer to*	• Road network design is to achieve 90% of urban dwellings within 400m of the nearest bus stop for peak period public transport services.

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Specific Outcome	Policy Guidance	Supporting Information
encourage their use.	*Section 11.14.4.4).*	• Developments should provide cyclist and pedestrian access to bus and rail facilities to facilitate and encourage public transport use and transport integration across modes for daily trip making.
O2 Development with high traffic generating potential considers transport/land use impacts including measures to encourage use of travel modes other than private cars.	Meet requirements for Bikeway / Pathway and on-road bikelanes linkages. *(Refer to Sections: 11.14.4.1 & 11.14.4.3).*	• Link major attractors, bus stops, rail stations, schools, shops etc. in accordance with the Caloundra City Strategic Network of pedestrian and cyclist links is included in the , Parking and Access Code (**Map 9.3** and **9.4**). • Provision of bike parking facilities. Refer to **Table 9.10 (Minimum On-Site Parking Rates)** in the Parking and Access Code. • Provision of Access Management Refer to Policy, **Table 11.9 (Cycle Access Management Controls)**, **Table 11.10 (Pedestrian Access Management Controls)** and **Table 11.11 (Kerbside Management Controls)**.
	Provide a safe and amenable environment to encourage passive and public transport mode use *(Refer to Section:11.14.4.1).*	• Developments should provide landscaping which promotes a transport-supportive, safe and accessible environment. Landscaping requirements are to be in accordance with the Landscaping Code.
O3 Development does not compromise the functions of particular roads as indicated in Caloundra City's Road Hierarchy	Meet requirements for the desirable operational standards, detailing design and geometric controls of the Road Hierarchy to achieve an acceptable level of safety for all users *(Refer to Sections:11.14.4.1 and 11.14.4.2).*	• Development should meet the following traffic access management requirements in Tables 11.5 to 11.11: **Table 11.5 (Access Controls and Appropriate Design Speeds).** **Table 11.6 (Minimum Queuing Provisions)** **Table 11.7 (Intersection Controls).** **Table 11.8 (Local Area Traffic Management Controls).** **Table 11.9 (Cycle Access Management Controls).** **Table 11.10 (Pedestrian Access Management Controls).** **Table 11.11 (Kerbside Management Controls)** Provide integrated and consistent access to commercial, retail, industrial and recreational facilities.

11.14.5 Access Management

(1) Refer to **Table 11.2 (Access Management Guidelines)** for guidance to achieve Specific Outcome O4 of the Parking and Access Code.

(2) The purpose of access management is to improve road efficiency, and improve or maintain road safety for all users. Access management is aimed at controlling the interface between a roadway and the adjacent land use. This process seeks to balance traffic access, usefulness, aesthetic appeal and safety. Access controls and appropriate design speeds for the road hierarchy to achieve this balance are shown in **Table 11.5 (Access Controls and Appropriate Design Speeds)**.

(3) Entry and exit driveways are to provide space for vehicles to queue, ensuring queuing does not disrupt the traffic operations on the frontage roads. There should be no internal intersections within the specified queue area. Entry queues are of primary concern for the interruption of external traffic operations, but exit queuing across internal intersections can also interrupt entry traffic. Refer to **Figure 11.6** for an example of suitable site access. Refer to **Table 11.6** for Minimum Queuing Provisions.

(4) Driveway or road modifications may be required to prevent right hand turns into and out of a parking area larger than 100 parking spaces. Alternatively, traffic control devices or space for queuing should be allowed to accommodate such turns without obstruction to road traffic.

Table 11.2 Access Management Guidelines

Specific Outcome	Policy Guidance	Supporting Information
Access Management O4 Vehicular site access to development does not adversely impact on the safety, capacity and operations of the existing road system.	Vehicular site access to development is safe and does not disrupt the external road network.	• Driveways to be designed in accordance with AS2890.1and [Institute of Public Works Engineering Australia (Queensland Division)] IPWEAQ standard drawings. • Access points to individual dwelling properties should also conform to the guidelines and standard drawings. Particularly the [Institute of Public Works Engineering Australia (Queensland Division)] (IPWEAQ) standard drawings outline the requirements for: Residential Driveway – Slab and Tracks (r-0050) and commercial driveway slabs (r-0051 & r-0052). • On-site areas to allow for queuing, without disrupting the external road network. • **Schedule 9.1 (Minimum Service Vehicle Requirements)** and **Table 9.10 (Minimum On-Site Parking Rates)** of the Parking and Access Code outline the required allowances for service bays, service vehicles and the minimum turn radii to accommodate each type of vehicle. • In addition to the access guidelines specified in AS 2890.1, attention is to be given to:- - driveway site, location, number of driveways, relativity to intersections, etc; - driveway width, allowing for suitable entering and exit lanes; - sight distances at the driveway entrance, relating to both vehicles and pedestrians; - gradient; - headroom, with respect to basement or covered parking areas. For design criteria, refer to **Tables 11.7** & **11.8** for Intersection and Local Area Traffic Management (LATM) Controls. Also refer to **Figure 11.4** for an example of an access solution with a road widening.

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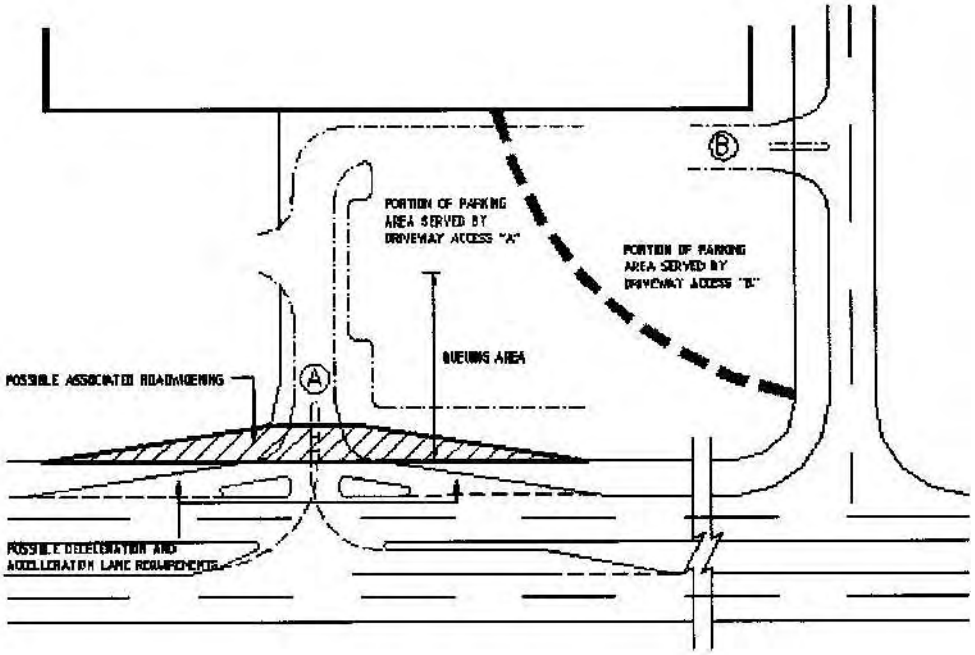
Specific Outcome	Policy Guidance	Supporting Information
	Access design should cater for the future traffic demand.	For high traffic-generating developments, the following information is required: • Access intersection treatment details, including acceleration and deceleration lanes or tapers; • A design drawing of the access intersection designed and constructed to the standards stipulated in AS2890.1; • The area of road dedication appropriate to any resultant road widening; • The access intersection should meet the traffic demand identified in Section 11.14.4.2 (Traffic Networks), to achieve safe and effective operating conditions.

Figure 11.4 Example of access with road widening



11.14.6 Vehicle Parking

The following on-site car parking guidelines provide guidance to achieve Specific Outcome 05 of the Parking and Access Code.

(1) Where the required number of on-site car parking spaces, as specified in **Table 9.10 (Minimum On-Site Parking Rates)** of the Parking and Access Code can not be met, the following criteria may be utilised as a basis for seeking a lesser number of parking spaces.

(2) In most instances, depending on the scale and form of the development, a parking assessment report will be required by a competent person to show how the development qualifies for a reduction of on–site car parking spaces.

(3) A reduction of the minimum number of parking spaces specified in **Table 9.10 (Minimum On-Site Parking Rates)** of the Parking and Access Code, will only be considered where it can be demonstrated that:

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(a) the use is sufficiently different to the typical form of the use category under which it is classified;
(b) persons who will use the site have different vehicle demands or ownership rates than normally expected under the relevant use category;
(c) by virtue of a combination of uses sharing parking facilities, the maximum instantaneous parking demand on the parking area is less than that of each of the uses combined;
(d) public parking in the immediate vicinity has sufficient capacity and is accessible and is therefore more likely to be used or more beneficially used than parking on the site would be. In these cases, Council will require contributions in lieu of on-site parking;
(e) a significant number of spaces are likely to be used infrequently. In these cases, Council may allow that number to be provided in an unsealed or inadequately sealed area, provided that it is readily available for parking and is maintained in a neat and tidy condition. If at any time Council considers that the reserve area is being used excessively, it may require it to be sealed, wholly or in part;
(f) alternative transport arrangements are available to users of the development, such that the need for parking spaces to accommodate private cars is reduced. In these cases, adequate provision is to be made for parking and manoeuvring the vehicles and picking up and setting down passengers;
(g) in all of the above cases, the circumstances warranting the relaxations are not likely to change over time or with a subsequent re-letting or re-selling of the premises.

(4) Where an existing use operates lawfully, but does not have sufficient car parking spaces to satisfy current requirements, extensions to the use or changes of use in the current building will only be required to provide the number of spaces warranted by the extended area or the shortfall, if any, between the existing lawful use and the proposed use. However, if the construction standards of the existing parking area are below current standards, Council may require upgrading of the existing parking area.

11.14.6.1 Tandem Bays (Offices and Uses in the Industrial Use Class)

(1) The provision of tandem bays for offices and uses in the Industrial Use Class will be accepted where:

(a) the number of tandem bays does not exceed:

No. of Parking Spaces	Maximum No. of Tandem Bays
0 - 5	Nil
6 - 20	1
21 - 40	2
41 - 60	3
61 - 80	4

(b) tandem bays are clearly linemarked for "staff parking only";
(c) tandem bays have a minimum length of 10.8 metres;

11.14.7 Accessibility and Manoeuvring

(1) Refer to **Table 11.3 (Accessibility and Manoeuvring Guidelines)** for guidance to achieve Specific Outcome 08 of the Parking and Access Code.

11.14.7.1 Layout and Design of On-site Parking, Servicing and Manoeuvring Areas

(1) Provisions for the minimum number of on-site car parking spaces are specified in **Table 9.10 (Minimum On-Site Parking Rates)** in the Parking and Access Code.

(2) Parking space sizes, aisle width, circulation and detailed design elements are to comply with Section 2 - Design Criteria of AS 2890.1. Parking spaces obstructed by columns, etc. are to be designed to allow adequate access and to ensure ease of entry and exit to and from the vehicle according to AS 2890.1. Refer to **Figure 11.5**.

(3) Car parks are to be constructed of materials capable of withstanding long-term frequent car, commercial vehicle and in some cases, heavy vehicle use. In general, concrete or asphaltic concrete surfacing is an acceptable material, but only in terms of its structural integrity. Alternative paving materials are encouraged and may be required in instances where alternatives better satisfy design criteria. Refer to Part 3 – Roads of the Caloundra City Draft Development Design Planning Scheme Policy for detailed construction criteria.

(4) Basic construction standards may be relaxed in cases where the type or frequency of traffic is such as to demand lesser construction quality or where the locality would benefit from (or at least not be prejudicially effected by) a lesser construction quality.

(5) Variations to construction standards and parking area design standards may be permitted in the following instances:-

(a) in rural areas and in rural towns Council may permit parking areas to be constructed to other than Sealed Standard. However, the construction and surfacing are to be of a standard to minimise dust and noise nuisance, is adequately stable under normal use and will not deteriorate or be unusable in wet weather. An assessment of the site including the following will be made to determine suitability of a variation:
(i) soil type and stability;
(ii) topography;
(iii) need for extensive engineering works;
(iv) frequency of use;
(v) the standard of other development in the locality;
(vi) types of vehicles to be accommodated;
(vii) the proposed surface treatment and construction methods;
(viii) the proximity of residential dwellings or other development.

(b) where valet parking is provided, parking space and aisle standards may be varied for those areas over which valet parking will operate;

(c) where spaces in addition to the required minimum are to be provided, and it is to the benefit of end users, parking space and accessibility standards may be varied for those spaces.

(6) Car parking areas must be landscaped to reduce visual impact and to provide opportunities for shade. For appropriate landscaping of parking areas, refer to the Landscaping Code.

(7) **Schedule 9.1 (Minimum Service Vehicle Requirements)** and **Table 9.10 (Minimum On-Site Parking Rates)** of the Parking and Access Code outline the required allowances for service bays, service vehicles and the minimum turn radii to accommodate each type of vehicle. A development application should show how the car parking facility allows for these vehicles and their turning needs, including reversing.

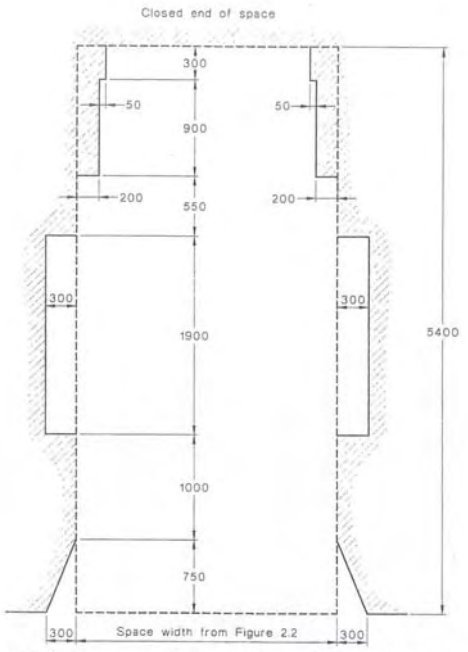
(8) Service bays and loading bays can be utilised for refuse collection. However, the collection vehicle should be able to stand and reverse on-site, and the minimum vertical clearance for refuse collection (4.5m) should be considered. Refer to **Figure 11.6 (Car Parking Elements).**

(9) In the instances where security gates or control facilities like card readers are proposed at the entrance to a development, the required queuing length is to be provided between the property boundary and the control device. A turnaround facility/area should also be provided for situations where access is denied.

(10) Queuing lanes for drive-through services, such as fast food and bottle shops, are to be provided on-site to avoid queuing or disruption to the external road network.

(11) All parking bays and manoeuvring areas are to be designed to comply with AS2890.1 Parking Facilities (Part 1: Off-Street Car Parking) and AS2890.2 Off-Street Parking (Part 2: Commercial Vehicles).

Figure 11.5 Dimensions of Car Parking Spaces

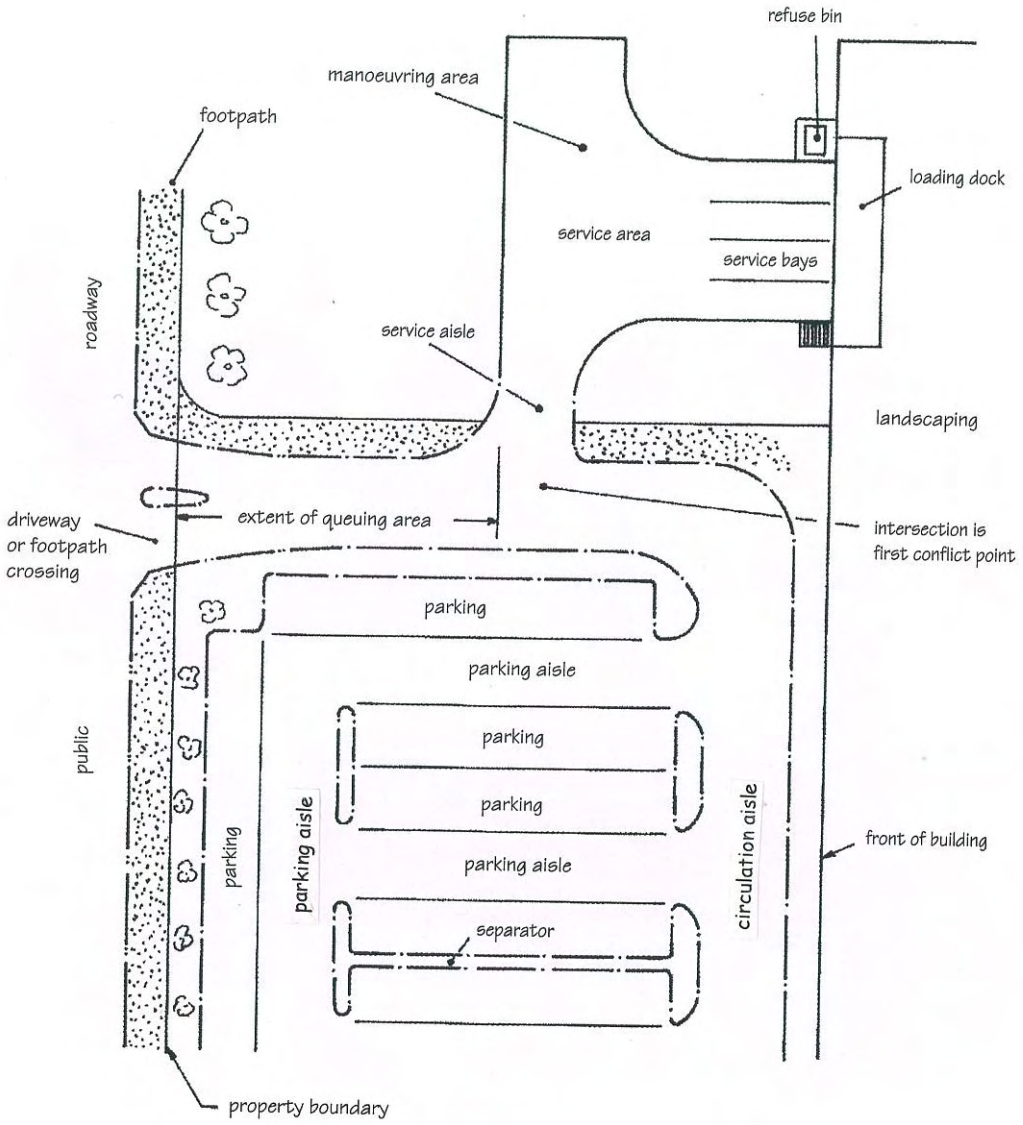


NOTE: The design envelope provides for structural elements to be clear of all four side doors.

DIMENSIONS IN MILLIMETRES

Part 11

Figure 11.6 Car Parking Elements



Part 11

Table 11.3 Accessibility and Manoeuvring Guidelines

Specific Outcome	Policy Guidance	Supporting Information
Accessibility and Manoeuvring O8 the layout and design of parking bays, manoeuvring areas, queuing areas, setdown/pickup areas, and driveways ensures that on-site parking and servicing areas are clearly defined, safe, easily accessible and meet user requirements.	The minimum number of car parking spaces provided on the site complies with **Table 9.10 (Minimum On-Site Parking Rates).**	• Car parking areas must be designed to comply with AS2890.1 Parts 1 and 2, with particular attention to Section 2 – Design Criteria; • Spaces for disabled persons are provided in the immediate vicinity of main entry points at the rate of one space per 100 provided. The total number of parking spaces provided for people with disabilities is to be in accordance with AS2890.1 (2004), AS1428.1, and particularly Table C1 from AS2890.1; • 50% of visitor parking is to be provided at the front of the site, unless otherwise provided in the relevant Planning Area Code.
	Provide a safe and amenable environment to meet the combined needs of all users and meet the parking layout solutions in design phase.	• Circulation aisles have regard to pedestrian safety by not generally running alongside pedestrian fore-courts and footways; • Circulation aisles are designed to discourage high circulation speeds, preferably by means of road geometry, though speed control devices may be required in some instances; • Pedestrian safety is provided for by designing pedestrian routes which follow logical paths between parked cars and pedestrian entry to the development: ❑ orientating aisles to encourage pedestrian movement along the aisle rather than between cars. Refer to **Figure 11.7** for an acceptable solution for pedestrians; ❑ minimising the potential for pedestrian and vehicle conflict; ❑ minimising vehicle congestion and operating speeds, particularly near conflict points; and ❑ providing defined pedestrian paths through the parking area; ❑ providing sufficient space and suitable grades for trolleys, prams and wheelchairs. • Parking areas are to be located so as to appear more attractive to use than on-street parking. • dead-end aisles, cross intersections and non-perpendicular aisle junctions are avoided and the use of concrete barriers between nose-to-nose parking is limited; • one-way parking aisles are provided where possible. The arrangements of aisle, signage and the design of end bays, etc. are to encourage motorists to use the layout as intended. Refer to **Figure 11.8** for an acceptable solution for circulating roadways.
	Provide safe and functional manoeuvring areas for service vehicles.	• All manoeuvring areas to be designed to comply with AS2890.2 (Part 2 Commercial Vehicles).

-

Part 11

Figure 11.7 Acceptable Solution for Pedestrian Requirements

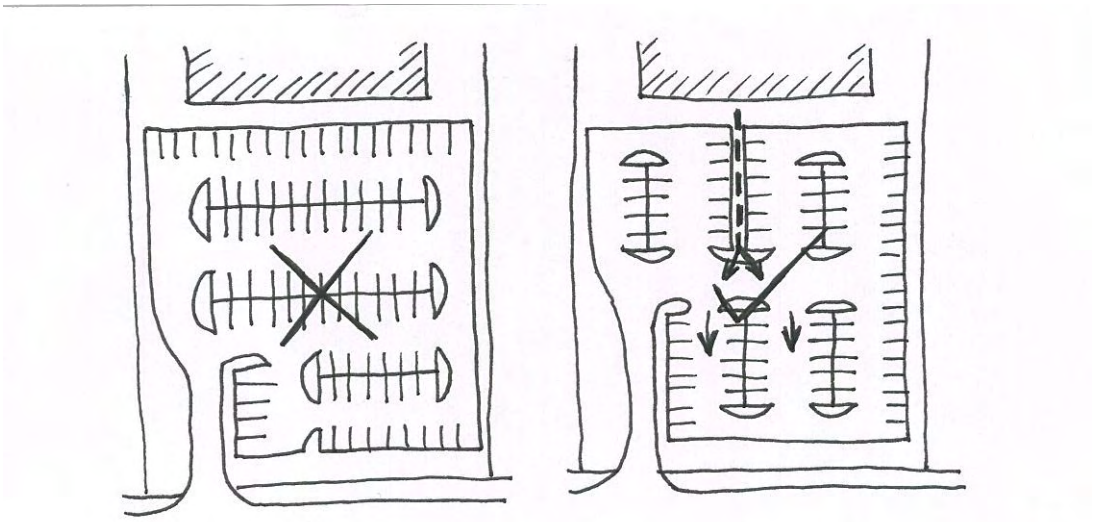
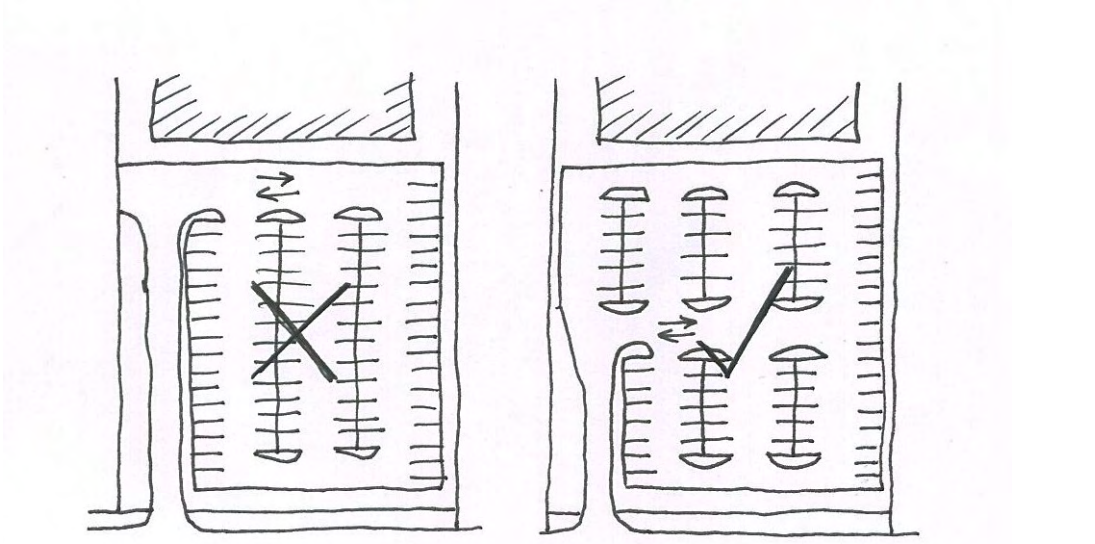


Figure 11.8 Circulating Roadways in Carparks



Part 11

11.14.8 Key Documents for Further Reference

(1) For further reference, refer to the following documents:

(a) AS2890 Parts 1 & 2;
(b) Institute of Public Works Engineering Australia (Queensland Division) (IPWEAQ) Standard Drawings;
(c) Landscaping Code;
(d) Nuisance Code;
(e) Queensland Streets: Design Guidelines for Subdivisional Streetworks, including the Australian Model Code for Residential Development (AMCORD);
(f) Austroads Part 9 – Arterial Road Management;
(g) Sunshine Coast Travel Forecasting Model (SCTFM);
(h) Integrated Regional Transport Plan.

Table 11.4 Road Hierarchy Classifications[1]

Road Hierarchy	Traffic Capacity per day	Definition / Function
Urban		
Freeway	+40,000	High speed – high volume route. Access to major arterial roads by grade separated interchanges.
Major Arterial Road	30,000 to 60,000	Major regional and inter-regional movement. Generally no intersection with residential streets.
Arterial Road	20,000 to 30,000	Major regional and inter-regional movement. Limited intersection with residential streets. Possible frontage access to major development.
Sub-Arterial Road	< 15,000	Act as feeder roads between residential areas and arterial roads. No direct access to residential allotments. May provide access to multi-unit developments, schools, or shopping centres.
Trunk Collector	< 10,000	No access Distributor Road providing connection between residential areas and arterial road system.
Collector Street	< 3,000	A "branch" which connects to a major street or road.
Access Street	< 1,000 to 2,000	A stem from which two or more cul-de-sac streets branch.
Access Place	<300	A single cul-de-sac street for local residential access.
Rural		
Freeway	+40,000	High speed – high volume route. Access to major arterial roads by grade separated interchanges.
Major Arterial Road	30,000 to 60,000	Major regional and inter-regional movement. Generally no intersection with residential streets.
Arterial Road	20,000 to 30,000	Major regional and inter-regional movement. Limited intersection with residential streets. Possible frontage access to major developments.
Sub-Arterial Road	< 15,000	Act as feeder roads between residential areas and arterial roads. No direct access to residential allotments. May provide access to multi-unit developments, schools, or shopping centres.
Collector Street	<3,500	A "branch" that connects to a major road. Highest category of rural street providing direct access to allotments.
Access Street	< 1,000	As for urban residential streets.
Industrial		
Industrial Collector Street	<12,000	For circulation purposes connecting to a major road or street. Access to catchment of approximately 30 ha.
Industrial Access Street	< 4,000	Access to industrial dwellings, with a catchment of approximately 8 to 10 ha.

[1] Caloundra City 2011 Functional Road Hierarchy identified the key elements of the vehicular traffic network. The following traffic flow condition guidelines should be adhered to when complying with the Road Hierarchy Classifications in Table 11.4 to:

- maximise non-local traffic on arterial routes;
- minimise non-local traffic on residential streets;
- constrain traffic speeds in local streets and near areas of high pedestrian activity such as schools, shops and recreational facilities; and
- ensure that site access does not adversely impact on the safety, flow, capacity and operations of the existing road system.

Table 11.5 Access Controls and Appropriate Design Speeds

Road Classification	Traffic Capacity (vpd)	Access Management	Frontage Development	Sign Posted Speed (kph)	Design Speed (kph)
Freeways	+40,000	No property access	All	100 – 110	100
Major Arterial	30,000 to 60,000	Limited Access. No intersections with residential streets. Access provided from service roads.	Rural Open Space Industry Tourist	80-100 70-80 70-80 70-80	90-100 80-90 80-90 80-90
Arterial **(i)**	20,000 to 30,000	No access to frontage development. Limited intersections with residential streets. Access to major developments only via service roads or signalised intersections that meet appropriate intersection spacing requirements.	Business Industry Open Space Rural Special Use Sport & Recreation Tourist	60-70 60-80 60-80 80-100 60-70 60-70 60-70	70-80 70-90 70-90 110-120 70-80 70-80 70-80
Sub-Arterial **(ii)**	< 15,000	No direct individual access to residential property. May provide access to multi-unit residential development, schools or businesses.	Business Industry Open Space Rural Sport & Recreation Special Use Tourist	60 60-70 60-70 80-100 60-60 60** 60-70	70-80 70-80 70-80 90-110 60-70 60-70** 70
Trunk Collector **(ii)**	< 10,000	No direct individual access to residential property. May provide access to multi-unit residential development, schools, or businesses.	Residential Business Sport & Recreation Special Use Open Space	40-50 50-60 60 40-60** 40-60	40-60 60-70 60-70 40-70** 40-70
Collector **(iii)**	< 3,000	Access permitted to individual developments (subject to safety considerations) and if other locational criteria being met.	Residential Business	40-50 50	40-60** 50-60
Access Street	< 1,000 to 2,000	Access permitted to individual developments (if other locational criteria are met).	Residential	50	30-50 #
Access Place	< 300	Access permitted to individual developments (if other locational criteria are met).	Residential	50	30-50 #
Rural Residential Collector	< 3,500	Access permitted to individual developments (if other locational criteria are met).	Rural / Rural Residential	50-60	60*
Rural Residential Access Street	< 1,000	Access permitted to individual developments (if other locational criteria are met).	Rural / Rural Residential	50-60	45*
Industrial Collector	< 12,000	Access permitted to individual developments (if other locational criteria are met).	Industry	50-60	60*
Industrial Access	< 4,000	Access permitted to individual developments (if other locational criteria are met).	Industry	50-60	40*

(i) A Traffic Impact Assessment Report by a qualified Traffic Engineer is required as part of an application for access, including detailed intersection analysis, coordination/progression and preliminary design;

(ii) A Traffic Impact Assessment Report by a qualified Traffic Engineer is required as part of an application for access.

(iii) Access to non-residential uses will require a Traffic Impact Assessment Report by a qualified Traffic Engineer as part of their application for access.

* Recommended by Queensland Streets

** Lower design speed of 40kph in school environments.

\# Street alignment designed for 30kph and sight distance designed for 50kph.

Table 11.6 Minimum Queuing Provisions

Carparking area capacity (spaces)	Projected number of vehicles in queue
1 – 25	1
26 – 50	2
51 – 75	3
76 – 100	4
101 – 150	5
151 – 200	6
201 – 250	7
Over 250	7 plus 1% of capacity over 250 spaces (rounded upwards)

- The length of a vehicle in a queue is to be calculated at 6.0 metres.
- Where more than one driveway is provided, the queuing requirement may be reassessed subject to the submission of a report apportioning parking spaces to respective driveways.

Table 11.7 Intersection Controls

Road Classification	Signal Coordination	Median	Spacing of Intersections	Provision for Turning Traffic
Freeways	n/a	yes	1.5 to 2.0 km in urban areas and 5 to 8 km in rural areas.	Signal or roundabout control of intersections at interchanges. (i)
Major Arterial	yes (iii)	yes	1 km to 2 km Average spacing of 1km (divided arterial)#	At major interchanges. Median breaks at average spacing of 500m to not more than 1km**
Arterial	yes (iii)	yes	500 m to 1 km Average spacing of 500m (divided arterial)#	Protected right-turns in median. U-turns permitted at median breaks or from right-turn lanes (where safe). Median breaks at average spacing of 300 to 500m**
Sub-Arterial	yes (in business areas)	yes, desirable	100m minimum Average 300m (divided arterial)#	Protected right-turns in median. Provision of auxiliary lanes and channelisation (ii). Median breaks at average spacing of 150 to 300m**
Trunk Collector	yes	localised median	On same side of through street: 100m On opposite sides of through street: 60 m *	Localised protected right turns. Localised provision of auxiliary lanes and channelisation where turn volumes are high or to prevent unsafe manoeuvres. (ii)
Collector	Not desirable.	no[1]	On same side of through street: 60m On opposite sides of through street: 40 m *	None
Access Street / Place	n/a	no[1]	On same side of through street: 60m On opposite sides of through street: 40 m *	None
Rural Collector	n/a	no[1]	No special provisions	Provision of auxiliary lanes and channelisation where turn volumes are high or to prevent unsafe manoeuvres
Rural Access Street	n/a	no[1]	No special provisions	None
Industrial Collector	yes	no[1]	On same side of street: 100m On opposite sides of street: 150m left-right stagger and 60m right-left stagger *	None
Industrial Access	n/a	no[1]	On same side of street: 60m On opposite sides of street: 60m left-right stagger and 40m right-left stagger *	None

* Recommended by Queensland Streets

** Recommended by AMCORD

Average intersection spacing between intersections to major road categories (Queensland Streets)

Median widths for Urban Freeways or Rural Arterial Roads are detailed in Austroads Part 9.

(i) Interchange types for Freeways per Austroads' Grade Separated Interchanges - A design Guide and Queensland Transport's Urban Road Design Volume 1.

(ii) Consider the use of auxiliary lanes and channelisation in retail, commercial strip areas and multi-uni development where accessing (slowing/merging) are likely to significantly impede traffic flow. A traffic impact assessment is required.

(iii) Where intersection spacing < 2 km.

[1] In some instances of intersection configuration (e.g. sharp crests, vertical curves at the approaches), a median may be appropriate for intersection legibility.

Table 11.8 Local Area Traffic Management (LATM) Controls

Road Classification	LATM Controls
Freeways	Not appropriate.
Major Arterial	Not appropriate.
Arterial	Not appropriate.
Sub-Arterial	Not appropriate.
Trunk Collector	Speed restrictive techniques may be appropriate * (i)
Collector	Speed restrictive techniques appropriate. (i) Threshold treatment where appropriate.
Access Street / Place	Speed restrictive techniques and / or access control. (i) Treatments where required to protect street from through traffic or to restrict traffic speeds. (i)
Rural Collector	Speed control by alignment recommended rather than vertical devices. (ii)
Rural Access Street	Treatments where required to protect street from through traffic or to restrict traffic speeds. (i)
Industrial Collector	Not appropriate.
Industrial Access	Not appropriate.

* Recommended by Queensland Streets

(i) Appropriate speed restrictive techniques designed with reference to Queensland Streets, Austroads Part 10 - local area traffic management, and Council's guidelines.

(ii) Refer Queensland Streets for guidelines on appropriate street alignment.

Table 11.9 Cycle Access Management Controls

Road Classification	Suggested Cycle Access Along the Carriageway	Suggested Cycle Access at Crossing Points
Freeways	Separate high speed parallel cycle-way appropriate.	Grade separated (underpass / overpass)
Major Arterial	High speed cycle-path (where limited access). Cycle-lanes (where frequent property accesses occur).	Grade separated (underpass / overpass) or at signalised intersections.
Arterial	High speed cycle-path (where limited access). Cycle-lanes (where frequent property accesses occur). Dual-use paths (i)	At signalised intersections.
Sub-Arterial	Cycle-lanes (where road reserve supports). Else dual-use path (where conflicts may arise with public transport) (i)	At signalised intersection or mid-block pedestrian crossings/refuges.
Trunk Collector	Cycle-lanes (where road reserve supports) Dual-use paths (where conflicts may otherwise arise with public transport and sufficient widths exist)	At signalised intersections or mid-block pedestrian refuges.
Collector	Cycle-route (on-road bike-way)	At refuges.
Access Street / Place	No special provision required except where part of a cycle-route (e.g. associated with schools).	No special provisions.
Rural Collector	Cycle-route (on-road bike-way) (where supported in the carriageway) (ii) #	At refuges.
Rural Access Street	No special provisions. #	No special provisions.
Industrial Collector	Cycle-route or dual-use path on one side of carriageway where road reserve supports (iii)	At refuges.
Industrial Access	No special provisions	No special provisions.

Cycle-paths are not generally required in rural residential areas due to the longer distances to travel. Pony trails should be a consideration (refer Queensland Streets).

(i) On one or both sides of carriageway, dependent upon land use or destinations (e.g. schools, retail, sports and recreations, and public transport)

(ii) Additional verge width or sealed shoulders may be required to support cycle-route in new subdivisions.

(ii) Provision for cyclists is important where connections can be made to other cycle-paths from an industrial area. Similarly, in new industrial developments, additional verge width should be made to accommodate for this mode of travel.

Table 11.10 Pedestrian Access Management Controls

Road Classification	Along the Carriageway	Crossing Points
Freeways	No provisions	At all underpasses and overpasses.
Major Arterial	Separate pedestrian pathway along at least one side of the carriageway.	Grade separated (underpass / overpass) or at signalised intersections (staged crossing if necessary).
Arterial	Separate footway on both sides of carriageway.	Signalised at-grade crossings.
Sub-Arterial	Shared pedestrian / cycle-path. Footpath on both sides of carriageway possibly shared with cycle-way.	Signalised at-grade crossings and mid-block crossings.
Trunk Collector	Dual-use path one or both sides. Footpath on one or both sides of carriageway (where part of a pedestrian route)	At signalised or unsignalised crossings (with refuge). At appropriate locations using refuges, 2m wide median, kerb build-outs, or raised pedestrian crossings. (i)
Collector	Footpath on one side of carriageway (within verge)	At appropriate devices such as refuges, kerb build-outs or raised pedestrian crossings (where heavy pedestrian demand).
Access Street / Place	Consider footpath on one side of carriageway. (ii)	No special provisions
Rural Collector	Provision of footways on one or both sides of carriageway	At refuges, kerb build-outs or raised pedestrian crossings.
Rural Access Street	Provision of footway on one side of carriageway	No special provisions.
Industrial Collector	Along one or both sides of carriageway. Footpath along both sides for full frontage of lots	At refuges or kerb build-outs.
Industrial Access	Consider footpath on one side of carriageway. (ii)	No special provisions.

(i) Devices may be required based on pedestrian volumes, traffic volumes or adjacent land use (e.g. schools, shopping centres).

(ii) Queensland Streets suggests no special provisions for pedestrians. The provision of a footpath on one side of carriageway is recommended as part of a link to public transport, local or neighbourhood centres or schools.

All pedestrian facilities should be provided in accordance with Austroads – Part 13 'Guide to Traffic Engineering Practice – Pedestrians', including provisions for disabled access.

Table 11.11 Kerbside Management Controls

Road Classification	Parking	Public Transport
Freeways	Prohibited	In separate right-of-way or mixed with Freeway traffic.
Major Arterial	Prohibited	Bus priority measures most desirable.
Bus Lanes.	Indented bus bays at appropriate locations (where there is sufficient width)	
Arterial	Not preferred (v)	Bus priority measures most desirable. Bus Lanes. Indented bus bays at appropriate locations (where there is sufficient width)
Sub-Arterial	Design to discourage on-road parking (v)	Bus priority measures desirable. Indented bus bays at appropriate locations (where there is sufficient width)* (i)
Trunk Collector	Considered possible in traffic lane or parking lane. Design to discourage on-road parking * Peak hour parking restrictions (iv).	Indented bus bays at appropriate locations (i)
Collector	On-street parking appropriate.	Buses stop in carriageway.
Access Street / Place	On-street parking appropriate (where supported in carriageway).	No special provisions.
Rural Collector	On-street parking appropriate.	
	Sealed bus bays and acceleration / deceleration tapers near major arterials #	
Rural Access Street	On-street parking appropriate.	
	No special provisions.	
Industrial Collector	On-street parking appropriate (ii)	Bus stop in parking lane.
Industrial Access	On-street parking appropriate (iii)	No special provisions

* Recommended by Queensland Streets

\# Recommended as part Landsborough & District LAP

(i) Indented bus bays are suggested at appropriate locations where the adjacent land use includes schools, retail and commercial developments, major intersections and pedestrian / cycle routes. Where possible, these can be located in parking lanes for a Trunk Collector. They should be located reasonably close to pedestrian and cyclist crossings.

(ii) Parking lane on both sides of street except when adjacent to open spaces, very large industrial sites or at sharp bends (recommended by Queensland Streets).

(iii) Parking lane on both sides of streets (recommended by Queensland Streets).

(iv) Peak hour parking restrictions in vicinity of major intersections or where adjacent land use provides off-street parking areas.

(v) Where existing on-road parking exists for frontage development, consider parking restrictions in vicinity of major intersections and where conflicts are observed to occur. Reduce or remove on-road parking where existing developments provide parking on-site.

11.14a Palmview Structure Plan Planning Scheme Policy

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Planning Scheme Policies Relating to Structure Plans

11.14a Palmview Structure Plan Planning Scheme Policy

11.14a.1 Purpose

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 in the Palmview Structure Plan; and
(c) state the additional information which the Council may request in respect of an application for a development application[1].

11.14a.2 Application of Policy

(1) This planning scheme policy applies to the following:-

(a) an application for a master plan in the Master Planned Area;
(b) an application for compliance assessment;
(c) a development application for assessable development in the Master Planned Area.

(2) The provisions of the Palmview Structure Plan Planning Scheme Policy prevail over the provisions of any other planning scheme policy to the extent of any inconsistency.

11.14a.3 Relationship to Palmview Structure Plan

This planning scheme policy is to be read in conjunction with the Palmview Structure Plan.

11.14a.4 Interpretation

(1) In this planning scheme policy:-

'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.

'Shared zone' means a people-oriented space where walking, cycling, shopping and the driving of vehicles occur as integrated activities within the public domain.

(2) Other 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.

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[1] Section 11.14a.19 which does not form part of this Planning Scheme Policy states the additional information which the Council may request in respect of an application for a development application.

11.14a.5 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 Specific Outcomes O4 to O15 in Section 12.5.3 of the Palmview Structure Plan Area Code;

(b) the non-urban open space infrastructure network outcomes in Specific Outcomes 045 to 049 in Section 12.5.21 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 contemporary best practice approaches to ecological and landscape protection.

(b) The ecological and landscape protection outcomes are primarily intended to be satisfied by the following:-

(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 ecologically important area;

(ii) achieving a minimum of 615 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 **Map 12.15 (Palmview Master Planned Area Non-urban Open Space Infrastructure Network)** of the Palmview Structure Plan;

(B) the implementation of the **Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Appendix A)**;

(C) the implementation of a Local Ecological and Landscape Protection and Rehabilitation Plan which:-

(1) outlines how the **Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Appendix A)** 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 the **Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Appendix A)** specified in a master plan or development approval;

(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 ecologically important area, the implementation of an 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 master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(3) has been approved by a compliance certificate given by the Council.

Guidelines and Advice for the Ecological and Landscape Protection Outcomes

(3) The **Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Appendix A)** provides for the following:-

(a) Guidelines about satisfying the ecological and landscape protection outcomes.

(b) Advice about the requirements for Local Ecological and Landscape Protection and Rehabilitation Plans to be required in a master plan or development approval.

Advice for Environmental Offset Outcomes

(4) For the purposes of Specific Outcome 06 in Section 12.5.3 of the Palmview Structure Plan Area Code the following is advice about satisfying the assessment criteria in the code for the environmental offset outcomes:-

(a) The Structure Plan Maps identify which infrastructure corridors cross ecologically important areas and the approximate location of the crossings.

(b) An environmental offset is required to be provided under the Structure Plan Area Code in circumstances where infrastructure required to service the Master Planned Area adversely impacts upon:-

(i) an ecologically important area (either within the Master Planned Area or external to the Master Planned Area); or

(ii) the ability to achieve a minimum of 615 hectares of land for ecological protection and rehabilitation purposes.

(c) Infrastructure is to be considered to adversely impact upon an ecologically 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;

(iv) the functioning of the ecologically important area is otherwise impacted upon.

Advice for Environmental Transition Area Outcomes

(5) For the purposes of Specific Outcome 09 in Section 12.5.3 of the Palmview Structure Plan Area Code the following is advice about satisfying the standards in the code for the environmental transition area outcomes:-

(a) The ecological and landscape protection outcomes provide for limited low impact activities and embellishments to occur within the environmental transition area where they can be demonstrated to be compatible with the primary ecological function of the area.

(b) An 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 **Section 11.14a.12 (Integrated Water Cycle Management Infrastructure Network Outcomes)**.

(d) Further guidance in respect to recreation parks is specified in **Section 11.14a.13 (Urban Open Space Infrastructure Network Outcomes)**.

Standards and Advice for the Scenic Amenity and Highway Acoustic Buffer Outcomes

(6) For the purposes of Specific Outcome 010(f) in Section 12.5.3 of the Palmview Structure Plan Area Code the following are the standards in the code for the scenic amenity and highway acoustic buffer outcomes:-

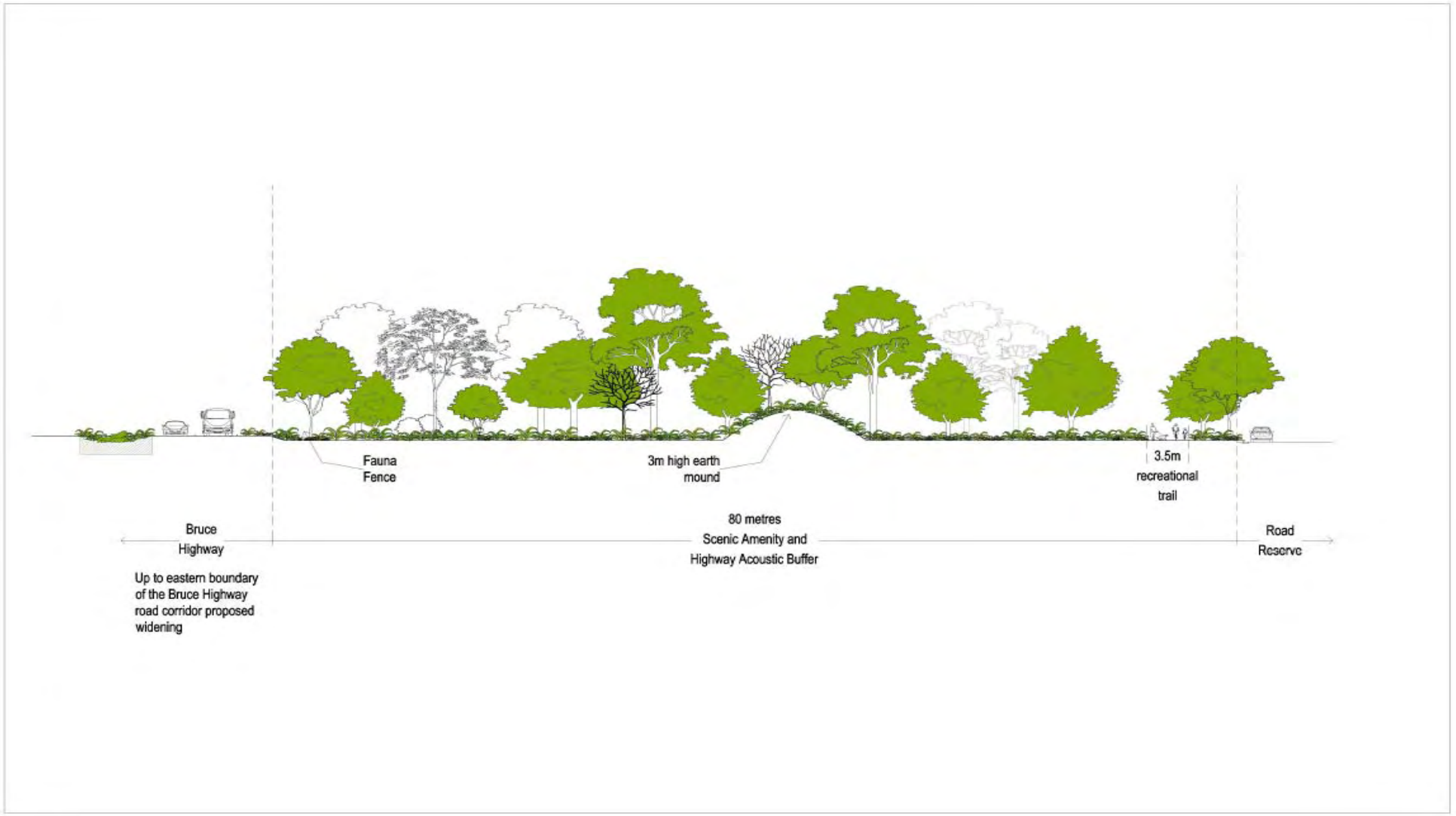
(a) The scenic amenity and highway acoustic buffer is developed in accordance with the typical cross section specified in **Figure 11.1 (Scenic Amenity and Highway Acoustic Buffer Typical Cross Section)**.

(7) For the purposes of Specific Outcome 010 in Section 12.5.3 of the Palmview Structure Plan Area Code the following is advice about satisfying the assessment criteria in the code for the scenic 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.

(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.

Figure 11.1 Scenic Amenity and Highway Acoustic Buffer Typical Cross Section



11.14a.6 Neighbourhood Design, Housing and Density Outcomes

Preliminary

(1) This section applies to the neighbourhood design, housing and density outcomes in Specific Outcomes O26 to O33 in Section 12.5.3 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 (400m) 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 following:-

(i) application of best practice neighbourhood design implemented through the approval of a master plan application and development application;

(ii) implementing an Affordable Living Plan which:-

(A) outlines how the housing affordability and affordable living outcomes for the Master Planned Area are to be achieved;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council.

(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) activity centres;

(iii) precinct boundaries or transitions;

(iv) school sites;

(v) elements that are shared by more than one neighbourhood (i.e. schools and district parks);

(vi) adjoining master plan boundaries.

(f) Development should comply with the design outcomes for neighbourhood design specified in **Table 11.1 (Neighbourhood Design Outcomes**).

Table 11.1 Neighbourhood Design Outcomes

Neighbourhood Element	Design Outcomes
Neighbourhood Area	o Each neighbourhood is generally defined by a five minute walk (400m) from the neighbourhood centre; o Each neighbourhood has individual points of difference to strengthen identity; o Establish a robust urban and neighbourhood structure that can accommodate a range of uses and which is flexible enough to change over time;
Movement Networks	o Street environments prioritise and encourage pedestrian and cycle movement throughout a connected walkable neighbourhood; o Establish a highly permeable and integrated grid-based movement network of streets, pedestrian and cycle paths that maximise access to public transport; o Ensure that 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; o The layout of streets should enable development to front all streets and public spaces; o Culs de sac are not provided, or where provided, no more than 10% of dwellings have frontage to a cul de sac; o Efficient external connections, specifically for bicycles and pedestrians.
Activity Centres	o An activity centre is provided as a community focus for each neighbourhood; o Locate Activity Centres central to the walkable neighbourhood catchments, adjacent to principal movement arteries served by public transport; o Centres are to 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; o Transition between centre uses and residential uses at mid block property boundaries rather than at a street frontage so that similar forms of development front each other across a street.

Neighbourhood Element	Design Outcomes
	o All streets are fronted by development or public spaces to maintain street activity; o All off street vehicle parking areas do not have direct street frontage but are located to the rear of sites;
Residential Density	o Provide a range of densities and variety of housing types with highest concentration increasing with proximity to activity centres; o Establish a density and diversity of housing that supports public transport use; o Provide a wide range of lot sizes and building forms to allow greater housing and lifestyle choice; o Residential developments are not provided in gated street formats; o Establish perimeter block development 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	o Locate community uses and facilities in or adjacent to Activity Centres and at locations that are highly accessible and easily identifiable; o Community uses and facilities are designed to have versatility and adaptability for a variety of functions over time; o 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	o Locate primary schools generally between neighbourhoods to enable sharing amongst two or three neighbourhoods; o Locate secondary schools and major private schools on arterial routes near public transport whilst ensuring that the location does not take up a large amount of the core walkable catchment area of a public transport station; o Prioritise strong direct connections from schools to the walking and cycling network in the surrounding neighbourhood areas;
Employment Areas	o Locate in walking distance to public transport stops and an activity centre; o Provide open space areas for workers and visitors to the area;
Block Sizes, Site Areas and Lot Orientation	o Provide a range of block and lot sizes that will allow for the intended uses and diversity and density of residential uses and allow for future change in uses (i.e. home based business or growth of neighbourhood centre) or density (i.e. future subdivision or additional dwellings) where appropriate; o The layout of streets and lots should generally provide for perimeter blocks of buildings fronting streets and create a relatively continuous street frontage; o 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; o Smaller lots are to predominate near activity centres and near public transport stops, to allow for pedestrian connectivity;
Public Open Spaces	o Provide a wide range and diversity of public open spaces; o Provide at least one Local park per neighbourhood; o Locate most dwellings within 500 m of a park; o Locate Regional wide and District Parks on the edge of neighbourhoods to enable sharing amongst two or three neighbourhoods; and o Parks are overlooked by development rather than backed onto by development to maximise casual surveillance of the park.

11.14a.7 Sub-tropical and Sustainable Design Outcomes

Preliminary

(1) This section applies to the sub-tropical and sustainable design outcomes in Specific Outcomes O34 to O35 in Section 12.5.3 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 to contribute toward the achievement of zero net carbon emissions for the Master Planned Area by 2020.

(c) The sub-tropical and sustainable design outcomes are primarily intended to be satisfied by the following:-

(i) the application of best practice sub-tropical and sustainable design at all levels of the master planning and development approval process;

(ii) the implementation of an Energy Management Plan which:-

(A) outlines how the sub-tropical and sustainable design outcomes for the Master Planned Area, particularly as they relate to the achievement of a zero net carbon emissions target for development in the Master Planned Area, are to be achieved;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council.

Advice for Sub-tropical Design Outcomes

(3) The following is advice about satisfying Specific Outcome 034(c) in Section 12.5.3 of the Palmview Structure Plan Area Code:-

(a) Development should comply with the design outcomes for sub-tropical design specified in **Table 11.2 (Sub-tropical Design Outcomes)**.

Table 11.2 Sub-tropical Design Outcomes

Design Principle	Design Outcomes
Ensuring a strong presence of nature and water	o 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; o Incorporate significant native vegetation and large shade trees in private and public spaces, along pedestrian and cycle routes and in transport corridors; o Promote public access to any natural or artificial waterways by incorporating their existence into the design for pedestrian and cycle connectivity and recreational activity.

Design Principle	Design Outcomes
Creating an open and permeable built environment	o Promote an outdoor lifestyle with strong connection between indoor and outdoor living; o 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; o 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; o 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	o 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; o 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; o Incorporate deep soil planting within town centre locations to reflect the densely landscaped panorama and fauna habitation of the Sunshine Coast; o Incorporate the harvesting of rain water to support surrounding vegetation and building inhabitants; o 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.

11.14a.8 Particular Precinct Outcomes

Preliminary

(1) This section applies to the specific outcomes in the following:-

(a) Section 12.5.9 (Specific Outcomes for the District Activity Centre Precinct) of the Palmview Structure Plan Area Code;

(b) Section 12.5.13 (Specific Outcomes for the Local Industry and Enterprise 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 specific outcomes for the District Activity Centre Precinct and the Local Industry and Enterprise Area Precinct some additional detail is warranted.

Advice for District Activity Centre Precinct Outcomes (Main Street Shared Zone)

(5) The following is general advice about satisfying Specific Outcome O8 in Section 12.5.9 of the Palmview Structure Plan Area Code:-

(a) Development provides for the main street in the District Activity Centre to be established as a shared zone which should:-

(i) be completely and equally shared between pedestrians, cyclists, public transport and private vehicles; and

(ii) comply with the design objectives specified in **Table 11.3 (Design Outcomes for Shared Zones)**.

Table 11.3 Design Outcomes for Shared Zones

Design Principle	Design Outcomes	Potential Treatments/Features to Achieve Outcome
Create a safe environment for users	Lower traffic speed to a walking pace	o Provide pedestrian priority crossing at entry point intersections; o Create a gateway feature - narrow or angled slow point on entry to the shared zone; o Provide clear signage indicating entry into shared zone and 10km/hr speed limit; o Use pavement surface materials and colour which clearly distinguish the shared zone from regular road surface; Use multiple materials rather than a large expanse of one material; o Incorporate traffic calming devices, reduce straight run of carriageway and create alignment shifts to create horizontal deflections for vehicles; o Avoid linear distinction between pedestrian paths and vehicular routes (i.e. no kerb); o Restrict vehicle volumes to 100 vehicles/hour; o Plant street trees to visually reduce carriageway; o 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.	o Use coloured and textural surface contrasts; o Provide lower parking density to allow for greater provision of public amenity; o Bring active frontage such as pavement dining to road edge.
	Enhance amenity	o Avoid use of raised kerbs which will extend the pedestrian circulation space extending shopping/commercial ambience into the street o environment and increasing convenience of pedestrian movement; o Provide clear entry and exit statements to reinforce shared zone and enhance visual amenity of street environment; o Use alternative pavement surface texture to delineate shared zone and enhance street amenity.
	Ensure clear visibility between pedestrians, cyclists and vehicles	o Avoid use of raised kerbs - a visual cue to drivers that pedestrians have right of way.
	Reduce linear territory ownership created by kerb and channelling to promote shared zone and equality of all end users.	o Avoid linear distinction between pedestrian footpaths and vehicular travel routes or angled slow point on entry to the shared zone; o Use landscaping, parking bays, seating areas and bollards to define the vehicular path without creating significant

Design Principle	Design Outcomes	Potential Treatments/Features to Achieve Outcome
		barriers to pedestrian movement or restricting driver visibility of pedestrian activity.
	Reduce proliferation of signs and posts.	o Provide for pavement marking to delineate parking bays – remove standard signage to reduce visual clutter; o No basement access or driveway cross-over to occur along shared zone; o Rear lane access only for sites fronting shared zone to reduce pedestrian conflict and need for signage.
Incorporate environmental infrastructure	Implement sustainable best practice measures to deal with stormwater runoff and WSUD.	o Design fall of carriage way and footpath to direct water runoff for collection at grates and / or pits visually integrated into street design; o Reduce potential for pooling of water at collection points and velocity of flow to ensure pedestrian and vehicular movement is not unduly affected; o 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; o 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 shared zone	Provide shaded pedestrian friendly street environment	o Create an attractive streetscape that contributes to the local sense of place, community safety and security; o Extend the town centre park into the main street environment; o Maximise landscaping along both sides of the street; o Retain existing vegetation wherever possible; o 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; o Provide landscaping which reinforces the local context and street orientation; o Enhance the character and amenity of the Palmview Town Centre and Shared Zone with attractive, practical and hardy landscaping which retains significant vegetation; o Maximises tree cover along footpaths, streets and in public areas; and evokes 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.	o Design space to encourage intended end user activities; o Include social interaction opportunities that aren't reliant of retail / commercial function; o Contribute to overall pedestrian connectivity by creating a series of connected community spaces; o Use the shared zone landscaped environment to contribute to the creation of a vibrant public space; o Maximise pedestrian activity through reduction in restrictions of conventional street environments such as kerbs, signage and high speed traffic; o Design the street and adjacent spaces as a lively community place that attracts high volumes of pedestrian activity; o Provide active frontages to built form promoting high interaction with pedestrians and street activity.

Advice for Local Industry and Enterprise Area Precinct Outcomes

(6) For the purposes of Specific Outcome O1(b) in Section 12.5.13 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 Industry and Enterprise Area Precinct:-Development for small to medium size service trades outlets and domestic services outlets, including hire outlets, servicing both business and households.

(a) Development for business and commercial equipment repairs and services outlets (covering computers, office machines, communications equipment, office furniture and fittings, shop fittings.

(b) Development for small scale manufacturing establishments.

(c) Development for incubator business opportunities that contribute to a start-up economy on the Sunshine Coast.

11.14a.9 Road Transport Infrastructure Network Outcomes

Preliminary

(1) This section applies to the road transport infrastructure network outcomes in Specific Outcomes O11 to O13 in Section 12.5.21 of the Palmview Structure Plan Area Code (road transport infrastructure network outcomes).

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) **Map 12.9 (Palmview Master Planned Area Road Transport Infrastructure Network)** of the Palmview Structure Plan identifies conceptually the higher order elements of the road transport infrastructure network planned for the Master Planned Area.

(c) **Figure 11.2 (Specification of Transport Infrastructure)** identifies the location and extent of the types of sub-arterial road and trunk collector road servicing the Master Planned Area).

(d) **Map 12.8 (Palmview Master Planned Area Development and Transport Infrastructure Network Sequencing)** of the Palmview Structure Plan, **Figure 11.2** 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 **Map 12.8**, **Map 12.9** 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;

(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 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;

(iii) the detailed design and construction of the road transport infrastructure network incorporating appropriate urban design, landscape and environmental features and treatments;

(iv) implementing a Sustainable Transport Plan which:-

(A) outlines how the public and active transport outcomes for the Master Planned Area are to be achieved;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council.

Standards for Road Transport Infrastructure Network Outcomes

(3) For the purposes of Specific Outcome O11(b) in Section 12.5.21 of the Palmview Structure Plan Area Code the following are the standards identified in the code for the road transport infrastructure network:-

(a) Development provides for roads which comply with the design characteristics specified in **Table 11.4 (Road Transport Infrastructure Network - Summary of Design Characteristics)**.

(b) Development provides for roads which comply with the typical cross sections for each road type specified in **Figures 11.2** to **11.8**.

(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 typical cross sections in **Figures 11.2** to **11.8**.

(iv) where medians are provided, street lighting is accommodated within the median;

(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 to be supplied as necessary;

(x) landscaping and stormwater treatment on verge areas and medians does not inhibit direct pedestrian access to on street 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;

(xiv) additional landscaping is provided consistent with the sub-tropical landscape character desired for the Master Planned Area.

(d) Development provides for an infrastructure element within a road corridor to comply with **Table 11.5 (Minimum Widths of Infrastructure Elements Within Road Corridors)**.

(e) Development provides for a road to be designed and constructed in accordance with the **Parking and Access Planning Scheme Policy** and the **Development Design Planning Scheme Policy**.

Table 11.4 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"	36 metres	o dual carriageway with wide landscaped median and verges; o no direct residential access; o on-road dedicated bicycle lanes both sides; o on-road dedicated transit lanes as specified on Map 12.10; o 2 general movement lanes (1 in each direction); o indented bus bays; o no on-road car parking; o dual use paths both sides (minimum width 3.5m; o informal boulevard design reinforcing bushland character at edges of the Master Planned Area transitioning to more formal boulevard design within Urban Development Area core;	Figure 11.3(a) (Sub-Arterial Road Type A Typical Cross Section)

Road Type	Minimum Road Reserve Width	Typical Features and Treatments	Cross-section Reference
		o fauna fencing, crossings and other structural/non-structural treatments as required.	
Sub-arterial Road "Type B"	30 metres	o dual carriageway with wide landscaped median and verges; o no direct residential access; o on-road dedicated bicycle lanes both sides; o 2 general movement lanes (1 in each direction); o indented bus bays; o no on-road car parking; o dual use paths both sides (minimum width 3.5m; o informal boulevard design reinforcing bushland character at edges of the Master Planned Area transitioning to more formal boulevard design within Urban Development Area core; o fauna fencing, crossings and other structural/non-structural treatments as required.	Figure 11.3(b) (Sub-Arterial Road Type B Typical Cross Section)
Trunk Collector Road "Type A"	32 metres	o dual carriageway with wide landscaped median and verges; o parking lanes or indented parking both sides; o indented bus bays; o on-road dedicated bicycle lanes both sides; o 1 general traffic lane in each direction; o dual use paths both sides; o formal boulevard design; o fauna fencing, crossings and other structural/non-structural treatments as required.	Figure 11.4(a) (Trunk Collector Road Type A Typical Cross Section)
Trunk Collector Road "Type B"	27 metres	o dual carriageway with wide landscaped median and verges; o no on-road car parking; o indented bus bays; o on-road dedicated bicycle lanes both sides; o 1 general traffic lane in each direction; o dual use paths both sides; o Formal boulevard design; o fauna fencing, crossings and other structural/non-structural treatments as required.	Figure 11.4(b) (Trunk Collector Road Type B Typical Cross Section)
Trunk Collector Road "Type C"	34 metres	o dual carriageway with wide landscaped median and verges; o indented bus bays; o on-road dedicated bicycle lanes both sides; o on-road dedicated transit lanes as specified on Map 12.11; o 1 general traffic lane in each direction; o dual use paths both sides; o formal boulevard design; o fauna fencing, crossings and other	Figure 11.4(c) (Trunk Collector Road Type C Typical Cross Section)

Road Type	Minimum Road Reserve Width	Typical Features and Treatments	Cross-section Reference
		structural/non-structural treatments as required.	
Main Street	25 metres	o pedestrian, cycle and vehicle shared zone designed in accordance with the objectives identified in **Table 11.4 (Design Objectives for Shared Zones)**; o pavement treatments which clearly define the extent of the shared zone; o single level pavement (no kerb); o minimal signage and line markings; o lighting for the safety of pedestrians, cyclists and motor vehicles; o informal landscaping; o indented parking both sides; o indented bus bays if required. Note: Further detail in relation to design requirements for the District Activity Centre and the Main Street is provided in **Section 11.14a.9 (Guidance for Achieving Particular Precinct Outcomes)**.	Figure 11.5 (Main Street Typical Cross Section)
Collector Road (Green Boulevard)	25 metres	o single carriageway with wide landscaped verges; o parking lanes or indented parking both sides; o on-road dedicated bicycle lanes; o dual use paths both sides; o indented bus bays; o informal boulevard design reinforcing bushland character at edges of the Master Planned Area transitioning to more formal boulevard design within Urban Development Area core. o fauna fencing, crossings and other structural/non-structural treatments as required.	Figure 11.6 (Collector Road (Green Boulevard) Typical Cross Section)
Collector Road	18 metres	o single carriageway with landscaped verges; o parking un-marked; o bicycles accommodated in carriageway (no dedicated lanes); o 2 general movement lanes; o footpaths both sides; o indented bus bays where required; o informal boulevard design reinforcing bushland character at edges of the Master Planned Area transitioning to more formal boulevard design within Urban Development Area core; o fauna fencing, crossings and other structural/non-structural treatments as required.	Figure 11.7 (Collector Road Typical Cross Section)
Access Street	14 metres	o single carriageway with landscaped verges; o parking un-marked; o 2 general movement lanes; o footpath one side;	Figure 11.8(a) (Access Street Typical Cross Section)

Road Type	Minimum Road Reserve Width	Typical Features and Treatments	Cross-section Reference
		o bicycles accommodated on-road (shared).	
Access Place	14 metres	o single carriageway with landscaped verges; o parking un-marked; o 2 general movement lanes; o No footpaths; o bicycles accommodated in carriageway (no dedicated lanes).	Figure 11.8(b) (Access Place / Laneway Typical Cross Section)

Table 11.5 Minimum Widths of Infrastructure Elements Within Road Corridors

Infrastructure Element	Minimum Width
Roads (general traffic lanes)	3.5 metres
Parking lanes	2.5 metres
Parking lanes (where shared with cycle lanes)	4.5 metres
Parking lanes (where shared with bus bays)	2.5 metres
Dual use paths	3.5 metres*
Footpaths	2 metres*
Recreation paths	3.5 metres
Commuter paths	3.0 metres
Cycle lanes	1.5 metres (where < 60km/hr)* 1.8 metres (where >= 60km/hr)* 2 metres on sub-arterial roads or where > 80km/hr on other roads)*
Bus lane	3.7 metres
Median	4-6 metres (on sub-arterial and trunk collector roads to accommodate turning lanes).
Verge	4.0 metres

* *Wider provision may be required for these elements for the Collector Road (Green Boulevard), the Main Street, the Dedicated Transit, Bicycle and Pedestrian Corridor (part of Greenlink) and the Local Transit, Bicycle and Pedestrian Corridor (part of Greenlink). Refer to relevant cross sections.*

Figure 11.2 Specification of Transport Infrastructure

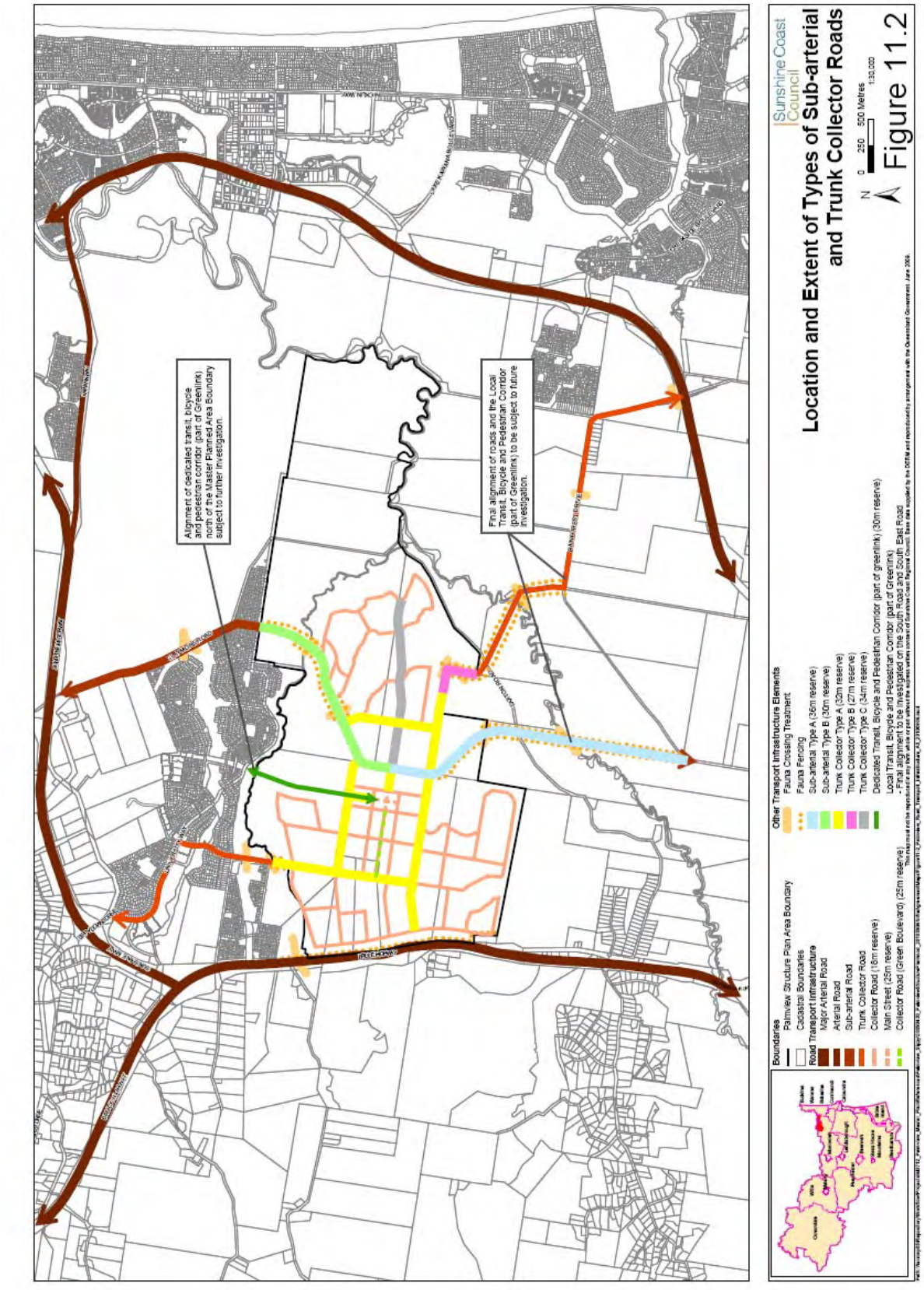


Figure 11.3(a) Sub-arterial Road Type A Typical Cross Section

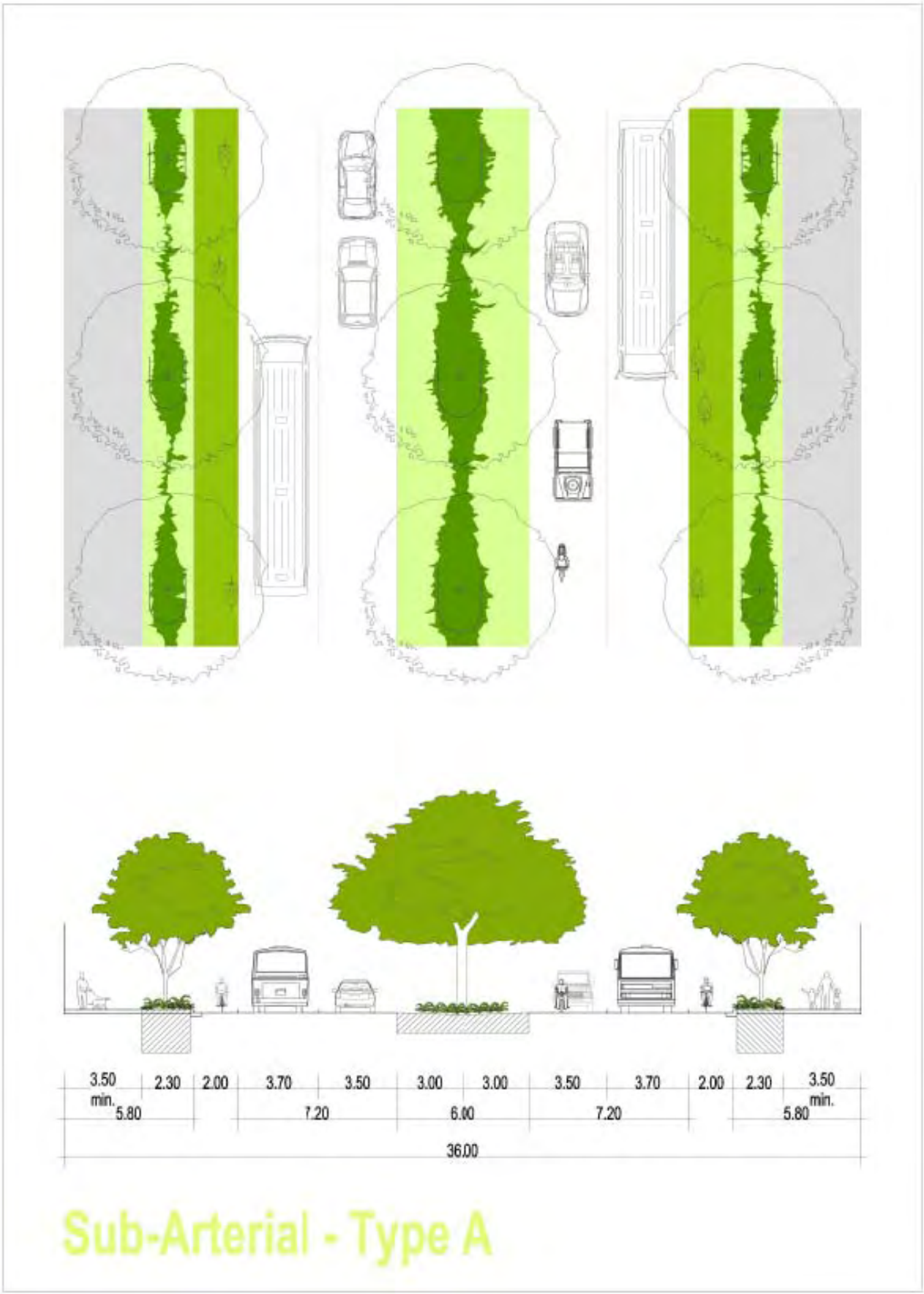


Figure 11.3(b) Sub-arterial Road Type A Southern Link Bridge Cross Section

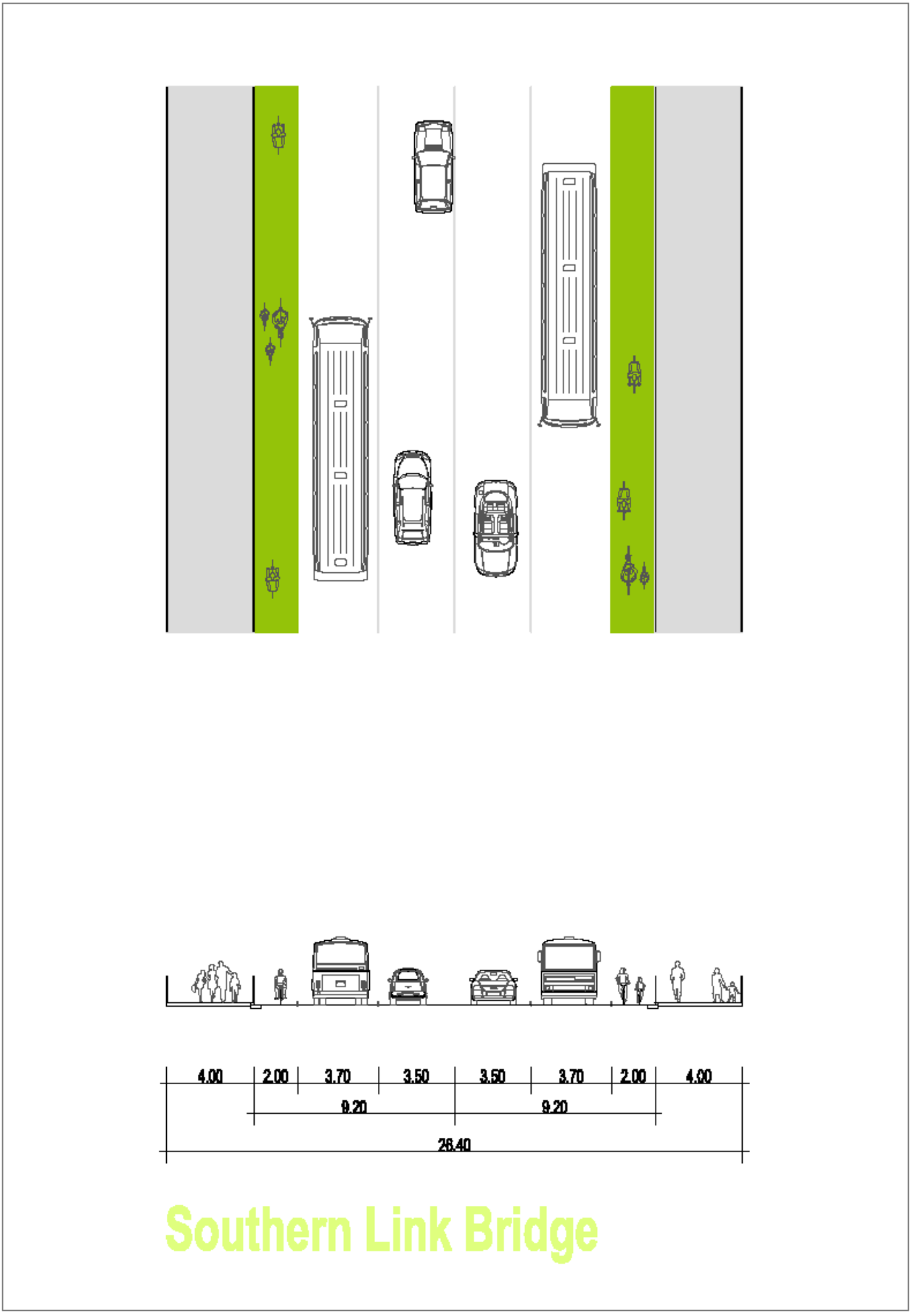


Figure 11.3(c) Sub-arterial Road Type B Typical Cross Section

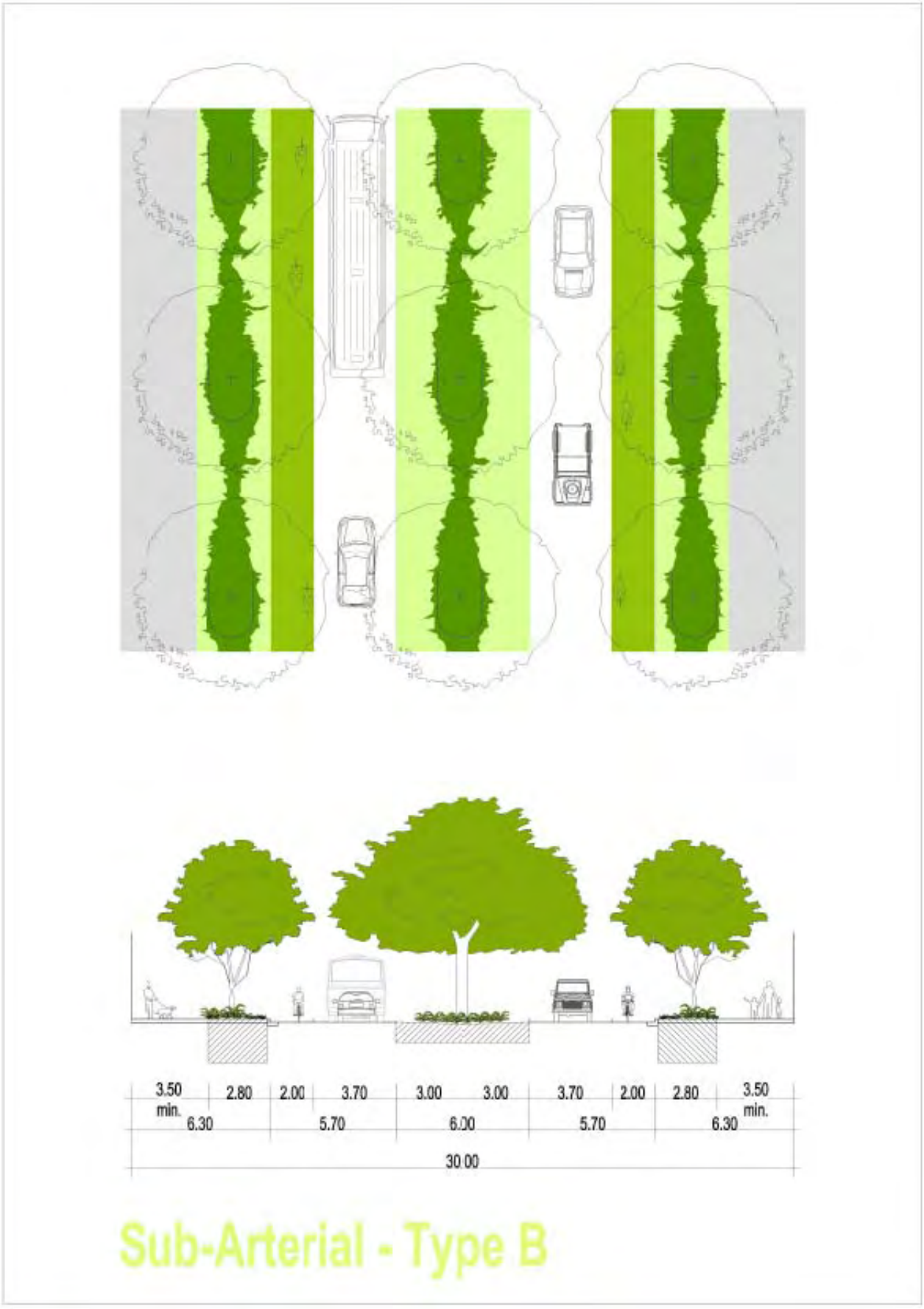


Figure 11.3(d) Sub-arterial Road Type B Claymore Road Bridge Cross Section

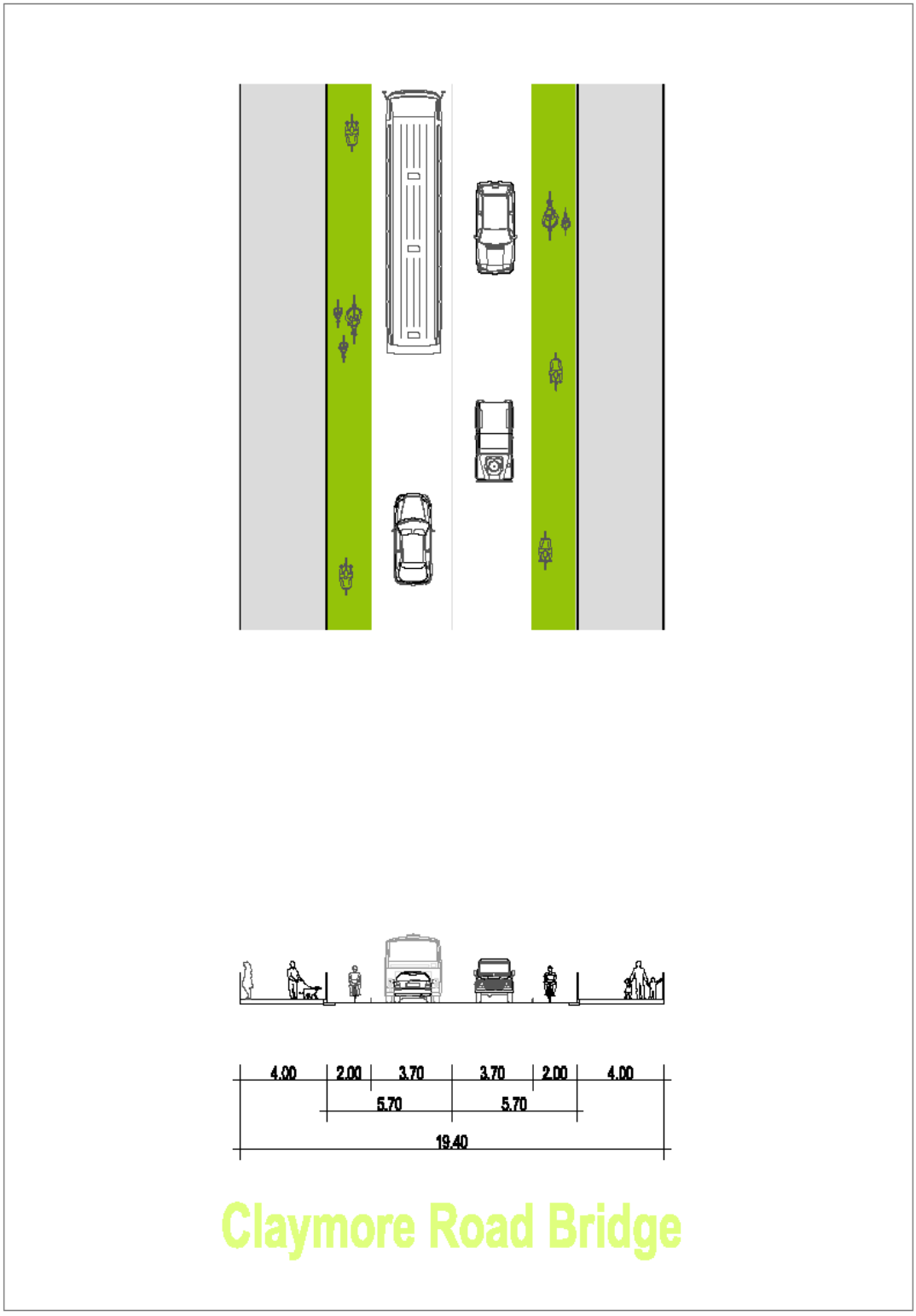


Figure 11.4(a) Trunk Collector Road Type A Typical Cross Section

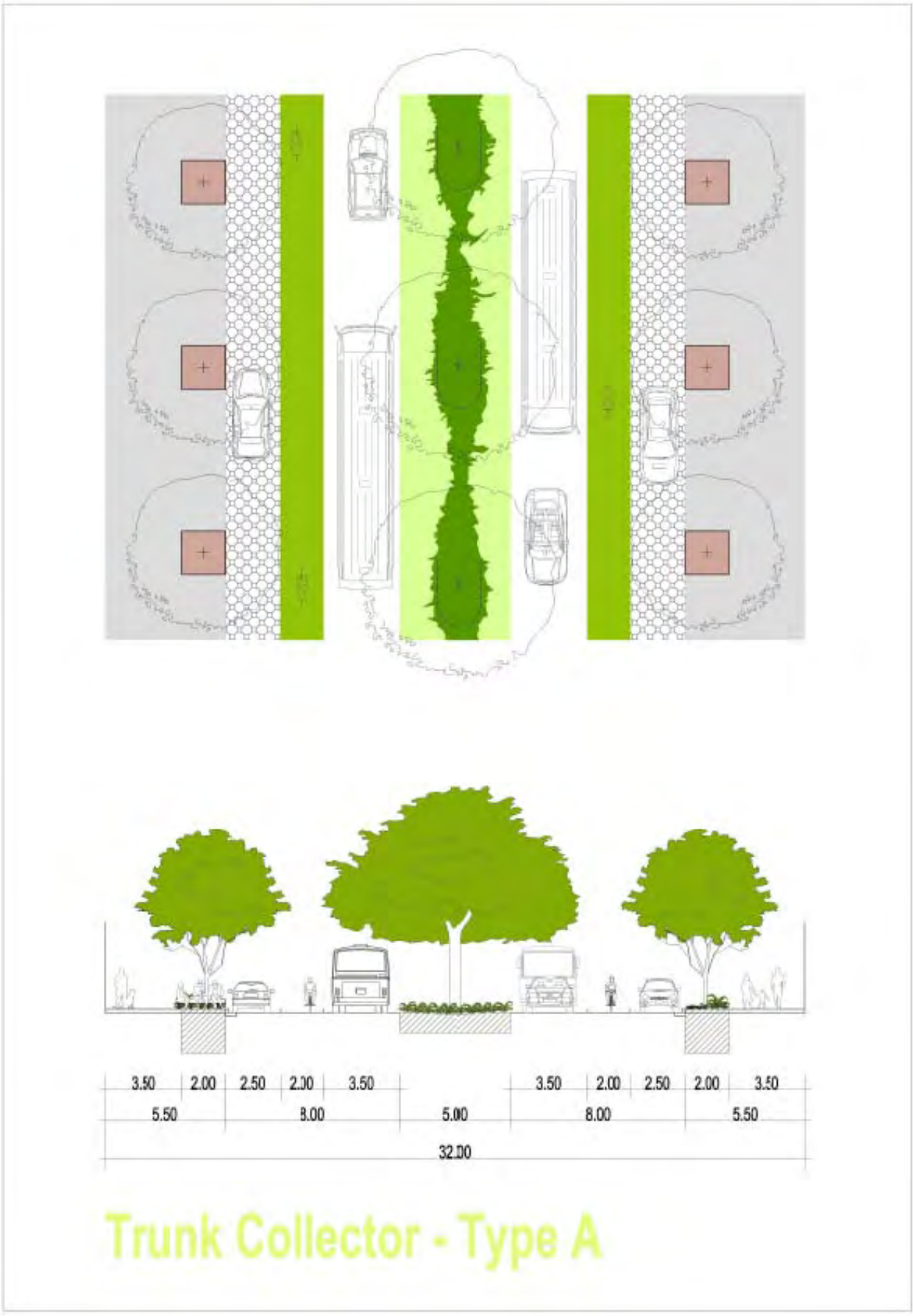


Figure 11.4(b) Trunk Collector Road Type B Typical Cross Section

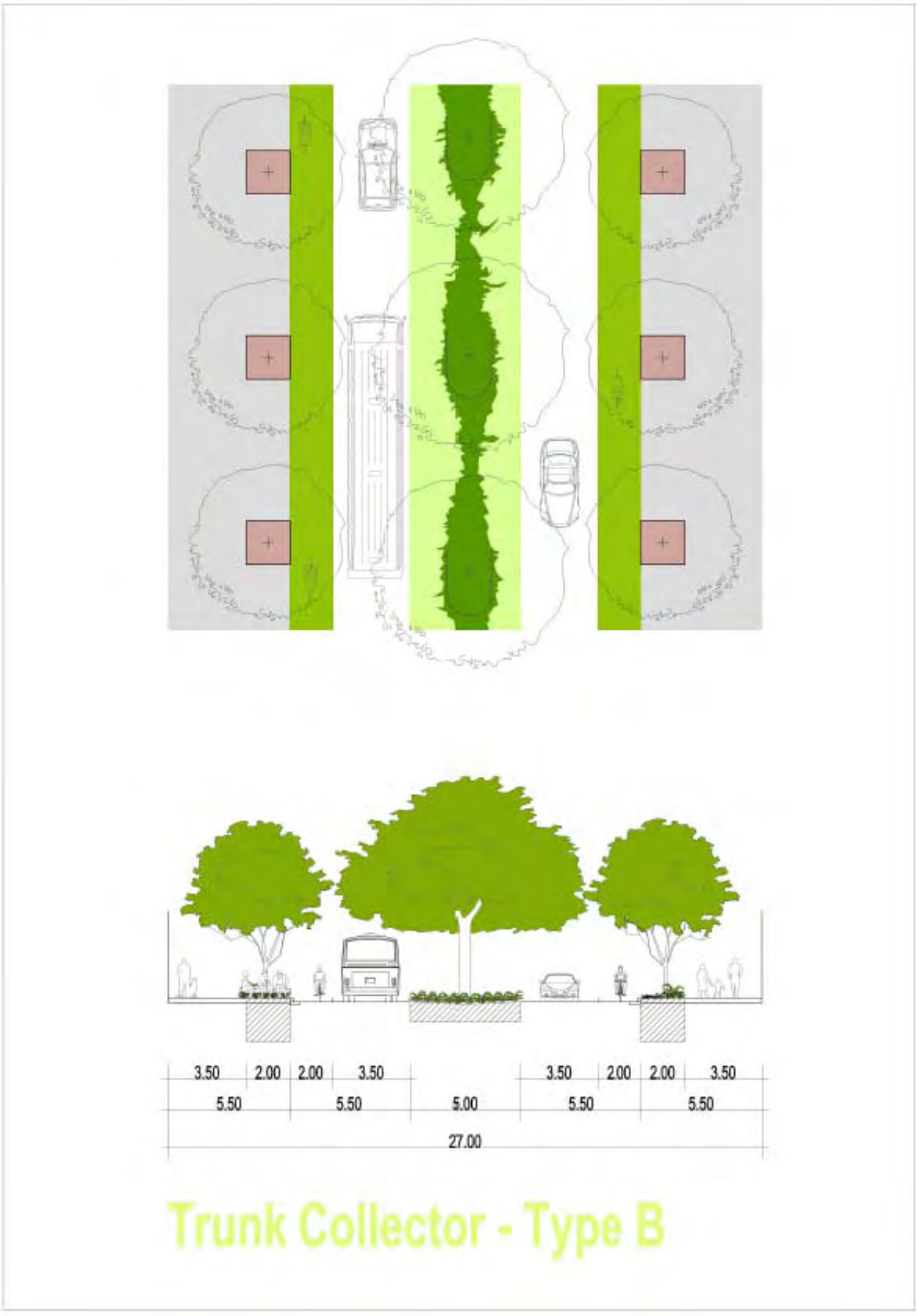


Figure 11.4(c)(i) Trunk Collector Road Type C Interim Cross Section

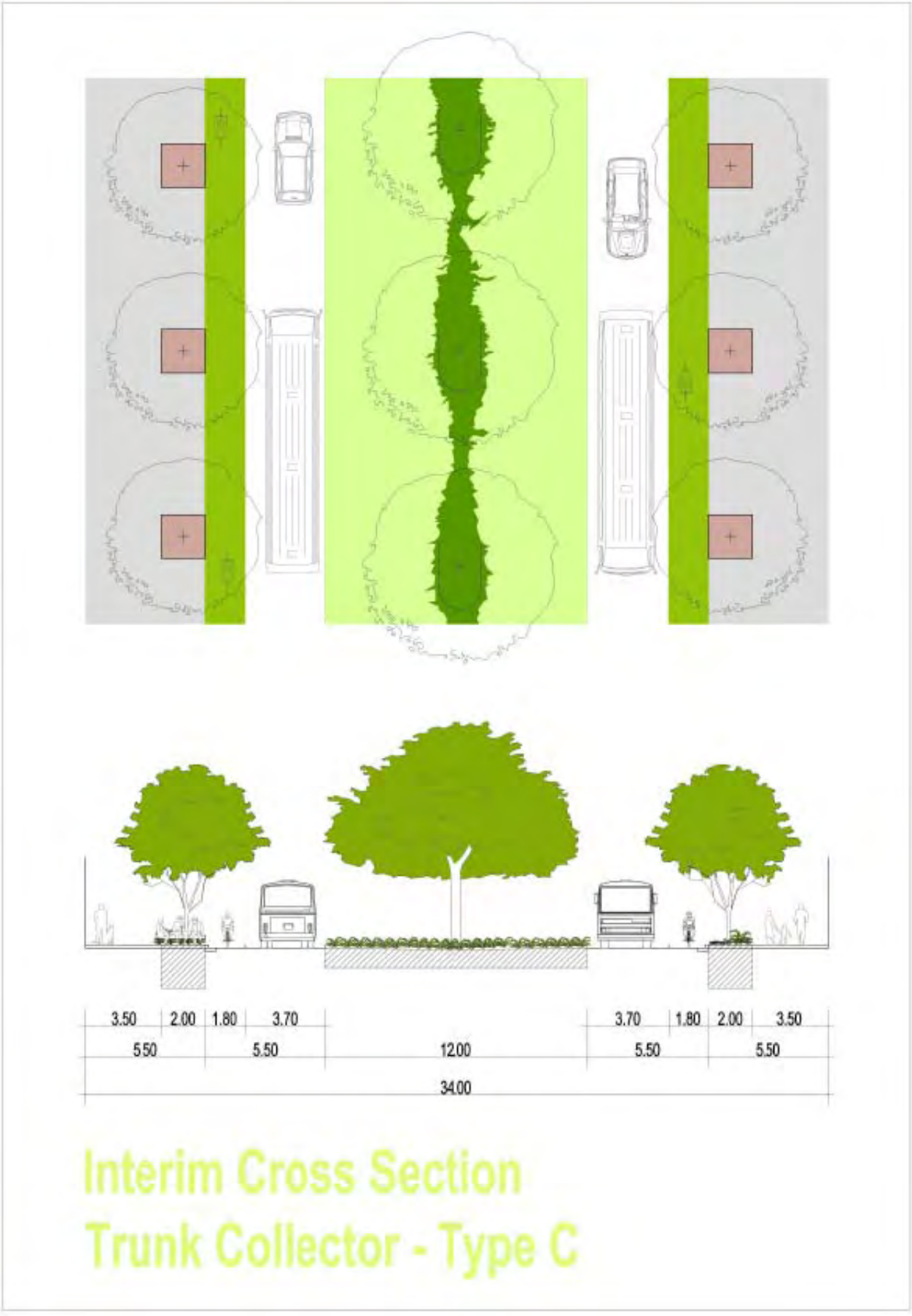


Figure 11.4(c)(ii) Trunk Collector Road Type C Typical Cross Section

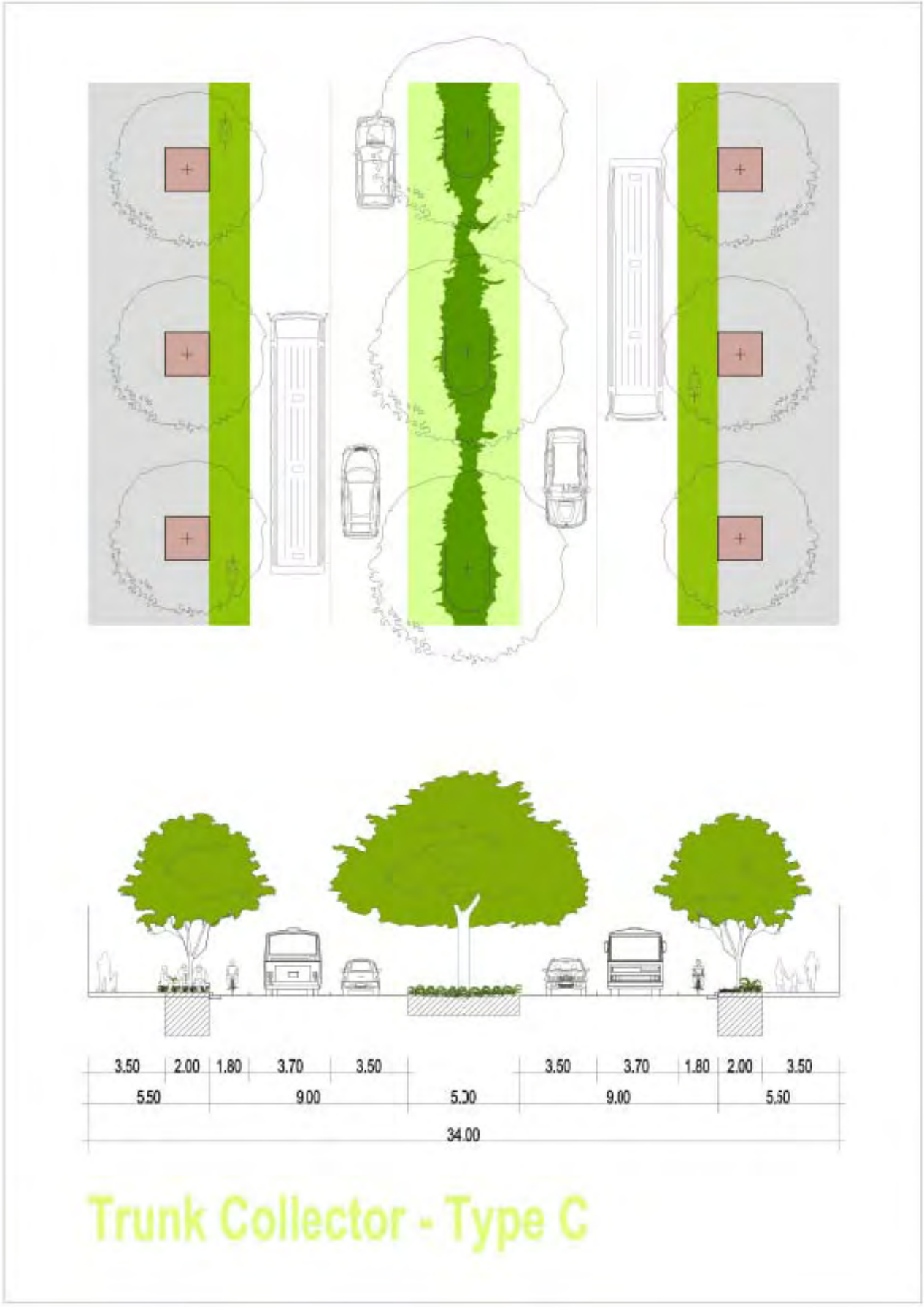


Figure 11.5 Main Street Typical Cross Section

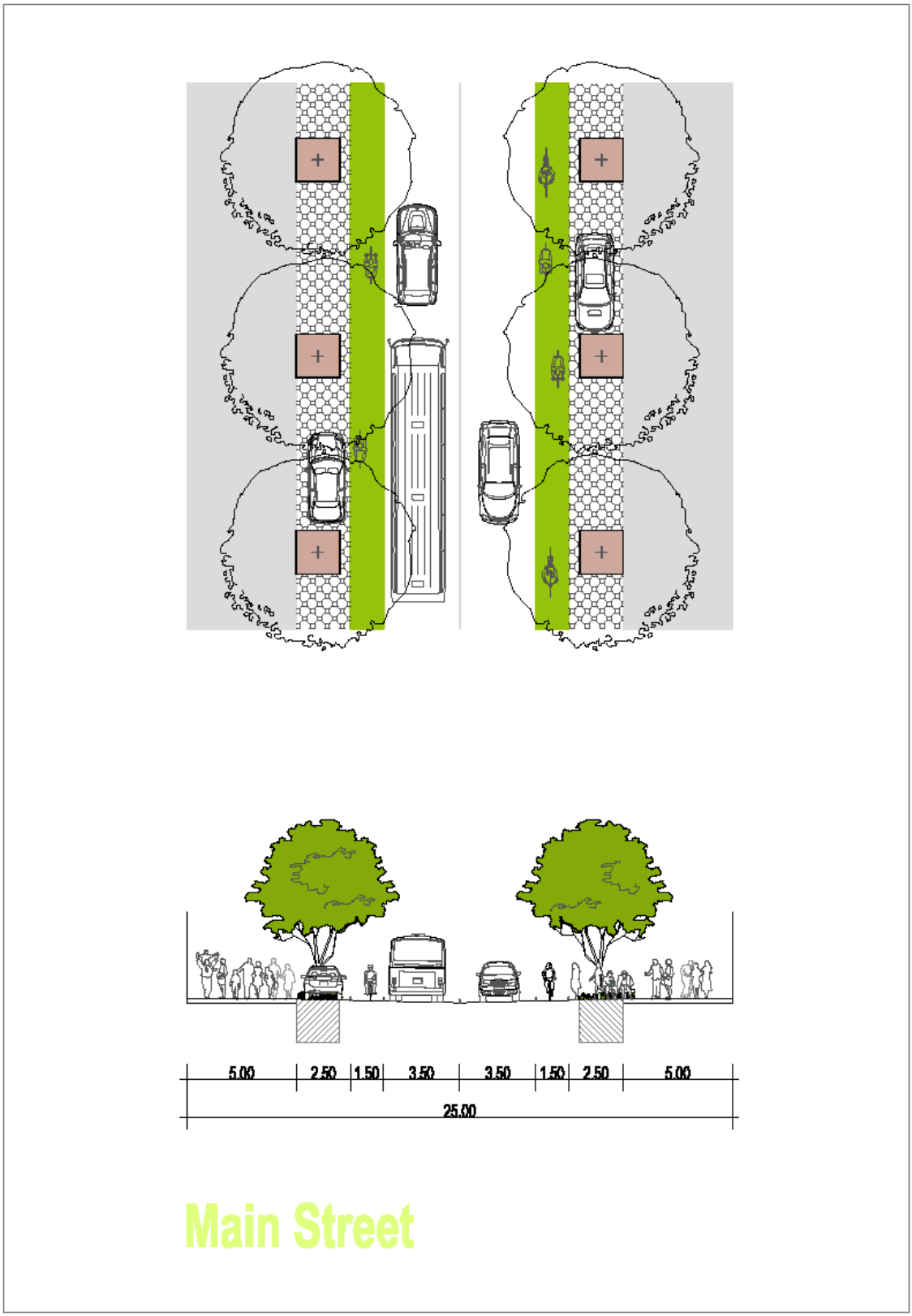


Figure 11.6 Collector Road (Green Boulevard) Typical Cross Section

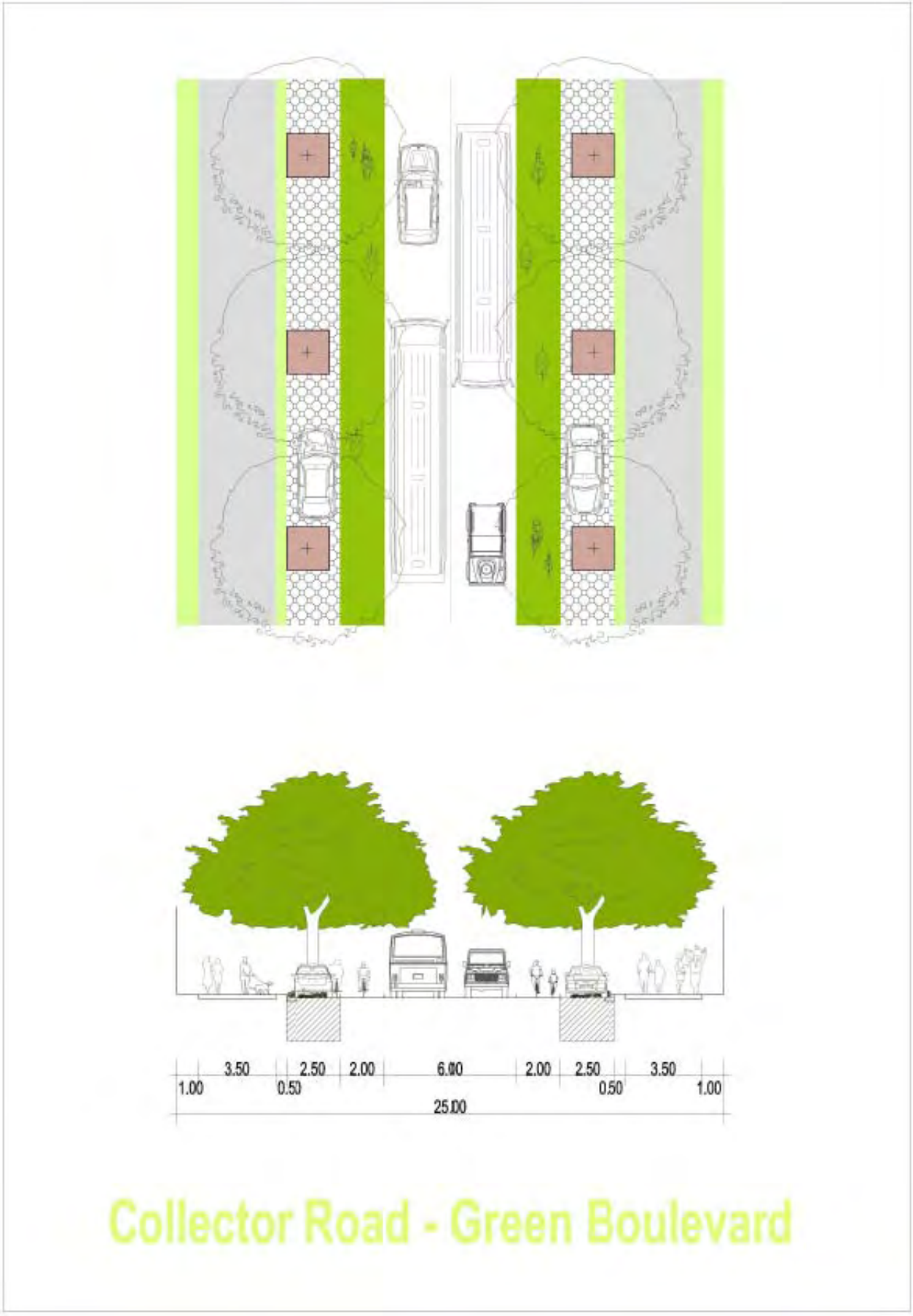


Figure 11.7 Collector Road Typical Cross Section Section

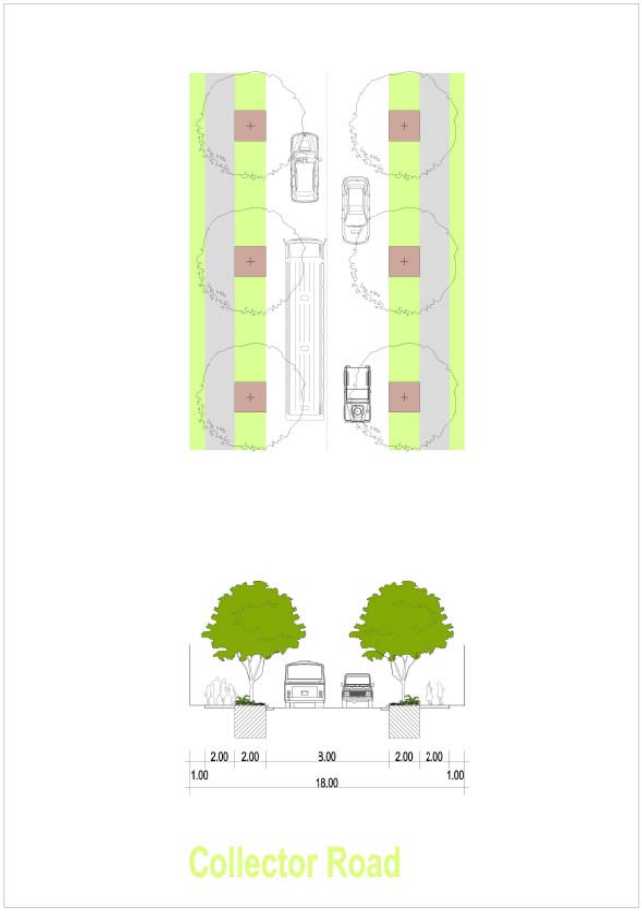
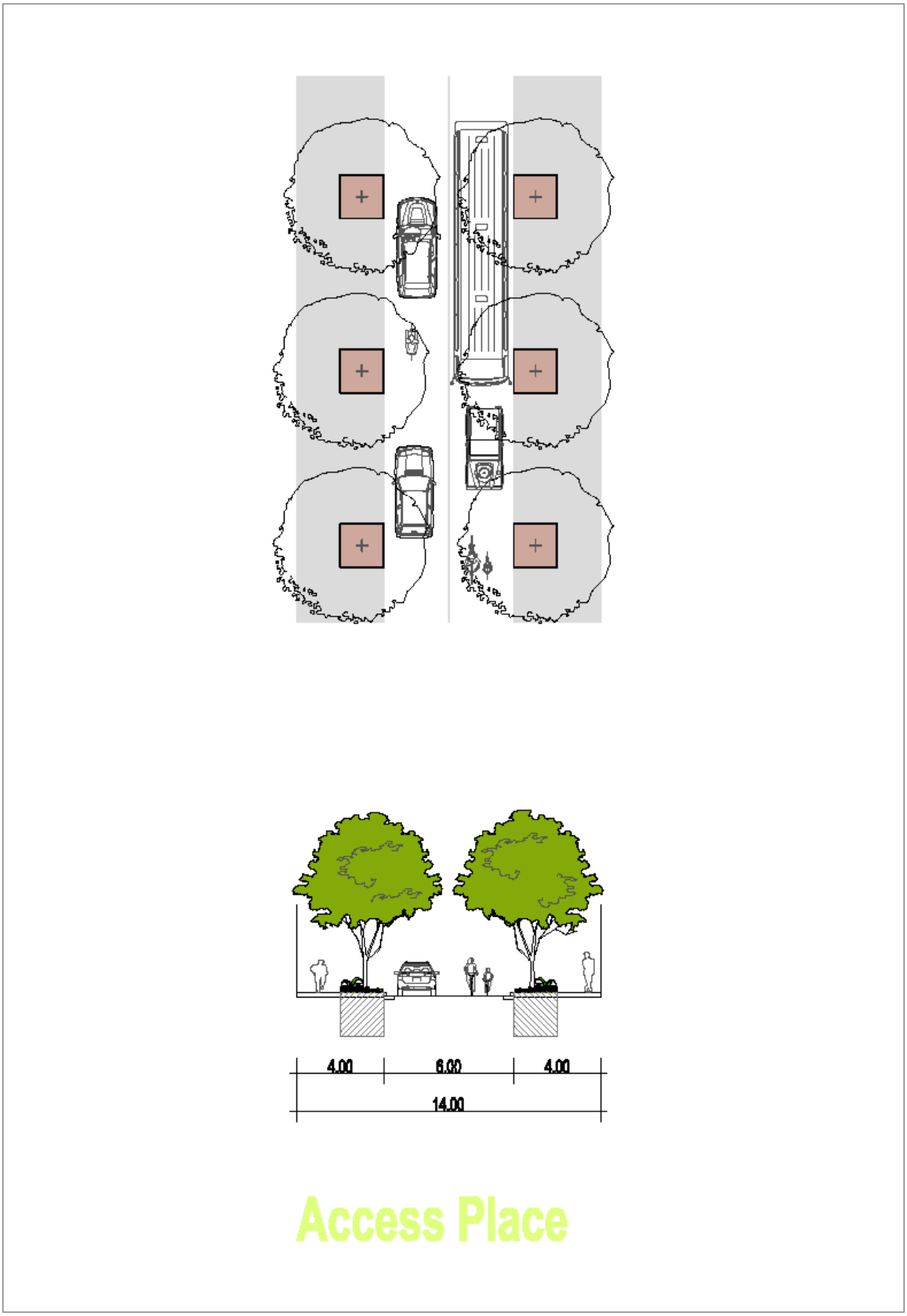


Figure 11.8(a) Access Street Typical Cross Section

Figure 11.8(b) Access Place Typical Cross Section



Standards, Guidelines and Advice for Fauna Movement Outcomes

(4) For the purposes of Specific Outcome O11(b) in Section 12.5.21 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 11.9 (Typical Fauna Fence Design)**.

(b) Development provides for the other fauna movement measures specified in **Table 11.6 (Other Fauna Movement Measures)**.

(5) For the purposes of specific outcome 011(b) in Section 12.5.21 of the Palmview Structure Plan Area Code the following are guidelines about satisfying the standards in the code for the fauna movement outcomes:-

(a) Queensland Department of Main Roads, 2000, Fauna Sensitive Road Design – Volume 1 - Past and Existing Practices.

(b) Queensland Department of Transport and Main Roads, 2010, Fauna Sensitive Road Design Manual – Volume 2– Preferred Practices.

(c) Queensland Department of Primary Industries and Fisheries, 1998, Fish Passage in Streams – Guidelines for Design of Stream Crossings.

(d) Environment Institute of Australia and New Zealand, 2009, Breaking the Barriers – Engineering Solutions to Ecological Problems (Symposium).

(6) For the purposes of specific outcome 011(b) in Section 12.5.21 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.

(b) An applicant should consult with the Council to determine the most appropriate measures to be implemented.

Figure 11.9 Typical Fauna Fence Design

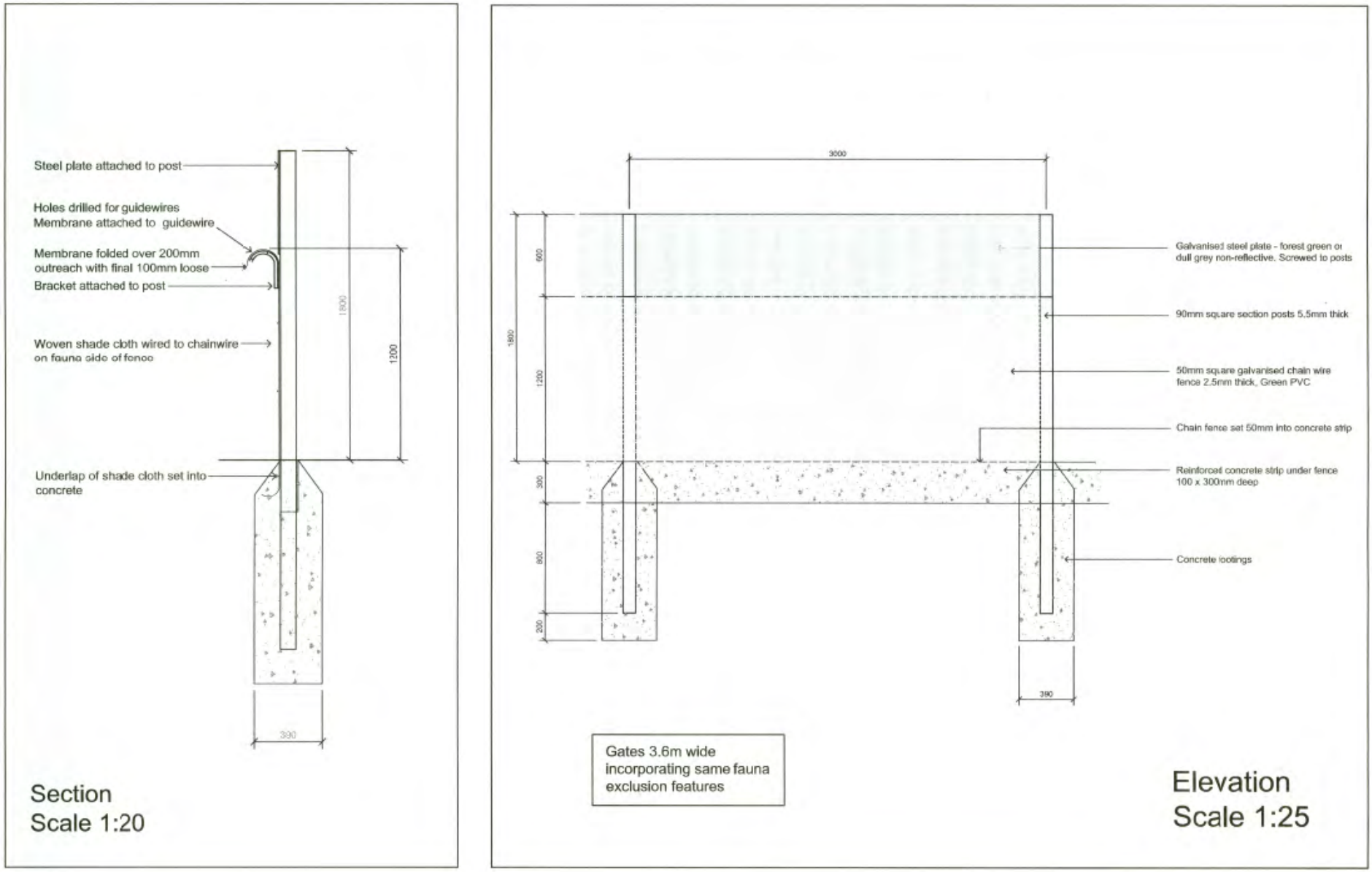


Table 11.6 Other Fauna Movement Measures

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 1.5m)
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.

11.14a.10 Public Transport Infrastructure Network Outcomes

Preliminary

(1) This section applies to the public transport infrastructure network outcomes in Specific Outcomes O14 to O19 in Section 12.5.21 of the Palmview Structure Plan Area Code (public transport infrastructure network outcomes).

General Advice for Public Transport Infrastructure Network Outcomes

(2) The following is general advice about satisfying the public transport infrastructure network outcomes:-

(b) 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.

(c) **Map 12.10 (Palmview Master Planned Area Public Transport Infrastructure Network)** of the Palmview Structure Plan conceptually identifies the principal elements of the public transport infrastructure network, including the following:-

(i) the dedicated transit, bicycle and pedestrian corridor (part of the Greenlink);

(ii) the local transit, bicycle and pedestrian corridor (part of the Greenlink);

(iii) dedicated on-road transit lanes;

(iv) local bus loops;

(v) bus stops and transit stations.

(d) 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.

(e) 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.

(f) 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.

(g) 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.

(h) 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 transit, bicycle and pedestrian corridor (part of the Greenlink), 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;

(iii) the detailed design and construction of the public transport infrastructure network incorporating appropriate urban design, landscape and environmental features and treatments;

(iv) implementing a Sustainable Transport Plan which:

(A) outlines how the public and active transport outcomes for the Master Planned Area are to be achieved;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council.

Standards for Public Transport Infrastructure Outcomes

(3) For the purposes of Specific Outcome O14(b) in Section 12.5.21 of the Palmview Structure Plan Area Code the following are the standards identified in the code for the dedicated transit, bicycle and pedestrian corridor (part of Greenlink) and the local transit, bicycle and pedestrian corridor (part of Greenlink) (Greenlink Corridor) incorporated as part of the public transport infrastructure network:-

(a) Development provides for the Greenlink Corridor to be incorporated into the Trunk Collector Road where they share a common alignment.

(b) Development provides for the Greenlink Corridor within the Master Planned Area to incorporate the following elements:-

(i) a two lane dedicated busway (one lane each way);

(ii) a 5.5 metre wide dual use path;

(iii) a two (2) metre wide on road cycle lane;

(iv) supporting stormwater infrastructure;

(v) underground services and street lighting.

(c) Development provides for the bus lane component of that part of the Greenlink which is within and approaches the District Activity Centre to be:-

(i) transitioned to a shared zone in accordance with **Map 12.10** in order to maximise urban design outcomes in the District Activity Centre; and

(ii) designed such that buses, pedestrians and cyclists receive priority at the point of transition to shared lanes and at intersections.

(d) Development provides for the Greenlink Corridor within the Master Planned Area to comply with the typical cross sections specified in **Figures 11.10(a) (Greenlink Corridor (Dedicated Alignment) - Typical Cross Section) and Figure 11.10(b) (Greenlink Corridor (Dedicated Alignment) – Greenlink Bridge Cross Section)**.

(e) Development provides for safe crossing treatments and intersections.

(f) Development provides noise attenuation to sensitive receiving environments.

(g) Development provides for that part of the Greenlink Corridor traversing Sippy Creek to be on elevated structure or otherwise constructed so as to minimise impacts on hydrological regimes and ecological values, and to comply with the typical cross section specified in **Figure 11.10(b) (Greenlink Corridor (Dedicated Alignment) – Greenlink Bridge Cross Section)**.

(h) Development ensures that the public transport infrastructure is planned, designed and constructed in accordance with the **Development Design Planning Scheme Policy** and the **Public Transport Infrastructure Manual** (Translink and DTMR).

Standards, Guidelines and Advice for Fauna Movement Outcomes

(4) For the purposes of Specific Outcome O14(b) in Section 12.5.21 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 public 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 11.9 (Typical Fauna Fence Design)**.

(b) Development provides for the other fauna movement measures specified in **Table 11.6 (Other Fauna Movement Measures)**.

(5) For the purposes of specific outcome 014(b) in Section 12.5.21 of the Palmview Structure Plan Area Code the following are guidelines about satisfying the standards in the code for the fauna movement outcomes:-

(a) Queensland Department of Main Roads, 2000, Fauna Sensitive Road Design – Volume 1 - Past and Existing Practices.

(b) Queensland Department of Transport and Main Roads, 2010, Fauna Sensitive Road Design Manual – Volume 2– Preferred Practices.

(c) Queensland Department of Primary Industries and Fisheries, 1998, Fish Passage in Streams – Guidelines for Design of Stream Crossings.

(d) Environment Institute of Australia and New Zealand, 2009, Breaking the Barriers – Engineering Solutions to Ecological Problems (Symposium).

(6) For the purposes of specific outcome 014(b) in Section 12.5.21 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.

(b) An applicant should consult with the Council to determine the most appropriate measures to be implemented.

Figure 11.10(a) **Greenlink Corridor (Dedicated Alignment) - Typical Cross Section**

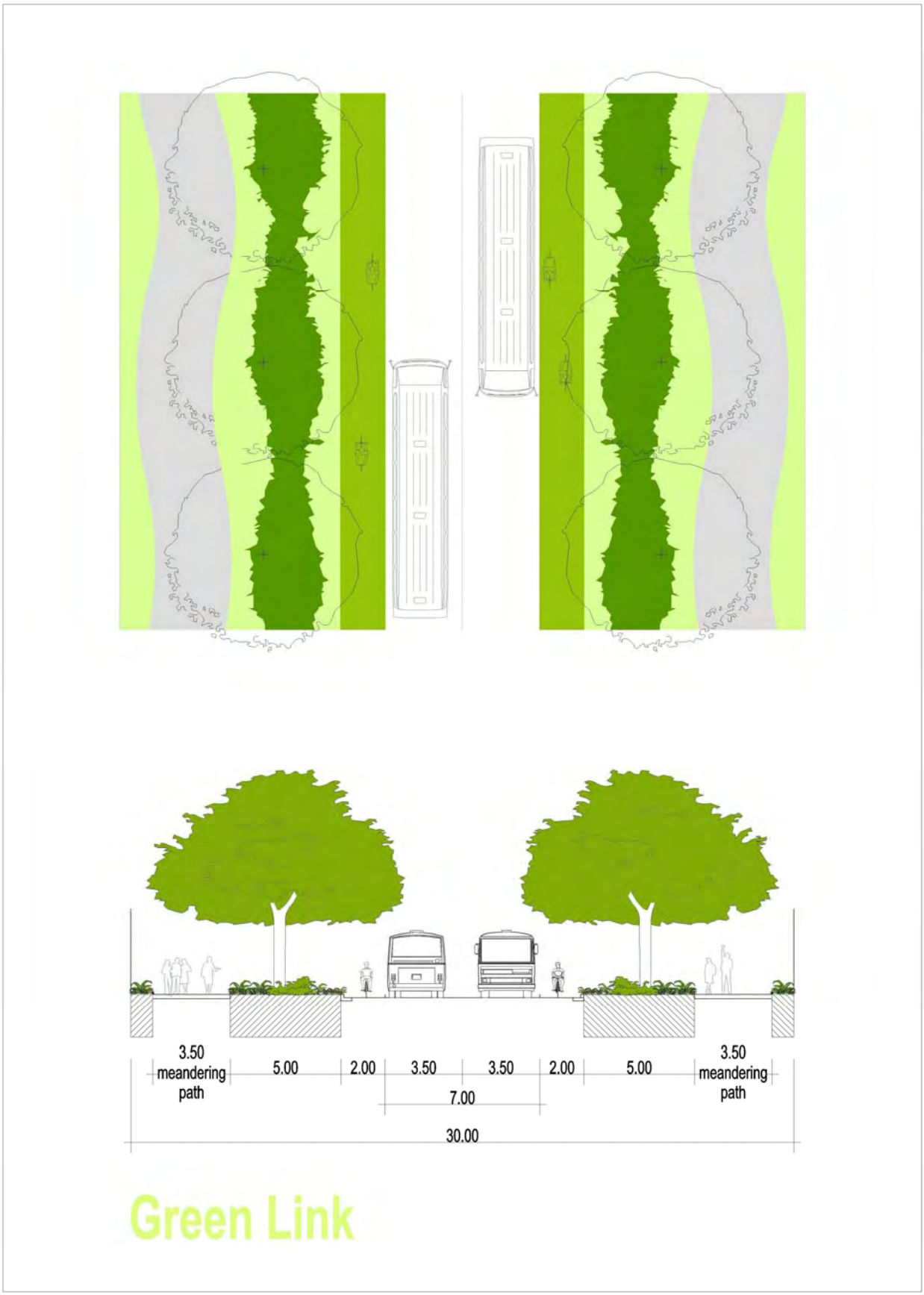
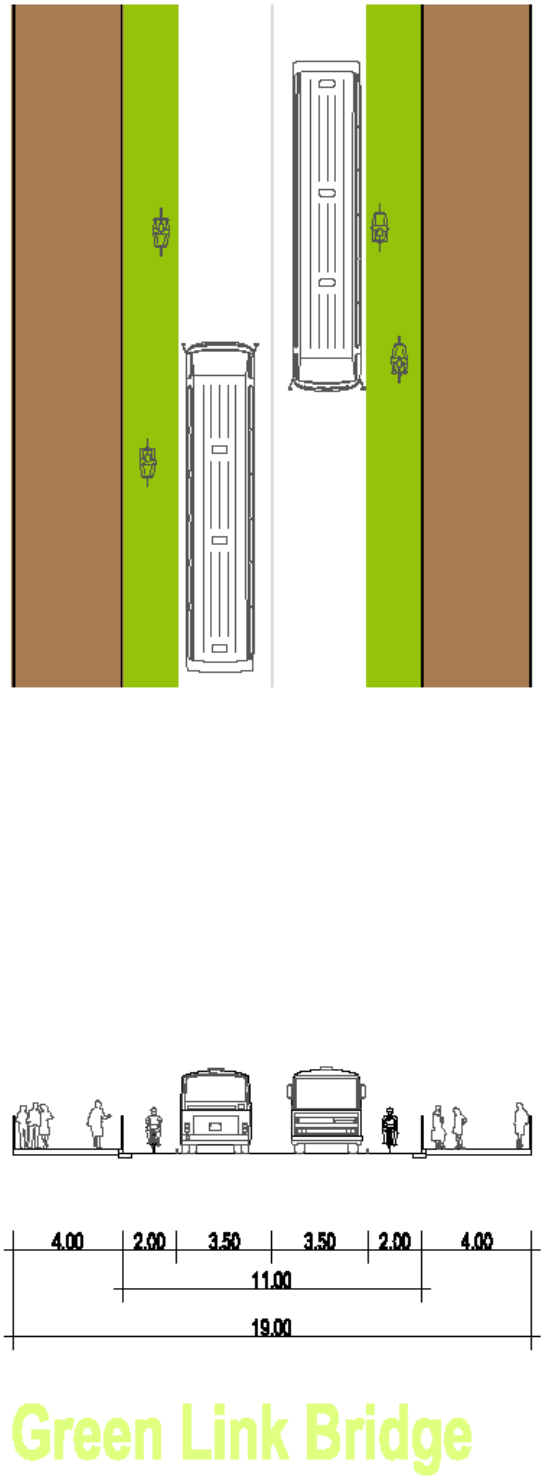


Figure 11.10(b) Greenlink Corridor (Dedicated Alignment) - Greenlink Bridge Cross Section



11.14a.11 Bicycle and Pedestrian Infrastructure Network Outcomes

Preliminary

(1) This section applies to the bicycle and pedestrian infrastructure network outcomes in Specific Outcomes O20 to O24 in Section 12.5.21 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) **Map 12.11 (Palmview Master Planned Area Bicycle and Pedestrian Infrastructure Network)** of the Palmview Structure Plan 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 planned 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.

(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;

(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;

(iii) implementing a Sustainable Transport Plan which:-

(A) outlines how the public and active transport outcomes for the Master Planned Area are to be achieved;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council.

Standards and Guidelines for Bicycle and Pedestrian Infrastructure Network Outcomes

(3) For the purposes of Specific Outcome O20(b) in Section 12.5.21 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 11.14a.9 (Road Transport Infrastructure Network Outcomes), Section 11.14a.10 (Public Transport Infrastructure Network Outcomes)** and the **Development Design Planning Scheme Policy**.

(b) Development provides for appropriate signage and pavement marking (as part of a comprehensive way finding system) for the safe and convenient use of bicycle and pedestrian infrastructure which complies with *AustRoads Parts 13 and 14*.

(c) Development provides for bicycle and pedestrian infrastructure that includes tactile indicators in accordance with AS 1428.4 design for Access and Mobility – Tactile Indicators.

(d) Development provides for bicycle and pedestrian infrastructure which leads to, or joins, an existing or proposed public transport facility (such as a bus stop or transit station) to comply with the *Disability Standards for Accessible Public Transport Guidelines 2004*.

(4) For the purposes of specific outcome 020(b) of Section 12.5.21 of the Palmview Structure Plan Area Code the following are guidelines about satisfying the standards in the code for the bicycle and pedestrian infrastructure network:-

(a) AS 1742.10 - Manual of uniform traffic control devices – Pedestrian control and protection;

(b) Manual of Uniform Traffic Control Devices, Queensland Department of Transport and Main Roads;

(c) Traffic and Road Use Management Manual, Queensland Department of Transport and Main Roads;

(d) Design Guidelines for Subdivisional Streetworks - "Queensland Streets";

(e) AustRoads Guide to Traffic Engineering Practice - PART 13 Pedestrians and PART 14 Bicycles;

(f) New South Wales Bicycle Guidelines, New South Wales Roads and Traffic Authority;

(g) AS 2156.1 - Walking tracks, Classification and signage;

(h) AS 2156.2 - Walking tracks, Infrastructure design;

(i) AS 2890.3 - Parking facilities - Bicycle parking facilities;

(j) AS1428 - Design for Access and mobility;

(k) Disability Standards for Accessible Public Transport Guidelines 2004;

(l) Queensland Cycle Strategy 2003;

(m) Queensland Transport "Easy Steps" and "Cycle Notes".

11.14a.12 Integrated Water Cycle Management Infrastructure Network Outcomes

Preliminary

(1) This section applies to the water supply infrastructure network outcomes, sewer infrastructure network outcomes and stormwater infrastructure network outcomes in Specific Outcomes O25 to O35 in Section 12.5.21 of the Palmview Structure Plan Area Code (integrated water cycle management infrastructure network outcomes).

General Advice for Integrated Water Cycle Management Infrastructure Network Outcomes

(2) The following is general advice about satisfying the integrated water cycle management infrastructure network outcomes:-

(a) The integrated water cycle management infrastructure network outcomes seek to ensure that development within the Master Planned Area achieves the following:-

(i) minimises potable water use;

(ii) promotes water conservation;

(iii) optimises opportunities for water re-use;

(iv) protects water quality and natural environments that may be sensitive to changes in the natural water cycle;

(v) protects people, property and the built environment from flooding and stormwater damage;

(vi) otherwise exhibits contemporary best practice approaches to integrated water cycle management.

(b) **Map 12.12 (Palmview Master Planned Area Water Supply Infrastructure Network)** of the Palmview Structure Plan identifies conceptually the higher order elements of the water supply infrastructure network planned for the Master Planned Area.

(c) **Map 12.13 (Palmview Master Planned Area Sewer Infrastructure Network)** of the Palmview Structure Plan identifies conceptually the higher order elements of the sewer infrastructure network planned for the Master Planned Area.

(d) The integrated water cycle management infrastructure network outcomes are primarily intended to be satisfied by the following:-

(i) development providing water supply infrastructure, sewer infrastructure and stormwater infrastructure in accordance with the applicable infrastructure agreement;

(ii) aiming to achieve an 80% reduction for reticulated water from the SEQ water grid compared with current (2009) average levels of potable water use for the Sunshine Coast;

(iii) implementing water recycling and other water saving measures to service the Master Planned Area;

(iv) incorporating a comprehensive range of water conservation measures;

(v) implementing best practice approaches to stormwater treatment and promotion of water sensitive urban design principles;

(vi) limiting the extent of development for urban purposes to a defined area that has been determined to be suitable for urban development which is above the defined flood event or has been determined to be suitable to be filled;

(vii) implementing an Integrated Water Cycle Management Plan which:-

(A) outlines how the integrated water cycle management infrastructure network outcomes for the Master Planned Area are to be achieved;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council;

(viii) implementing a Site Based Stormwater Management Plan which:-

(A) is prepared in accordance with the requirements of the **Development Design Planning Scheme Policy** and the approved Integrated Water Cycle Management Plan specified in a master plan or development approval; and

(B) has been approved by a compliance certificate given by the Council.

Standards for Water Supply Infrastructure Network Outcomes

(3) For the purposes of Specific Outcome O25(b) in Section 12.5.21 of the Palmview Structure Plan Area Code the following are the standards identified in the code for the water supply infrastructure network:-

(a) Development ensures that the planning, design and construction of water supply infrastructure is in accordance with the following:-

(i) the *WSAA National Codes* (as varied by the **Development Design Planning Scheme Policy** or this planning scheme policy);

(ii) Section 7 (Water Supply) of the **Development Design Planning Scheme Policy**;

(iii) the desired standards of service for water supply infrastructure (**Appendix B**).

(b) Development ensures that the planning, design and construction of recycled water infrastructure is in accordance with the *WSAA Water Supply Code of Australia WSA-2002 Supplement Dual Water Reticulation Systems*.

(c) Development provides for recycled water to be treated to a rating which is fit for purpose in accordance with the *Water Quality Guidelines for Recycled Water Schemes November 2008*.

(4) However, the Council may approve or require acceptable alternative materials or products to those nominated within the **Development Design Planning Scheme Policy** or the *WSAA National Codes* provided that the materials or products comply with the specific outcomes for the development of infrastructure and services identified in the Palmview Structure Plan Area Code.

Standards for Sewer Infrastructure Network Outcomes

(5) For the purposes of Specific Outcome O28(b) in Section 12.5.21 of the Palmview Structure Plan Area Code the following are the standards identified in the code for the sewer infrastructure network:-

(a) Development ensures that the planning, design and construction of sewer infrastructure is in accordance with the following:-

(i) the *WSAA National Codes* (as varied by the **Development Design Planning Scheme Policy** or this planning scheme policy);

(ii) Section 8 (Sewerage) of the **Development Design Planning Scheme Policy**;

(iii) the desired standards of service for sewerage infrastructure (**Appendix B**).

(b) Development provides for any gravity sewer to be designed as a Reduced Infiltration Gravity System (RIGS) that can demonstrate the PWWF will not exceed 4 x ADWF

(c) Development ensures that the planning, design and construction of recycled water infrastructure is in accordance with the *WSAA Water Supply Code of Australia WSA-2002 Supplement Dual Water Reticulation Systems*.

(6) However, the Council may approve or require acceptable alternative materials or products to those nominated within the **Development Design Planning Scheme Policy** or the *WSAA National Codes* provided that the materials or products comply with the specific outcomes for the development of infrastructure and services identified in the Palmview Structure Plan Area Code.

Standards for Stormwater Infrastructure Network Outcomes

(7) For the purposes of Specific Outcome O31(k) in Section 12.5.21 of the Palmview Structure Plan Area Code, the standards for the planning, design and construction of the stormwater infrastructure network are the following:-

(a) SEQ Regional Plan Implementation Guideline No. 7 – Water sensitive urban design: Design objectives for urban stormwater management December 2008.

(b) Queensland Urban Drainage Manual (QUDM) (as varied by the Development Design Planning Scheme Policy or this planning scheme policy).

(c) Healthy Waterways Partnership Water Sensitive Urban Design Technical Design Guidelines for South East Queensland.

(d) Section 6 (Stormwater and Drainage Management) of the Development Design Planning Scheme Policy.

(8) However, Council may approve or require acceptable alternative materials or products to those nominated within the **Development Design Planning Scheme Policy**, the *QUDM* or the *Healthy Waterways Partnership Water Sensitive Urban Design Technical Design Guidelines* provided that the materials or products comply with the specific outcomes for the development of infrastructure and services identified in the Palmview Structure Plan Area Code.

11.14a.13 Urban Open Space Infrastructure Network Outcomes

Preliminary

(1) This section applies to the urban open space infrastructure network outcomes in Specific Outcomes O36 to O44 in Section 12.5.21 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) **Map 12.14 (Palmview Master Planned Area Urban Open Space Infrastructure Network)** of the Palmview Structure Plan 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 500m walking distance of a local recreation park.

(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;

(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;

(B) the standards identified for the non-urban open space infrastructure network in the **Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Appendix A)**.

Standards for the Urban Open Space Infrastructure Network Outcomes

(3) For the purposes of Specific Outcome O36(b) in Section 12.5.21 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 achieves the following levels of flood immunity:-

  (i) regional recreation parks have at least 20% of the total area above the 100 year ARI climate change scenario (defined flood event) and the remaining area above the 20yr ARI climate change scenario;

  (ii) district sport and recreation parks have at least 20% of the total area above the 100 year ARI climate change scenario (defined flood event), with the remaining area above the 20 year ARI climate change scenario; and

  (iii) local recreation parks are located entirely above the 100 year ARI climate change scenario (defined flood event).

(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 under high voltage power lines or within 50m of the line easement;

  (iv) land constrained by easements;

  (v) land subject to future proposed transport corridors; and

  (vi) other infrastructure such as pump stations, sub-stations and the like.

(e) Development ensures that local and district level urban open space has direct access from a public road along one side for at least 25% of its perimeter.

(f) Development ensures that regional urban open space has direct access from a public road along one side for at least 50% of its perimeter.

Standards for Embellishments Associated With Urban Open Space Infrastructure Network

(4) For the purposes of Specific Outcome O40(a) in Section 12.5.21 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 11.7 (Embellishment Standards for Urban Open Space Infrastructure)**.

Table 11.7 Embellishment Standards for Urban Open Space Infrastructure

Element	Local Park	District Recreation Park	District Sports Park	Regional Recreation Park
Design, concept or Master planning	$10,000/park	$50,000/park	$75,000/park	$100,000/park
Cultural and Civic Space	A civic plaza within the District Activity Centre	A level area and the provision of infrastructure to enable community and cultural events such as festivals,		A level area and the provision of infrastructure to enable community and cultural events such as festivals,

Element	Local Park	District Recreation Park	District Sports Park	Regional Recreation Park
		markets, and other entertainment.		markets, and other entertainment.
Water connection/tap Drinking fountain	1 connection 2 taps/bubblers	1 connection 2 taps/bubblers	2 connections 4 taps/building connections	2 connections 4 taps/building connections
Power	Power to boundary	Power to site and within the site 3 Phase lighting	Power to and within site 3 Phase lighting	Power to and within site 3 Phase lighting
Lights (general use / safety)	Security lighting only	Night lighting of picnic areas Some activity areas may be lit for night use	Security lighting Field lighting to a minimum lux for training and competition	Lighting of use areas, carparks, access points
Fencing	Bollards to prevent vehicle access	Bollards or feature fencing	Post and top rail or similar fencing to ensure cars and motorcycles are excluded from playing areas	Post and top rail or similar fencing and feature fencing
Play Spaces	1-3 play events provided in a shaded visible location	Multiple play events provided in a shaded visible location Range of ages catered for	Multiple play events provided in a shaded visible location Range of ages catered for	Major destination play space and smaller play nodes provided in a shaded visible location
Clubhouse			Multi purpose clubhouse which incorporates change rooms, meeting rooms, function space, storage space and shaded spectator areas	
Aquatic Facility/Gym	To be provided in accordance with Sunshine Coast Council Aquatic Facility Strategy			
Hardcourts			Area to cater for tennis or netball etc	
Seating	3 seats/ha	At least 3 different seating nodes and average of 3/ha	Perimeter seating 1 bench/ 2ha	Multiple seating areas 3 bench/ha
Picnic Shelter	1 shelter	2-3 multi use shelters	1 multi use shelter as part of recreation park node	At least 2 different picnic nodes of 2 multi use shelters each
BBQ	No BBQ	1 BBQ station (Station = 2BBQs)	No BBQ	1 BBQ station per picnic node
Earth works / field preparation	$363,000/ha allowed	$363,000/ha allowed	$363,000/ha allowed	$363,000/ha allowed
Informal / active / special facilities	$20,000/park	$50,000/park	Nil	$200,000/park
Landscape enhancement	$52,500 allowance	$262,500 allowance	$52,500 allowance	$787,500 allowance

Element	Local Park	District Recreation Park	District Sports Park	Regional Recreation Park
Public toilets and sewerage	Not provided	1 toilet block	Servicing to clubhouse site and provision of shared public toilets	2 toilet/ facilities
Path/bikeways and end of trip facilities	100m of pathway/ha	100m of pathway/ha $2,000/ha for end of trip facilities	$2,000/ha for end of trip facilities	100m of pathway/ha $2,000/ha for end of trip facilities
Path width	2.5 metres	3.0 metres	3.0 metres	3.5 metres
Skate Facility	To be provided in accordance with Sunshine Coast Council Skate Facility Strategy			
Parking for multi modal transport (scooters, bikes, buses and cars) and access works	To be provided in accordance with Sunshine Coast Council Car Parking Strategy and Master Plans for specific parks			

Note: The cost estimates are to be indexed in accordance with an index applicable to the cost estimate as determined by the Council.

Guidelines for Minimising Ongoing Lifecycle and Management Costs of the Urban Open Space Infrastructure Network

(5) For the purposes of specific outcome O44 in Section 12.5.21 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.

(d) Development provides for the use of recycled water in the urban open space infrastructure network.

11.14a.14 Community Facilities Infrastructure Network Outcomes

Preliminary

(1) This section applies to the community facilities infrastructure network outcomes in Specific Outcomes O50 to O52 in Section 12.5.21 of the Palmview Structure Plan Area Code (community facilities infrastructure network outcomes).

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) **Map 12.16 (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

(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.

(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.

11.14a.15 Energy Infrastructure Network Outcomes

Preliminary

(1) This section applies to the energy infrastructure network outcomes in Specific Outcomes O53 to O55 in Section 12.5.21 of the Palmview Structure Plan Area Code (energy infrastructure network outcomes).

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) **Map 12.17 (Palmview Master Planned Area Electricity Infrastructure Network)** of the Palmview Structure Plan 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:-

(i) development providing electricity infrastructure in accordance with an applicable infrastructure agreement and the requirements of the relevant Electricity Supply Authority;

(ii) implementing an Energy Management Plan which:-

(A) outlines how the energy generation outcomes, and in particular the requirement for sustainable energy generation and use, are to be achieved for the Master Planned Area;

(B) is to be assessed against the requirements specified in a master plan or development approval which may include the matters in **Table 11.8 (Compliance Assessment Requirements)**; and

(C) has been approved by a compliance certificate given by the Council.

(e) Additional advice regarding the implementation of design measures to minimise energy use in new development is specified in **Section 11.14a.7 (Sub-tropical and Sustainable Design Outcomes)**.

(f) Additional advice regarding the provision of gas services to the Master Planned Area is specified in **Section 11.14a.17 (Other Services Outcomes)**.

11.14a.16 Telecommunications Infrastructure Network Outcomes

Preliminary

(1) This section applies to the telecommunication infrastructure network outcomes in Specific Outcomes O56 to O59 in Section 12.5.21 of the Palmview Structure Plan Area Code (telecommunications infrastructure outcomes).

General Advice for Telecommunication Infrastructure Network Outcomes

(2) The following is general advice about satisfying the telecommunications infrastructure network outcomes:-

(a) The telecommunication infrastructure outcomes of the Palmview Structure Plan Area Code seek to ensure that the Master Planned Area is provided with a world class telecommunications network that allows businesses to compete on a global scale and residents to be connected to global networks.

(b) World class telecommunications capability is achieved through the provision of affordable, high bandwidth telecommunication services.

(c) High bandwidth is best deployed using optic fibre infrastructure.

(d) **Map 12.18 (Palmview Master Planned Area Telecommunications Infrastructure Network)** of the Palmview Structure Plan identifies conceptually the higher order elements of the telecommunications infrastructure network planned for the Master Planned Area.

(e) The telecommunication infrastructure network outcomes are primarily intended to be satisfied by the following:-

(i) development providing telecommunications infrastructure in accordance with an applicable infrastructure agreement;

(ii) development ensuring that the telecommunications infrastructure to be provided is in accordance with the telecommunications infrastructure network and the standards for the telecommunications infrastructure network as specified in the Structure Plan Area Code.

(f) 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;

(v) internet protocol systems integration.

(g) 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.

(h) Additional information and documentation of relevant telecommunications infrastructure specifications and building arrangements can be obtained from the Council and the relevant Telecommunications Service Authority.

11.14a.17 Other Services Outcomes

Preliminary

(1) This section applies to the other services infrastructure outcome in Specific Outcome O58 and 059 in Section 12.5.21 of the Palmview Structure Plan Area Code (other services outcomes).

General Advice for Other Services Outcomes

(2) The following is general advice about satisfying the other services outcomes:-

(a) The other services outcome of the Palmview Structure Plan Area Code seeks to ensure that in addition to the infrastructure specified on the Structure Plan Maps, other services are provided to service development in the Master Planned Area.

(b) In particular, the provision of gas for water heating is considered an important local service and a key component of a strategy for reducing the carbon emissions generated from new urban development.

(c) Gas is currently only available to the Sunshine Coast Region through bottles and tanker refilling, or by exchange gas bottles. This supply method is inefficient and costly to operate and administer on a site by site basis.

(d) A potential future gas pipeline to service the Sunshine Coast (the North Coast Pipeline) is currently being investigated with a decision on whether to proceed to construction likely to be made by the applicable gas service entity in 2010.

(e) As a major new urban growth area, it would be desirable for the Master Planned Area to be connected to a reticulated gas service. However, it is recognised that interim supply arrangements may need to be put in place to supply gas to the reticulated network.

11.14a.18 Information Requirements

(1) **Table 11.8 (Compliance Assessment Requirements)** specifies the documents which a master plan or development approval may require to be prepared and submitted for compliance assessment by the Council.

(2) **Table 11.8** also specifies the anticipated timing of compliance assessment.

(3) The Council may also require other supporting information in addition to that specified in **Table 11.8** depending on the nature of the master plan application or 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.

Table 11.8 Compliance Assessment Requirements

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
Local Ecological and Landscape Protection and Rehabilitation Plan	Subsequent to the approval of a District Strategy Master Plan and prior to the lodgement of a development application and a master plan application.	To demonstrate that development in the applicable master plan unit 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 the **Palmview Master Planned Area Ecological Protection and Rehabilitation Plan (Appendix A)**.	Refer to **Section 10 (Requirements for Local Ecological and Landscape Protection and Rehabilitation Plans)** in **the Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan (Appendix A).**
Environmental Offset Plan	Subsequent to the approval of a District Strategy Master Plan and prior to the lodgement of a development application and a master plan 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* o Provide a detailed description of the project including project proponent, proposed works schedule, including any temporary works, and timing. o 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. o Identify proposed mitigation measures to minimise the environmental impacts of the project. o Clearly identify the area the subject of the Environmental Offset Plan and calculate the total land area affected by the project. o Provide a description of the land affected by the project in terms of

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			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. *Environmental offsets proposal* o 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. o 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'. o 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; o Outline the relationship between the proposed offset area and the Master Planned Area. o Outline any proposed rehabilitation works to be undertaken as part of the proposal. o Identify the specific roles and responsibilities of all entities involved in the implementation of the Environmental Offset Plan. o 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* o Provide details of the ongoing management and maintenance measures to be adopted as part of the Environmental Offset Plan. Ongoing

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			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. o 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* o Specify the indicators for monitoring the success of the Environmental Offset consistent with the objectives of this policy. o 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.
Energy Management Plan	Subsequent to the approval of a District Strategy Master Plan and prior to the lodgement of a development application and a master plan application.	To demonstrate that development in the applicable master plan unit will contribute to the achievement of a target of zero net carbon emissions by 2020 for the Master Planned Area.	*Scope and Objectives* o Determine the scope of the Energy Management Plan and identify inclusions/exclusions in specific terms. o Identify clear and measurable objectives for how development in the Master Plan Unit is to achieve zero net carbon emissions by 2020 taking account of construction and post occupancy development phases. o Specify objectives for energy, waste, water, transport and materials components. *Data Collection and Management* o Identify methods for collecting and documenting carbon emission and abatement data over time, including scope of information, type and level of detail and metrics.

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			o 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. o Establish baseline and relevant carbon footprint benchmarks for comparable development based on industry average and best practice urban development examples. *Strategy and Action Plan* o Calculate, monitor and forecast the carbon footprint of development in the Master Plan Unit for construction and post occupancy and explain calculation methods based on known or proxy data. Highlight any significant gaps, assumptions and limitations. o Document the strategies and actions to be implemented to meet measurable objectives for the target of zero net carbon emissions by 2020. o For each carbon reduction or abatement strategy or action, define priorities, roles and responsibilities, timeframes, resources and funding requirements. o Document a communications plan to be implemented to raise awareness of carbon reduction strategies and actions. o 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* o Identify methods for analysing and monitoring carbon emissions data over time to determine trends and gain a better understanding of factors that affect performance. Identify steps to improve performance. o Document an audit strategy to review performance data based on benchmarks and targets and report findings to key stakeholders.

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
Affordable Living Plan	Subsequent to the approval of a District Strategy Master Plan and prior to the lodgement of a development application and a master plan application.	To demonstrate that development in the applicable master plan unit will provide affordable living options for a full range of household types and make appropriate provision for a component of affordable housing and supported community housing.	*General Requirements* o 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. o 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 (when completed); • Ongoing implementation and enforcement. o For each affordable living action, define priorities, role and responsibilities, timeframes, resources and funding requirements. o The Affordable Living Plan is to comply with the requirements for the preparation of an Affordable Living Plan in **Appendix C (Affordable Living Plan)**. *Monitoring and Reporting* o Outline proposed monitoring and reporting arrangements for the implementation of the Affordable Living Plan over time.

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
Sustainable Transport Plan	Subsequent to the approval of a District Strategy Master Plan and prior to the lodgement of a development application and a master plan application.	To demonstrate that development in the applicable master plan unit 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, walking and cycling); • Not create undesirable impacts on adjoining development; and • Appropriately manage carparking.	*General Requirements* o 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; *11-118bh* • 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; • Education and marketing to promote sustainable transport options within the community. o In preparing the Sustainable Transport Plan, consultation should be undertaken with Council, relevant State Government Departments, service providers and other stakeholders as appropriate. o In determining proposed measures and actions, consideration should be given to the following:-

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			• 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 master plan unit 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; • Timing /staging of development and infrastructure/services. o Provide supporting information and documentation which supports the proposed approach. o 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. o 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. o Provide a Road Hierarchy Plan that indicates the proposed road hierarchy for the Master Plan Unit and how it integrates with the

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			existing and planned road hierarchy for the Master Planned Area. o For the Local Development Master Plan for the District Activity Centre and Local Enterprise Area, provide a Car Parking Strategy which demonstrates how the car parking needs of the development are to be met in line with the objectives of the Structure Plan to reduce private vehicle trips. o For each sustainable transport action, define priorities, role and responsibilities, timeframes, resources and funding requirements. *Monitoring and Reporting* o Outline proposed monitoring and reporting arrangements for the implementation of the Affordable Living Plan over time.
Integrated Water Cycle Management Plan	Subsequent to the approval of a District Strategy Master Plan and prior to the lodgement of a development application and a master plan application.	To demonstrate that development in the applicable master plan unit will incorporate an holistic approach to the management of water supply, wastewater and stormwater.	*General Requirements* o Provide details in relation how the development is to aim to achieve an 80% reduction in use of reticulated water from the SEQ water grid 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. o 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. o Outline and justify the proposed measures to be adopted having regard to:- • Proven technology;

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			• 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; • Sensitivity or likelihood of success of measures or groups of measures. o Provide details of proposed uses for recycled water, potable water, rainwater, and harvested stormwater. o Demonstrate how the Environmental Values and Water Quality Objectives listed for the Mooloolah River Catchment under the *Environmental Protection (Water) Policy 1997* are to be protected or enhanced. *Water Supply and Sewerage Infrastructure* o Provide dimensions and conceptual layouts for water supply and sewerage networks for the master plan unit in accordance with Map 12.12 (Palmview Master Planned Area Water Supply Infrastructure Network) and Map 12.13 (Palmview Master Planned Area Sewer Infrastructure Network). o Provide supporting reports and tools (models, spreadsheets etc) demonstrating the attainment of the Desired Standards of Service requirements at all stages. *Stormwater Management and Flooding* o Describe the existing topography, vegetation, soil conditions, and groundwater conditions for the site and identify existing creeks, streams and drainage lines. o Identify the Probable Maximum Flood extent, 100 year ARI climate

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			o 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 Mooloolah Flood Modelling held by Council. o Provide an overall Master Stormwater Plan for the master plan unit which:- • Identifies the overall drainage catchment having regard to the remainder of the Master Planned Area and surrounding areas; • Identifies existing and proposed drainage sub-catchments within the overall catchment; • Provides a conceptual layout for the overall stormwater network for the development including indicative layouts for conveyance, treatment and storage infrastructure; • Identifies indicative numbers and locations of head of line and end of line treatment devices; and • Identifies a lawful point/s of discharge for each sub-catchment. o 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:- • the achievement of the outcomes identified in the Structure Plan and this policy in relation to stormwater management; • the intended outcomes for particular land use precincts including urban design outcomes; • the intended outcomes for other infrastructure networks and the need to co-locate infrastructure and services networks; • ongoing maintenance requirements including whole of life costs. o Identify and detail any significant earthworks proposed to be undertaken in relation to stormwater management. o Provide details of any proposed stormwater harvesting including

Column 1 Description of the Compliance Assessment Document	Column 2 Anticipated Timing of Compliance Assessment	Column 3 Purpose of Document	Column 4 Matters Against Which the Document is to be Assessed
			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. o Outline the proposed water quality monitoring and reporting program to be implemented to ensure the Environmental Values and Water Quality Objectives listed for the Mooloolah River Catchment under the *Environmental Protection (Water) Policy 1997* are protected or enhanced. *Other Requirements* o Identify any specific requirements for lower level master plans and development applications in relation to water supply, sewerage and stormwater infrastructure and/or management.

11.14a.19 Guidelines and Advice About Satisfying Master Plan Requirements

Preliminary

(1) This section does not form part of the Planning Scheme Policy and is included for information only.

Overview of Master Planning Process

(2) **Section 12.3 (Master Planned Area Master Planning Process)** of the Palmview Structure Plan sets out requirements for the preparation of a master plan in the Palmview Master Planned Area.

(3) The preparation of a master plan is the primary (but not only) mechanism by which the outcomes specified for the Master Planned Area are intended to be achieved.

(4) The master planning process provides a planning framework that allows for more detailed planning of the Master Planned Area to progress in logical stages.

(5) The requirement to prepare a master plan for land in the Palmview Master Planned Area is intended to ensure that development is carried out on an integrated basis, consistent with the intent of the Palmview Structure Plan.

(6) The Palmview Structure Plan provides for up to two levels of master planning to occur, comprising the following:-

  (a) a district strategy master plan;

  (b) a local development master plan.

(7) However, it is only mandatory to prepare:-

  (a) a district strategy master plan for the North Eastern Master Plan Unit, the South Eastern Master Plan Unit and the Western Master Plan Unit; and

  (b) a local development master plan for the District Activity Centre and the Local Industry and Enterprise Area.

(8) The preparation of a local development master plan for other areas is optional depending on the level of detail incorporated within a higher order master plan.

(9) Where more than one layer of master planning is to be undertaken, an application for a different levels of master plan may be lodged concurrently and in conjunction with a development application (i.e. for material change of use of premises or reconfiguring a lot). However, an application for a lower order master plan and a subsequent development application cannot be approved by the Council under the *Sustainable Planning Act 2009* until the required master plan specified in **Section 12.3** of the Palmview Structure Plan has been made.

Guidelines for the Preparation of a Master Plan

(10) In order to provide a consistent framework for the preparation of a master plan the Council has prepared drafting guidelines and a preferred table of contents.

(11) The guidelines and preferred table of contents are intended to complement **Section 12.3** of the Palmview Structure Plan which already identifies mandatory content and other master plan requirements.

(12) The master plan guidelines and preferred table of contents set out a recommended drafting framework for the preparation of a master plan with the view to achieving the following outcomes:-

(a) general consistency of drafting approach across master plans for the whole of the Sunshine Coast Sub-region;

(b) consistency of drafting approach between master plans and Caloundra City Plan 2004 (or its successor) as the parent planning scheme under which the master plans for the Master Planned Area are to be made;

(c) continuity of understanding about how master plans are intended to operate and be assessed pursuant to the Palmview Structure Plan and Chapter 4, Part 3 of the *Sustainable Planning Act 2009*.

(13) The key objective in preparing a master plan is to develop a local planning framework that is clear, logical and user friendly and which provides certainty of the development obligations and entitlements for the master plan unit the subject of the master plan.

(14) A master plan should be prepared by a competent person with experience in preparing local planning instruments or local area structure plans, assisted by technical experts in other disciplines.

Drafting of a Master Plan

(15) The following principles should be incorporated in the drafting of a Master Plan:-

Structure

(a) utilise the preferred master plan table of contents as the structure for the master plan;

Technical Rigour

(b) rely upon the use and administrative definitions incorporated in the structure plan and the planning scheme;

(c) utilise existing models as incorporated in the planning scheme for the structure and layout of supplementary development assessment tables and codes;

(d) ensure that supplementary development assessment tables clearly identify the types of development being regulated and the applicable codes;

(e) minimise duplication of requirements addressed in the planning scheme and clearly identify how supplementary codes relate to existing planning scheme codes;

(f) ensure that there is a strong link between the purpose, outcomes and solutions of supplementary codes, so that these codes actually achieve the outcomes sought in their purpose statements;

(g) ensure that supplementary codes are sufficiently specific without being overburdened with technical detail;

(h) ensure that supplementary codes properly reference State and Federal legislation where applicable;

(i) ensure that maps are appropriately referenced in the master plan and have sufficient detail and clarity to identify how particular provisions apply;

Presentation

(j) ensure that the master plan is in an attractive and 'user-friendly' layout;

(k) utilise aids such as tables, schedules, diagrams and footnotes to aid interpretation without creating confusion or unnecessary clutter.

Preferred Table of Contents for a Master Plan

(16) A master plan should be consistent with the Council's structure for a master plan specified in **Table 11.9 (Master Plan Preferred Table of Contents)**.

(17) To further aid the drafting of a master plan, the Council may prepare a master plan template to provide more detailed guidance about the content to be included in a master plan.

(18) An applicant is encouraged to discuss the design and drafting of a master plan with Council prior to its preparation and lodgement.

Table 11.9 Master Plan Preferred Table of Contents

Colum 1 Section Number	Column 2 Section Heading
1.	**Preliminary**
1.1	Short title
1.2	Type Of Master Plan
1.3	Requirement For Master Plan
1.4	Land Subject To Master Plan (Master Plan Unit)
1.5	Role of Master Plan
1.6	Content of Master Plan
1.7	Information Supporting Master Plan
1.8	Public Notification of Master Plan
1.9	When Master Plan Took Effect
1.10	Summary of Development Entitlements And Obligations Under Master Plan
1.11	When Development Undertaken In Accordance With Master Plan Is To Be Complete
2.	**Application of Master Plan**
2.1	Introduction
2.2	Relationship of Master Plan to Act
2.3	Relationship of Master Plan to Palmview Structure Plan
2.4	Relationship of Master Plan to Higher Order Master Plans
2.5	Relationship of Master Plan to Infrastructure Agreement
3.	**Master Plan Unit Development Intent, Precincts and Sub-precincts and Development Assessment Tables**
3.1	Introduction
3.2	Description of Master Plan Unit
3.3	Master Plan Unit Intent
3.4	Variations to Precincts and Sub-precincts in Master Plan Unit
3.5	Tables Of Development Assessment for Precincts and Sub-precincts
3.5.1	Table Of Development Assessment for Material Change of Use
3.5.2	Table Of Development for Development Other Than Material Change of Use
4.	**Master Plan Unit Code**
4.1	Introduction
4.2	Variations From Planning Scheme Codes
4.3	Master Plan Unit Code
4.3.1	Overall Outcomes For Master Plan Unit
4.3.2	Specific Outcomes For Master Plan Unit
5.	**Requirement for Any Lower Order Master Plans**
5.1	Introduction
5.2	Additional Master Plans Required
6.	**Requirement for Any Compliance Assessment Document**
6.1	Affordable Living Plan
6.2	Energy Management Plan
6.3	Environmental Offset Plan

Colum 1 Section Number	Column 2 Section Heading
6.4	Integrated Water Management Plan
6.5	Local Ecological and Landscape Protection and Rehabilitation Plan
6.6	Sustainable Transport Plan
7.	**Statement of Compliance with Applicable Planning and Other Instruments**
7.1	Palmview Structure Plan
7.2	Higher Order Master Plans
7.3	Local Infrastructure Agreement
8.	**Master Plan Maps**
9.	**Other**

Appendices

Appendix A	**Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan**
Appendix B	**Desired Standards of Service for Water and Sewerage Infrastructure**
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Appendix A

Palmview Master Planned Area Ecological and Landscape Protection and Rehabilitation Plan

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);

(b) the requirements for Local Ecological and Landscape Protections and Rehabilitation Plans to be required in a master plan or development approval (Section 10).

3. Application

(1) The Plan applies to the non-urban open space infrastructure network specifically identified on **Map 12.15 (Palmview Master Planned Area Non-urban Open Space Infrastructure Network)** which includes environmental protection areas, environmental enhancement areas Types A and B, environmental transition areas and the scenic amenity and highway acoustic buffer.

(2) The non-urban open space infrastructure network comprises the landscape units identified on **Map 12.15** which are based on the following:-

(a) ecological functions and values;

(b) existing condition;

(c) short and long term land use;

(d) the rehabilitation outcomes for the areas in the non-urban open space infrastructure network.

(3) An application for a master plan or development application should demonstrate compliance with the Plan.

(4) The Council may also require in a master plan or 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 by T.J. Eyre, Al. Kelly, V. J Neldner, 2008. *BioCondition, A Terrestrial Vegetation Condition Assessment Tool for Biodiversity in Queensland, Field Assessment Manual, Version 1.6, April 2008.* Prepared for the Queensland Government, Environmental Protection Agency, Queensland Parks and Wildlife Service.

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 12.5.3A (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 12.5.3B (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 a environmental 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;

(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.

Creating 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 Table 11.B – Environmental Weeds of the **Landscaping Planning Scheme Policy** 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 Table 11.B – Environmental Weeds of the **Landscaping Planning Scheme Policy** 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 Cleanup 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 master plan or 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; and

(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;

(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;

(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);

(b) has been approved by a compliance certificate given by the Council.

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

master plan or 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;

(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 master plan or 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 **Map 12.15**.

(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 master plan or 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 12.5.3C** 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;

(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;

(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 12.5.3C** 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;

(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;

(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 12.5.3C** 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;

(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.

Appendix B

Desired Standards of Service for Water Supply and Sewerage Infrastructure

Desired Standards of Service for Water Supply and Sewer Infrastructure

1. Introduction

(1) This document contains the desired standards of service for potable water supply, recycled water supply and waste water infrastructure networks for the Master Planned Area. Standards are both performance and demand based.

(2) Planning for the water supply and sewer infrastructure networks for the Master Planned Area have been based on the assumptions and standards detailed in this document.

2. Application

(1) The standards contained within this document apply to the planning and design of water supply infrastructure and sewer infrastructure related to the development of the Master Planned Area.

(2) The standards should be read in conjunction with the following:-

(a) the Palmview Structure Plan;

(b) the **Development Design Planning Scheme Policy**;

(c) the terms of the infrastructure arrangement applicable to the Master Planned Area

3. Compliance

(1) Compliance to the performance based standards of service contained in **Table 1.3 (Potable Water Standards of Service Summary Table)**, **Table 1.4 (Recycled Water Standards of Service Summary Table)** and **Table 1.5 (Waste Water Standards of Service Summary Table)** is to be demonstrated for existing, ultimate and intermediate planning horizons. Assessment under intermediate planning horizons is required to demonstrate staging of the bring forward requirements for ultimate infrastructure.

(2) Evidence of attainment of all criteria is to be in provided in both graphical and tabular formats.

(3) Performance criteria that are labelled as "Target" do not require strict compliance. However, if "Target" performance criteria are not achieved explanation regarding the decision for not pursuing the specified target is to be provided.

4. Desired Standards of Service for Water Supply Infrastructure

(1) The standards of service for water supply for the Palmview Master Planned Area are based on properties being serviced through the following:-

(a) a potable water supply infrastructure network as specified on **Map 12.12 (Palmview Master Planned Area Water Supply Infrastructure Network)** of the Palmview Structure Plan Area Code**;**

(b) a rainwater tank.

(2) Achievement of the standards of service for potable water and recycled water supply is to be demonstrated under the minimum performance testing scenarios specified in **Table 1.1 (Minimum Performance Testing Scenarios for Water Networks)** below.

Table 1.1 Minimum Performance Testing Scenarios for Water Networks (Ref: P05)

Scenario	Details
1. 3 days at MDMM demand	This scenario is necessary for demonstration of compliance to bulk supply, storage and pumping requirements. Reservoir levels are to commence at 90% full at midnight on the 1st day (i.e. at the start of the analysis). All reservoirs are to have a positive net inflow at the end of each day.
2. Scenario 1 to be followed by three consecutive days of MD demand	This scenario is necessary for demonstration of compliance to storage, MH pressure, velocity and pumping requirements. No reservoir should fail according to standards P13, P14 and P15 below during this analysis.
3. 7 days at AD demand	This scenario is necessary for demonstration of compliance to maximum pressure criteria and is useful for testing of water quality parameters such as reservoir turnover. Longer runs (e.g. 30 days x AD demand) may be required to test water quality parameters such as water age and chlorine decay.
4. Fire Flow	This scenario is necessary for assessment of the water supply network's capacity to deliver fire flow demands. Refer to standards P19, P20 and P21 for details relating to the water supply network's required fire flow performance capacity.

(3) The assumed end use breakdown for water use in the Master Planned Area is specified in **Table 1.2 (Assumed Allocation of End Uses)**.

Table 1.2 Assumed Allocation of End Uses

Potable Water	Non Potable Water	Rainwater	Other
Taps/Sinks Showers Hot Water Dishwashers Baths	Toilets External	Cold water tap to washing machines	Demand management, WELS and public education measures implemented

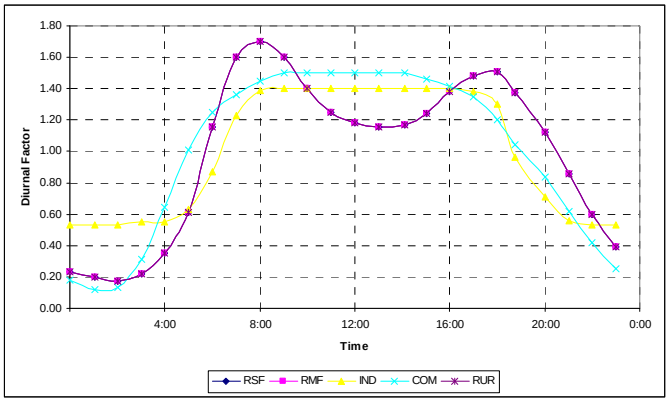
(4) The standards of service for potable water supply infrastructure are specified in **Table 1.3 (Potable Water Standards of Service Summary Table)**.

Table 1.3 Potable Water Standards of Service Summary Table

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td>Demand Unit</td><td>P01</td><td>2.7 EP / 1 ET</td></tr>
<tr><td>Average Day Potable Water Demands per Equivalent Tenement
(L/ET/day)</td><td>P02-3</td><td>Dwellings L/ET/day#
<table>
<tr><th>Land Use Group*</th><th>Existing</th><th>2011</th><th>2016</th><th>2021</th><th>2031</th><th>Ultimate</th></tr>
<tr><td>Single Family Residential (SFR)</td><td>367</td><td>353</td><td>331</td><td>318</td><td>306</td><td>303</td></tr>
<tr><td>Multiple Family Residential (MFR)*</td><td>377</td><td>364</td><td>343</td><td>332</td><td>325</td><td>322</td></tr>
<tr><td>Commercial (COM)</td><td>603</td><td>589</td><td>575</td><td>569</td><td>566</td><td>563</td></tr>
<tr><td>Industrial (IND)</td><td>603</td><td>589</td><td>575</td><td>569</td><td>566</td><td>563</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td></td><td></td><td># Demand figures represented in this table are specifications for the provision of infrastructure and do not represent targets for water use.

*Land Use Group – As defined in issued population model or equivalent</td></tr>
<tr><td>Potable water peaking factors

(x AD)</td><td>P03-3</td><td>
<table>
<tr><th>Land Use Group</th><th>MDMM</th><th>MD</th><th>MH</th></tr>
<tr><td>Single Family Residential (SFR)</td><td>2.0</td><td>2.5</td><td>4.2</td></tr>
<tr><td>Multiple Family Residential (MFR)</td><td>1.9</td><td>2.4</td><td>4.1</td></tr>
<tr><td>Commercial (COM)</td><td>1.5</td><td>1.8</td><td>2.7</td></tr>
<tr><td>Industrial (IND)</td><td>1.5</td><td>1.8</td><td>2.5</td></tr>
</table>
</td></tr>
<tr><td>AD Diurnal Profiles</td><td>P04-3a</td><td> 

^ See Table 6 for diurnal profiles in tabular format</td></tr>
<tr><td>Pressure Performance Criteria</td><td>P06

P07

P08</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification (m)</th><th>Details</th></tr>
<tr><td>Minimum Pressure</td><td>20</td><td>Minimum pressure of 20 m at the street level is to be maintained at all times. Compliance should be demonstrated under maximum hour demand conditions with zonal reservoirs at their minimum operating level.</td></tr>
<tr><td>Minimum Pressure for small, remote and isolated area ^</td><td>16</td><td>Any use of this relaxed minimum service pressure criteria for areas considered small, remote and elevated by external professionals in network analysis activities must first be agreed upon with Sunshine Coast Water.</td></tr>
<tr><td>Maximum Pressure*</td><td>80</td><td>Compliance should be demonstrated during minimum demand periods with reservoirs at their maximum operating level.</td></tr>
</table>
^ The 16 m rule was adopted in the previous Caloundra City Council standards of service (DDPSP) and was generally in place due to areas originally serviced prior to the adoption of priority infrastructure areas or regulated planning.

*Due to SCW's current commitment to pressure and leakage management maximum pressures must be minimised where possible</td></tr>
</table>

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td>Water Pipeline Sizing Criteria</td><td>P09
P10
P11
P12</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification</th></tr>
<tr><td>Bulk supply pipeline operating under gravity</td><td>Capacity to transport MDMM demand over 24 hours</td></tr>
<tr><td>Bulk supply pipeline operating under pumped supply</td><td>Capacity to transport MDMM demand over 20 hours per day</td></tr>
<tr><td>Zonal and reticulation water supply mains</td><td>Sized for the maintenance of pressure meeting both maximum hour and fire flow performance criteria</td></tr>
<tr><td>Maximum Velocity in all mains</td><td>2.5 m/s</td></tr>
</table>
</td></tr>
<tr><td>Potable Reservoir Sizing Criteria</td><td>P13
P14
P15</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification</th></tr>
<tr><td>Potable ground level reservoirs in traditional network</td><td>1 x MD + 30 % contingency storage</td></tr>
<tr><td>Potable ground level reservoirs in dual reticulation network.</td><td>1.8 x MD</td></tr>
<tr><td>Elevated reservoirs</td><td>6 x (MH – 1/12 MDMM) + 150 kL fire storage (statistical analysis);
Or
Maintenance of storage to a minimum of 30% full is demonstrated at existing elevated reservoirs through dynamic modelling where the operation of the supply pumping station is acceptable and the pumping station contains adequate security against power failure. Performance is to be tested using dynamic modelling under performance testing scenarios 2 and 4 (see Table B2).</td></tr>
</table>
</td></tr>
<tr><td>Potable Water Pumping Station Sizing Criteria</td><td>P16
P17
P18</td><td>
<table>
<tr><th>Criteria</th><th>Duty Pump Specification</th><th>Standby Pump Specification</th><th>Other</th></tr>
<tr><td>Pumping stations servicing ground level reservoirs</td><td>MDMM demand over 20 hours per day</td><td>Equivalent to largest duty pump</td><td></td></tr>
<tr><td>Pumping stations servicing elevated reservoirs</td><td>((6 x MH – operating volume) / (6 x 3600)) (L/s unit)</td><td>Equivalent to largest duty pump</td><td></td></tr>
<tr><td>Booster pumping stations – direct supply to customers</td><td>MH demand</td><td>Equivalent to largest duty pump</td><td>FF pump set required if duty pumps cannot provide fire flow. ^</td></tr>
</table>
^ See P19, P20 and P21 for fire flow standards
</td></tr>
</table>

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td>Fire Flow Demand and Supply Requirements</td><td>P19

P20a
P20b
P20c
P20d</td><td>Fire Flow Assessment Background Demand = 2/3 MH

<table>
<tr><th>Property Type</th><th>Total FF Demand (L/s)</th><th>Flow sourced from number of adjacent hydrants</th><th>Duration (hours)</th></tr>
<tr><td>Detached residential</td><td>15</td><td>2 hydrants (7.5 l/s each)</td><td>2</td></tr>
<tr><td>Multiple Level residential < 4 storeys</td><td>15</td><td>2 hydrants (7.5 l/s each)</td><td>2</td></tr>
<tr><td>Multiple level residential => 4 storeys</td><td>30</td><td>3 hydrants (10 L/s each)</td><td>4</td></tr>
<tr><td>Commercial / Industrial</td><td>30</td><td>3 hydrants (10 L/s each)</td><td>4</td></tr>
</table></td></tr>
<tr><td>Fire Flow Performance Pressure Requirements</td><td>P21a
P21b</td><td>
<table>
<tr><th>Location</th><th>Minimum Pressure Requirement (m)</th></tr>
<tr><td>At hydrants in use</td><td>12 m</td></tr>
<tr><td>To all of network other than hydrants in use</td><td>6 m</td></tr>
</table></td></tr>
<tr><td>Water Main Friction Coefficients</td><td>P22</td><td>Hydraulic equation for water supply modelling = Hazen Williams

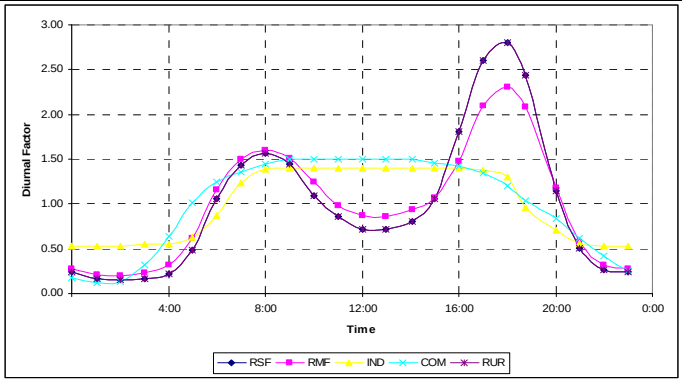
Hazen Williams roughness coefficients (C Values)

<table>
<tr><th rowspan="2">Material</th><th colspan="5">Diameter (mm)</th></tr>
<tr><th>100</th><th>150-200</th><th>250-300</th><th>375-600</th><th>>600</th></tr>
<tr><td>Mild steel concrete lined (MSCL)</td><td>110</td><td>120</td><td>125</td><td>130</td><td>135</td></tr>
<tr><td>Ductile iron concrete lined (DICL)</td><td>100</td><td>110</td><td>120</td><td>125</td><td>130</td></tr>
<tr><td>Ductile iron (DI)</td><td>100</td><td>110</td><td>115</td><td>120</td><td>125</td></tr>
<tr><td>Cast iron concrete lined (CICL)</td><td>100</td><td>110</td><td>120</td><td>125</td><td>130</td></tr>
<tr><td>Cast iron (CI)</td><td>100</td><td>110</td><td>115</td><td>120</td><td>125</td></tr>
<tr><td>UPVC</td><td>110</td><td>120</td><td>125</td><td>130</td><td>135</td></tr>
<tr><td>Asbestos cement (AC)</td><td>100</td><td>110</td><td>115</td><td>120</td><td>125</td></tr>
<tr><td>Other</td><td>100</td><td>110</td><td>115</td><td>120</td><td>125</td></tr>
</table></td></tr>
</table>

(5) The standards of service for recycled water supply infrastructure are specified in **Table 1.4 (Recycled Water Standards of Service Summary Table)**.

Table 1.4 Recycled Water Standards of Service Summary Table

Standard	Reference Number	Criteria
Demand Unit	R01	2.7 EP / 1 ET

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td>Recycled Water Demands per Equivalent Tenement
(L/ET/day)</td><td>R02</td><td>
<table>
<tr><th>Land Use Group*</th><th>Existing</th><th>2011</th><th>2016</th><th>2021</th><th>2031</th><th>Ultimate</th></tr>
<tr><td>Single Family Residential (SFR)</td><td>216</td><td>211</td><td>203</td><td>199</td><td>194</td><td>192</td></tr>
<tr><td>Multiple Family Residential (MFR)</td><td>116</td><td>113</td><td>107</td><td>104</td><td>100</td><td>99</td></tr>
<tr><td>Commercial (COM)</td><td>201</td><td>196</td><td>192</td><td>190</td><td>189</td><td>188</td></tr>
<tr><td>Industrial (IND)</td><td>201</td><td>196</td><td>192</td><td>190</td><td>189</td><td>188</td></tr>
</table>
L/ET/day – Recycled Water
*Land Use Group – As defined in issued population model or equivalent
</td></tr>
<tr><td>Recycled Water Peaking Factors</td><td>R03</td><td>
<table>
<tr><th>Land Use Group</th><th>MDMM</th><th>MD</th><th>MH</th></tr>
<tr><td>Single Family Residential (SFR)</td><td>1.5</td><td>2.5</td><td>7.1</td></tr>
<tr><td>Multiple Family Residential (MFR)</td><td>1.5</td><td>2.6</td><td>5.9</td></tr>
<tr><td>Commercial (COM)</td><td>1.5</td><td>2.2</td><td>3.3</td></tr>
<tr><td>Industrial (IND)</td><td>1.5</td><td>2.2</td><td>3.1</td></tr>
</table>
</td></tr>
<tr><td>AD Recycled Water Diurnal Profiles</td><td>R04a</td><td>


^ See Table 6 for diurnal profiles in tabular format
</td></tr>
<tr><td>Recycled Water Pressure Performance Criteria</td><td>R05
R06
R07
R08</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification (m)</th><th>Details</th></tr>
<tr><td>Minimum Pressure</td><td>17 m</td><td>Minimum pressure of 17 m at the property boundary is to be maintained at all times. Compliance should be demonstrated under maximum hour demand conditions with zonal reservoirs at their minimum operating level.</td></tr>
<tr><td>Maximum Pressure</td><td>70 m</td><td>Compliance should be demonstrated during minimum demand periods with reservoirs at their maximum operating level.</td></tr>
<tr><td>Minimum Pressure Difference</td><td>5 m</td><td>Minimum pressure differential (Potable water supply pressure – recycled water supply pressure). 5 m is acceptable during demand conditions such as MH where a 10 m differential may not be possible to maintain.</td></tr>
<tr><td>Target Pressure Difference</td><td>10 m</td><td>Targeted pressure differential (Potable water supply pressure – recycled water supply pressure) at all hydraulic time steps.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td>Recycled Water Pipeline Sizing Criteria</td><td>R09
R10
R11
R12</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification</th></tr>
<tr><td>Bulk supply pipeline operating under gravity</td><td>Capacity to transport MDMM demand over 24 hours</td></tr>
<tr><td>Bulk supply pipeline operating under pumped supply</td><td>Capacity to transport MDMM demand over 20 hours per day</td></tr>
<tr><td>Zonal and reticulation water supply mains</td><td>Sized for the maintenance of pressure meeting both maximum hour and fire flow performance criteria</td></tr>
<tr><td>Maximum Velocity in all mains</td><td>2.5 m/s</td></tr>
</table>
</td></tr>
<tr><td>Recycled Water Reservoir Sizing Criteria</td><td>R16
R17</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification</th></tr>
<tr><td>Recycled water ground level reservoirs</td><td>1.5 x MD + 30% emergency storage</td></tr>
<tr><td>Recycled water elevated reservoirs</td><td>6 x (MH – 1/12 MDMM) + 150 kL fire storage;</td></tr>
</table>
</td></tr>
<tr><td>Recycled Water Pumping Station Sizing Criteria</td><td>R13
R14
R15</td><td>
<table>
<tr><th>Criteria</th><th>Duty Pump Specification</th><th>Standby Pump Specification</th><th>Other</th></tr>
<tr><td>Pumping stations servicing ground level reservoirs</td><td>MDMM demand over 20 hours per day</td><td>Equivalent to largest duty pump</td><td></td></tr>
<tr><td>Pumping stations servicing elevated reservoirs</td><td>((6 x MH – operating volume) / (6 x 3600)) (L/s unit)</td><td>Equivalent to largest duty pump</td><td></td></tr>
<tr><td>Booster pumping stations – direct supply to customers</td><td>MH demand</td><td>Equivalent to largest duty pump</td><td>FF pump set required if duty pumps cannot provide fire flow.</td></tr>
</table>
</td></tr>
<tr><td>Fire Flow Demand and Supply Requirements</td><td>R18
R19a
R19b
R19c
R19d</td><td>Fire Flow Assessment Background Demand = 2/3 MH
<table>
<tr><th>Property Type</th><th>Total FF Demand (L/s)</th><th>Flow sourced from number of adjacent hydrants</th><th>Duration (hours)</th></tr>
<tr><td>Detached residential</td><td>15</td><td>2 hydrants (7.5 l/s each)</td><td>2</td></tr>
<tr><td>Multiple Level residential < 4 storeys</td><td>15</td><td>2 hydrants (7.5 l/s each)</td><td>2</td></tr>
<tr><td>Multiple level residential => 4 storeys</td><td>30</td><td>3 hydrants (10 L/s each)</td><td>4</td></tr>
<tr><td>Commercial / Industrial</td><td>30</td><td>3 hydrants (10 L/s each)</td><td>4</td></tr>
</table>
</td></tr>
<tr><td>Fire Flow Performance Pressure Requirements</td><td>R20a
R20b</td><td>
<table>
<tr><th>Location</th><th>Minimum Pressure Requirement (m)</th></tr>
<tr><td>At hydrants in use</td><td>12 m</td></tr>
<tr><td>To all of network other than hydrants in use</td><td>6 m</td></tr>
</table>
</td></tr>
</table>

5. Desired Standards of Service for Sewer Infrastructure

(a) The standards of service for sewer infrastructure are specified in **Table 1.5 (Waste Water Standards of Service Summary Table)**.

Table 1.5 Waste Water Standards of Service Summary Table

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td>Demand Unit</td><td>S01</td><td>2.7 EP/ ET</td></tr>
<tr><td>Average Dry Weather Flow (ADWF)</td><td>S02</td><td>600 L/ET/day ^
^ Catchment specific criteria will be developed in the future to reflect unique operating environments and customer end use efficiencies</td></tr>
<tr><td>PWWF for conventional gravity sewers</td><td>S03</td><td>5 x ADWF ^
^ Catchment specific criteria will be developed in the future to reflect unique operating environments and customer end use efficiencies</td></tr>
<tr><td>PWWF for Reduced Infiltration Gravity Sewers</td><td>S04</td><td>4 x ADWF</td></tr>
<tr><td>Peak Dry Weather Flow (PDWF)</td><td>S06</td><td>PDWF = C_2 x ADWF
Where, $C_2 = 4.7 \times (2.7 \times ET)^{-0.105}$</td></tr>
<tr><td colspan="3">Gravity Sewer Performance Criteria</td></tr>
<tr><td>Minimum Size</td><td>S07</td><td>150 mm</td></tr>
<tr><td>Maximum depth of flow at PWWF
(New Pipes)</td><td>S08</td><td>≤ 0.75 x pipe diameter</td></tr>
<tr><td>Maximum depth of flow at PWWF
(Existing Pipes)</td><td>S09</td><td>Pipe full and surcharge of manholes to a maximum of 1 m below manhole lid</td></tr>
<tr><td>Minimum Velocity at PDWF</td><td>S10</td><td>0.7 m/s</td></tr>
<tr><td>Minimum Grades for Gravity Sewers</td><td>S11</td><td>
<table>
<tr><th>Diameter (mm)</th><th>Grade %</th></tr>
<tr><td>150*</td><td>0.55</td></tr>
<tr><td>225</td><td>0.33</td></tr>
<tr><td>300</td><td>0.25</td></tr>
<tr><td>375</td><td>0.17</td></tr>
<tr><td>450</td><td>0.14</td></tr>
<tr><td>525</td><td>0.12</td></tr>
<tr><td>600</td><td>0.10</td></tr>
<tr><td>750</td><td>0.08</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td></td><td></td><td>* For ETs < 2 the minimum grade for a 150 mm diameter main = 1.25 %
* For ETs 2-5 the minimum grade for a 150 mm diameter main = 1.00 %</td></tr>
<tr><td colspan="3">Pressure Main Performance Criteria</td></tr>
<tr><td>Maximum velocity under single pump operation (new mains)</td><td>S12</td><td>2 m/s (1.5 m/s target)</td></tr>
<tr><td>Maximum velocity under all pump operation
(new mains)</td><td>S13</td><td>2.5 m/s</td></tr>
<tr><td>Maximum velocity criteria
(existing mains)</td><td>S14</td><td>2.5 m/s (single pump) and 3 m/s (all pumps)</td></tr>
<tr><td colspan="3">Wet Well Performance Criteria</td></tr>
<tr><td>Wet Well Performance Criteria</td><td>S15

S16</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification</th><th>Other</th></tr>
<tr><td>Wet well operating storage</td><td>(0.9 x Single pump capacity) / N</td><td>N = number of pump starts
N = 12 starts for motors less than 50 kW ^
N = 5 starts for motors greater than 50 kW ^
Operating storage is between pump start and pump stop levels</td></tr>
<tr><td>Minimum wet well diameter</td><td>2.4 m</td><td></td></tr>
</table>
</td></tr>
<tr><td colspan="3">Waste Water Pumping Station Performance Criteria</td></tr>
<tr><td>Pumping Station Performance Criteria</td><td>S17

S18

S19

S20</td><td>
<table>
<tr><th>Criteria</th><th>Performance Specification</th><th>Other</th></tr>
<tr><td>Minimum duty pump capacity for existing pumping stations</td><td>C_I x ADWF</td><td>$C_I = 15 \times (2.7 \times ET)^{-0.1587}$
Minimum value of C_I = 3.5</td></tr>
<tr><td>All pump capacity for existing infrastructure</td><td>PWWF = (5xADWF)</td><td></td></tr>
<tr><td>Duty pump capacity for new pumping stations in areas with conventional sewer networks</td><td>5 x ADWF</td><td>Standby pump of equivalent duty is to be provided.</td></tr>
<tr><td>Duty pump capacity for new pumping stations in areas with reduced infiltration gravity sewers</td><td>4 x ADWF</td><td>Standby pump of equivalent duty is to be provided</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Standard</th><th>Reference Number</th><th>Criteria</th></tr>
<tr><td colspan="3">Emergency Storage Performance Criteria</td></tr>
<tr><td>Emergency Storage Performance Criteria</td><td>S21

S22</td><td>
<table>
<tr><th>Sewer Technology</th><th>Performance Specification</th><th>Other</th></tr>
<tr><td>Conventional Sewers</td><td>6 hours x ADWF</td><td>Can include system storage below the wet well overflow level</td></tr>
<tr><td>Reduced Infiltration Sewers</td><td>12 hours x ADWF</td><td>Can include system storage below the wet well overflow level</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Septicity and Odour</td></tr>
<tr><td>Septicity and Odour Control Criteria</td><td>S23</td><td>Criteria for the control of septicity and odour will be identified through a risk evaluation process. The risk identification process is provided below in Table 1.7 of this Appendix. The actions for odour control that are triggered for each of the risk categories in Table 1.7 are as follows:-
• Low Risk – No additional treatment required;
• Medium (Single) Risk – No additional treatment required;
• Medium (Multiple) Risk – Further investigation maybe required including investigation into Septicity/Odour control facilities at the discretion of Sunshine Coast Water;
• High Risk – Septicity/odour control facilities will be required.</td></tr>
<tr><td colspan="3">Hydraulic Equations</td></tr>
<tr><td>Gravity Sewer Flow Equation</td><td>S24</td><td>Flow Equation for Gravity Sewers = Mannings
Mannings Hydraulic Roughness Coefficient (n Valve)
<table>
<tr><th>Material</th><th>Manning's n</th></tr>
<tr><td>Cement Mortar</td><td>0.013</td></tr>
<tr><td>Ceramics</td><td>0.014</td></tr>
<tr><td>Smooth Concrete</td><td>0.012</td></tr>
<tr><td>Normal Concrete</td><td>0.013</td></tr>
<tr><td>Rough Concrete</td><td>0.015</td></tr>
<tr><td>Iron (cast)</td><td>0.014</td></tr>
<tr><td>Iron (wrought)</td><td>0.015</td></tr>
<tr><td>PVC / Plastic / PE</td><td>0.013</td></tr>
<tr><td>Stone</td><td>0.013</td></tr>
<tr><td>Vitrified Clay</td><td>0.014</td></tr>
</table>
</td></tr>
<tr><td>Pressure Main Flow Equation</td><td>S25</td><td>Flow Equation for Sewer Pressure Mains = Hazen Williams
Hazen Williams Roughness Coefficient (C Value)
<table>
<tr><th>Material</th><th>Roughness (C Value)</th></tr>
<tr><td>Cement Mortar</td><td>130</td></tr>
<tr><td>Ceramics</td><td>110</td></tr>
<tr><td>Smooth Concrete</td><td>140</td></tr>
<tr><td>Normal Concrete</td><td>130</td></tr>
<tr><td>Rough Concrete</td><td>100</td></tr>
</table>
</td></tr>
</table>

Standard	Reference Number	Criteria			
			Iron (cast)	110	
			Iron (wrought)	100	
			PVC / Plastic / PE	130	
			Stone	130	
			Vitrified Clay	110	

Table 1.6 Average Day Diurnal Profiles (Tabular Format)

Properties AD Diurnal Profiles (Potable Water) ref - P04-3a						Properties AD Diurnal Profiles (Recycled Water) ref – R04a					
Time	**SFR**	**MFR**	**COM**	**IND**	**RUR**	**Time**	**SFR**	**MFR**	**COM**	**IND**	**RUR**
0:00	0.23	0.23	0.53	0.18	0.23	0:00	0.24	0.28	0.53	0.18	0.24
1:00	0.20	0.20	0.53	0.12	0.20	1:00	0.16	0.21	0.53	0.12	0.16
2:00	0.17	0.17	0.53	0.13	0.17	2:00	0.15	0.20	0.53	0.13	0.15
3:00	0.22	0.22	0.55	0.32	0.22	3:00	0.16	0.23	0.55	0.32	0.16
4:00	0.35	0.35	0.55	0.64	0.35	4:00	0.22	0.32	0.55	0.64	0.22
5:00	0.61	0.61	0.63	1.01	0.61	5:00	0.49	0.62	0.63	1.01	0.49
6:00	1.15	1.15	0.87	1.25	1.15	6:00	1.06	1.16	0.87	1.25	1.06
7:00	1.60	1.60	1.23	1.36	1.60	7:00	1.43	1.50	1.23	1.36	1.43
8:00	1.70	1.70	1.39	1.45	1.70	8:00	1.57	1.60	1.39	1.45	1.57
9:00	1.60	1.60	1.40	1.50	1.60	9:00	1.44	1.51	1.40	1.50	1.44
10:00	1.40	1.40	1.40	1.50	1.40	10:00	1.09	1.25	1.40	1.50	1.09
11:00	1.25	1.25	1.40	1.50	1.25	11:00	0.86	0.98	1.40	1.50	0.86
12:00	1.19	1.19	1.40	1.50	1.19	12:00	0.72	0.87	1.40	1.50	0.72
13:00	1.15	1.15	1.40	1.50	1.15	13:00	0.72	0.86	1.40	1.50	0.72
14:00	1.17	1.17	1.40	1.50	1.17	14:00	0.81	0.94	1.40	1.50	0.81
15:00	1.24	1.24	1.40	1.46	1.24	15:00	1.06	1.07	1.40	1.46	1.06
16:00	1.38	1.38	1.40	1.42	1.38	16:00	1.81	1.48	1.40	1.42	1.81
17:00	1.48	1.48	1.38	1.35	1.48	17:00	2.60	2.10	1.38	1.35	2.60
18:00	1.51	1.51	1.30	1.20	1.51	18:00	2.80	2.30	1.30	1.20	2.80
19:00	1.37	1.37	0.96	1.04	1.37	19:00	2.44	2.08	0.96	1.04	2.44
20:00	1.12	1.12	0.71	0.84	1.12	20:00	1.15	1.18	0.71	0.84	1.15
21:00	0.86	0.86	0.56	0.62	0.86	21:00	0.51	0.57	0.56	0.62	0.51
22:00	0.60	0.60	0.53	0.42	0.60	22:00	0.27	0.32	0.53	0.42	0.27
23:00	0.39	0.39	0.53	0.26	0.39	23:00	0.24	0.28	0.53	0.26	0.24
Average	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**Average**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**

Table 1.7 Odour Parameter Risk Classification (ref: S23)

Risk Category	Odour Parameter		
	Buffer Distance *Distance between source and receptor*	**Retention Time** *Amount of time that sewage is in a pressure main, based on ADWF*	**Sewage Characteristics** *Quality of Sewage*
Low	Greater than 50 m	Less than 1 hour	Domestic only
Medium	Between 20 m and 50 m	Between 1 and 2 hours	Mostly domestic with minor commercial quantities
High	Less than 20 m	Greater than 2 hours	Higher strength sewage e.g. industrial cleaners, food/beverage process effluents, tanneries etc.

Appendix C

Affordable Living Plan

Affordable Living Plan

Part 1 Preliminary

1.1 Structure

This document which specifies instructions for the preparation of the Affordable Living Plan is structured as follows:-

(a) Part 2 provides an overview of the requirements for the proposed Affordable Living Plan;

(b) Part 3 specifies the required content and information to be included in the proposed Affordable Living Plan, and the preferred format for an Affordable Living Plan.

Part 2 Overview and requirements for an affordable living plan

1.2 Purpose

The purpose of the Affordable Living Plan is to demonstrate that Development undertaken in accordance with the District Strategy Master Plan application, if approved, will provide Affordable Living options for a full range of household types and make appropriate provision for a component of Affordable Housing and supported community housing.

1.3 General Requirements

(a) The Affordable Living Plan is to demonstrate how Development proposed to be undertaken by the Landowner will meet the Affordable Living Outcomes specified in the Palmview Structure Plan in relation to the following matters (**Affordable Living Actions**):-

  (i) neighbourhood structure and design;

  (ii) provision of a variety of housing types and sizes which meet the needs of the emerging community;

  (iii) staging and release of land;

  (iv) provision of land for Public Housing and community housing;

  (v) sustainable design.

(b) The Affordable Living Plan is to describe and provide justification and reasoning for the proposed Affordable Living Actions, with specific reference to the following:

  (i)the Sunshine Coast Housing Needs Assessment;

  (ii) the Sunshine Coast Affordable Living Strategy (not yet completed);

  (iii) the ongoing implementation and enforcement of the Affordable Living Actions.

(c) For each proposed Affordable Living Action, the Affordable Living Plan is to describe the following:

  (i) the purpose and priority objective of the Affordable Living Action;

  (ii) the roles and responsibilities of the Landowner in implementing the Affordable Living Actions in accordance with the Affordable Living Plan;

  (iii) all timeframes associated with the implementation of the Affordable Living Actions in accordance Affordable Living Plan;

(iv) how the Affordable Living Actions are to be resourced;

(v) any funding requirements or arrangements under the Affordable Living Plan.

1.4 Drafting Guidelines and Preferred Table of Contents for Affordable Living Plan

(a) An Affordable Living Plan is to comply with the Council's drafting guidelines in **Table 1 (Affordable Living Plan Drafting Guidelines)** and the structure for an Affordable Living Plan specified in **Table 2 (Affordable Living Plan Preferred Table of Contents)**.

(b) The Affordable Living Plan is to be prepared by a competent person with a disciplinary background relevant to the areas of neighbourhood design, housing and density.

Table 1 Affordable Living Plan Drafting Guidelines

Structure	The Affordable Living Plan is to be drafted from the perspective of an applicant and assessment manager
	The preferred Affordable Living Plan table of contents is to be utilised as the structure for the Affordable Living Plan
Technical rigour	As far as practicable, rely upon the use and administrative definitions incorporated in the planning scheme
	Ensure that maps are appropriately referenced in the Affordable Living Plan and have sufficient detail and clarity to identify how particular provisions apply
Presentation	Ensure that the Affordable Living Plan is in attractive and 'user-friendly' layout
	Utilise aids such as tables, schedules, diagrams and footnotes to aid interpretation without creating confusion or unnecessary clutter

Table 2 Affordable Living Plan Preferred Table of Contents

Column 1 **Section Number**	**Column 2** **Section Heading**
1.	**Preliminary**
1.1	Requirement for Affordable Living Plan
1.2	Land subject to Affordable Living Plan and Related Master Plan
1.3	Objectives of Affordable Living Plan
1.4	Content of Affordable Living Plan
1.5	Summary of Obligations Under Affordable Living Plan
1.6	Summary of how the Proposed Development proposes to meet the Affordable Living Outcomes under the Affordable Living Plan
1.7	When Development to be undertaken in accordance with Affordable Living Plan and Related Master Plan is to be completed
2.	**Description of Affordable Living Actions**
2.1	Introduction and Definition of Affordable Living Actions
2.2	Description of Affordable Living Actions (neighbourhood structure and design)
2.3	Description of Affordable Living Actions (housing types and sizes)
2.4	Description of Affordable Living Actions (staging and release of land)

Column 1 Section Number	Column 2 Section Heading
2.5	Description of Affordable Living Actions (provision of land for Public Housing and community housing)
2.6	Description of Affordable Living Actions (sustainable design)
3.	**Justification for Affordable Living Actions**
3.1	Introduction
3.2	Justification for Affordable Living Actions by reference to the Affordable Living Outcomes
3.3	Justification for Affordable Living Actions by reference to the Sunshine Coast Housing Needs Assessment and the Sunshine Coast Affordable Living Strategy ***(not yet completed)***
3.4	Justification for Affordable Living Actions by reference to research undertaken
4.	**Nature of Obligations**
4.1	Introduction
4.2	Nature of obligations of Affordable Living Plan in respect of the Master Plan Unit
5.	**Security of Obligations**
5.1	Introduction
5.2	How Applicant will secure performance of obligations under Affordable Living Plan
6.	**Monitoring and reporting**
6.1	Introduction
6.2	How Applicant will monitor and report on progress of Affordable Living Actions and compliance with Affordable Living Plan
7.	**Affordable Living Plan Maps**
8.	**Other**

Part 3 Specific Matters to be Addressed in Affordable Living Plan

1.5 Preliminary

(a) Requirement for Affordable Living Plan:-

Describe under what instruments an Affordable Living Plan is required.

(b) Land subject to Affordable Living Plan and Related Master Plan:-

Describe the Land subject to the Affordable Living Plan and Related Master Plan.

(c) Objectives of Affordable Living Plan:-

State the objectives and proposed outcomes of the Affordable Living Plan, with reference to the following:-

(A) the Sunshine Coast Housing Needs Assessment;

(B) the Sunshine Coast Affordable Living Strategy (not yet completed);

(C) the Palmview Structure Plan Planning Scheme Policy;

(D) the Palmview Structure Plan.

For example, Specific Outcome 29 of the Specific Outcomes for the whole of the Master Planned Area in the Palmview Structure Plan provides that "Development contributes to housing affordability and promotes affordable living."

(d) Content of Affordable Living Plan:-

Provide an overview of the content of the Affordable Living Plan.

(e) Summary of Obligations Under Affordable Living Plan:-

Provide a summary of the obligations of the Landowner under the Affordable Living Plan.

(f) Summary of how the Proposed Development proposes to meet the Affordable Living Outcomes under the Affordable Living Plan:-

Provide a summary of how the Proposed Development proposes to meet the Affordable Living Outcomes under the Affordable Living Plan.

For example, the acceptable solutions for achieving Specific Outcome 29 of the Palmview Structure Plan (Development contributes to housing affordability and promotes affordable living) include the following:-

S29.1 Development provides a minimum of 12.5% of housing as affordable housing for the following:-

(a) Public Housing clients;

(b) long term affordable rental through community-based organisations;

(c) private purchase.

S29.2 Development provides for affordable housing that is dispersed and not concentrated in any one neighbourhood.

S29.3 Development provides for affordable housing to be located within 800 metres of the District Activity Centre or 400 metres of a local activity centre.

S29.4 Development provides for public and community housing, at a rate of provision at least equivalent to the Queensland average being 4.3% of dwellings. Where advance commitment of funds is not possible, flexibility is retained to permit eventual spot purchase for public and community housing.

S29.5 Development does not provide restrictive covenants which specify a minimum floor area for residential uses.

(g) When Development to be undertaken in accordance with Affordable Living Plan and Related Master Plan is to be complete:-

State when the Development to be undertaken in accordance with the Affordable Living Plan and Related Master Plan is to be complete, and within which sub-sectors.

1.6 Description of Affordable Living Actions

(a) Introduction and Definition of Affordable Living Actions:-

Introduce the concept of the Affordable Living Actions (being any of the actions required to give effect to the Affordable Living Plan, including any obligations of the Landowner, as outlined in the Affordable Living Plan).

Provide an overview of how the Landowner proposes to deliver the Affordable Living Actions, and in particular the Affordable Housing.

For each Affordable Living Action specified in this section, describe the following:-

(A) the purpose and priority objective of the Affordable Living Action;

(B) the roles and responsibilities of the Landowner in implementing the Affordable Living Actions in accordance with the Affordable Living Plan;

(C) all timeframes associated with the implementation of the Affordable Living Actions in accordance Affordable Living Plan;

(D) how the Affordable Living Actions are to be resourced;

(E) any funding requirements or arrangements for the Affordable Living Action.

(b) Description of Affordable Living Actions:-

Provide a detailed description of each of the Affordable Living Actions relating to neighbourhood structure and design, housing types and sizes, staging and release of land, provision of land for Public Housing and community housing and sustainable design.

1.7 Justification for Affordable Living Actions

(a) Introduction:-

Describe the importance of the Affordable Living Actions and how they are significant to meet the objectives and proposed outcomes of the Master Plan Unit.

(b) Justification for Affordable Living Actions by reference to the Affordable Living Outcomes, the Palmview Structure Plan and the Palmview Structure Plan Planning Scheme Policy:-

Provide justification for Affordable Living Actions by reference to the objective and proposed outcomes stated in the Affordable Living Outcomes, the Structure Plan and the Planning Scheme Policy.

(c) Justification for Affordable Living Actions by reference to the Sunshine Coast Housing Needs Assessment and the Sunshine Coast Affordable Living Strategy (not yet completed):-

Provide justification for Affordable Living Actions by reference to the objectives and proposed outcomes of Sunshine Coast Housing Needs Assessment and the Sunshine Coast Affordable Living Strategy (not yet completed).

(d) Justification for Affordable Living Actions by reference to research undertaken by the Landowner:-

Provide justification for Affordable Living Actions by reference to any additional research undertaken by the Landowner in respect of housing affordability needs of the area.

1.8 Nature of Obligations

(a) Introduction:-

Generally describe how the obligation of the applicant to provide Affordable Living Actions are binding on or attach to the applicant and the Land.

(b) Nature of obligations of Affordable Living Plan in respect of the Master Plan Unit:

Describe in more detail the nature of the obligations of the Landowner to provide Affordable Living Actions, and if and how these obligations relate to the Landowner, the Land, any subsequent owners of the Land and any parties with interests in the Land, including but not limited to the following matters:

(A) can the Landowner Use or permit to be Used any of the Affordable Housing Units for any purpose other than of the provision of Affordable Housing;

(B) what happens if a chargee (e.g. bank) wants to dispose of Affordable Housing Units in the event of a default - will it have obligations to the Council? Therefore, will the chargee have to have an agreement with the Council to make the obligations binding?

(C) will an obligation not to use affordable housing units other than for affordable housing be binding on other parties (e.g. what if transferred to Council? Will it be binding on chargees?);

1.9 Security of Obligations

(a) Introduction:-

Introduce concept of security and why it is required to be provided by the applicant (for example to ensure that the Affordable Living Plan is delivered in a timely manner in order to meet the stated objectives).

(b) How Landowner will secure performance of obligations under Affordable Living Plan:-

Describe if any additional security to that required under the Infrastructure Agreement will be required to be provided by the Landowner to secure the performance of the Affordable Living Actions by the Landowner. If so, provide details of how the security will operate, for example, amount of security, type of security, when security needs to be provided, when the security will be released, any provision to change the amount of security.

1.10 Monitoring and Reporting

(a) Introduction:-

Describe why monitoring and reporting on the progress of Affordable Living Actions and compliance with Affordable Living Plan is required.

(b) How the Landowner will monitor and report on progress of Affordable Living Actions and compliance with Affordable Living Plan:-

Outline the proposed monitoring and reporting arrangements for the implementation of the Affordable Living Plan over time.

Assessment and Management Planning Scheme Policies

11.15 Environmental Assessment and Management Planning Scheme Policy

11.15.1 Purpose

(1) The purpose of this policy is to:

(a) identify the circumstances when Ecological Assessment Reports, Environmental Impact Statements and Environmental Management Plans are required;
(b) provide guidance on the preparation of Ecological Assessment Reports, Environmental Impact Statements and Environmental Management Plans; and
(c) identify the types of development which may be subject to Environmental Impact Reporting pursuant to the Act.

11.15.2 Assessment Guidance: Explanation of Key Terms

"Ecological Assessment Report (EAR)" *means a document which assesses the short term and long term impacts of a proposed development on ecosystem species, ecological processes and significant vegetation. Ameliorative measures and management to protect and where necessary enhance and rehabilitate habitat, natural values and connectivity are also required to be specified and cross referenced where appropriate to an Environmental Management Plan.*

"Environmental Impact Statement (EIS)" *means a document prepared by a competent person which:*

(a) provides an assessment of the impacts of a development on the environment; and
(b) includes:

(i) *a description of the development; and*
(ii) *a description of the existing environment and its values and significance; and*
(iii) *a statement of the impacts on the environment of the development; and*
(iv) *a statement of the measures to be used to avoid or mitigate adverse impacts on the environment by the development and enhance potential positive impacts on the environment of the development; and*
(v) *a statement of the means to be used to monitor the effectiveness of the mitigation measures.*

"Environmental Management Plan (EMP)" *means a document prepared by a competent person which describes in respect of the design, construction and operation of the premises (including emergency situations):*

(a) what acceptable levels of impact on the environment of the development are intended to be achieved or maintained; and
(b) the management measures to avoid or minimise risks of serious environmental harm or nuisance from the development; and
(c) who is responsible for implementing the management measures; and
(d) what monitoring and reporting will be undertaken; and
(e) when actions will be undertaken.

11.15.3 Application of Policy

(1) This policy applies to development which:

(a) is subject to the Habitat and Biodiversity Code; or
(b) involves a use or is an area nominated by this policy or in a Code as requiring an Environmental Impact Statement; or
(c) is identified in this policy or in a Code as requiring an Environmental Management Plan; or
(d) is identified pursuant to the *Integrated Planning and Other Legislation Amendment Act 2003 (IPOLAA)* as requiring an Environmental Impact Statement.

11.15.4 Ecological Assessment Reports (EAR's)

(1) An Ecological Assessment Report may be required to be submitted to demonstrate compliance with the Habitat and Biodiversity Code, except where:

(a) the development does not involve any structural additions to existing development on the site; or
(b) it can be demonstrated that the Planning Area Overlay Map information applying to the site was incorrect due to clearing prior to 25 June 2001; or
(c) the Assessment Manager determines that the development is of a minor or ancillary nature not necessitating preparation of an Ecological Assessment Report.

11.15.5 Information Requirements (Terms of Reference) for Ecological Assessment Reports

(1) An Ecological Assessment Report is to assess the ecological impact of a proposed development by:

(a) Considering applicable legislation in relation to natural environmental attributes and values, including, but not limited to:
  (i) *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth);
  (ii) *Environmental Protection Act 1994* (Qld);
  (iii) *Land Protection (Pest and Stock Route Management) Act 2002* (Qld);
  (iv) *Nature Conservation Act 1992* (Qld);
  (v) *Vegetation Management Act 1999* (Qld);
  (vi) *Water Act 2000* (Qld);
  (vii) *Soil Conservation Act 1986* (Qld);
  (viii) *Fisheries Act 1994* (Qld);
  (ix) *Coastal Protection and Management Act 1995* (Qld);
  (x) *Marine Parks Act 2004* (Qld); and
  (xi) *Animal Care and Protection Act 2001* (Qld).
(b) Describing the significant natural areas on and adjacent to the site and providing standardised description and mapping of the vegetation communities and regional ecosystems relative to the proposed development design.
(c) Describing and mapping the presence of all endangered and of concern regional ecosystems as defined in the Vegetation Management Act 1999, any critical habitat of any flora and fauna defined as 'protected' pursuant to the *Nature Conservation Act 1992*, the *Fisheries Act 1994* or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* and locally significant flora and fauna as defined in **Table 11.12 (Significant Flora Species in Caloundra City)** and **Table 11.13 (Significant Fauna Species in Caloundra City)** of this policy, describing the relationship of the population and distribution of these species to habitat and vegetation on the site and off-site population and habitat.
(d) Assessing the role of the remnant vegetation and habitat on the site in Caloundra City's Habitat Network (e.g. whether they are part of a Core Habitat Area, Broad Mosaic Area, Major Corridor or Environmental Link) as defined by **Map 7.7 (Habitat Areas)** and **Map 7.8 (Habitat Corridors and Links)** of the Habitat and Biodiversity Code and describing how the proposed development seeks to maintain those network values.
(e) Assessing the significance of remnant vegetation and habitat of the site in relation to the City's Conservation Significance mapping **(Map 7.5 – Significant Vegetation)** of the Habitat and Biodiversity Code by application of the criteria that determine whether the remnant is considered to be of State, Regional or Local Significance. These criteria, as identified in the Common Nature Conservation Classification System, include:

(i) Criteria A - Significant Habitat for 'At Risk' Species;
(ii) Criteria B - Ecosystem Value;
(iii) Criteria C - Remnant Size;
(iv) Criteria D - Relative Size of Ecosystem;
(v) Criteria E - Condition;
(vi) Criteria F - Ecosystem Diversity; and
(vii) Criteria G - Context and Connection (relationship to water, endangered ecosystems and physical connection between contiguous remnants).

(f) Any application likely to cause detrimental effects on areas identified as State or Regional significance should be accompanied by detailed consideration of the criteria listed in (d) above.

(g) Providing a flora (vegetation) and fauna management plan which properly addresses, describes or includes the following specific requirements:
(i) salvage methods for any flora and fauna that may be cleared or displaced, including anticipated survival or establishment rates of relocated flora/fauna (including targets for survival of relocated flora/fauna, e.g. relocated topsoil and vegetation, relocated nesting site or hollows of the installation of artificial nesting hollows);
(ii) rehabilitation measures to be utilised for cleared or disturbed areas, including proposed maintenance regime;
(iii) buffers of local native vegetation to waterway features, protected areas and habitats supporting 'protected' species;
(iv) measures to minimise edge effects;
(v) measures to ensure protection of water quality and quantity;
(vi) measures to manage existing and potential weeds and bushfire hazard;
(vii) measures to exclude uncontrolled access to protected areas and habitat of 'protected' species whilst facilitating desirable fauna movement; and
(viii) monitoring and performance evaluation.

11.15.6 Environmental Impact Statements (EIS's)

(1) An Environmental Impact Statement may be requested to be submitted:

(a) as a requirement of the *Integrated Planning Act 1997*; or
(b) to demonstrate compliance with an applicable Code; or
(c) for development in the areas nominated below; or
(d) for development which is one of the uses nominated below;

except where the Assessment Manager determines that the development is of a minor or ancillary nature (for (b), (c), (d) only) not necessitating preparation of an Environmental Impact Statement.

Note:

Where a proponent is required to prepare an Environmental Impact Statement pursuant to the Act, referral coordination will apply, and the Terms of Reference will be determined by the Department of Local Government and Planning in conjunction with other referral agencies. This policy does not apply to such development pursuant to the Act.

Areas Nominated

(2) For the purposes of this policy, development proposed in the following areas is nominated:

(a) Assessable development in the Pumicestone Passage Catchment Area other than within a Township Planning Area or the Rural Residential Settlement precinct.
(b) Assessable development within the Lake Baroon and Ewen Maddock Dam Catchment Areas except where proposed within a Township Planning Area or the Rural Residential Settlement precinct.
(c) Assessable development in areas adjoining wetlands and higher order waterways (including buffers) indicated on **DEO Map 3.1 (Water catchments, waterways and wetlands)** the following rivers and creeks, where deleterious impacts of an environmental nature may result.

(d) Areas identified as State or Regional Significance in **Map 7.5 (Significant Vegetation)**, Core Habitat Areas in **Map 7.7 (Habitat Areas)**, or Special Remnants in **Map 7.8 (Habitat Corridors and Links)** of the Habitat and Biodiversity Code.

Uses Nominated

(3) For the purposes of this policy, the following uses are nominated:

(a) Assessable development for Material Change of Use where involving the following development activities:
(i) Animal Husbandry – High Impact;
(ii) Aquaculture;
(iii) Extractive Industry;
(iv) Industry – High Impact; and
(v) Major Utility.

11.15.7 Information Requirements (Terms of Reference) for Environmental Impact Statements

(1) An Environmental Impact Statement is to assess the environmental impacts of a proposed development and should include as a minimum the following information:

IMPACT ASSESSMENT STUDY OBJECTIVES
IMPACT ASSESSMENT STUDY
EXECUTIVE SUMMARY
(a) *Purpose and Objectives of the Proposal*
(b) *Construction and Operational Issues*
(c) *Description of the Proposal*
SOCIAL AND NATURAL ENVIRONMENT IMPACT ASSESSMENT
(a) *Land Use Planning*
(b) *Social and Community Features*
(c) *Economic*
(d) *Noise and Vibration*
(e) *Air Quality*
(f) *Visual Amenity*
(g) *Soils and Geology*
(h) *Acid Sulfate Soils*
(i) *Contaminated Land*
(j) *Hydrology and Water Quality*
(k) *Coastal Processes*
(l) *Flora and Fauna*
(m) *Cultural Heritage*
(n) *Emergency Services*
RELEVANT APPROVALS
CONSULTATION
(a) *Community Consultation*
(b) *Consultation with Government/Advisory Bodies*
ENVIRONMENTAL MANAGEMENT PLAN
CONCLUSIONS AND RECOMMENDATIONS

11.15.8 Environmental Management Plans (EMP's)

(1) An Environmental Management Plan (EMP) may be required to be submitted in conjunction with an Environmental Impact Statement, or as part of a condition of approval.

(2) An EMP is intended to ensure that the impacts of a development on the environment are adequately controlled, where that development may otherwise cause harm to the environment. This can include the construction, operational and decommissioning stages of a development.

(3) The information requested by the assessment manager and/or referral agencies to be included in an EMP will vary for each individual development proposal and may deal with the management of one or a number of impacts. The content of the EMP will vary depending on the nature and scale of the development, the characteristics of the site and the impacts generated by each proposal.

(4) An EMP should detail the management strategies to be implemented for identified impacts and may be requested to include all stages of development as well as monitoring, corrective actions and complaint response. The EMP should also include specific performance indicators.

(5) An EMP may also be used for the purpose of maintaining Significant Vegetation, including Core Habitat Areas, Broad Mosaic Areas, Major Corridors, Special Remnants, and Corridors and Environmental Links, to ensure appropriate and effective environmental management practices and procedures are implemented for retention, management, protection, enhancement and/or buffering of the Significant Vegetation, which the developer shall be required to manage until such time as the Significant Vegetation is accepted "off maintenance" by Council. The EMP shall also include specific performance indicators.

11.15.9 General Information Requirements (Terms of Reference) for Environmental Management Plans

(1) An EMP is to demonstrate the commitments made to environmental impact management by:

(a) identifying all aspects of the project that require environmental management;
(b) establishing practical and achievable measures for the containment of environmental impacts to acceptable levels;
(c) allocating authority and responsibility for implementing management measures;
(d) nominating criteria for measuring impact levels and any sources from which criteria may be derived including legislative requirements and government policies;
(e) describing a course of action and responsibilities for responding to incidents of non-compliance and emergency events that may be detected or arise; and
(f) establishing procedures for monitoring and reporting.

(2) The range of issues that may be requested to be addressed in an EMP include:

(a) acid sulfate soil;
(b) air quality;
(c) biting insects;
(d) buffer area management;
(e) building/structure conservation or retention;
(f) energy efficiency and management;
(g) erosion and sediment control;
(h) management of activities and events, including monitoring and corrective action;
(i) management of the impacts of land uses on surrounding sites;
(j) natural and cultural heritage preservation / management;
(k) noise control;
(l) rehabilitation / landscaping;
(m) rehabilitation of sites;
(n) resource and waste management;
(o) stormwater management;
(p) vegetation management;
(q) visual amenity;
(r) water quality / waterway health;
(s) weed control; and

(t) fauna protection and retention.

(3) Other matters identified through the development assessment process, including issues identified by stakeholders in the consultation process may also be requested to be addressed.

Table 11.12 Significant Flora Species in Caloundra City

	Botanical Name	Common Name	Significance
1.	*Acacia attenuata*	Whipstick wattle	(b), (c)
2.	*Acacia aulacocarpa*	Salwood	(a), (d)
3.	*Acacia baueri* spp. *baueri*		(c)
4.	*Acacia glaucocarpa*		(d)
5.	*Acacia o'shanesii*	Irish wattle	(d)
6.	*Acomis acoma*		(c)
7.	*Acronychia littoralis*	Scented acronychia	(b), (c), (d)
8.	*Acronychia octandra*	Doughwood	(d)
9.	*Allocasuarina emuina*	Emu Mountain sheoak	(b), (c), (d)
10.	*Allocasuarina filidens*		(c), (d)
11.	*Allocasuarina littoralis*	Black she-oak	(d)
12.	*Allocasuarina torulosa*		(d)
13.	*Alpinia arundelliana*	Dwarf native ginger	(d)
14.	*Alyxia ilicifolia* var. *magnifolia*	Large-leaf chainfruit	(c)
15.	*Angiopteris evecta*	King fern	(d)
16.	*Aponogeton elongatus (*forma *elongatus)*	Qld Lace	(c)
17.	*Aponogeton elongatus (*forma *latifolius)*	Qld Lace	(c)
18.	*Araucaria bidwillii*	Bunya pine	(d)
19.	*Archidendron lovelliae*	Baconwood	(b), (c)
20.	*Arthraxon hispidus*		(b), (c)
21.	*Arundinella montana*		(c)
22.	*Atractocarpa benthamianus* (Syn. *Randia benthamiana*)	Native gardenia	(d)
23.	*Austrosteenisia glabristyla*	Giant blood vine	(d)
24.	*Baloghia marmorata*	Jointed baloghia	(b), (c)
25.	*Banksia conferta* subsp. *conferta*	Glasshouse banksia	(c), (d)
26.	*Blandfordia grandiflora*	Christmas bells	(c)
27.	*Boehmeria macrophylla*	Native ramie	(d)
28.	*Boronia falcifolia*		(d)
29.	*Boronia parviflora*		(d)
30.	*Boronia polygalifolia*		(d)
31.	*Boronia rosmarinifolia*	Forest Boronia	(d)
32.	*Boronia safrolifera*		(d)
33.	*Bosistoa transversa*	Heart-leaved / three-leaved bosistoa	(b)
34.	*Bulbophyllum globuliforme*	Miniature moss-orchid	(b), (c)
35.	*Caladenia* sp. Kilcoy Ck		(d)
36.	*Callerya australis*	Native wisteria	(c)
37.	*Calystegia solandella*		(c)
38.	*Carronia multisepala*	Carronia	(d)
39.	*Casuarina cunninghamiana*	River she-oak	(d)
40.	*Casuarina equisetifolia*	Coast she-oak	(d)
41.	*Casuarina glauca*	Swamp she-oak	(d)
42.	*Choricarpia subargentea*	Giant ironwood	(c)
43.	*Clausena brevistyla*	Kalomata, native wampi	(d)
44.	*Corymbia intermedia*	Pink bloodwood	(d)
45.	*Corynocarpus rupestris* subsp. *arborescens*		(c)
46.	*Cryptandra* sp. Ngun Ngun		(d)
47.	*Cryptocarya foetida*	Stinking cryptocarya	(b), (c)
48.	*Dicksonia youngiae*	Bristly Treefern	(d)
49.	*Dinosperma melanophloia*	Doughwood	(d)
50.	*Dodonaea rupicola*	Velvet hop-bush	(b), (c), (d)
51.	*Doryphora sassafras*	Sassafras	(d)
52.	*Durringtonia paludosa*		(c)
53.	*Elaeocarpus eumundi*	Eumundi quandong, smooth-leaved quandong	(d)
54.	*Elaeocarpus kirtonii*		(d)
55.	*Eucalyptus acmenoides*	White mahogany, yellow stringybark	(d)
56.	*Eucalyptus bancroftii*	Tumbledown gum	(d)

	Botanical Name	Common Name	Significance
57.	*Eucalyptus conglomerata*	Swamp stringybark	(b), (c), (d)
58.	*Eucalyptus crebra*	Narrow-leaved ironbark	(d)
59.	*Eucalyptus curtisii*	Plunkett mallee	(c), (d)
60.	*Eucalyptus grandis*	Flooded gum, rose gum	(d)
61.	*Eucalyptus kabiana*	Mt Beerwah red gum	(b), (c), (d)
62.	*Eucalyptus microcorys*	Tallowwood	(d)
63.	*Eucalyptus pilularis*	Blackbutt	(d)
64.	*Eucalyptus propinqua*	Grey gum	(d)
65.	*Eucalyptus racemosa*	Scribbly gum	(d)
66.	*Eucalyptus resinifera*	Red mahogany	(d)
67.	*Eucalyptus robusta*	Swamp mahogany, swamp messmate	(d)
68.	*Eucalyptus seeana*	Narrow-leaf red gum	(d)
69.	*Eucalyptus siderophloia*	Grey ironbark, Qld. grey ironbark	(d)
70.	*Eucalyptus* sp. Glasshouse Mts		(d)
71.	*Eucalyptus tereticornis*	Qld. Blue gum, forest red gum	(d)
72.	*Eucalyptus tindaliae*	Qld. white stringybark	(d)
73.	*Eupomatia bennettii*	Small bolwarra	(d)
74.	*Flindersia schottiana*	Bumpy ash, cudgerie, southern silver ash	(a)
75.	*Floydia praealta*	Ball nut, opossum nut, beefwood	(b), (c)
76.	*Gahnia clarkei*	Sawsedge	(d)
77.	*Gahnia sieberiana*	Sawsedge	(d)
78.	*Galbulimima baccata*	Australian pine	(d)
79.	*Geijera salicifolia* var. *latifolia*	Scrub wilga, greenheart, green satinheart	(a)
80.	*Glycine argyrea*		(c)
81.	*Gompholobium virgatum* var. *emarginatum*		(c)
82.	*Gonocarpus effusus*		(c)
83.	*Gossia fragrantissima*	Small-leaf myrtle	(b), (c)
84.	*Gossia inophloia*	Blushing beauty, thread-barked myrtle	(c)
85.	*Graptophyllum reticulatum*		(b), (c)
86.	*Graptophyllum spinigerum*		(d)
87.	*Grevillea hilliana*	White yiel yiel	(d)
88.	*Grevillea hodgei*		(c), (d)
89.	*Guioa acutifolia*	Northern guioa	(d)
90.	*Helicia ferruginea*	Rusty oak	(c), (d)
91.	*Helmholtzia glaberrima*		(c)
92.	*Hibiscus divaricatus*		(d)
93.	*Lenwebbia* sp. Blackall Range		(c), (d)
94.	*Lepiderema pulchella*	Fine-leaved tuckeroo	(c), (d)
95.	*Lepidium hyssopifolium*	Peppercress	(b)
96.	*Lepidozamia proffskyana*	Shining burrawang	(d)
97.	*Leptospermum luehmannii*	Ngun Ngun bush	(c), (d)
98.	*Leptospermum oreophilum*		(c), (d)
99.	*Leptospermum whitei*		(d)
100.	*Leucopogon recurvisepalus*		(c)
101.	*Leucopogon rupicola*		(c)
102.	*Lindernia subulata* (syn. sp. 'Bribie Island')		(d)
103.	*Linospadix monostachys*	Walking-Stick Palm	(d)
104.	*Liparis simmondsii*		(c)
105.	*Macadamia integrifolia*	Qld Nut, Macadamia Nut	(b), (c)
106.	*Macadamia ternifolia*	Maroochy nut	(b), (c)
107.	*Macadamia tetraphylla*	Macadamia	(b), (c)
108.	*Macarthuria complanata*		(c)
109.	*Macrozamia pauli-guilielmi*	Cycad / pineapple zamia	(b), (c)
110.	*Marsdenia coronata*	Slender milkvine	(b), (c)
111.	*Marsdenia hemiptera*		(c)
112.	*Medicosma* sp. Mt Mellum	Mt. Mellum medicosma	(c), (d)
113.	*Melaleuca groveana*	Grove's paperbark	(c)
114.	*Melaleuca nodosa*	Prickly-leaf paperbark	(d)
115.	*Melaleuca sieberi*	Wallum tea tree	(d)

	Botanical Name	Common Name	Significance
116.	*Micromelum minutum*		(d)
117.	*Myrcine arenaria*	Northern muttonwood	(d)
118.	*Myrcine howittiana*	Brush muttonwood	(d)
119.	*Myrcine porosa*	Northern muttonwood	(d)
120.	*Nothoalsomitra suberosa*		(c)
121.	*Notolaea microcarpa*		(d)
122.	*Nymphaea gigantea*	Giant waterlily	(d)
123.	*Papillilabium beckleri*		(c)
124.	*Pararistolochia praevenosa*	Richmond birdwing vine	(c)
125.	*Parsonsia largiflorens*		(c), (d)
126.	*Phaius australis*	Swamp orchid	(b), (c)
127.	*Phaius bernaysii*	Swamp orchid	(b), (c)
128.	*Phaius tancarvilliae*	Swamp Orchid	(b), (c)
129.	*Picris conyzoides*		(c)
130.	*Plectranthus torrenticola*		(b), (c)
131.	*Podocarpus spinulosus*	Spiny-leaf podocarp	(d)
132.	*Pouteria eerwah* (syn. *Planchonella)*	Shiny-leaved condoo	(b), (c)
133.	*Prasophyllum fuscum*	Tawny Leek Orchid, Fly Orchid	(b)
134.	*Prasophyllum wallum*		(b), (c)
135.	*Ricinocarpos pinnifolius*	Wedding bush	(d)
136.	*Ricinocarpos speciosus*		(c)
137.	*Romnalda strobilacea*	Rainforest rush	(b), (c)
138.	*Rulingia salvifolia*		(c)
139.	*Sarcochilus dilatatus*		(c)
140.	*Sarcochilus fitzgeraldii*	Ravine orchid	(b), (c)
141.	*Schizaea malaccana*		(c)
142.	*Schoenus scabripes*		(c)
143.	*Senna acclinis*		(c)
144.	*Sophora fraseri*		(b), (c)
145.	*Stenocarpus salignus*		(d)
146.	*Symplocos harroldii*		(c)
147.	*Syzygium corynanthum*	Sour cherry	(d)
148.	*Syzygium crebrinerve*	Purple Cherry	(d)
149.	*Syzygium hodgkinsoniae*	Red lilly pilly	(b), (c)
150.	*Taeniophyllum muelleri*		(b)
151.	*Tapeinosperma* sp. Woombye		(d)
152.	*Tecomanthe hillii*	Pink Trumpet Vine	(c)
153.	*Triplarina volcanica* ssp. *volcanica*		(d)
154.	*Tristaniopsis collina*	Hill Kanuka	(d)
155.	*Triunia robusta*		(b), (c), (d)
156.	*Triunia youngiana*	Spice bush	(d)
157.	*Viola betonicifolia* var. *betonicifolia*	Native violet	(d)
158.	*Westringia grandiflora*		(c)

NOTE: All species in the Orchidaceae should be considered as many local species are significant.

Key to Significance of flora species within Caloundra City:

(a) Listed on the IUCN Red List as Ex, EW, CR, EN, VU, NT, LR (cd) or LR (nt)
(b) Listed in the *Environment Protection and Biodiversity Conservation Act 1999*
(c) Listed in the *Nature Conservation (Wildlife) Regulation 1994*
(d) Otherwise significant (endemic to Sunshine Coast, culturally significant, an important food plant for a significant fauna species as listed in Table 11.13, biological edge of range or locally uncommon)

Table 11.13 Significant Fauna Species in Caloundra City

	Scientific Name	Common Name	Significance
	Birds		
1.	*Accipiter novaehollandiae*	Grey goshawk	(c)
2.	*Actitis hypoleucos*	Common sandpiper	(d)
3.	*Anous stolidus*	Common noddy	(d)
4.	*Apus pacificus*	Fork-tailed swift	(d)
5.	*Aquila audax*	Wedge-tailed eagle	(e)
6.	*Ardea alba*	Great egret	(e)
7.	*Ardeotis australis*	Australian bustard	(a), (e)
8.	*Arenaria interpres*	Ruddy turnstone	(d)
9.	*Burhinus grallarius*	Bush stone-curlew (bush thick knee)	(a), (e)
10.	*Calidris acuminata*	Sharp-tailed sandpiper	(d)
11.	*Calidris alba*	Sanderling	(d)
12.	*Calidris canutus*	Red knot	(d)
13.	*Calidris ferruginea*	Curlew sandpiper	(d)
14.	*Calidris melanotus*	Pectoral sandpiper	(d)
15.	*Calidris ruficollis*	Red-necked stint	(d)
16.	*Calidris tenuirostris*	Great knot	(d)
17.	*Calonectris leucomelas*	Streaked shearwater	(d)
18.	*Calyptorhynchus lathami*	Glossy black-cockatoo	(c), (e)
19.	*Charadrius leschenaultii*	Greater sand plover	(d)
20.	*Charadrius mongolus*	Lesser sand plover	(d)
21.	*Chlidonias leucoptera*	White-winged black tern	(d)
22.	*Chthonicola sagittata*	Speckled warbler	(a), (e)
23.	*Cinclosoma punctatum*	Spotted quail-thrush	(e)
24.	*Climacteris erythrops*	Red-browed treecreeper	(c)
25.	*Cuculus saturatus*	Oriental cuckoo	(d)
26.	*Cyclopsitta diophthalma coxeni*	Coxen's fig-parrot	(b), (c), (e)
27.	*Dasyornis brachypterus*	Eastern bristlebird	(a), (c), (e)
28.	*Diomedea cauta*	Shy albatross	(d)
29.	*Diomedea chlororhynchus*	Yellow-nosed albatross	(d)
30.	*Diomedea melanophrys*	Black-browed albatross	(d)
31.	*Egretta sacra*	Eastern reef egret	(d)
32.	*Elanus scriptus*	Letter-winged kite	(a)
33.	*Ephippiorhynchus asiaticus*	Black-necked stork	(a), (c)
34.	*Erythrotriorchis radiatus*	Red goshawk	(a), (b), (c), (e)
35.	*Esacus neglectus*	Beach stone-curlew (beach thick knee)	(c)
36.	*Falco hypoleucos*	Grey falcon	(a), (c), (e)
37.	*Falcunculus frontatus*	Crested shrike-tit	(e)
38.	*Fregata ariel*	Lesser frigatebird	(d)
39.	*Fregata minor*	Great frigatebird	(d)
40.	*Gallinago hardwickii*	Latham snipe	(d)
41.	*Haematopus fuliginosus*	Sooty oystercatcher	(c)
42.	*Haliaeetus leucogaster*	White-bellied sea-eagle	(d), (e)
43.	*Heteroscelis (Tringa) brevipes*	Grey-tailed tattler	(d)
44.	*Hirundapus caudactus*	White-throated needletail	(d)
45.	*Hirundo rustica*	Barn swallow	(d)
46.	*Ixobrychus flavicollis*	Black bittern	(e)
47.	*Lathamus discolor*	Swift parrot	(a), (b), (c), (e)
48.	*Lichenostomus melanops*	Yellow-tufted Honeyeater	(e)
49.	*Limicola falcinellus*	Broad-billed sandpiper	(d)
50.	*Limosa lapponica*	Bar-tailed godwit	(d)
51.	*Limosa limosa*	Black-tailed godwit	(d)
52.	*Lophoictinia isura*	Square-tailed kite	(c)
53.	*Melithreptus gularis*	Black-chinned honeyeater	(c)
54.	*Merops ornatus*	Rainbow bee-eater	(e)
55.	*Monarcha leucotis*	White-eared monarch	(e)
56.	*Neophema pulchella*	Turquoise parrot	(c)

Part 11

	Scientific Name	Common Name	Significance
57.	*Nettapus coromandelianus*	Cotton pygmy-goose	(c)
58.	*Ninox connivens*	Barking owl	(e)
59.	*Ninox strenua*	Powerful owl	(c)
60.	*Numenius madagascariensis*	Eastern curlew	(c), (d)
61.	*Numenius phaeopus*	Whimbrel	(d), (e)
62.	*Oceanites oceanicus*	Wilson's storm-petrel	(d)
63.	*Orthonyx temminckii*	Logrunner	(e)
64.	*Pandion haliaetus*	Osprey	(d), (e)
65.	*Petroica rosea*	Rose robin	(e)
66.	*Pezoporus wallicus*	Ground parrot	(c)
67.	*Phaethon lepturus*	White-tailed tropicbird	(d)
68.	*Phaethon rubricauda*	Red-tailed tropicbird	(c)
69.	*Philomachus pugnax*	Ruff	(d)
70.	*Pitta versicolor*	Noisy pitta	(e)
71.	*Plegadis falcinellus*	Glossy ibis	(d)
72.	*Pluvialis dominica*	Pacific golden plover	(d)
73.	*Pluvialis squatarola*	Grey plover	(d)
74.	*Podargus ocellatus plumiferus*	Marbled / plumed frogmouth	(c)
75.	*Pomatostomus temporalis*	Grey-crowned babbler	(e)
76.	*Porzana pusilla*	Baillon's crake	(e)
77.	*Pterodroma solandri*	Providence petrel	(a), (d), (e)
78.	*Ptillnopus superbus*	Superb fruit-dove	(e)
79.	*Ptiloris paradiseus*	Paradise riflebird	(e)
80.	*Puffinus griseus*	Sooty shearwater	(a), (d)
81.	*Puffinus huttoni*	Hutton's shearwater	(a)
82.	*Puffinus pacificus*	Wedge-tailed shearwater	(d)
83.	*Puffinus tenuirostris*	Short-tailed shearwater	(d)
84.	*Rallus pectoralis*	Lewin's rail	(c)
85.	*Rostratula benghalensis*	Painted snipe	(c), (d)
86.	*Sericulus chrysocephalus*	Regent bowerbird	(e)
87.	*Stercorarius parasiticus*	Arctic jaeger	(d)
88.	*Stercorarius pomarinus*	Pomarine jaeger	(d)
89.	*Sterna albifrons*	Little tern	(c), (d)
90.	*Sterna bergii*	Crested tern	(d)
91.	*Sterna hirundo*	Common tern	(d)
92.	*Sterna sumatrana*	Black-naped tern	(d)
93.	*Stictonetta naevosa*	Freckled duck	(c)
94.	*Stipiturus malachurus*	Southern emu-wren	(c)
95.	*Sula dactylatra*	Masked booby	(d)
96.	*Sula leucogaster*	Brown booby	(d)
97.	*Tregellasia capito*	Pale-yellow robin	(e)
98.	*Tringa glareola*	Wood sandpiper	(d)
99.	*Tringa nebularia*	Common greenshank	(d), (e)
100.	*Tringa stagnatilis*	Marsh sandpiper	(d)
101.	*Turnix melanogaster*	Black-breasted button-quail	(a), (b), (e)
102.	*Tyto capensis-longimembris*	Grass owl	(e)
103.	*Tyto tenebricosa*	Sooty owl	(c)
104.	*Xanthomyza phrygia*	Regent honeyeater	(a), (b), (c), (e)
105.	*Xenus cinereus*	Terek sandpiper	(d)
	Fish and Crustaceans		
106.	*Ambassis agassizii*	Agassiz's glassfish	(a)
107.	*Bidyanus bidyanus*	Silver perch	(a)
108.	*Euastacus hystricosus*	Conondale spiny crayfish	(a), (e)
109.	*Euastacus urospinosus*	Blue crayfish	(a), (e)
110.	*Maccullochella peeli mariensis*	Mary River cod	(a), (b), (e)
111.	*Macquaria novemaculeata*	Australian bass	(e)
112.	*Nannoperca oxleyana*	Oxleyan pygmy perch	(a), (b), (c), (e)
113.	*Neoceratodus forsteri*	Queensland lungfish	(b)
114.	*Pseudomugil mellis*	Honey blue-eye	(a), (b), (c), (e)
115.	*Rhadinocentrus ornatus*	Ornate rainbowfish	(e)

	Scientific Name	Common Name	Significance
116.	*Scleropages leichardti*	Southern saratoga	(a)
	Sharks and Rays		
117.	*Carcharias taurus*	Grey nurse shark	(a), (b), (c), (e)
118.	*Dasyatis fluviorum*	Estuary stingray	(a)
	Snakes, Skinks and Lizards		
119.	*Acanthophis antarcticus*	Common death adder	(c)
120.	*Chlamydosaurus kingii*	Frilled lizard	(e)
121.	*Coeranoscincus reticulatus*	Three-toed snake-tooth	(a), (b), (c), (e)
122.	*Cyclodomorphus gerrardii*	Pink-tongued skink	(e)
123.	*Delma torquata*	Collared delma	(a), (b), (c)
124.	*Egernia major*	Land mullet	(e)
125.	*Eroticoscincus graciloides*	Elf skink	(c)
126.	*Hoplocephalus stephensii*	Stephen's banded snake	(c)
127.	*Hypsilurus spinipes*	Southern angle-headed dragon	(e)
128.	*Ophioscincus truncatus*	Un-named skink	(c)
129.	*Ramphotyphlops silvia*	Un-named blind snake	(c)
130.	*Saproscincus rosei*	Rose-shaded sun-skink	(c)
	Turtles		
131.	*Caretta caretta*	Loggerhead turtle	(a), (b), (c), (d), (e)
132.	*Chelonia mydas*	Green turtle	(b), (c), (d), (e)
133.	*Dermochelys coriacea*	Leatherback turtle	(a), (b), (c), (d), (e)
134.	*Elusor macrurus*	Mary River turtle	(a), (b), (c), (e)
135.	*Eretmochelys imbricata*	Hawksbill turtle	(a), (b), (c), (d), (e)
136.	*Natator depressus*	Flatback turtle	(a), (b), (c), (d)
	Frogs		
137.	*Adelotus brevis*	Tusked frog	(a), (c), (e)
138.	*Assa darlingtoni*	Pouched frog	(c)
139.	*Crinia tinnula*	Wallum froglet	(a), (c)
140.	*Litoria brevipalmata*	Green-thighed frog	(a), (c)
141.	*Litoria freycineti*	Wallum rocket frog	(a), (c)
142.	*Litoria olongburensis*	Wallum sedge frog	(a), (b), (c), (e)
143.	*Litoria pearsoniana (*includes sp. cf. *barringtonensis*	Cascade tree frog	(a), (c), (e)
144.	*Mixophyes fasciolatus*	Great barred-frog	(e)
145.	*Mixophyes fleayi*	Fleay's barred-frog	(a), (b), (c), (e)
146.	*Mixophyes iteratus*	Giant barred frog / southern barred frog	(a), (b), (c), (e)
147.	*Rheobatrachus silus*	Southern platypus frog / gastric brooding frog	(a), (b), (c), (e)
148.	*Taudactylus diurnus*	Southern dayfrog	(a), (b), (c), (e)
	Terrestrial Mammals, Flying Foxes and Bats		
149.	*Aepyprymnus rufescens*	Rufous bettong	(e)
150.	*Cercartetus nanus*	Eastern pygmy-possum	(e)
151.	*Chalinolobus dwyeri*	Large-eared pied bat	(a), (b), (c), (e)
152.	*Dasyurus maculatus maculatus*	Spotted-tailed quoll	(a), (b), (c), (e)
153.	*Kerivoula papuensis*	Golden-tipped bat	(c), (e)
154.	*Miniopterus schreibersii*	Eastern bent-winged bat	(b)
155.	*Nyctinomus australis*	White-striped freetail bat	(e)
156.	*Ornithorhynchus anatinus*	Platypus	(c), (e)
157.	*Petauroides volans*	Greater glider	(e)
158.	*Petaurus australis australis*	Yellow-bellied glider	(a), (e)
159.	*Petaurus norfolcensis*	Squirrel glider	(a), (e)
160.	*Petrogale penicillata*	Brush-tailed rock-wallaby	(a), (b), (c)
161.	*Phascogale tapoatafa*	Brush-tailed phascogale	(a), (e)
162.	*Phascolarctos cinereus*	Koala	(a), (c), (e)
163.	*Potorous tridactylus*	Long-nosed potoroo	(b), (c)
164.	*Pseudomys delicatulus*	Delicate mouse	(a)
165.	*Pseudomys gracilicaudatus*	Eastern chestnut mouse	(e)
166.	*Pseudomys oralis*	Hastings River mouse	(a), (b), (c), (e)
167.	*Pteropus poliocephalus*	Grey-headed flying-fox	(b), (e)
168.	*Rattus tunneyi*	Pale field-rat	(a), (e)

	Scientific Name	Common Name	Significance
169.	*Saccolaimus flaviventris*	Yellow-belied sheathtail-bat	(a)
170.	*Scoteanax rueppellii*	Greater broad-nosed bat	(e)
171.	*Tachyglossus aculeatus*	Short-beaked echidna	(c), (e)
172.	*Thylogale stigmatica*	Red-legged pademelon	(e)
173.	*Thylogale thetis*	Red-necked pademelon	(e)
174.	*Wallabia bicolor (*includes *welsbyi)*	Swamp wallaby	(e)
175.	*Xeromys myoides*	False water-rat	(a), (b), (c), (e)
	Whales, Dolphins and Dugong		
176.	*Balaenoptera acutorostrata*	Minke whale	(a), (d), (e)
177.	*Balaenoptera edeni*	Bryde's whale	(a), (e)
178.	*Dugong dugon*	Dugong	(a), (c), (e)
179.	*Globicephala melas*	Long-finned pilot whale	(d), (e)
180.	*Koiga breviceps*	Pygmy sperm whale	(e)
181.	*Megaptera novaeangliae*	Humpback whale	(a), (b), (c), (d), (e)
182.	*Peponocephala electra*	Melon-headed whale	(e)
183.	*Sousa chinensis*	Indopacific humpback dolphin	(a), (c), (e)
184.	*Tursiops truncatus*	Bottle-nosed dolphin	(a), (d), (e)
	Butterflies and Moths		
185.	*Acrodipsas brisbanensis*	Bronze ant-blue	(e)
186.	*Acrodipsas illidgei*	Illidge's ant blue butterfly	(a), (c), (e)
187.	*Argyreus hyperbius inconstans*	Australian fritillary butterfly, laced fritillary	(c)
188.	*Danaus plexippus plexippus*	Monarch	(d)
189.	*Euschemon rafflesia rafflesia*	Regent skipper	(e)
190.	*Hypochrysops epicurus*	Mangrove jewel	(e)
191.	*Hypochrysops miskini*	Coral jewel	(e)
192.	*Junonia hedonia*	Chocolate argus	(e)
193.	*Ogyris amaryllis amaryllis*	Satin azure	(e)
194.	*Ogyris zozine*	Purple azure	(e)
195.	*Ornithoptera richmondia*	Richmond birdwing butterfly	(c)
196.	*Phyllodes imperialis (*southern subsp. - ANIC 3333*)*	A moth	(b)
197.	*Pseudodipsas cephenes*	Bright forest-blue	(e)
198.	*Telicota eurychlora*	Southern sedge-darter	(e)
199.	*Tisiphone abeona rawnsleyi*	Varied sword-grass brown	(e)
200.	*Trapezites luteus*	Yellow ochre	(e)
	Caloundra limpet and Caloundra abalone – see coastal management plan		
201.	*Cellana turbator*	Caloundra limpet	(e)
202.	*Haliotis melculus*	Caloundra abalone	(e)
203.	*Papuexul bidwilli*	A mollusc	(a)

Key to Significance of fauna species within Caloundra City:

(a) Listed on the IUCN Red List as Ex, EW, CR, EN, VU, NT, LR (cd) or LR (nt)
(b) Listed in the *Environment Protection and Biodiversity Conservation Act 1999*
(c) Listed in the *Nature Conservation (Wildlife) Regulation 1994*
(d) Cited under the Bonn Convention, JAMBA, CAMBA and / or ROKAMBA
(e) Otherwise significant (endemic to Sunshine Coast, culturally significant, biological edge of range, locally uncommon and / or subject to a Commonwealth or State Recovery or Action Plan).

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Part 11

11.16 Economic Impact Assessment Planning Scheme Policy

11.16.1 Purpose

(1) The purpose of this Planning Scheme Policy is to identify those circumstances where the Council will require the submission of an Economic Impact Assessment Report in order to determine:

(a) the economic impacts of major or unforeseen business and commercial development; and
(b) the economic need for such development.

(2) The Planning Scheme Policy also identifies standard information requirements (Terms of Reference) for the preparation of an Economic Impact Assessment Report.

11.16.2 Assessment Guidance: Explanation of Key Terms

"Economic Impact Assessment Report (EIAR)" *means a document prepared by a competent person which provides an assessment (taking into account all existing and planned development) of:*

(a) the economic need of the public for the development; and
(b) the economic impact of the development on other development (whether existing or planned).

11.16.3 Application of Policy

(1) The Council will consider this policy as part of the assessment of:

(a) business and commercial development with a GFA exceeding 100m^2 where:
  (i) not located within the Business Centre Precinct Class; and
  (ii) that development does not comply with the self assessable solutions of the Home Based Business Code; or
(b) business and commercial development (including expansion of an existing shopping complex) exceeding 2,500m^2 GFA where located in the Business Centre Precinct Class; or
(c) business and commercial development which:
  (i) is not included in a development assessment table applicable to the precinct; or
  (ii) is not allocated a level of assessment in a development assessment table applicable to the precinct.

11.16.4 Information Requirements (Terms of Reference) for an Economic Impact Assessment Report

(1) An Economic Impact Assessment Report is to assess and demonstrate the public need for, and acceptable economic impact of, a proposed business and commercial development by:

(a) describing the size, function and proposed tenancy mix of the proposed development, together with details of any pre-commitments;
(b) examining the population growth prospects and socio-economic characteristics of a defined trade area;
(c) identifying the location, size, nature, function and tenancy mix of competitive centres likely to be affected by the proposal;
(d) describing the extent of inadequacy, if any, within the competitive network of centres;
(e) calculating the quantitative economic impact upon competitive centres likely to be affected by the proposal and describing the consequent effects upon those centres; and
(f) assessing the effect of the proposal upon the Business Centre Hierarchy identified in the Planning Scheme.

(2) The Economic Impact Assessment Report referred to in (1) above is to be prepared by a competent person.

Part 11

11.17 Community Impact Assessment Planning Scheme Policy

11.17.1 Purpose

(1) This purpose of this Planning Scheme Policy is to detail the requirements applying to the preparation of Community Impact Assessment Reports (CIAR).

11.17.2 Assessment Guidance: Explanation of Key Terms

"Community Impact Assessment Report (CIAR)" *means a document prepared by a competent person which:*

(a) provides an assessment of the impacts of a development on the community; and
(b) includes:
(i) a description of the development; and
(ii) a statement of the likely impacts on the community of the development; and
(iii) a statement of the measures to be used to avoid or mitigate negative impacts on the community of the 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.

11.17.3 Explanation of Community Impact Assessment

(1) Community impact assessment is a process of investigating the possible social effects of development on a community. It allows the impacts of development to be anticipated and clearly understood, and supports the Council in determining appropriate planning outcomes, and where approved, development permit conditions.

(2) 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) equal opportunity rights for 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.

(3) 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.

(4) As with many other planning matters, measuring community impacts often relies on 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.

(5) 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 a Community Impact Management Plan.

11.17.4 Application of Policy

(1) This policy may be applied to assessable development, which:

(a) is inconsistent with one or more Overall Outcomes of the Planning Scheme; or
(b) is likely to significantly alter the need for, or access to, community facilities or services e.g., specialist housing including aged persons homes, housing estates or renewal sites; or
(c) is likely to result in a significant change to the existing character and identity of a community e.g., establishment of new, or alterations to, major institutions or infrastructure; or
(d) is likely to result in a significant change in population characteristics of the area, e.g. major housing estates or tourism resort; or
(e) is likely to impact on the health or safety of an area e.g. hotels, licenced clubs and nightclubs; or
(f) development that may impact on particular target groups e.g. indigenous people, children, aged people or people with disabilities; or
(g) any other circumstances where the Council considers that a Community Impact Assessment is necessary before an informed decision can be made.

11.17.5 Statement of Possible Effects

(1) Where this planning scheme policy is relevant to a development application, the applicant should submit a "Statement Of Possible Effects" to the Council in accordance with **Schedule 11.4** of this Policy. The Council will refer to this Statement in determining a suitable Terms of Reference for the preparation of a Community Impact Assessment Report.

(2) The Statement of Possible Effects is to indicate the applicant's view on the type and the significance of impacts. The Statement of Possible Effects acts as the starting point for determining the scope of the assessment required. Consultation with the following contacts will assist the applicant in this regard:

(a) the Council's Community Lifestyle and Community Lifestyle Policy Units;
(b) Queensland Department of Families, Youth and Community Care; and
(c) relevant community agencies and organisations.

(3) It is desirable that the Statement of Possible Effects be submitted to the Council prior to lodgement of a development application so that:

(a) Terms of Reference for the Community Impact Assessment can be issued; and
(b) the applicant can prepare a Community Impact Assessment Report in conjunction with their development application.

11.17.6 Information Requirements (Terms of Reference) for Community Impact Assessment Reports

(1) A Community Impact Assessment Report is intended to:

(a) identify the likely community impacts and requirements (e.g. facilities) associated with the development;
(b) recommend means of avoiding or mitigating potential negative impacts, and enhancing the potential positive impacts (including modifications to the proposal and ongoing impact management strategies);
(c) be prepared in consultation with the affected community; and
(d) be objective in its assessment.

(2) As the requirements for assessing community impacts vary, depending upon the nature of the development and severity of impacts anticipated (as identified above), the Council will provide specific Terms of Reference for the assessment required based on the Statement of Possible Effects, prepared in accordance with **Schedule 11.4.**

(3) Typical Terms of Reference issued by the Council for a Community Impact Assessment will set out:

(a) the potential impacts to be investigated (**Schedule 11.4** provides a guide to the impacts that will be specified);
(b) a requirement to address any other impacts that emerge during the Community Impact Assessment process;
(c) the individuals, communities of interest, community organisations, Councillors and staff, or other government agencies that should be consulted (**Schedule 11.5** sets out principles for consultation); and
(d) the minimum requirements for reporting outcomes of consultation (Refer also to **Schedule 11.5**).

(4) The level of investigation required for a Community Impact Assessment will vary according to the nature of the proposal and its likely impacts. In setting Terms of Reference, emphasis will be on investigating significant impacts, taking into account:

(a) how important the issues appear to be to the affected community;
(b) the likelihood of serious social consequences if the proposal was to proceed;
(c) investigations being practical and achievable; and
(d) how reasonable and relevant the issues are to the proposed development.

11.17.7 Standard Information to be Included in all Community Impact Assessment Reports

(1) In conjunction with the material required to be submitted in accordance with the Terms of Reference, all Community Impact Assessment Report should include the following information:

(a) summary and conclusions – that convey the elements of the project, the main community impacts and suggested responses for managing these;
(b) project description – site/location description, purpose, timing, construction and operational elements;
(c) reasons for preferring this option – including analysis of alternative approaches and the implications of not proceeding with the proposed development;
(d) existing social conditions – population, community and social infrastructure matters relevant to the proposed development (**Schedule 11.6** provides a guide to assessing existing social conditions);
(e) community consultation process and outcomes – the consultation approach used, issues raised and how these have been considered;
(f) likely community impacts at proposal, construction and operational stages – type, duration, significance (**Schedule 11.7** provides a basis for determining the significance of impacts), local/citywide relevance and who would be affected, for both positive and negative impacts;
(g) suggested responses – measures suggested to avoid or mitigate negative impacts or enhance positive impacts, along with an indication of likely community perspectives of these; and
(h) where necessary a Community Impact Management Plan – setting out how impacts will be managed, establishing required performance levels, how these will be monitored and reported, and corrective strategies for overcoming any diversion from these.
(i) The Curriculum Vitae of the persons undertaking the assessment.

11.17.8 How Community Impact Assessment Reports Will Be Assessed

(1) The Council will consider the findings of Community Impact Assessment Reports in deciding the appropriateness of a development proposal (including whether or not a development application should be approved, and what, if any, conditions may be reasonably applied).

(2) Community Impact Assessment Reports will also form part of the material available for public review during public notification of the development proposal.

11.17.9 Useful References

Bell, W and Jones, A (1994) Social Impact Assessment for Queensland Local Government – A Training and Resource Kit, Local Government Association of Queensland, Inc.

Elliott, D and Young, A (2002) Caloundra City: Community Plan 2001 – 2011, Caloundra City Council

Menzies, C (1996) Social Planning Guidelines for Queensland Local Government, Local Government Association of Queensland, Inc.

Young, A (2001) A Guideline for Integrating Community Wellbeing in Planning Schemes, Local Government Association of Queensland, Inc.

Young, A (2001) Caloundra City: Social Conditions Report 2001, Caloundra City Council

Schedule 11.4 STATEMENT OF POSSIBLE EFFECTS

This Schedule is to be submitted by the applicant to Council prior to setting Terms of Reference for a Community Impact Assessment Report.

Applicant's Name: …… **Proposal:** ……

Real Property Description: …… **Street Address:** ……

Area of Impact	Indicators of Possible Effects	Positive	Neutral	Negative	Comment/ Details
Social Infrastructure	- Change in population size.				
	- Change in populations with special needs (eg aged, youth).				
	- Change in short-term or seasonal population.				
	- Access to existing services and facilities.				
Character and Identity	- Change to local features, places or retail/community focus.				
	- Change to population makeup.				
	- Change to size, style or scale of urban design.				
	- Effects known cultural, historical, sacred or archaeological resources.				
Social Cohesion	- Change to existing social networks, groups or community activities.				
	- Change to community spaces used by people.				
	- Change to existing patterns of pedestrian, cyclist or vehicular access or movement.				
	- Introduction of new community.				

Area of Impact	Indicators of Possible Effects	Positive	Neutral	Negative	Comment/ Details
Access and Equity	- Changes access to public transport services.				
	- Changes access to pedestrian/cycle paths.				
	- Change to distribution of social infrastructure.				
	- Change to the distribution of employment or education opportunity in the City.				
	- Change in employment opportunity for minority groups.				
	- Changes choice/availability/affordability of housing.				
	- Requires relocation of individuals and families.				
Health and Safety	- Change in community perception of health or safety.				
	- Change in individual or community health or safety.				
People With Special Needs	- Changes physical access for people with disabilities.				
	- Changes housing availability for aged people, disabled people, people in crisis, low income people, Indigenous people, seasonal workers.				
	- Changes opportunities for people with special needs to utilise community resources.				
	- Changes opportunities for people with special needs to participate in the community.				

Schedule 11.5 PRINCIPLES OF CONSULTATION

The Terms of Reference for a Community Impact Assessment Report should specify the matters below in (A) and (B) and reflect the principles of (C) in any consultation program.

A. Who to Consult

The Terms of Reference should specify:

(i) The geographic area to be consulted, if relevant (eg immediate neighbours, local street, local neighbourhood, etc);
(ii) Specific agencies or types of agencies to be consulted (eg aged care service providers, family support services, tenancy bodies, State or other government agencies); and
(iii) Councillors, staff or units within the Council to be consulted.

B. Reporting Consultation Outcomes

The Terms of Reference should require clear reporting of:

(i) Who was consulted and how;
(ii) The issues raised;
(iii) How the issues were addressed; and
(iv) Justification where issues raised were not addressed.

C. Principles of Consultation

The following principles of consultation should be adhered to:

(i) people affected by the development proposal or project have the right to be informed and to participate;
(ii) the consultation strategy should be relevant, accessible (to all stakeholders, including "marginalised" groups) and adequately resourced;
(iii) consultation should commence early and inform the key stages of analysis;
(iv) consultation aims to consider available and relevant information and opinion, and should take into account the outcomes of relevant previous consultation processes;
(v) the purpose of the consultation process and extent of participants' influence on project outcomes, should be clearly communicated to all participants;
(vi) the consultation program should be evaluated against its objectives and adjusted to meet changing needs; and
(vii) the process must be accountable, requiring a commitment to taking action and reporting to participants how issues raised have been responded to.

Schedule 11.6 INVESTIGATING EXISTING SOCIAL CONDITIONS

The following table provides a guide to information relevant to investigating existing social conditions. Only those conditions that are relevant to a development proposal should be investigated.

Social Condition	Relevant Information
Accessibility	- existing patterns of movement - public transport availability - private vehicle ownership
Demographic Change	- population projections - age distribution - ethnicity - nature of households and families - income and employment
Community Issues	- amenity - crime and safety - places of local significance/local landmarks - description of existing community identity/image - aspects of sense of place - cultural/social patterns and networks
Environmental Health	- existing health risks - existing public health issues - levels of pollution (air, noise, water) - location of hazardous substances
Community Services and Facilities	- accessibility - availability/capacity of existing services and facilities to meet community need
Cultural Heritage and Aboriginal Issues	- important places - cultural values, characteristics, events and practices - native title claims
Economic Issues	- employment/unemployment - nature and location of employment - nature of skills/level of education - income - local business development (current status and trends)
Development Trends	- nature and location of development - cumulative effects of development types - past development activity and trends
Housing	- housing needs - housing type, tenure, affordability and supply - housing to meet needs of particular groups
Groups with Particular Needs	- projections and trends - availability/capacity of services to support people with particular needs (eg youth, people with disabilities)
Natural Environment	- existing use patterns - attitudes and values - accessibility to places/features valued

Part 11

Schedule 11.7 DETERMINING THE SIGNIFICANCE OF LIKELY IMPACTS

In determining the level of significance of likely impacts, consideration should be given to:

(i) the intensity of impact expected;
(ii) the number of people likely to be affected;
(iii) the duration of the impact;
(iv) divergence/convergence with the principles of Social Justice (ie equity, access, participation in community life and equality of opportunity);
(v) the likelihood of there being intergenerational impacts; and
(vi) the extent to which the interests of the community as a whole are enhanced.

Assessment Process and Considerations Planning Scheme Policies

11.18 Consideration of Potentially In Conflict Development Applications Planning Scheme Policy

11.18.1 Purpose

(1) The purpose of this Planning Scheme Policy is to provide a consistent approach to the assessment of, and requirements applying to, applications for development identified as being potentially in conflict with the Planning Scheme, notwithstanding the requirements applying pursuant to the *Integrated Planning Act 1997* in respect of Preliminary Approvals.

(2) This policy:

(a) identifies the circumstances in which development may be potentially in conflict with the Planning Scheme; and
(b) details what should be submitted by an applicant in support of an application for development that is identified as being potentially in conflict with the Planning Scheme.

11.18.2 Application of Policy

(1) This policy applies to:

(a) code assessable development that is in conflict with any applicable code identified in the Planning Scheme; and
(b) impact assessable development that is in conflict with any part of the Planning Scheme.

11.18.3 Information Required in Support of Potentially in Conflict Development Applications

(1) Where a development is identified as potentially in conflict with the Planning Scheme (having regard to 11.18.2 above) an applicant should submit, in conjunction with the development application, a detailed planning report, prepared by a competent person, which clearly states:

(a) in the case of code assessable development, the sufficient grounds relied on by the applicant to justify approval of the development application despite a conflict with the applicable code and having regard to the purpose of the code; and

(b) in the case of impact assessable development:

(i) the planning grounds relied upon by the applicant to justify approval of the application despite the conflict with the Planning Scheme; and
(ii) any overriding community benefit which may justify approval of the application despite the conflict with the Planning Scheme.

11.18.4 Assessment of Potentially in Conflict Development Applications

(1) The Council will assess all potentially in conflict development applications in accordance with the decision making rules of the Integrated Development Assessment System and the principles of best planning practice.

(2) In assessing development applications subject to this policy, the Council will also have regard to:

(a) whether approval of the development application would lead to more applications of the same type which if also approved, may have a cumulative deleterious impact on the amenity, character or environment of an area or create an undesirable precedent in Caloundra City generally;
(b) the grounds of any submissions received to the application;
(c) any referral agency advice; and
(d) whether the detailed planning report provided in conjunction with the application is successful in providing sufficient grounds to enable the Council to support approval of the development application despite the conflict with the Planning Scheme.

Note:

The Assessment Manager's decision on any potentially in conflict development application must not compromise the achievement of the Desired Environmental Outcomes in Part 2 (Desired Environmental Outcomes).