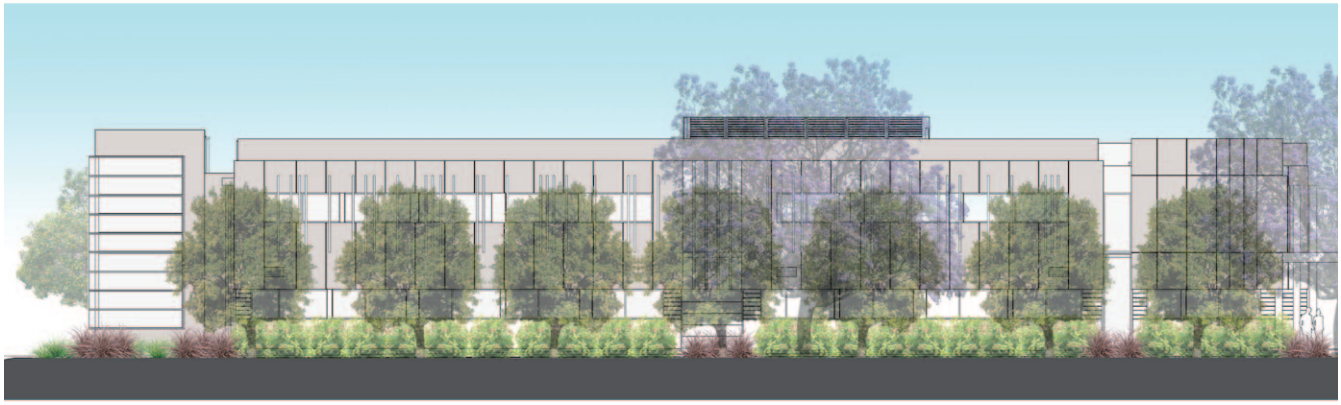
PROPOSED HEALTH SERVICES FACILITY

Category 3 Landscape Documentation

Corner of Swan Street and
Jacaranda Avenue- Raymond Terrace



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LANDSCAPE MASTERPLAN REPORT

December 2011

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1.0 Introduction

1.1 Background

The primary goal of this report is to communicate the ideas, principles and opportunities incorporated into the Landscape DA Documentation for the proposed Raymond Terrace HealthOne Health Services Facility, associated car park and landscape areas. The proposal comprises a two storey building located towards the south east corner of the site, car park areas and associated hard and soft landscape areas.

Kemp Consulting has commissioned Moir Landscape Architecture Pty Ltd to prepare the landscape DA documentation and report to outline the key landscape design elements and treatments to support the proposal. The landscape masterplan report and landscape plans: LP01-LP03 have been prepared to comply with the requirements of Port Stephens Council's DCPs and relevant guidelines by accredited Landscape Architecture practice, Moir Landscape Architecture Pty Ltd.

1.2 Site Description

The site is located on the corner of Swan Street and Jacaranda Avenue in the township of Raymond Terrace and the Local Government Area of Port Stephens Council. The site is located a block to the east of the Raymond Terrace Plaza and sits to the south of the Raymond Terrace Bowling Club and north of the Raymond Terrace Public School.

The immediate area is characterised by a mix of heritage buildings, older style residential properties, commercial and community buildings. Streetscapes in the area comprise both native and exotic street trees. Jacaranda Avenue consists of an established avenue of Jacaranda mimosifolia street trees which are heritage listed. Existing mature Eucalypt street trees along Swan Street and a small densley treed park directly south of the site contribute to the garden character of the area.

The topography of the site is generally flat. The site is currently a vacant lot with a mix of vegetation along the north, west and eastern boundaries. The vegetation on site varies in its maturity, level of health and species mix. From a visual perspective the site is in a poor condition with overgrown weeds and grasses dominating the lot which is surrounded by a dilapidated chain wire fence.

2.0 Site Photographs

Figure 1 - Site Locality Plan

1. View from Swan Street across the site towards Jacaranda Avenue.

2. View of the southern extents of the site from Jacaranda Avenue.

2.0 Site Photographs

3. View from the corner of Jacaranda Avenue and Swan Street looking towards the site.

4. View of the northern boundary of the site from driveway entry to the Bowling Club.

5. View north along Jacaranda Avenue with the Bowling Club shade structure visible.

6. View looking across the site towards Swan Street from the north eastern boundary of the Site.

7 . View south along Jacaranda Avenue with the northern boundary of the site visible in the background.

8 . View north along Swan Street- Existing mature Eucalypts define the street scape.

3.0 The Proposal

3.1 Proposed Landscape

The proposed landscape theme is based upon a mix of both native and exotic plants which will provide a positive contribution to the existing character of the local area which is characterised by the established streetscapes of Jacaranda Avenue and Swan Street.

Planting is intended to soften boundaries and areas of hard surface, provide shade and visual separation between proposed buildings and neighbouring residential areas. It is undeniable that there will be an overall change in the character of the site as existing trees are removed and a new building and car park areas are built.

It is proposed that the landscape will, overtime as trees mature, lessen any visual impacts associated with the proposal and provide a positive contribution to the overall landscape character of the area.

Desired Outcomes:

- Landscaping and provision of pathways to encourage pedestrian access that is safe, legible and interesting.
- Ensure passive surveillance is maintained both within and around the site whilst maintaining privacy within the building.
- Supplementary tree planting across the site to compensate for tree loss. Proposed landscaping to provide good visual integration with the broader landscape character of the area.
- The incorporation of locally native species well suited to the local soil and climatic conditions.
- The incorporation of large feature trees to provide shade, reduce ambient temperatures, and break up areas of hard surface.
- Establish a monitoring and maintenance program ensuring continued success of the landscape works.

4.0 Key Features

4.1 Tree Retention

An Arborist report for the site was prepared by Bradley Magus (Abacus Tree Services) in December 2011. The purpose of the Arborist Report was to undertake a Visual Tree Assessment (VTA) with the aim of providing an assessment of tree health, useful life expectancy and hazard rating for all trees on the site. The report recommends trees that should be removed (trees that fail the VTA, are undesirable species, pose an unacceptable level of risk and cannot be retained given the location of the proposed built elements such as carparks and buildings) and trees that could be retained and incorporated into the proposal.

Tress 1-11 are located owithin the road reserve of Jacaranda Avenue to the east of the proposed development site. Identified as Jacaranda mimosifolia, the street trees have a strong visual and historical significance in the immediate area. The trees are to be retained and protected during construction with designated tree protection zones. Where trees are likely to be susceptible to future mechanical damage such as compaction damage from motor veicles permanent measures such as bollards are to be installed to prevent such damage.

The boundaries of the tree protection / machinery exclusion zones should be identified and protective fencing installed prior to any other work on site is undertaken. All personnel involved in the clearing and construction operations for the site should be inducted on the significance of the conservation areas of the site prior to approval to commence clearing.

General Principles:

- All trees to be retained are to be flagged and fenced to a suitable distance for protection of the root structure. Signage to warn that trees are to be protected.
- A suitably qualified person is to check, and sign off, that trees are appropriately marked and fenced.
- The area within the tree protection zone (TPZ) is to be kept free of construction material and debris.
- Prevention of damage to tree bark.
- Prevention of compaction to the ground under trees.

4.0 Key Features

4.2 Screen Planting

Screen planting will improve the amenity of the site and reduce the visual impact of the proposed development by screening views from adjoining areas and fragmenting the built form. A dense shrub screen around the site perimeter along the north and eastern boundary will provide a green edge to soften the transition between the proposed development and neighbouring residential areas.

Trees species proposed for areas to the norh, east and south of the proposed building comprise Blueberry Ash and Lilly Pilly. The trees do not commonly exceed six to eight metres high in cultivation and have a clear trunk. Planted with a low groundcover the small trees will provide a pleasent outlook from the building whilst maintaining sightlines underneath. The selection of small to medium rainforest trees in this area is to ensure that trees do not ultimately outgrow there situation and become problematic. Selected species are locally native and will provide good visual integration with the landscape proposal as well as broader landscape character of the area.

Retention of existing vegetation in the north west corner of the site assists in providing partial screening of the proposal when viewed from existing houses west of the site. Proposed planting of predominantly native trees will ensure that the landscape areas provide a positive contribution to the landscape character of the local area.

Murraya paniculata- Screen planting along boundary.

Small leaved lilly pilly.

4.0 Key Features

4.3 Forecourt

The paved forecourt is located on the northern side of the building to maximise solar access. The forecourt functions as an informal, outdoor waiting area allowing people to congregate together and sit, to gather in groups or as individuals.

One large tree (Bull Bay Magnolia) has been proposed for this space to ensure adequate shade is provided in summer. The proposed tree assists in highlighting the main entry to the building whilst visually softening the building from the north. Permeable paving combined with structural soils are proposed to provide increased infiltration and improved below ground growing conditions for trees.

Planting in the forecourt will assist in visually fragmenting areas of hard surface and provide a pleasant outlook from within the building. A combination of low mass planting interspersed with feature planting and clean trunked canopy trees allows for passive surveillance.

The provision of seating allows for people to meet or wait outside. Seating is positioned under the feature tree to capitalise on the shade provided.

Large canopy shade trees.

Sculptural element by others to provide informal seating.

4.0 Key Features

4.4 Carpark Areas & Water Sensitive Urban Design (WSUD

Supplementary tree planting within car park fingers will provide additional shade for parking areas. Increased urbanisation results in an increase in the amount of impervious surfaces. These include roads, driveways, roofs, etc. WSUD practises will incorporated with the aim of managing water run-off and recharging the sites groundwater.

Water Management Principles

- Permeable paving to provide increased infiltration and improved growing conditions for trees.
- Reduction of grassed areas to reduce water demands and ongoing mowing.
- Use of groundcovers as a water conserving substitute for lawns.
- Grouping of plants with similar water requirements.
- Improvement of existing site soil with organic matter to improve its capacity to store and retain water.
- The use of organic mulches on planted areas to reduce evaporation.
- The use of recycled water and water collected in water tanks for irrigation of landscaped areas.
- Use of rainfall runoff from paved areas and roofs to maintain gardens and lawns.
- Diversion of runoff from driveways, footpaths and roads into planting beds or trenches filled with aggregate which will support trees and shrubs.
- Flush kerbs or gaps in upright kerbing to direct water into garden beds.

Permeable paving.

Native grasses and sedges.

4.0 Key Features

4.5 Species Selection

PLANTING PRINCIPLES

- The use of high canopy trees with clean trunks and low level understorey planting to maintain sight lines and provide passive surveillance throughout the proposed development.
- Trees will act to reduce ambient temperatures within the site by providing shade to the buildings, roads, and car parking areas. Vegetation also helps to absorb radiant heat off hard surface.
- Trees to humanise the scale of the building and soften areas of hard surface.
- Species selected for the external works comprise predominantly native trees, shrubs and groundcovers.

Native species of trees have been selected for the following reasons:

- They are well suited to the local conditions.
- They reflect the landscape character of the surrounding area.
- They create habitat links through the site.
- They help reduce the visual effects of urban development and retain the landscape character of the area.
- Plants have been grouped in accordance with their water requirements. This helps to simplify irrigation requirements for each area.

Lilly pilly - screen planting.

Gymea Lilly- Accent Plant

4.0 Key Features

4.5 Species Selection

TREES

Acmena smithii 'Minor'	Lilly Pilly
Elaeocarpus reticulatus	Blueberry Ash
Eucalyptus camaldulensis	River Red Gum
Hymenosporum flavum	Native frangipani
Plantus x hispanica	London Plane Tree
Magnolia grandiflora	Bull Bay Magnolia
Waterhousia floribunda	Weeping Lilly Pilly

SHRUBS

Murraya paniculata	Orange Jasmine
Philodendron 'Xanadu'	Dwarf Philodendron
Rhaphiolepis indica	Indian Hawthorn
Syzygium 'Cascade'	Lilly Pilly Cultivar

ACCENT PLANTS

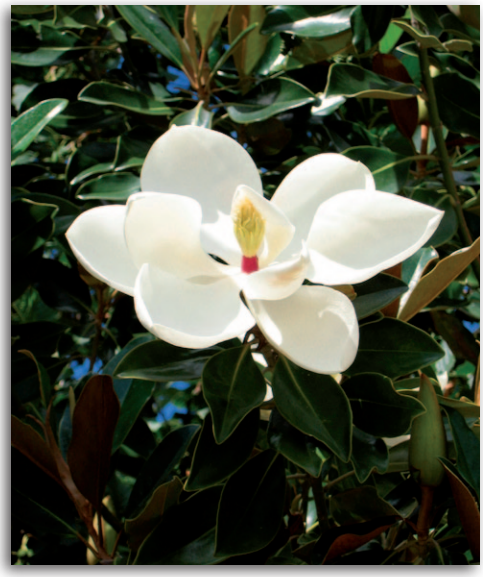
Doryanthes excelsa	Gymea Lily
Hymenocallis littoralis	Spider Lily
Pennisetum advena 'Rubrum'	Fountain Grass

GROUNDCOVERS / GRASSES

Lomandra confertifolia Cvs.	Mat Rush Cultivars
Lomandra longifolia 'Tanika'.	Mat Rush Cultivars
Myoporum parvifolium	Creeping Boobialla
Raphiolepis indicia	Snow Maiden
Trachelospermum tricolour	Star Jasmine

Elaeocarpus reticulatus.

Plantus x hispanica.



Magnolia grandiflora.

5.0 Landscape Management

5.1 Soils

Soil Testing

Substrates suitable for landscape works should be identified and tested during site investigations for their suitability to support plant growth. Substrate materials should be stockpiled on site and protected from erosion for later placement to newly formed batters and revegetation areas. Soil will be tested and the nutrient levels and pH adjusted as required. Fertilisers and soil ameliorants should also be used where soil tests indicate the need. It is proposed the existing site soil be improved by incorporating organic matter and soil conditioner to improve its capacity to store and retain water. Carry out soil tests in accordance with the guidelines recommended in AS4419 – 2003 (Soils for Landscaping).

5.2 Mulch

Mulch specified for external mass planting areas should be a locally sourced, recycled product.

Benefits of mulching include:

- Mulch will help prevent the germination of many weed species.
- Mulch helps retain soil moisture, reducing the need for watering.
- Mulching protects the soil from the impact of raindrops.
- Mulch encourages the growth of worms and other beneficial soil organisms which help improve soil structure and the availability of soil nutrients to plants.

Mulch stockpiling.

Topsoil and mulch spreading.

5.0 Key Features

5.3 Irrigation

A well-designed, controlled and maintained drip irrigation is the most environmentally responsible way to irrigate.

The irrigation system shall have:

- Inline emitters, pressure compensating emitters adjusted for supply pressure, topography, and pressure drop over distance and thus increase efficiency.
- Self cleaning emitters.
- Filters.
- Pressure regulators installed one per valve downstream from the valve.
- Backflow preventers especially where harvested water or greywater is used.
- Emitters on a grid to provide a uniform coverage.
- Where possible recycled water/rainwater is to be utilised for irrigation.
- All landscaped areas are to be irrigated for establishment of the project, preferably two growing seasons.

5.4 Plant Establishment & Maintenance

During plant establishment the landscape works should be checked regularly for plant health and weed invasion. Regular inspections will reduce the potential for minor infestations becoming major problems. Weed control and ongoing plant maintenance will be carried out for a minimum of 12 months. All rubbish related to landscape works shall be removed by the landscape contractor before it is allowed to accumulate. During the maintenance period the landscape contractor shall undertake the following: Regular watering, weeding, mulching and other activities as required to promote healthy growth. Replace any dead or dying plants within this period. Contingency funds should be made to replant failed areas. The landscape areas should also be monitored to document such things as growth rates, success and failures. Monitoring of the growth, root distribution and transpiration rates of establishing species will help identify species that are successful and suitable for use in future stages or as replacement plantings.