Pacific Pines Estate Lennox Heads Design Guidelines



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1.0 INTRODUCTION

Deicke Richards have been engaged by Petrac to provide Design Guidelines based on the agreed principles for the proposed development of the Pacific Pines Estate. These are intended to provide guidance to encourage a sustainable urban form and provide a positive contribution to the future development of Lennox Head. They are intended to act as an integrated planning instrument, managing and promoting quality development whilst ensuring the outcomes of Council processes are implemented in a clear, cohesive and progressive manner.

1.1 REGULATORY CONTEXT

The development of Pacific Pines is being pursued by way of a Concept Plan approval under Section 75M of the *Environmental Planning and Assessment Act 1979* (Part 3A). This Concept Plan approval will outline the scope of the project and set out proposals for the staged implementation of the proposed development.

Following approval of the Concept Plan, future applications will be required to implement the development. Section 75P(2) of the Act requires that any future approvals must be *'generally consistent with the approval of the concept plan'*. These Design Guidelines have been developed to provide a framework within which future applications can be assessed. Consistency with these Guidelines will ensure future applications are consistent with the Concept Plan.

It is also suggested these Design Guidelines be adopted by Ballina Shire Council as a Development Control Plan for the Pacific Pines site.

1.2 HOW TO USE THESE GUIDELINES

These Guidelines are structured to provide clear guidance for future development within the Pacific Pines Estate using a combination of maps, diagrams and text.

The Guidelines are designed to be used in the following manor:

- 1. All new development needs to address the overall mass and scale of the development within the scenic contaxt of the Pacific Pines site and in response to the existing site vegetation and features;
- 2. New development needs to address the new areas of public realm, negative spaces between buildings and associated landscaping elements: and
- 3. The built form needs to address function, mass scale and the public interface. The Guildlines are intended to be read and applied sequentially however the order does not infer a hierarchy of importance.

All sections of the Guidelines have sustainability criteria at differing scales and for differing elements.

The Guidelines include an analysis of the existing character of the site with recommendations on how the positive elements may be retained. They address each of the proposed development uses to highlight core design principles for the creation of good urban places and they provide recommendations for the various common elements proposed for the project.

The Design Guidelines are presented in the form of **Performance Criteria**, identifying sitespecific issues and **Acceptable Solutions** to satisfy criteria. To ensure that subdivision and/ or development of the study area is in accordance with the objectives of these Guidelines, a proposal would need to demonstrate compliance with the Performance Criteria through the adoption of the Acceptable Solutions provided, or alternatively, a suitably justified solution.

1.3 DEFINITIONS

The following definitions apply to this document

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Height - means the vertical distance between ground level (existing) at any point to the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.

Setback - means the minimum required distance between lot boundaries and the outer face of the external wall of a building erected or proposed to be erected thereon.



Site Cover - means the percentage of the site covered by buildings.

Active Frontage - means edges of enclosed habitable spaces that front the public realm and have a clear view to and from it. Wet areas, carparking spaces, display cabinets are not ragarded as habitable spaces

Deep Soil Landscaping - Landscaping directly over existing soil profiles and not separated from those profiles by elevated podium structures, concrete slabs and other impermiable surfaces.

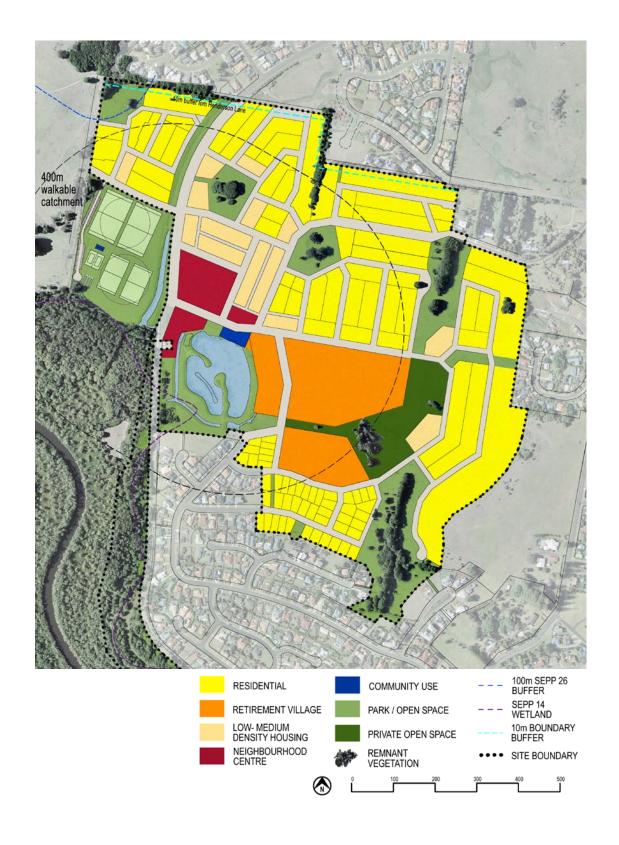


FIGURE 1: CONCEPT PLAN

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FIGURE 2: ARTISTS IMPRESSION

2.0 EXISTING LANDSCAPE CHARACTER

2.1 SCENIC VALUES

New development protects the landscape values of the site. It ensures urban and built form is complimentary to the scenic values of the landscape and environment by establishing which facets of the landscape contribute to the character and maintaining and enhancing these elements as part of future development.

ISSUES

Visually the rural landscape of the site can be divided into a series of distinct landscape forms and elements including:

- The Spur
- The Slopes
- The Valley Floor
- The Pond
- The Wetlands

THE SPUR

The Spur runs along the northern edge of the site. The northern side of the Spur is visible from areas to the north including the Coast Road. Adjacent areas to the Spur include housing developments, remnant vegetation and farmland.

THE SLOPES

The slopes vary in grade, from 1:6 to 1:4. They are located to the east and north of the site and form a natural amphitheatre around the pond. A feature of views from the site is the grouping of Norfolk Island Pines along North Creek Road. Scattered remnant trees delineate former fence lines and introduce visual interest and wildlife habitat.

THE VALLEY FLOOR

The Valley Floor forms the focus of the development. It includes the Pond, the Brook and associated vegetation.

THE POND

The Pond is the focus to the development and surrounding areas. It with high visual amenity values.

THE WETLANDS

The Ballina Nature Reserve is a natural area to the east and south-east of the development. A slither of wetlands is part of the development site. Which provides a focus for long views from the developed areas of the site.



PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
The existing land form character is retained and enhanced.	The topography of the Spur, slopes, and Valley Floor are maintained where possible with the exception of the cut and fill associated with elevating land adjacent to the Pond above flood levels.
	Cut and fill is minimised. Larger house blocks are located on the steeper areas of the site. Houses are built on split floor pads and retaining walls of natural appearance are split into a series of lower walls rather than a single tall one.
Existing vegetation is retained and enhanced.	Existing vegetation is retained in proposed parks and within larger hillside blocks where ever possible.
Views to the water bodies are retained and enhanced.	Views to the Pond and Wetlands from roadways and principle buildings and open space areas are provided where possible. These may be framed by buildings or vegetation.
The Ballina Nature Reserve provides a natural focus for long views from elevated areas of the site, adjacent areas, from roadways and open space. These are framed by buildings or vegetation.	The Brook is a focus within parkland, for the surrounding area.
Visual intrusion by taller buildings is minimised.	3 storey buildings are located on the lower areas of the site within the Neighbourhood Centre.
A vegetative backdrop along the elevated boundaries of the development is provided	Trees are planted in widened road reserves and at the rear of larger house blocks on sloping sites.
Scenic qualities of the spur are retained and enhanced .	An avenue of Norfolk Island Pines is provided along the Spur to provide a backdrop for the development and views to the north.



1. Aerial perspective of existing site

2.2 SLOPING LAND AND SOILS

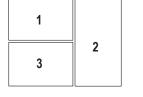
The need for earthworks (cut & fill) is minimised though appropriate lot layout and size, recognition of site/land constraints and use of suitable construction techniques and materials.

ISSUES

The site has many elevated areas and slopes to the north and east. Some of these areas have slopes greater than 1:5 and are thus require careful treatment to maximise aesthetic outcome and cost effectiveness. The slopes between 1:5 and 1:10 over the remaining portion of the site present great challenges to high densities of development and smaller lot sizes. Constructing higher densities on more visible and steeper sites reduces the potential of tree screening and creates undesirable "walls of built form". Spaces between buildings allowing for trees greatly reduce these visual impacts.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Development is restricted to sites where slopes are compatible with future development.	No development occurs within areas of slope greater than 1:3.
Lot sizes and guidelines reflect site characteristics	In areas known to have slopes of greater than 1:6, individual allotments are to be greater than 720m ² .
	Building envelopes and or setbacks encourage tree planting between buildings on to upper level slopes.
	Small lots (less than 450m ²) are restricted to slopes less than 1:6 gradient.





- 1. View looking east to Pond. Earlier stages of Pacific Pines Estate and Norkfolk Island pines visible in background
- 2. Historic Norfolk Island pines on coast road
- 3. View looking west to the pond with Ballina wetlands behind

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2.3 **REMNANT VEGETATION**

Vehicles, people and building operations and changes to groundwater, drainage and nutrient levels all have impacts on remnant vegetation and minimising negative impacts is a priority to ensure health and vigour.

ISSUES

Remnant vegetation on the site has been noted as having high environmental and visual values. Wherever possible, existing trees shrubs and other vegetation of note is protected, retained and maintained as a feature of the future development.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Remnant vegetation is protected from damage during construction and into the future.	Fencing is installed a minimum of 2m outside the dripline (extent of outermost branches) of the remnant vegetation to ensure during development, no building works occur within this area (above and below ground).
	Contractors are trained to ensure no liquids containing building materials, cleaners or other contaminants are poured onto soil or grass, particularly adjacent to remnant vegetation. If accidents occur contractors flood the immediate area to minimise impacts to soil and remnant vegetation.
	Contractors are trained to ensure no airborne pollutants, poisons, paints or gases are expelled adjacent to remnant vegetation.
	Following construction, areas around the trees roots are planted to minimise access and compaction around roots. Access is provided using elevated walkways or directed through areas where compaction does not impact on vegetation.
Changes to drainage and water table in the vicinity of remnant vegetation is minimised	Wherever possible, drainage towards and within areas of remnant vegetation is maintained in its predevelopment condition.
	Additional vegetation is planted around the remnant vegetation to provide a buffer.

2.4 STORMWATER MANAGEMENT AND ONSITE STORMWATER HARVESTING

Well located and designed stormwater systems protect the quality of receiving waters. On-site stormwater source controls that reduce run-off impacts, and allow for the harvesting and reuse of stormwater are promoted.

ISSUES

The site currently drains to the existing filtration pond and, from there, to the Ballina wetlands. Wherever possible, runoff will be filtered through vegetation to remove sediment and pollutants prior to entering stormwater systems or the Pond to minimise environmental impacts.

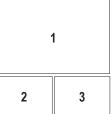
Water Sensitive Urban Design Principles are implemented within the development. Roof water storage for irrigation use and toilets should be utilised by new development. Swales are developed in open space areas to direct water flows. Planting is incorporated adjacent to large areas of paving to increase ground water absorption.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
The major drainage system has the capacity to aesthetically and safely convey stormwater flows under normal operating conditions.	Drainage corridors include grassed and vegetated swales along side roads, broad swales within parks and open space.
	Cascading grass swales are formed in the drainage corridors to provide additional sediment control and nutrient take up. Due to the steep topography of the site, the swales are separated by a rock lined weir which prevents erosion as well as acting as a 'feature wall' as the swales step up the slope. At the base of each swale are gravel filled infiltration trenches to allow stormwater runoff to be conveyed to the groundwater system.
Stormwater run-off from roofs and hard surfaces is minimised.	New dwellings have rainwater tanks for the reuse of roof water run off for washing machines, flushing toilets and external taps.
Stormwater runoff from driveways and external hard surfaces is not discharged directly into stormwater system	Vegetated or turfed swales are incorporated at the base of external paved areas over 10m ² in area. Porous paving is utilised for external paved areas other than driveways.
Landscaping incorporating terracing, contour banks, vegetated filter strips and mulching to increase stormwater infiltration is maximised.	Vegetated areas are provided at the rear of allotments for the retention of existing trees and maintenance of existing surface levels.
Shared-use facilities that protect water bodies and ecological corridors are provided.	Open space, stormwater management and visually important vegetation is bound by streets and public access ways to allow passive recreational uses.









- View through figs to pond
 Remnant vegetation and brook
 View looking north to paddocks with remnant trees

2.5 THE SPRING

ISSUES

The spring, located within the proposed parkland area, has been noted as having cultural values to the original owners of the area. The Spring contributes to the amenity of the area with the continuous flow of water, which runs downhill to the Pond, and supports a diversity of lush vegetation including the endangered Hairy Joint Grass. Maintaining and enhancing the Spring and surrounding area will contribute to the amenity and cultural values of the development.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
The Spring and the area immediately it is retained as a valuable element within the development.	Fencing is installed to protect the Spring. Vegetation and landform within the area will be retained in its existing form during construction and development of the associated park
	Landscape works within this area are limited to removal of weed species and planting of appropriate plant species, which compliment the Spring and retained vegetation.
	A path to the Spring and signage is placed so as to enhance the area and to minimise visual and environmental impacts.
Residents and visitors are educated regarding the values of the spring both culturally and environmentally. This is done in collaboration with representatives to realise the values of the Spring both culturally &	Information on the Spring and its cultural and environmental values is provided to the residents as part of the Pacific Pines information kit (subject to discussions with the traditional owners).
environmentally.	Interpretive signage is located sympathetically adjacent to the Spring to explain the significance to visitors to the area (subject to discussions with the traditional owners).



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3.0 LANDSCAPE GUIDELINES

High amenity landscape treatments contributes to the existing streetscape, open space, private areas and the local character. Good planting selections assist in the creation of sense of place or specific character, enhance the amenity of the area and provide a suitable backdrop to the built form. Landscape modifies the climate provide shade, shelter and summer cooling thus providing greater comfort.

Landscapes provide a range of recreational and environmental settings, corridors and focal points. Landscaping address issues of security and surveillance.

ISSUES

Landscape treatments respond to landform and steeper gradients of part of the site. They frame and enhance views and address safety and security issues. Plantings provide a common theme to link disparite buildings in a streetscape. Plants utilised are low maintenance, create a minimum of leaf drop or litter, suffer from few pests and diseases and do not require constant upkeep.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
The shape and massing of landscaping will enhance personal safety and security, provide shade and shelter.	 Trees are planted: Along all streets and footpaths; Between the footpath and the street; To provide continuous canopy within 20 years; At 8-10m intervals minimum 15m unless there are safety issues; Using suitable species forms dense tall canopy is a minimum of 10m wide; and With a suitable planting hole, minimum 2m wide, to allow future growth. Within 3m of pedestrian paths tree canopies will be lifted above 2m and groundcovers planted which do not grow above 600mm.
 Sustainable horticultural practices are utilised to: Provide suitable habitats for faunal diversity and encourage natural predators; Avoid planting native species in large monocultures; Minimise the prevalence of plant pests and diseases; and Protect and insulate soil, reduce evaporation and improve its organic component. 	 Species recognised as hardy and vigorous in the district are planted. No plant comprises more than 5% of the species mix. All tree pits are three times the width and depth of the tree container and contain amended topsoil. All garden areas have cultivated topsoil a minimum of 300mm deep and are mulched to a minimum depth of 75mm with organic mulch. All lawn areas have a minimum cultivated topsoil of 150mm deep and are located in areas : With grades no greater than 1:4; Greater than 30m²; and Wider than 3m. A maintenance program, a minimum of 3 months in duration is applied to all landscaped areas. Chemical based pesticides, herbicides and fertilisers are avoided, particularly those used on lawns. Weed control is via hand weeding, steam and flame treatments.
Appropriate plants are selected based on data and local knowledge to enhance environmental qualities of the area.	Hardy native and non-native plants are utilised. Native species will be local provenance. Non-indigenous and indigenous plant species known to be local weeds are avoided.





FIGURE 3: GREEN NETWORK PLAN

3.1 NEIGHBOURHOOD CENTRE STREETSCAPE

The Neighbourhood Centre streetscape will provide a focus for development of the area, providing outdoor spaces which link disparite built form, encourage walking and supply areas for visitors and residents to congregate and interact in a safe, comfortable and aesthetic environment.

ISSUES

The Neighbourhood Centre streetscape has high quality finishes, furniture and design which encourages walking and popular usage. Trees, vine covered pergolas and planting provide shade and shelter and cool the area over summer.

Tree plantings provide a human scale to the development, screening taller buildings and overhead windows. The landscape has a consistant character linking disparate built form, with a paving, planting and furniture theme.

Robust spaces are provided which cater for a variety of urban uses.



Sketch 1: Main Street view looking eastwards

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
High quality, durable street furniture and amenities are provided. Benches provide both prospect and refuge.	 Street furniture is distributed as follows: Benches are provided at a rate of a minimum of 2 per block, with more in intensively used areas such as adjacent to pedestrian crossings and adjacent to transport stops. Benches are preferably located undercover backing onto a wall or taller vegetation behind with clear views to areas of activity. Rubbish bins are provided at a rate of a minimum of 1 per block with more in intensively used areas such as adjacent to pedestrian crossings and adjacent to transport stops. Placed at least 3 metres from benches to minimise visual and odour impacts. One drinking fountain is placed in each high use pedestrian area such as the lake front, shopping area and community hall.
Paving provides a unified paving character for the Pacific Pines Neighbourhood Centre	Paving is in units to allow ready access to services and relaying
Pedestrian movements across the Main Street are frequent and safe.	Pedestrian crossings across Main Street are designed to allow safe movement with priority to pedestrians.



3.2 RESIDENTIAL STREETSCAPE

The residential streetscape provides a relaxed, safe and friendly setting for the resident's homes.

ISSUES

Interaction, safety and security is encouraged by focussing resident's views to the street, unencumbered by fencing or screen planting. Landscape treatments are low maintenance and low key with an emphasis on trees for shade and cooling and grass, with generous footpaths to encourage walking. Whereever possible water sensitive urban design is implemented within the street in an attractive way.



Sketch 2: Stoneyhurst Drive looking eastwards along ridgeline, with Norfolk Island Pines plated in grassed parking areas

PERFORMANCE CRITERIA

ACCEPTABLE SOLUTIONS

FERFORMANCE CRITERIA	ACCEFIABLE SOLUTIONS
Views up streets are towards elements that are consistent in landscape character with the upper parts of the site.	Views up streets terminate on landscape elements not abrupt built form.
Lot layout enhances personal safety and security.	Lots front onto all streets and open space is bounded by streets on at least two sides in all cases.
High quality, durable street furniture and amenities are	Street furniture is distributed as follows:
provided.	 Benches are provided at a rate of a minimum of 1 per block, with more in intensively used areas such as adjacent to pedestrian crossings and adjacent to transport stops. Benches are preferably located undercover backing onto a wall or taller vegetation behind with clear views to areas of activity. Rubbish bins are provided at a rate of a minimum of 1 per block with more in intensively used areas such as adjacent to pedestrian crossings and adjacent to transport stops. Placed at least 3m from benches to minimise visual and odour impacts. One drinking fountain is placed in each high use pedestrian area such as the lake front, shopping area and community hall.
Paving is unified in paving character for the Pacific Pines Neighbourhood Centre	Paving is in units to allow ready access to services and relaying

3.3 PARKLAND AND OPEN SPACE GUIDELINES

The parkland and openspace will provide an attractive, safe and secure setting for a range of recreational and leisure activities. It will encourage interaction between residents, ease of access and provide a comfortable microclimate. The parkland and openspace will encourage interaction with wildlife by providing suitable habitat and incorporate water sensitive urban design strategies.

ISSUES

Trees are retained in many of the parks and open space areas and development ensures that their health and vigour is maintained and enhanced. Safety and security is enhanced through design. Access is encourage by providing high quality pathways and furniture. Plantings, paving and furniture are selected to minimise future maintenance needs

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
High quality, durable park furniture and amenities are provided	 Park furniture is distributed as follows: Benches: a minimum 1 per 10,000m² with a minimum of one per park Rubbish bins: a minimum 1 per 10,000m² with a minimum of one per park
Car parking and access by vehicles are not encouraged	No roadways or parking is included within park.
An area for community gardens is included within the public parkland	A community garden a minimum of 100m ² with potential to grow to double this size is provided It is in a well drained, elevated location with northerly
	aspect, away from the drip line of any trees or remnant vegetation.
Water sensitive urban design strategies are	Vegetated swales and brooks maximise infiltration.
implemented.	Refer Section 2.4 Stormwater Management and Onsite Stormwater Harvesting.
Existing natural vegetation is maintained, particularly on hillsides and along waterways.	Areas of natural vegetation are preserved and adjacent development will have minimum impact on adjacent vegetation.
Populations of Hairy Joint Grass are protected in key locations.	In areas where Hairy Joint Grass is protected and established the following are undertaken:
	 Maintain existing moisture and light regimes, maintain adequate nutrients such as added cow manure Undertake slashing to control growth of adjacent
	grasses
Areas of cultural heritage are maintained and enhanced.	The Spring, Brook and immediate surrounding area are protected and retained as a major landscape features. Existing vegetation with in this area is retained and management practices implemented to protect the character of this area.





Sketch 3: Looking over Brook to bridge and Retirement Community, view out to hills and Norfolk Island Pines



Sketch 4: Looking eastwards towards iconic Ficus tree with park beyond





1. Existing wide road with Norfolk Island Pines

3.4 CAR PARK DESIGN

Car parking areas have a positive character, enhance accessibility and safety and promote the principles of environmental sustainability by minimising runoff and maximising shade. Siting and layout of car parking provides attractive streetscapes, amenity and character. Site coverage of hard surfaces is restricted and permeable surfaces are maximised; maintaining a balance between the built/unbuilt areas.

Car parking is screened from general view, however the location of car parks does not obstruct/ encroach significant view corridors. Car parking discourages crime and increases safety and security in the site through design.

ISSUES

There is significant areas of at grade parking areas associated with the retail and the three story mixed use building proposed in the Neighbourhood Centre. The bulk of this is in one location to make it easy to find and clearly legible. Buildings sleave larger parking areas to improve streetscape amenity and vitality consistent with the existing Lennox Centre.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Areas of infiltration are maximised by minimising areas of hard surfacing	Hard surfacing is restricted to access ways. Wherever possible car parks spaces are surfaced with reinforced turf, reinforced gravel or permeable pavers, which allow water to infiltrate and thus minimise runoff.
Heat absorption and reflection is minimised by providing continuous shade across the car parks.	Large shade trees and vine clad pergolas are incorporated into car park to provide shade and cooling.
	Shade trees are planted within continuous planting beds not narrower than 1.5m.
	Shade trees are planted at 8 to 10 intervals and at no greater distance than 15m from one another.
	Shade trees are selected that perform well in urban environments with a mature spreading canopy of at least 10m within 15 years.
	Pergolas are not lower than 3m and of appropriate construction to support a large mature vine.
	Climbing plants are suitably vigorous species, which will provide a dense cover within 10 years.
Car parks are screened from roadways, open space and residential areas.	A minimum 2m vegetated buffer is provided around car parking areas that are exposed to the street and service more than 4 cars.
Storm water runoff from driveways and external hard surfaces does not discharged directly into the storm	Vegetated or turfed swales are incorporated at the base of external paved areas over 10m ² in area.
water system.	Car parks in key visual corridors are avoided
Landscaping incorporating terracing, contour banks, vegetated filter strips and mulching to increase stormwater infiltration is maximised.	Vegetated areas are provided at the rear of allotments for the retention of existing trees and maintenance of existing surface levels



3.5 FENCES AND RETAINING WALLS

Fencing is suitable to the development type, complements the existing streetscape and character of the area, promotes safety and security and highlights entrances. Retaining does not encourage large amounts of cut and fill and is not be visually prominent.

ISSUES

A number of edge conditions exist within the site between public and privately owned land and between highly constrained privately owned land parcels and less constrained built form locations. A number of fencing types will be required to respond to the variety of urban conditions which exist on the subject site. Fencing within the site will need to respond to issues including:

- Visual appearance;
- Ability to allow wildlife corridors to function as they do currently;
- Ability to control domestic animals; and
- Delineation of privately owned land parcels.

The steep nature of the site will necessitate retaining both between and within private allotments. The height of individual retaining walls needs to be controlled to ensure the visual appearance of the development is not scarred by tall retaining walls.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
 Ensure fencing and courtyard walls: Do not detract from the desired Lennox Head character and do not become a dominant built element in the landscape; Provide a sense of territory, privacy, noise reduction and safety for residents; Do not remove the sense of safety in the street which pedestrians gain from the casual observation by residents; Retain opportunities for casual social interation in the community. Are built to encourage cross ventilation between individual allotments; Are coloured in neutral tones and receding colours; Are scaled appropriately; and Are built to minimum glare or heat radiation. 	 Refer requirements of Ballina Shire Council Combined Development Control Plan, Chapter 16 - Lennox Head. Fencing between private alotments and public parkland is to be 450mm high minimum and in accordance with the front fencing requirements of the Ballina Shire Council Combined Development Control Plan, Chapter 16 - Lennox Head. Fencing is a minimum of 10% open to allow cross ventilation between private allotments and from the street. Unless screened and shaded by vegetation or other structures, the following is avoided: High glare materials or finishes which are white, or pale in colour or reflective; and Materials dark in colour.
Retaining within privately owned areas of built form has a positive impact on visual amenity by being: - Articulated; and - Constructed in sensitive materials.	Retaining walls within landscaped areas and where they are not integral to a building, are a maximum of 1.5m high. Retaining is articulated into maximum 2.4m panels. Unless screened and shaded by vegetation or other structures, the following is avoided: - High glare materials or finishes which are white, or pale in colour or reflective; and - Materials dark in colour.
Views to and from the front of residences maximise security and safety.	Gardens remain open forward of the front building line.

3.6 PRIVATE LANDSCAPE AREAS

Appropriate landscape contributes to the amenity of the a residential lot, enhances the microclimate and minimises maintenance.

ISSUES

The site is located within the subtropical zone with the majority of rainfall falling during the summer months. During the winter months, temperatures are usually below human comfort levels at night and occasionally during the day. During summer temperatures are often above human comfort levels during the day.

The layout of the house and garden and the choice of materials and finishes can significantly enhance human comfort, minimise use of energy and fossil fuels and enhance the use of house and garden.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Covering of building and hard surfaces is minimised.	Construction of large footprint single story buildings with significant coverage is discouraged
	Significant site coverage by buildings and non- permeable surfaces such as other structures, swimming pools, non-permeable drives and paving is discouraged.
	Refer to Section 2.4 Stormwater Management and Onsite Stormwater Harvesting.
 Plantings are used to: Minimise direct heat exposure, glare and reflection during summer; 	Pergolas with climbing plants or large trees are used and appropriately located adjacent to the western side of the house and outdoor living areas.
 Maximise cooling summer breezes during summer; Minimise exposure to westerly winds; and Maximum heat exposure during winter. 	Appropriate trees, tall shrubs or climbing plants are planted adjacent to the western walls of the residence.
	Dark materials or surface finishes are avoided and non-reflective, mid-tone coloured materials or surface finishes are used.
	Unshaded paved surfaces are minimised and areas of vegetation are maximised to improve evaporative cooling effects.
Soil compaction is minimised around trees, in areas of natural vegetation, turf and in garden areas. All retained trees are healthy and do not represent a safety risk.	Egress by machinery and vehicles, storage of materials and location of site buildings is limited to those areas where construction is to occur.
	Temporary fencing is erected during construction to prevent contractors utilising the space under existing trees or bushland. The fence occurs on the drip line or outer extent of the canopy.
	An arborist is used to assess all trees proposed to be maintained within 10 metres or adjacent to new built form.



4.0 NEIGHBOURHOOD CENTRE BUILT FORM

A Neighbourhood Centre is an identifiable focus for a community. A centre fosters community interaction and sharing. It encourages walking and interaction within a well defined, positive and attractive environment. Centres enhance accessibility and safety and promote the principles of environmental sustainability.

The urban, built form and landscape is highly legible and contributes to the existing streetscape and the local character with active frontages and overlooking.

The design of the development does not obstruct/encroach significant view corridor and it enhances existing vistas and views whenever possible.

A range of recreational and environmental settings, corridors and focal points are provided. Issues of security and surveillance are addressed.

Built form offers permeability in addition to the surrounding streets for finer grain pedestrian movements.

Built form sleeves large exposed car parking areas from the street.

The Neighbourhood Centre provides sufficient development intensity to sustain a vibrant centre that is activated at all times of day. As many residents as possible are located within a 5 minute walk (or 400m) of the Neighbourhood Centre to encourage walking and reduce motor vehicle dependence.

The Neighbourhood Centre delivers a diverse range of denser housing types.

ISSUES

The Neighbourhood Centre is the focus of the Pacific Pines Estate (see Figure 5). The Centre is the most intensively developed component of the community, with a mixture of uses to encourage walking and to ensure vitality of the public areas. The Neighbourhood Centre does not directly adjoin existing low-density residential areas and is in the lowest part of the site so it has increased building scale in this area, up to three stories, to help deliver the required intensity. It requires a high amenity public realm to encourage walking and interaction, shade, summer breezes, minimisation glare, places to sit and talk needed. It contains key community facilities that are celebrated in the urban composition. Beacuse the Neighbourhood Centre is viewed from above from adjoining redisential areas large flat rooves are discouraged and articulated pitched roof forms are encouraged.



PERFORMANCE CRITERIA The Neighbourhood Centre provides on identifiable	ACCEPTABLE SOLUTIONS
The Neighbourhood Centre provides an identifiable core to the development.	Buildings are 3 stories in scale. Footpaths are broader, more highly finished and have
	street furniture
Building siting responds to the site characteristics.	The buildings are positioned so extensive earthworks are not visible and they appear to sit with in the natural landform.
	That visual corridors are retained along roads and wherever possible from the centre, to the Pond, Ballina Wetlands and treed hilltops .
Floor space meets community needs into the future	Floor space is calculated to provide for a final local population
The vertical scale of buildings in the Neighbourhood Centre supports the vitality of the centre and is visually	A variety of retail, office and residential building sizes are provided within the centre layout.
appealing when viewed from above from adjacent residential areas.	3 storey buildings are encouraged where indicated in Fugre 4 to achieve Main Street vitality.
	Flat roof forms are discouraged and articulated pitched roof forms are encouraged (refer Diagram 2).
	Taller buildings are provided at key corners to contribute to the legibility of the street and building hierarchy.
Safety and security in the centre is encouraged by using appropriate urban design	Maintaining views through trees and groundcovers from the street to the footpath.
ellerlenne mennen 200	All buildings incorporate a mixture of uses including residential to ensure 24-hour activity in the area and the passive surveillance by residents.
	The Neighbourhood Centre is located centrally on the key movement corridors and intersections.
	Buildings have active frontages and provide overlooking to streets.
Building orientation maximises solar access and promotes outdoor activity.	Buildings open out onto dining and entertainment areas
The built form does not dominate the street	Large shade trees and tall shrub plantings around the buildings area provided to give human scale to the building.
	Building canopies, shade tree canopies and vine-clad pergolas are provided to give protection to pedestrians.
Amenity and passive human comfort are provided to contribute to the use of outdoor spaces and reduce the use of mechanical cooling and heating.	Buildings and landscaping is designed to provide ventilation and vegetative cooling. Buildings and internal spaces are naturally ventilated most of the year to encourage minimise use of air conditioning.
	Dwelling units are orientated to the north and east to maximise solar access and energy efficiency.
	Buildings are shaded, sheltered and cooled by large shade and shelter trees, vine clad walls, green roofs, vertical green walls.
	Attractive planting is incorporated wherever possible within the streetscape.
Deep planting around the building is maximised.	Basements and subsurface infrastructures do not extend beyond the buildings walls.
	A minimum of 15% of the site is set aside for deep planting.
	Vehicle access is rationalised and consolidated to minimise intrusion on landscape areas.
Green areas are maximised and incorporate water sensitive urban design strategies including minimising runoff and maximising infiltration and stormwater polishing on site.	Refer Section 2.4 Stormwater Management and Onsite Stormwater Harvesting.

A minimum of 1.5 off-street car parking spaces are provided per dwelling. Visitor paring is provided in the street.	Refer to Diagram 3 for further details.
Basement car parking can project up to 1 metre above the natural ground level for ventilation purposes directly below residential or commercial ground floor uses on the associated.	
Servicing needs for buildings in the Neighbourhood Centre does not adversely effect the streetscape of the centre and associated residential areas.	Servicing strategies for Neighbourhood Centre buildings should considers the following issues: - Heavy Vehicle Movements - Noise - Odour - Visual Impact



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FIGURE 4: BUILDING HEIGHTS PLAN

4.1 MIXED USE BUILDINGS

Mixed use buildings occur at the heart of Neighbourhood Centres and contribute directly to the vitality of their Main Streets. They contain a mixture of two or more retail, residential and commercial uses.

ISSUES

In the Pacific Pines Neighbourhood Centre mixed use buildings are located on the overlooking the Main Street, Pond and Sportfields. The dedicated retail elements of the mixed use buildings are concentrated on the Main Street with opportunities for further retail on surrounding streets of the Neighbourhood Centre. Landmark elements integrated into the structure of these buildings mark the entry to the Main Street. These buildings contribute to high quality and comfortable footpath spaces for their users and passers by.

These buildings need to be three stories in height to provide development intensity sufficient to sustain a vibrant centre that is activated at all times of day. The building height limits in this area need to allow for sufficient height for ground floor retail uses and upper level commercial uses with appropriate ceiling servicing zones. The building heights also needs to allow sufficient height for articulated roof forms to ensure there are attractive views of the development from above and to discourage large flat rooved buildings. These heights are illustrated in Figure 4.



Sketch 5. Tavern view to lakeside looking northeast-wards



Sketch 6. View from Hutley Drive at Neighbourhood Centre looking southwards, showing street trees, footpaths and slow speed lanes



Sketch 7. Tavern view to lakeside looking northeast-wards



PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Retail Uses are located and sited to:	Refer to Diagram 1 for details of some of these criteria.
- Have main entry points that are accessible from the	
 street; Maximise active frontages to streets, especially the Main Street; Be as close to the street as possible to activate the street effectively; Have floor levels as close as possible to the level of the adjacent footpath; and Provide adequate circulation of air between buildings. Commercial Uses are located and sited to: Have main entry points that are accessible from the street; Maximise active frontages to streets, especially the Main Street; Have clearly visible addresses and frontages to activate the street effectively; and Provide adequate circulation of air between buildings. Residential uses within mixed use buildings are sited to: Have main entry points that are accessible from the street; Overlook the street and footpath with living room windows and balconies; and 	
 Provide a range of dwelling sizes Private open space is of a dimension and location to: Serve as an extension to the dwelling unit for private recreation purposes; Be directly accessible from the main living area of the dwelling unit; Maximise solar access, where practical; and Be comensorate with the size of the dwelling and enable a diversity of dwelling types including retirement, affordable housing and key worker housing. 	 A minimum private open space area to will apply as follows: The area is to be provided by way of ground floor private open space / balcony or above ground balcony adjoining the living area of the unit and at the same level; Ground level units and associated private open space are ideally between 400 and 900mm above adjacent street level; For units at ground level with GFAs of 55m² or less, 20m² of private open space with a minimum dimension of 4m is adequate; For units at ground level with GFAs between 55m² and 70m², 30m² of private open space with a minimum dimension of 4m is adequate; and For units at ground level with GFAs greater than 70m², 50m² of private open space with a minimum dimension of 4m is required. For units above ground level with GFAs of 35m² or less, 6m² minimum balcony area is adequate; For units above ground level with GFAs greater than 55m² and 55m², 10m² of balcony area is adequate;

Communal open space is clearly defined, useable and helps create a pleasant, safe and attractive living environment	As part of any future application, a Landscape Concept Plan is to be prepared that demonstrates compliance with the design outcomes, addressing adjacent public areas, existing and proposed vegetation, earthworks, communal facilities, surveillance, irrigation, lighting, fencing etc.
 Provision is made for: Individual mail boxes; Adequate garbage bin areas not visible from the street; and Adequate storage areas. 	No guideline.
 Dwellings provide an attractive street appearance through the following: Building frontage and entry points are readily apparent from the street; Lightweight and translucent elements are utilised as required, to soften building presence; Building design detail and finish provide an appropriate scale, add visual interest, and enable differentiation between dwellings; Buildings are sited to enhance landscape character within the streetscape; and Garages and parking structures are sited and designed so as to not dominate the street frontage. 	Refer to Figure 5 for further details. AND As part of any future application, a Streetscape Concept Plan is prepared that demonstrates how the design outcomes are met.
Front fences and walls (forward of the building line) are no greater than 1.2m high if solid. This height may be increase to 1.8m if the fence has openings which make it not less than 50% transparent.	As part of any future application, a Streetscape Concep Plan is prepared that demonstrates how the design outcomes are met.

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The two levels above are residential and can be built with a terrace style roof or as an open apartment balcony. Open balconies with glass frontage to allow maximum solar access to building.

Screens and awnings to provide protection and privacy for each apartment.

 $\overset{}{\text{Balconies}}$ extended to the boundary to create a sence of enclousure withtin Main Street.

Bottom level is reserved for retail shops and commercial suites. Setbacks are 0-3m to shop fronts. Ground level to provide space for cafe's shops & office suites with widened pavement and landscape shop fronts. Shops fronts reach the boundary Awning extends over widened pavement to creat space for outdoor tables and chairs and pedestrian walkway.

On street parking complimented by central parking and landscaped footpath & reservations. On street parking surrounded by landscaped gardens and pedestrian footpaths creating a pleasant street vista. Landscaped areas creating a pedestrian focused boulevard to encourage social interaction.

Basement parking on lower level

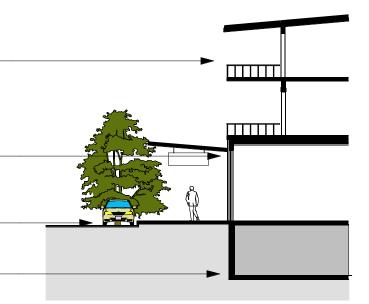
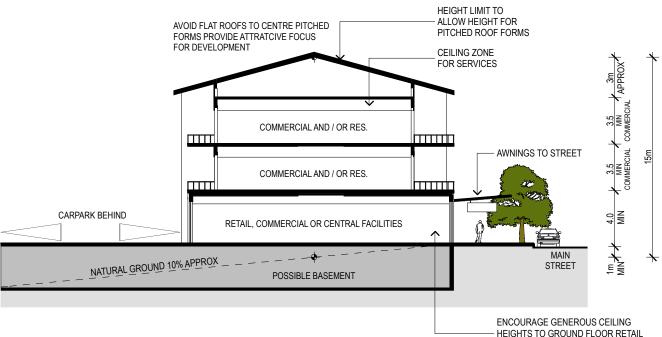


DIAGRAM 1



AND AWNINGS OVER FOOTPATHS

DIAGRAM 2: 3 STOREY BUILDING HEIGHTS



KEYNOTES

4. Tavern

1. Main Street 2. Hutley Drive
 3. Retail Core

7. Childcare centre

- 9. Offices/service businesses
 - 10. Home-based businesses 11. Rear parking
- 5. Medical centre
 - 12. Streets from Northern have clear v

8. Assisted Living facility

- 6. Arts business centre 13. Public access around perimeter of

FIGURE 5: INDICATIVE NEIGHBOURHOOD PLAN



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3	
4	5
6	

- Large Pond at focus of Neighbourhood, Perth
 Main Street style retail centre with upper level commercial, Botany Auckland
- 3. Terracotta amphitheatre, Varsity Lakes Gold Coast
- Water feature at focal point to residential dwellings, Subiacco Perth
- Main Street style retail centre with upper level commercial, Botany Auckland
- 6. 3 Storey apartment overlooking Parklands, Subiacco Perth

4.2 NEIGHBOURHOOOD CENTRE – APPARTMENT BUILDINGS

Apartment buildings occur within easy walking distance of the Main Street and Public Open Space areas and contribute to the vitality of spaces around the Main Streets. They contain a mixture of dwelling sizes and types to encourage a range of users to utilise the Neighbourhood Centre.

ISSUES

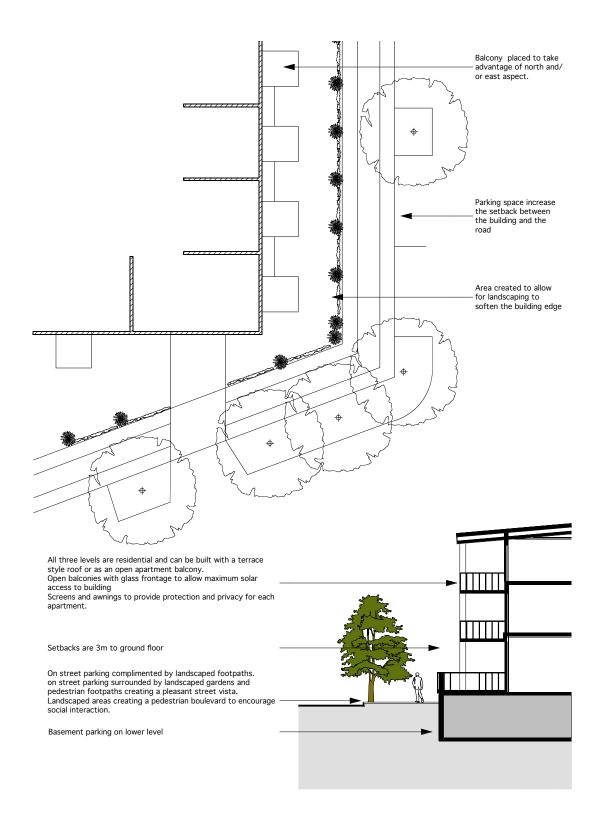
Apartment buildings in Pacific Pines are located within the Neighbourhood Centre and in some instances sleeve the at grade car parking areas for the retail uses. They have setbacks that offer a transition between mixed used building and lower density residential areas while offering clear surveilancce of street frontages (refer Figure 6).

These buildings need to be three stories in height to provide development intensity sufficient to sustain a vibrant centre with a range of housing choices. The building height limits in this area need to allow for sufficient height for terraces to be elevated up to 1m above the footpath to provide privacy between public footpaths and private terraces. The building heights also need to allow sufficient height for articulated roof forms to ensure there are attractive views of the development from above and to discourage large flat rooved buildings. These heights are illustrated in Diagram 4.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
 Buildings are located and sited to: Reduce the impact on neighbours and the public street; Facilitate adequate setback from the street to provide visual and acoustic amenity; and Provide adequate circulation of air between buildings. 	Refer to Diagram 3 for further details.
 Private open space is of a dimension and location to: Serve as an extension to the dwelling unit for private recreation purposes; Be directly accessible from the main living area of the dwelling unit; Maximise solar access, where practical; and Be comensorate with the size of the dwelling and enable a diversity of dwelling types including retirement, affordable housing and key worker housing. 	 A minimum private open space area to will apply as follows: The area is to be provided by way of ground floor private open space / balcony or above ground balcony adjoining the living area of the unit and at the same level and Ground level units and associated private open space are ideally between 400 and 900mm above adjacent street level. For units at ground level with GFAs of 55m² or less, 20m² of private open space with a minimum dimension of 4m is adequate; For units at ground level with GFAs between 55m² and 70m², 30m² of private open space with a minimum dimension of 4m is adequate; and For units at ground level with GFAs greater than 70m², 50m² of private open space with a minimum dimension of 4m is required. For units above ground level with GFAs of 35m² or less, 6m² minimum balcony area is adequate; and For units above ground level with GFAs greater than 70m², 50m² of private open space with a minimum dimension of 4m is required.

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Communal open space is clearly defined, useable	As part of any future application, a Landscape Concept
and helps create a pleasant, safe and attractive living environment	Plan is to be prepared that demonstrates compliance with the design outcomes, addressing adjacent public areas, existing and proposed vegetation, earthworks, communal facilities, surveillance, irrigation, lighting, fencing etc.
Provision is made for:	No guideline.
 Individual mail boxes; Adequate garbage bin areas not visible from the street; and Adequate storage areas. 	
Dwellings provide an attractive street appearance through the following:	Refer to Diagram 3 for further details. AND
 Building frontage and entry points are readily apparent from the street; Lightweight and translucent elements are utilised as required, to soften building presence; Building design detail and finish provide an appropriate scale, add visual interest, and enable differentiation between dwellings; Buildings are sited to enhance landscape character within the streetscape; and Garages and parking structures are sited and designed so as to not dominate the street frontage. 	As part of any future application, a Streetscape Concept Plan is prepared that demonstrates how the design outcomes are met.
Front fences and walls (forward of the building line) are no greater than 1.2m high if solid. This height may be increase to 1.8m if the fence has openings which make it not less than 50% transparent).	As part of any future application, a Streetscape Concept Plan is prepared that demonstrates how the design outcomes are met.





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DIAGRAM 3.

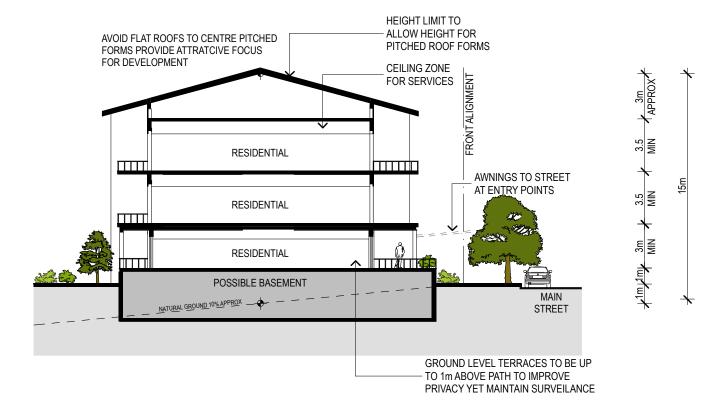
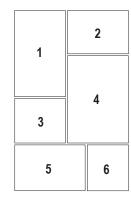


DIAGRAM 4





- 1.
- 2. Rear lane to 3 storey terrace housing
- housing
 3. 3 storey Main Street mixed use building, Varsity Lakes Gold Coast
 4. 3 Storey mixed use building on Main Street, Subiacco Perth
 5. 3 storey affordable apartments, Bowen Hills Brisbane
 C. 2 Starey and the strengt building
- 6. 3 Storey apartment building



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