2.4.1 Zone 1 - entry & buffer to highway

Zone 1 is located at the western boundary to the site and represents the entry to the development. The 'entry landscape' commences at the boundary with the highway and includes the vehicular entry to the visitor carparking at the top of the site, the start of the main internal road and the entry to the underground visitor carparking for the restaurant.

The 'entry landscape' is to create a landmark on the highway. Typically the highway into Coffs Harbour is a continous blur of residential development scattered with the odd tourist facility. The entry landscape and built forms that will be visible from the highway at this site will create a distinct location on the highway and establish a development of a high visual amenity and contemporary design. At the southwestern extent of the site, tiered retaining walls will provided elevated garden areas to maximise the potential for planting to create a buffer to the development. A line of feature trees within the highest garden area will create a visual landmark. The understorery to this tree planting will feature mass planting of groundcovers. Planting layout will be simple with mass planting, clean lines and a limited palette of plant species. Signage will be sophisticated and simple to minimise the potential to add to the existing highway 'clutter'. Associated infrastructure, such as lighting, pavement and carparking signage will be of a high quality and style to contribute to the overall character of the landscape. The overall intention will be to create a cohesive and legible frontage.

Garden areas to the visitor carparking will feature colourful flowering trees and layered understorey planting. Groups of palms to the west of the carpark will add a strong vertical element. A formal layout of another tree species will define the extent of the public zone, that is, the access to the underground carparking for the restaurant. An alternative treatment to the road will reinforce the extent of this 'public zone' and the change to road becoming access to the residential units.

The entry landscape will also provide a planted buffer between the highway and the development. This buffer will minimise the visual impact of the view to the development from the Pacific Highway. It will also provide a visual buffer to traffic on the highway for the residential units. The tiered gardens to the west of the hillside units will incorporate dense foliage plants and layered tree planting to maximise the gardens as a visual buffer.

simple plant palette, repeated feature tree and mass planting in simple shapes

2.4.2 Zone 2 - main vehicular route

Zone 2 is the main vehicular route within the site. It is located centrally to the site and provides access to the hillside units, the apartments and the Beachfront lots. This route will also define the main pedestrian link to the beach access for the development. Landscape treatments to this road and pedestrian link will seek to define its significance and to reflect the retained landscape features of the site. These include the pocket of 7(a) vegetation to the north and the south facing batter, also to the north of the route. Street tree planting will incorporate an indigenous species found within the 7(a) vegetation e.g. Three Vein Laurel. Tree planting will be in an informal layout with the tree planting theme reinforced by groups of this tree located on the south facing batter. Revegetation planting to the 7(a) vegetation will extend from the existing pocket of vegetation to the north road edge. Consideration will be given to including a barrier fence to this revegetation along the road edge with this fence custom designed to read as part of the streetscape.

A pedestrian pathway will provide a link from the site entry to the beach access with side accesses providing links to the various unit buildings. This pathway will be of a high quality finish that provides an appropriate surface for the steepness of the site. Street trees will be located either side of the path to create an informal character and to provide shade for pedestrians. The south facing slope to the north of the road will be densely planted with tree groups and shade loving plants. It will contribute to the visual amenity of the route. The surrounds to the street trees will be a combination of turf and garden areas. These garden areas will feature dense, lush foliage planting to contribute to creating a 'green' setting for the buildings and to create a sense of the buildings being revealed along the route.

Landscape treatments will seek to define the public and private realm of the route. Groups of a feature tree and palm planting will mark the entry to the public carpark for the restaurant. This 'public' part of the road will be reinforced with an alternative road surface treatment. Beyond this location is the access to the residential units.








informal arrangement of street tree, group of feature trees to define carpark entry, palm and tree groups along south facing batter, mass planting of foliage plants to garden areas

2.4.3 Zone 3 - gardens

Zone 3 includes the gardens surrounding the various unit buildings. These gardens will range from a semi-formal arrangement surrounding the main community facility to a less structured arrangement at the hillside units. The garden areas will be extensive and will feature lush sub-tropical planting. Informal groups of trees, palms and layered planting of shrubs and groundcovers will create a 'green' setting for the residential buildings. Gardens will be located to gradually reveal the built forms. At the the hillside units, the gardens will include a series of terraces created by retaining walls. These walls may be created from gabion walls featuring a local basalt stone. Dense foliage planting will soften the built form of the walls.

Pathway links will provide access to individual buildings and residences, will allow for access to the highway and to Campbells Beach and will also provide potential internal walking circuits. A pathway along the base of the 7(a) vegetation will focus on this natural site feature and will provide access to a community picnic and BBQ facilities.

semi-formal layout to communal facilities with grass terraces, mass planting of single species & colourful flowering trees

tiered gardens of dense subtropical foliage plants, informal groups of palms & trees, landscaping levels created by gabion rock retaining walls, a integrated mix of exotic and native plant species, buildings gradually revealed amongst a lush green setting

2.4.4 Zone 4 - 7(a) vegetation & revegetation

Zone 4 is the pocket of 7(a) vegetation that is located approximately at the centre of the site. This zone also includes the revegetation planting to the edges of this pocket. The 7(a) vegetation will be retained. The existing weeds will be hand removed as per the Vegetation Management Plan for this location. Revegetation works will be established for exposed areas located within the pocket and for the edges of the 7(a) area. Proposed revegetation areas include the north side of the zone, the southern edge adjacent to the main vehicular route and along the eastern edge. Consideration will be given to using plant species found within the 7(a) vegetation within the landscape works to the development to reinforce the natural characteristics of the location. A barrier fence will be designed that restricts access into the zone, but is also in keeping with the high visual amenity and character of the development.

2.4.5 Zone 5 - streetscape and bio-retention area

Zone 5 includes the open space and streetscape to the east of the Garden Apartments. The open space is part of the stormwater detention for the site. Landscape design for this location seeks to maintain views for the dwellings, provide for the filtration of stormwater and to provide a landscape of a high visual amenity. The treatment to the detention area will be a combination of grassed and planted areas. Planted areas will include strategically located palm groups with an understorey of native grasses and sedges.

A pedestrian link will be provided along the western edge of the detention area, with the opportunity to incorporate elevated deck areas that protrude out over the basin. These locations could incorporate seating for residents. Boardwalks will provide links across detention areas.

Tree and palm planting to the bio-retention area will read as part of the streetscape to the front of the Garden Apartments. On the opposite side of the road, trees and gardens to the rear of the Beachfront Homes will add to the visual amenity and 'greenness' of the street. Spreading shade trees will provide a visual focus either end of the street.

grassed & planted bio-retention area featuring palm groups, tree planting, sedges & grasses

2.4.6 Zone 6 - beach link

The pathway along the main vehicular link will culminate in the beach link, located between the two bulks of the Beachfront lots. This area will also operate as part of the stormwater detention system. A raised boardwalk will link the pathway across the basin to the beach access. Random mounds will be located within the basin and these will provide locations for the Pandanus that are to be relocated from elsewhere on the site. Mounds will also include mass planting of native grasses and groundcovers. The basin will be a combination of grassed areas and low planting. Dense planting will be located along the northern and southern edges to give privacy to the adjacent Beachfront lots. The Beachfront homes will be at RL7.50 with the base of the detention area at RL5.25. The level changes will be taken up with a planted batter. Tree planting to the batter will provide additional privacy to the adjacent residences and will also create a visual vista to the beach access and ocean beyond.








boardwalk access across detention area to beach access, mounds with coastal groundcovers & Pandanus relocated from lots

2.4.7 Zone 7 - Beachfront Homes & dune

Zone 7 includes the Beachfront lots and the dune area to the east. The Beachfront Homes have rear access with an east facing garden overlooking Campbells Beach. The landscape character to these homes will be a reflection of the contemporary home design and the coastal environment. Homes will include an upper courtyard level and a lower garden area that also functions as part of the stormwater detention system. Split retaining walls or a planted batter will provide for the height difference bewteen the two levels. The upper level will be more formal in layout with screen planting at the top of stepped walls or the batter to provide privacy. These courtyards may include seating, BBQ, lounges, paving/timber decking, plunge pool etc. The planting at the higher level will relate to the design of the homes and will be structured in layout and form. Both native and exotic species will be utilised. Access between the upper and lower levels will be stepped.

To provide opportunities to individualise the Beachfront gardens, two garden characters will be adopted. Gardens incorporating the split retaining walls will be formal with layered mass planting and sculptural feature plants. Gardens incorporating the planted batter will have a softer, organic layout and planting will be more random.

The lower gardens will be the interface with the dune environment and their design will seek to make a smooth transition to the beach landscape. The layouts will be simple to keep the focus on the view. Planting will be of native species. Feature plants and trees will be located at strategic locations to maintain views. An open pool fence or similar fence will be located along the eastern boundary to provide security for residents whilst maintaining views. Fencing will be sited within planting to soften its built form.

A pedestrian link will be provided from the Beachfront homes to the main pedestrian spine and beach access. Planting along this walk will include coastal groundcovers. Revegetation planting to the east of this walk will include retained Pandanus and new planting of native dune groundcovers. At the northeast of the site, the existing hind dune vegetation will be retained, weeded and supplemented with new planting of coastal groundcovers. A dune protection fence will be located along the revegetation edge to restrict access into this area.

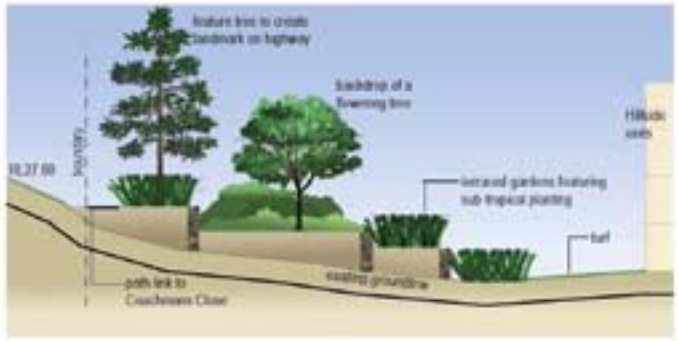
A public access will provided along the northern edge of the development. This will provide a link to the 'Coastal Walk' along Campbells Beach. Signage will be included at the entry to this walk indicating the link to the beach.

organic approach to level change for some gardens with informal steps through planted batter

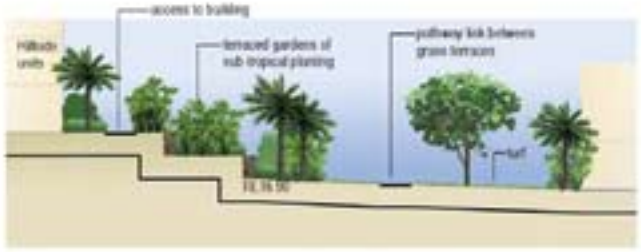
more formal approach with split retaining walls with steps (finishes to match in with architectural character)

Lower garden (part of detention area) simple in layout but with more of a relationship to the dunal vegetation to create a smooth transition between the two & to keep the focus on the view. Low planting of mainly indigenous species, but with some sculptural plants. Opportunity to locate festure plants or trees at strategic locations to maintain views. Open pool fence or similar at back boundary to keep views open but give some security

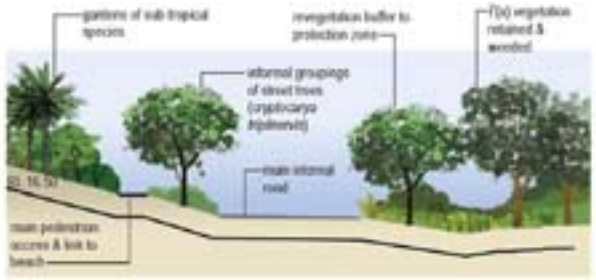
2.5 Landscape Masterplan



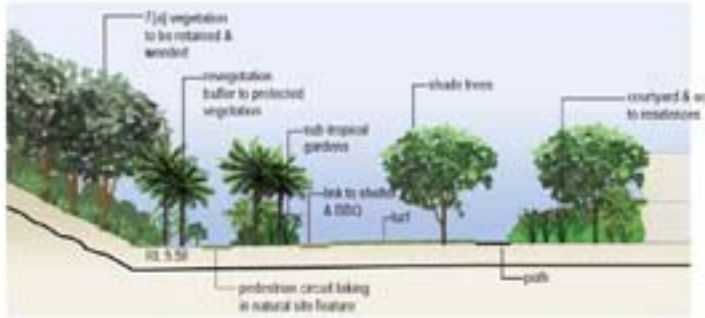
A Typical Section - interface with Pacific Highway



B Typical Section - terraced gardens & Hillside units

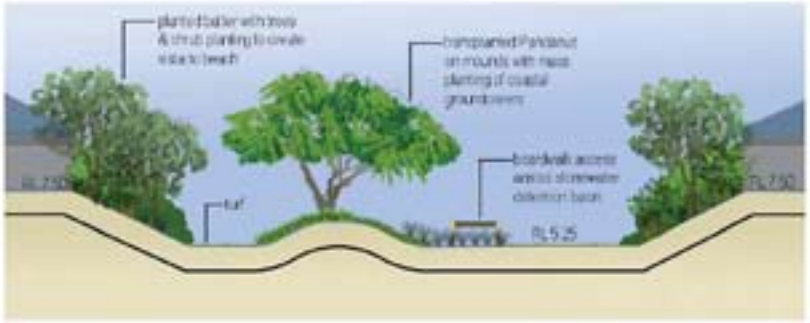


C Typical Section - main internal road

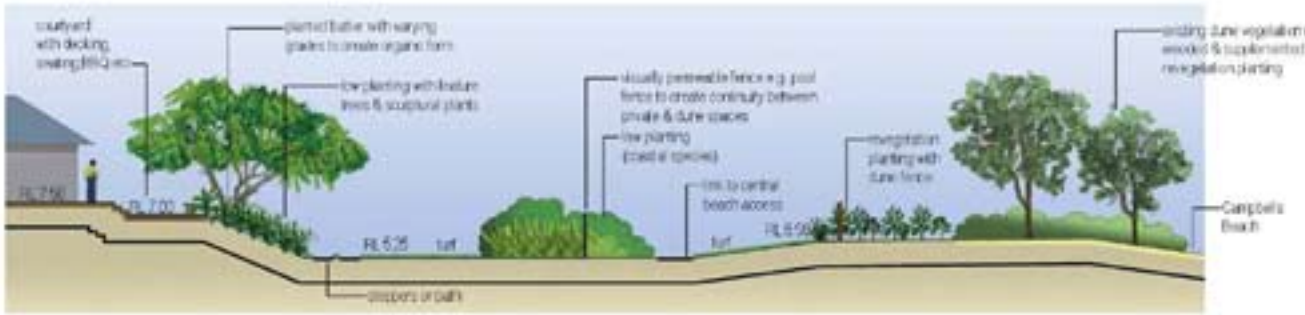


D Typical Section - 7(a) vegetation & Garden Apartments

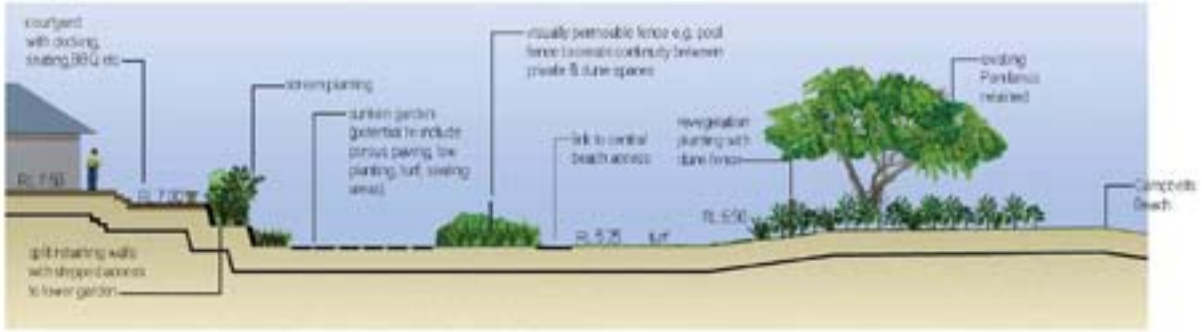
sapphire
Landscape Masterplan



E Typical Section - detention basin & link to beach



F Typical Section - Beachfront homes & dune



G Typical Section - Beachfront homes & dune

sapphire
Landscape Masterplan

Scale

2.6 Sample of Proposed Plant Species

2.6.1 Landscaped Gardens

(combination of native & exotic sub-tropical species)

Araucaria cunninghamii	Hoop pine
Archontophoenix cunninghamii	Bangalow palm
Brachychiton acerifolius	Flame Tree
Cryptocarya triplinervis	Three-veined cryptocarya
Cyathea species	Tree ferns
Elaeocarpus reticulatus	Blueberry ash
Ficus obliqua	Small-leaved fig
Ficus microcarpa	Small fruited fig
Harpullia pendula	Tulipwood
Hymenosporum flavum	Native Frangipani
Livistonia australis	Cabbage Tree Palm
Lophostemon confertus	Brush box
Tristaniopsis laurina	Water gum

Acmena smithii	Lilly pilly
Alpinia zerumbet	Shell Ginger
Alpinia caerulea	Native ginger
Cordyline rubra	Cordyline species
Cordyline terminalis	Cordyline species
Cordyline compacta	Cordyline species
Gardenia florida	Gardenia species
Heliconia psittacorum	Heliconia species
Hibiscus rosa-sinensis	Hibiscus
Michelia figo	Port Wine Fig
Phormium tenax	New Zealand flax
Strelitzia reginae	bird of Paradis
Syzygium luehmannii	Riberry
Syzygium oleosum	Blue lilly pilly

Asplenium nidus	Crow's nest fern
Dianella caerulea	Flax lily
Doryanthes excelsa	Giant lily
Gardenia radicans	Prostrate Gardenia
Hymenocallis littoralis	Spider Lily
Liriope "Evergreen Giant"	Flax lily
Lomandra longifolia	Long-leaved matrush
Linospadix monostachya	Walking-stick palm
Rhoeo discolor	Moses in the Cradle
Viola hederacea	Native Violet

Araucaria cunninghamii
Hoop pine

Brachychiton acerifolium
Flame tree

Archontophoenix cunninghamii
Bangalow palm

Tristaniopsis laurina
Water gum

Harpullila pendula
Tulipwood

Cyathea species
Tree fern

Doryanthes exclesa
Giant lily

Alpinia zerumbet
Shell Ginger

Linospadix monostachya
Walking-stick palm

Heliconia psittacorum
Heliconia species

Asplenium nidus
Crow's nest

Acmena smithii
Lilly pilly

Alpinia caerulea
Native ginger

Liriope "Evergreen Giant"
Giant mondo

Hymenosporum flavum
Native frangipani

Cordyline terminalis
Cordyline species

Syzygium luehmannii
Riberry

Phormium tenax
New Zealand flax

Strelitzia reginae
Bird of Paradise

Michelia figo
Port Wine Fig

Cordyline compacta
Cordyline species

2.6.2 Garden Apartments Stormwater Detention Area

Livistonia australis	Cabbage Tree Palm
Melaleuca quinquenervia	Broad leaved paperbark
Syzygium oleosum	Blue lilly pilly
Tristaniopsis laurina	Water Gum
Baumea articulata	Jointed twigrush
Lomandra longifolia	Long-leaved matrush
Crinum pedunculatum	Swamp lily
Cordyline species	Palm lily species
Dianella caerulea	Flax lily
Gahnia sieberana	Sawsedge swordgrass
Isolepsis nodosa	Knobby club rush
Juncus usitatus	Common rush
Lomandra hystrix	Mat rush
Lomandra longifolia	Long-leaved mat rush
Philydrum lanuginosum	Frogsmouth
Schoenoplectus validus	River club rush
Viola hederacea	Native Violet

Philydrum lanuginosum
Frogsmouth

Lomandra hystrix
Mat rush

Crinum pedunculatum
Swamp lily

Livistonia australis
Cabbage Tree Palm

Gahnia sieberana
Sawsedge swordgrass

Isolepsis nodosa
Knobby Club Rush

Melaleuca quinquenervia
Broad leaved paperbark

Lomandra longifolia
Mat rush

2.6.3 Beachfront Detention Area

Actinotus helianthi	*Flannel Flower*
Austromyrtus dulcis	*Midgenberry*
Baeckia imbricata	*Round-leaved Baeckia*
Boronia pinnata	*Pinnate Boronia*
Caustis recurvata	*Curly Grass*
Banksia robor	Swamp banksia
Eriostemon australasium	Pink Waxflower
Grevillea humilis	Narrow-leaved Grevillea
Kunzea capitata	Pink Kunzea
Lomandra confertifolia	Lomandra species
Lomandra longifolia	Mat rush
Melaleuca thymifolia	Thyme honey myrtle
Phebalium woombye	Wallum Phebalium
Pultenea villosa	Hairy Bush Pea

Austromyrtus dulcis
Midgenberry

Banksia robor
Swamp Banksia

Eriostemon australasium
Pink Waxflower

Kunzea capitata
Pink Kunzea

Actinotus helianthi
Flannel Flower

Boronia pinnata
Pinnate Boronia

Melaleuca thymifolia
Thyme Honey Myrtle

Phebalium woombye
Wallum Phebalium

ACKNOWLEDGEMENTS

Photographs used in the Site Analysis Section of this document were taken by Jackie Amos. Photographs used in the Landscape Proposal Section of this document to indicate proposed landscape character include projects completed by a range of other consultants. Images have been extracted from a range of sources including the following.

Kemp, Barry 2004 — *Wildflowers of the North coast of New South Wales*, Reed New Holland, Sydney.

Reed, David 2003 — *The Art & Craft of Stonework, Dry-Stacking, Mortaring, Paving, Carving, Gardenscaping*, Lark Books, Sterling Pbulishing Company Incorporated, New York, USA.

Rose, Lorna — *The Genius of the Indigenous. Gardens Illustrated* October 2005. Origin Publishing, Bristol, UK.

Trulove, Grayson James 2003 — *40 Landscapes*, Rockport Publishers, Massachusetts, USA.

APPENDICES

Volumes 2

17. Phase 1 Preliminary Site Investigation

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Environment Health Safety

PHASE 1
PRELIMINARY SITE ENVIRONMENTAL INVESTIGATION

Pelican Beach Resort
740-742 Pacific Highway
Sapphire Beach NSW

- Lot 100 DP 629555
- Lot 101 DP 629555
- Lot 2 DP 800836

Prepared for

Attentus Projects and Properties Pty Ltd
Level 3
225 Miller Street
North Sydney 2059

Prepared by

DAVID LANE ASSOCIATES

March 2006

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EXECUTIVE SUMMARY

David Lane Associates were engaged by Mr. William Jenner of Attentus Projects and Properties Pty Ltd to perform a Phase 1 - Preliminary Site Environmental Investigation of the Pelican Beach Resort located at 740-742 Pacific Highway, Sapphire Beach. An important consideration with potential development or change of landuse of property is the environmental status of the land. The Phase 1 Preliminary Site Environmental Investigation provides the initial step in the environmental investigation process and also provides information to assist in developing guidelines for future management of property.

The purpose of these investigations was to identify any contamination of the soil or groundwater that may be present on the site and its possible distribution. All other environmental aspects relative to the site, which are of environmental consequence, are also outlined.

The Phase 1 Preliminary Site Environmental Investigation undertaken by David Lane Associates, in accordance with the State Environmental Planning Policy No.55 (SEPP-55) *Remediation of Land* under the Environmental Planning and Assessment Act (1979), included:

- Site reconnaissance and desk top study
- Records review
- Field investigation
- Reporting

Site inspection of the Pelican Beach Resort, Pacific Highway, Sapphire Beach identified no major potential issues associated with the site that may infringe on the present zoning of the property under the accepted guidelines of the *National Environmental Protection (Assessment of Site Contamination) Measure 1999*.

The soils present on site exhibit only minor impact from chemical contaminants resulting from past land use. Soil contamination levels did not exceed the relevant site assessment criteria; *Residential with Gardens and Accessible Soils, Column A Table 5-A* Soil Investigation Levels Schedule B(1) National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) 1999 in any sample location on site. No samples recorded exceedances of NSW EPA Phytotoxicity Limits.

Groundwater was encountered during the investigation, and it was determined that it flows in an easterly direction towards the coast. Contamination of groundwater was included in the scope of this report.