

TAYLOR BURRELL BARNETT

LANCELIN SOUTH

STRUCTURE PLAN AND OUTLINE DEVELOPMENT PLAN

G9DH9A 69F 2013



prepared for:

J B Matthews

prepared by:

Taylor Burrell Barnett
Town Planning and Design

ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the Shire of Gingin Town
Planning Scheme No. 8

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE
WESTERN AUSTRALIAN PLANNING COMMISSION ON:

02 OCTOBER 2007

In accordance with Schedule 2, Part 4, Clause 28 (2) and refer to Part 1, 2. (b) of the
Planning and Development (Local Planning Schemes) Regulations 2015.

Date of Expiry:

19 OCTOBER 2035

LANCELIN SOUTH STRUCTURE PLAN & OUTLINE DEVELOPMENT PLAN

September 2009: As adopted by Council on 2 October 2007
and incorporating modifications requested by WAPC on 13 November 2008.

September 2013: Further modified to incorporate Revised Structure Plan as adopted by
Council on 18 June 2013, superseding the Lancelin South Structure Plan (June 2007).

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DOCUMENT HISTORY AND STATUS

Printed	18/09/2013 10:30:00 AM
Last Saved	17/09/2013 2:22:00 PM
Job No.	03/096
Author	Rachel Chapman/Duncan Ross
Document Version	Rev 5

Revision	Date Issued	Reviewed by	Approved by	Date Approved
Rev 0	March 2007	Lex Barnett	Lex Barnett	
Rev 1	04.06.07	Rachel Chapman-Willey	Rachel Chapman-Willey	08.06.07
Rev 2	10.09.07	Rachel Chapman-Willey	Rachel Chapman-Willey	11.09.07
Rev 3	18.08.09	Rachel Chapman-Willey	Lex Barnett	19.08.09
Rev 4	11.09.09	Rachel Chapman-Willey	Lex Barnett	11.09.09
Rev 5	18.09.13	Rachel Chapman	Rachel Chapman	18.09.13

TABLE OF MODIFICATIONS

Modification Number	Description of Modification	Date Adopted by Council
1.	<p>The Lancelin South Structure Plan (LSSP), dated September 2007, was adopted by the Council on 2 October 2007. The purpose of the Structure Plan was to justify the Council's initiation of a Scheme Amendment to rezone the land to facilitate urban development.</p> <p>Amendment 93 to Town Planning Scheme No. 8 followed the adoption of the LSSP and facilitated the rezoning of a portion of the Structure Plan area from 'Rural' to 'Urban Development'.</p> <p>Amendment 93 initially intended to provide the statutory framework for the entire LSSP area under a single amendment. In accordance with the WAPC's letter of 13 November 2008 a number of changes were requested prior to consent to advertise, including:</p> <ul style="list-style-type: none"> Reducing the size of the residential portion of the land subject to Amendment 93, located to the south of Lancelin Road to no more than 1,000 –dwellings and modifying the amendment figures accordingly; Modifying the scheme text to restrict development from occurring, including both residential and industrial/mixed uses, until a proven source of water is available; Modifying the amendment document to make reference to potential Water Corporation waste management options; Ensuring the future provision of any developer contributions was consistent with draft State Planning Policy 3.6. <p>This document was subsequently updated in September 2009 to reflect the above modifications.</p>	2 October 2007
2.	<p>On 18 June 2013, Council considered a report titled 'Lancelin South Balance Rezoning Scheme Amendment Request' which sought to initiate an amendment to rezone the balance of the land subject to the Lancelin South Structure Plan (LSSP) and adjacent land for the purposes of future urban development. The purpose of the report was to supersede the LSSP dated June 2007 with a revised Structure Plan and update the LSSP document accordingly.</p> <p>Changes to the LSSP document as a result of Council's 18 June 2013 resolution include:</p> <ul style="list-style-type: none"> Document cover page being updated from September 2009 to September 2013; Updating the 'Document History and Status' tables; Inserting the 'Table of Modifications'; Including the 'revised Structure Plan' and the superseded 'Lancelin South Structure Plan' (Figure 13) at the front of the document for ease of comparison; Placing a watermark on existing document Figures 13-21 which states <i>"Design superseded by revised Structure Plan adopted by Council 18 June 2013"</i>; and Inserting the following additional text to clarify the land uses associated with the proposed Neighbourhood Centres: "The land use zones depicted on the Structure Plan are as per the Scheme. In particular, to avoid any doubt, the local centre 	18 June 2013

Modification Number	Description of Modification	Date Adopted by Council
	<p>and village centre sites will be treated as if zoned 'Town Centre' in TPS 9, with all land use and permissibility as per that zone in the Scheme.</p> <p>This reference has been included to confirm that there has been no change to the LSSP in this regard and the land uses and permissibility will be as per the zones referred to in the Scheme and in the LSSP. In accordance with Clause 5.7.6.3 of TPS 9, a Scheme Amendment is required if the zones or reserves in the Structure Plan are inconsistent with the Scheme."</p> <p>Given this document remains a reference document for future amendments and subdivision – no textual changes within the LSSP have been undertaken, as the broad development intentions as documented remain the same.</p>	



LEGEND

TOTAL APPLICATION AREA (662ha)

NEIGHBOURHOOD CENTRE

LOCAL WALKABLE AMENITY

POTENTIAL THIRD PRIMARY SCHOOL LOCATION

PRIMARY SCHOOL / DISTRICT SCHOOL (K-10)

500 - 750m² RESIDENTIAL LOTS

750 - 1250m² RESIDENTIAL LOTS

1250 - 1750m² RESIDENTIAL LOTS

1750 - 2250m² RESIDENTIAL LOTS

2250m²+ RESIDENTIAL LOTS

MIXED BUSINESS - COMPOSITE INDUSTRIAL

MIXED BUSINESS - SERVICE COMMERCIAL

MIXED BUSINESS - LIGHT INDUSTRIAL

NOTES

1 PRIMARY NEIGHBOURHOOD CONNECTOR (BOULEVARD)

2 SECONDARY NEIGHBOURHOOD CONNECTOR

3 CONSERVATION AREA

4 PRIMARY NORTH-SOUTH RIDGE LINE RETAINED WITHIN OPEN SPACE

5 COMMUNITY FOCAL POINT SUPPORTED BY NEIGHBOURHOOD CENTRE AND DISTRICT HIGH SCHOOL (K-10)

6 SECONDARY RIDGE LINE RETAINED WITHIN OPEN SPACE

7 PUBLIC OPEN SPACE LINK ACCOMMODATING SECONDARY RIDGE LINE

8 OPEN SPACE BUFFER TO INDIAN OCEAN DRIVE



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1.0 INTRODUCTION

Lancelin is a small coastal township, in the Shire of Gingin, 140 km from the Perth CBD. Lancelin has been earmarked in Government strategic planning to develop as a Major Local Centre with a predicted population growth of between 5,000 and 10,000 by 2031.

Due to the physical constraints to developing to the west, north and east, the only viable option to accommodate Lancelin's future growth is to the south. This is a fact that has long been recognised by the Shire Council and the local community. However, planning for this growth has been held in abeyance awaiting the completion by the State Government of a regional planning strategy (The *Gingin Coast Structure Plan*, GCSP) and subsequent local planning studies, to provide the necessary support at the state level. This work has now advanced to a stage where there is now broad government support for the southward expansion of Lancelin.

This document represents the next phase in the planning for Lancelin's growth. In order to accommodate residential development, it is now necessary to rezone the identified area to a more appropriate zoning. The Shire's Town Planning Scheme No. 8 (TPS8) requires, as a prerequisite to rezoning, the preparation of a Structure Plan. It also requires, as a prerequisite to subdivision or development approval, the preparation of an Outline Development Plan. The meaning of these plans, and their relationship to the rezoning and development process, are explained in more detail in sections 5.0, 6.0 and 7.0.

The land identified as the primary area to accommodate Lancelin's growth is referred to as Lancelin South, and is part of a larger landholding owned by JB Matthews. The proposed Urban Development cell is located approximately 2.2 km from the existing Lancelin townsite and comprises approximately 538 hectares (refer **Figure 1**); however the Outline Development Plan and rezoning proposal relates only to the first stage of development, comprising approximately 120 ha.

This document aims to progress the planning and zoning process in a streamlined manner, by delivering both a Structure Plan and an Outline Development Plan (ODP) together, to support the proposed rezoning of Lancelin South to 'Urban Development' zone. In this way, the Shire, community, and state government stakeholders can consider the whole planning framework together, and the progression to detailed design, approvals and actual land delivery can occur in a more timely manner.



Figure 1 - Location of Proposed Lancelin South Development

In preparing this rezoning proposal, community consultation, detailed planning, environmental, engineering, ethnographic and economic investigations have been undertaken to enable community input, and an assessment of the land's suitability for residential development in the manner proposed.

The consultant team appointed by JB Matthews, which has contributed to the report content and the structure plan design, are as follows:

Taylor Burrell Barnett	Town Planning and Design
TABEC	Civil Engineering
Ecoscape	Environmental Scientists
Plan E	Landscape Architects
Creating Communities	Community Consultation
Fire Plan WA	Fire Management Consultants
Anthropos Australia	Aboriginal Heritage
Syme Marmion and Co	Economic/Demographic Analysts
Riley Consulting	Traffic Engineers

This report has been prepared as a technical supporting document to assist in facilitating the various approvals necessary to progress with urban development in Lancelin South.

The structure of Council's current scheme is such that the most appropriate approach is to zone the land 'Urban Development', with necessary modifications to the provisions of the zone to provide for an Outline Development Plan to designate zones, reserves and RCodes, with land use permissibility within these zones consistent with the corresponding zones in the Scheme. These zones include 'Residential', 'Commercial' and 'Industrial' under TPS 8, which translate into 'Residential', 'Town Centre' and 'Mixed Business' in the Shire's proposed TPS 9.

This report addresses the statutory requirements for the preparation of a Structure Plan and an ODP in accordance with clause 5.5 of TPS 8. In addressing these requirements, the report provides a summary of the site's characteristics, planning context and a summary of the investigations and assessments undertaken to support the proposals for the development, including:

- Detailed engineering
- Environmental
- Ethnographic
- Fire management
- Landscape analysis
- Traffic analysis
- Economic analysis

The collation of the information contained in these studies has enabled a clear identification of the opportunities and constraints presented by the site and surrounding landuses.

In accordance with clause 5.5 of TPS8, the ODP establishes the land use classes within the proposed 'Urban Development' zone, which will be used as the basis for determining future subdivision and development proposals in the structure plan area.

2.0 BACKGROUND

2.1 Chronology of Events

The history of planning for the southward expansion of Lancelin spans over ten years, initially prompted by local strategic planning initiatives by the Shire, and subsequent state recognition, through the Central Coast Regional Strategy in 1996. With respect to the background of this current proposal for Lancelin South, the following is a summary of key events:

- **1996:** The first structure plan for Lancelin South, known as Lancelin Coastal Village (refer **Appendix A** – Lancelin Coastal Village Structure Plan, Roberts Day), was originally conceived in response to the Shire's identification of Lancelin South as the future direction for expansion of the townsite in its draft Planning Strategy, and the apparent recognition of Lancelin's growth potential in the State Government's Central Coast Regional Strategy.
- **1997:** The formal planning process commenced with the presentation of a preliminary concept plan to the Shire of Gingin. This followed a number of meetings and presentations with the Shire Council, which resulted in the Shire supporting the preparation of a formal structure plan.
- **1998-9:** Work on the Lancelin Coastal Village Structure Plan progressed and was ultimately presented to the community for public comment at the end of 1999.
- **February 2000:** The Shire of Gingin adopted the Lancelin Coastal Village Structure Plan as a basis for considering subsequent applications for rezoning and Outline Development Plans.

It was also at this time that JB Matthews and the Shire discussed ways of ensuring that the development of Lancelin South would deliver the important community services, facilities and infrastructure to the Lancelin district community.

- **2000-01:** Whilst the development itself was seen as an obvious catalyst to provide for new community infrastructure, JB Matthews and the Shire continued discussions on how the development could further contribute to community provision. Ultimately, a Deed of Agreement was reached, in which JB Matthews agreed to make a cash contribution to the Council for every lot sold, for the development of community services and maritime facilities. That agreement was reached in March 2001.
- **November 2001:** Council resolved to initiate an Amendment to its Town Planning Scheme (Amendment 84) to rezone the site to 'Urban Development', including a 'Special Control Area' to address the environmental controls needed to ensure sensitive and sustainable urban development of the coastal environment.

The Amendment was subsequently referred to the Western Australian Planning Commission (WAPC) seeking Consent to Advertise.

- **September 2002:** Some six months after Council's initial request, the Commission finally provided the Shire with an 'unofficial' response to the Amendment proposal. The Commission advised that it had recommended that the Minister withhold consent to advertise the Amendment, primarily due to a lack of proper strategic rationale, an absence of evidence of economic drivers or employment generators, and the potential for the development to place considerable financial burden on government for the provision of services and infrastructure.
- **February 2003:** The Minister for Planning and Infrastructure advised the Shire that she would defer her consideration of the Amendment pending the further advancement of the Gingin Coast Structure Plan (GCSP).
- **December 2003:** The GCSP was released for public comment. It indicated a limited growth forecast for the Gingin/Ledge Point coastal district; furthermore, the only identified area of urban growth was located in the heavily constrained southern section of the Lancelin dunes. There was no specific mention of urban expansion potential in Lancelin South.

- From **December 2003** until **December 2004**, JB Matthews., together with the Shire and a number of community interest groups, took steps to persuade the government, at political and bureaucratic levels, to take a more positive and proactive view towards the growth prospects for the coastal region, particularly in light of the physical impracticalities associated with developing in the area identified in the draft GCSP for urban expansion.

JB Matthews's contribution in this regard involved:

- the preparation of a major submission on the GCSP, considering the various interests and impacts relating to JB Matthews's landholding, as well as the broader implications of the strategy recommendations on the region's development.
 - arrangement of a series of meetings with community stakeholders in order to crystallise the community's position in relation to the GCSP and develop a common direction for the community's response. As a consequence of this process, and the efforts of a number of motivated community members, a significant number of public submissions were made that presented a unified position supporting Lancelin expansion.
 - following the conclusion of the public submission period, there was continuing dialogue with the Shire, the Department for Planning and Infrastructure (DPI), the Minister's office, Community Advisory Group (CAG), Chamber of Commerce and other stakeholders, to make every endeavour to ensure that the GCSP was properly altered to reflect the clear messages received through the public consultation process.
- **Late 2004:** It became apparent that the collective efforts of the community had succeeded in altering the government's attitude, with the GCSP being modified to recognise the potential for urban expansion in Lancelin South (albeit subject to further study and investigation).
 - **July 2005:** Based on advice from the WAPC, JB Matthews and LandCorp commenced a joint planning exercise to prepare a detailed townsite structure plan that addresses where Lancelin can expand and the opportunities and constraints to development. This structure plan and the exercise was named the Lancelin Townsite Expansion Plan (LTEP).
 - **August 2005:** Council at it's meeting on the 16 August 2005, at JB Matthews's request, resolved to discontinue the rezoning of Lancelin South (Amendment 84) given the current review of the previously prepared structure plan, on the understanding that a new amendment proposal would be submitted in due course, reflecting the outcomes of the more current strategic planning initiatives.
 - **September 2005:** The LTEP consultant team held a community open day in Lancelin to present work done to date for the LTEP and to also obtain community opinion on where they consider Lancelin's growth should take place.
 - **November 2005:** At the request of the Shire, the Minister withheld consent to advertise Amendment 84. In accordance with the *Town Planning Regulations 1967*, this results in the Amendment being withdrawn.
 - **December 2005:** The LTEP team held a stakeholders workshop in Lancelin, which was attended by, among others, a number of ward Councillors and the Shire's Consultant Planner. At the workshop a draft copy of the LTEP was presented to gain input from Stakeholders.
 - **February 2006:** Given the DPI was unable to send a representative to the stakeholders workshop, Taylor Burrell Barnett subsequently presented the draft LTEP to relevant officers at the DPI for comment. The officers undertook to present the draft LTEP to the WAPC for formal comment.
 - **February 2006:** The final GCSP was released by the WAPC, in which Lancelin South is identified as being within a 'Townsite Expansion Investigation Area'. The GCSP also identified the sand dunes south east of Lancelin as 'Future Urban with a Mix of Uses'.

The GCSP also stated that for urban development to progress within Lancelin and immediate surrounds it will be necessary to prepare a detailed townsite structure plan addressing opportunities and constraints to development. It was considered that the LTEP was likely to fulfil this requirement.

- **May 2006:** The WAPC in considering the draft LTEP, which initially did not identify development on the dunes south east of the town, determined that the DPI should undertake a detailed independent review on the demand and development opportunities for Lancelin townsite and Ledge Point (refer **Appendix B**, correspondence from the DPI). It is understood that this was also considered important to gain further clarity in relation to the outcomes of the GCSP.
- **September 2006:** The DPI provided a draft copy of the report prepared by the consultant engaged to undertake the independent review, which noted the following key points:
 - The recognition of the Gingin Coast Structure Plan (GCSP) that forecasts Lancelin will need to accommodate up to 10,000 people by 2031.
 - The inability for the dunes south east of the Lancelin townsite, which are identified in the GCSP as 'Future Urban with a Mix of Uses', to meet the short to medium term population growth forecast of Lancelin due to the considerable constraints to urban development.
 - The suitability of the majority of the area identified as 'Townsite Expansion Investigation Area' in the GCSP (i.e. Lancelin South) to meet the short to medium term growth forecast for Lancelin.
 - The recommendation for appropriate parts of the 'Townsite Expansion Investigation Area' south of Lancelin to be rezoned for urban development.

3.0 SITE CONTEXT

3.1 Title Particulars

The subject site is owned by JB Matthews and comprises Lots 9504, 9505, 5243 and 1 Lancelin and Old Ledge Point Roads, Lancelin.

The particulars relating to these lots are identified in the below table and the titles appended in **Appendix C**.

Table 1: Title Particulars

Lot Description	Volume	Folio
Lot 9504 on Plan 51420	2646	96
Lot 9505 on Plan 51420	2646	97
Lot 5243 on Plan 206398	1696	283
Lot 1 on Diagram 24526	1240	35

3.2 Location

At a local level, the subject site is located 2.2 km south of the Lancelin townsite and 3.5 km north of Ledge Point. The Lancelin Sport and Recreation Club is located immediately to the west and the Seaview Park Rural Residential estate to the east. Fence Reef Beach is located 870 m to the west of the subject site (refer **Figure 1**).

At a regional context the site is located 100 km north of Joondalup via Wanneroo/Lancelin Road and approximately 128 km north of the Perth CBD (refer **Figure 2**).

3.3 Site and Surrounding Land Uses

The majority of the subject site, south of Lancelin Road, is currently used for grazing purposes. The northern portion of the subject site, i.e. north of Lancelin Road, has previously been used for cattle grazing.

Structures on the site comprise various windmills, bores, horse paddocks, fences sheds and stables.

Adjacent and nearby land is also used for grazing purposes, with sand mining activities underway and proposed for land to the west, north and south. The Seaview Park rural residential area is located to the east and Crown Reserves are located to the west and south (refer **Figure 3 – Site and Surrounding Land Uses**).

3.3.1 Mining Activity

There are several existing mining leases in the area where lime sands are extracted or proposed to be extracted. To the north and south, these areas are proposed to be protected in Draft TPS9 through a Special Control Area provision.

The existing mining activities on mining lease M70/57 (Rule) currently utilises Old Ledge Point Road for the purposes of access by trucks. Mining vehicle access is proposed to be strategically redirected to a new access road, which is proposed to be constructed through adjoining Lot 520 (also owned by JB Matthews) and linking with Indian Ocean Drive further south in order to avoid conflict with existing and future traffic along Lancelin Road and Old Ledge Point Road. The construction of this new access route (refer **Figure 3**) is currently the subject of negotiations with the landowner and the mining operators and it is anticipated that agreement will soon be reached to enable future residents of Lancelin South to not be impacted upon by these mining trucks.



REGIONAL CONTEXT

FIGURE 2



plan no. - 03/096
scale - N.T.S.

0m 500m 1km

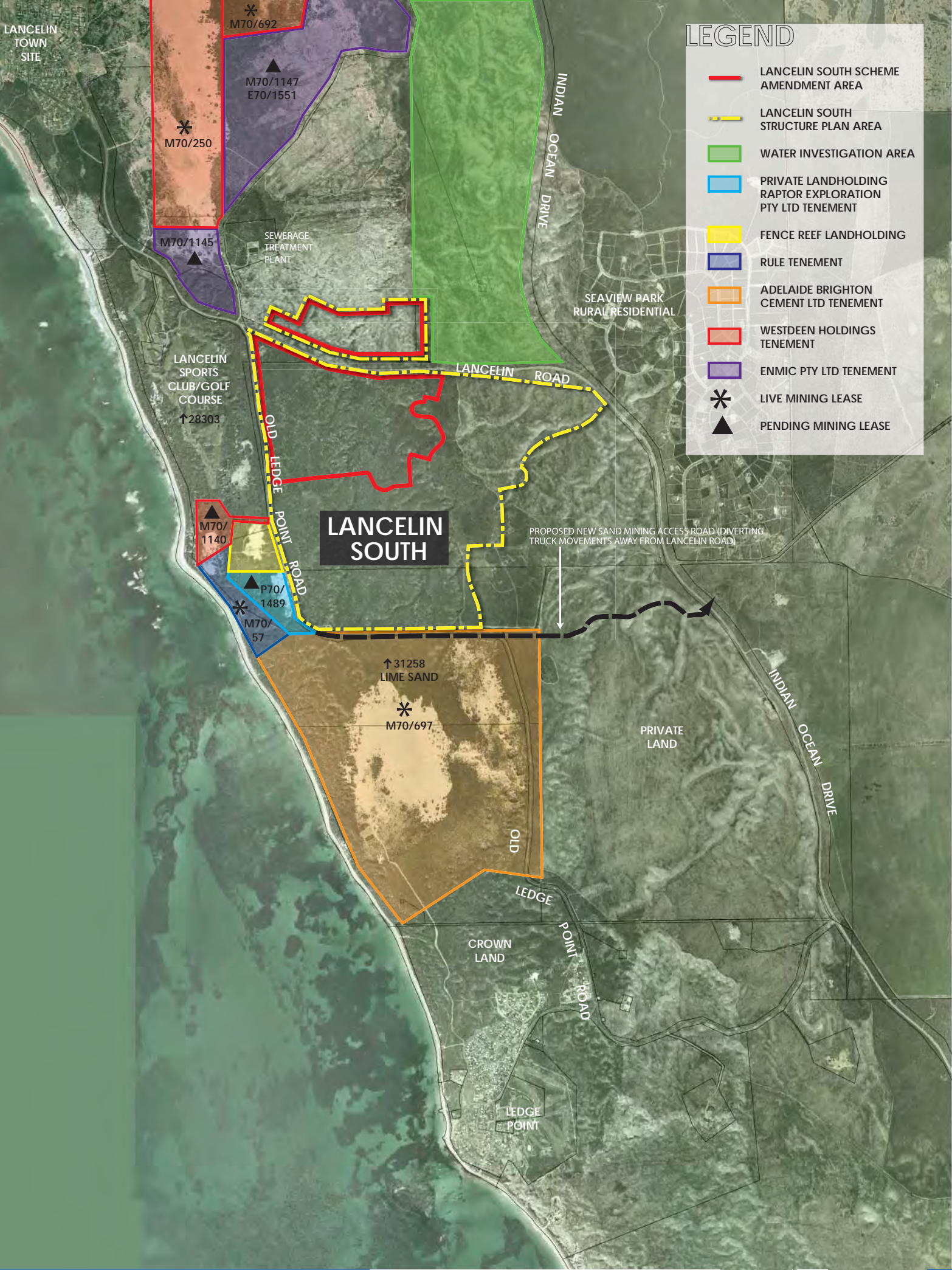
client - Lancelin Land Co.
date - June 2007



LANCELIN TOWN SITE

LEGEND

- LANCELIN SOUTH SCHEME AMENDMENT AREA
- LANCELIN SOUTH STRUCTURE PLAN AREA
- WATER INVESTIGATION AREA
- PRIVATE LANDHOLDING RAPTOR EXPLORATION PTY LTD TENEMENT
- FENCE REEF LANDHOLDING
- RULE TENEMENT
- ADELAIDE BRIGHTON CEMENT LTD TENEMENT
- WESTDEEN HOLDINGS TENEMENT
- ENMIC PTY LTD TENEMENT
- LIVE MINING LEASE
- PENDING MINING LEASE



LANCELIN SOUTH

PROPOSED NEW SAND MINING ACCESS ROAD (DIVERTING TRUCK MOVEMENTS AWAY FROM LANCELIN ROAD)

↑ 31258 LIME SAND

PRIVATE LAND

CROWN LAND

LEDGE POINT

SITE & SURROUNDING LANDUSES

FIGURE 3



plan no. - 03/096

0m 200 400 600 800m

Client - J B Matthews
date - Sept 2009

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187 Berrima Road, Adelaide
South Australia 5008
Telephone: 08 8362 2911
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3.3.2 Buffers

As illustrated by **Figure 4**, the subject site is affected by three buffers. One is resultant from the sewerage treatment plant north of the subject site and the others from sand mining activities to the west and south of the site.

The sewerage treatment plant has a 500 m buffer, which has been provided in accordance with the EPA's guidance statement on the assessment of odour impacts. Residential development is not permitted with this buffer, however, other land uses not sensitive to odour, such as light industrial uses are permitted.

In relation to the existing and proposed sand and limestone mining located south and west of the subject site, the EPA's Guidance Statement No. 3: *Separation Distances between Industrial and Sensitive Land Uses* establishes a generic buffer between the mining activities and the subject site. Depending on the size of the mining activity, this buffer will be between 300 and 500 metres.

As identified in **Figure 4**, the southern and western portion of the subject site is affected by this potential 500 m buffer. In accordance with the staging plan, these portions of the estate will not be developed for a considerable amount of time. It is expected that the mining operation would have ceased by this time and, accordingly, the buffer will no longer be applicable.

Should development of the southern or western portion of the subject site be required prior to the sand mining activities being completed, the EPA's guidance for separation distances notes that urban development could be permitted within the buffer should a scientific study demonstrate that a relaxation of this buffer will not result in unacceptable air quality for any form of residential development. It is proposed that, should development be considered prior to the completion of mining activities on these sites, further studies would be undertaken to ensure future residents are not impacted upon by the mining activities.

3.4 Topography

The undulating site rises from approximately 5 m AHD in the west through two parallel north-south sand dunes and swales before reaching a continuous incline approximately 1.5 km from the eastern boundary that reaches a maximum of 70 m AHD within the subject site.

3.5 Landform and Soils

There are three main dune systems on the Swan Coastal Plain, aligned parallel to the coastline as a result of aeolian deposits. In order of age and distance from the coast these are the Quindalup, Spearwood and Bassendean Dune Systems. Each of these systems is differentiated by their topography and soil profiles.

The subject site lies within the Quindalup Dune System, which consists of calcareous sands that form beach ridges and parabolic dunes. The Quindalup Dune System is further subdivided into units and four phases based on age and landform. The soil units and contours within the subject land are shown in **Figure 5**, and the extent of each of these units is listed in the table below.

Table 2: Soil Units mapped by the Department of Agriculture in Subject Site

Soil Unit	Landform Description
Q1	Oldest Quindalup dunes or dune remnants with low relief
Q3	Irregular Quindalup dunes with high relief and slopes up to 20%
Qs	Undulating Quindalup landscapes with rock outcrops
Sp	Spearwood Dunes

LANCELIN TOWNSITE

SEWER
TREATMENT
PLANT

500m

SEAVIEW PARK
RURAL RESIDENTIAL

STRUCTURE PLAN
AREA

EXISTING AND
POTENTIAL SAND
MINING

300m 200m

POTENTIAL
SANDMINING

300m 200m

NOTE : Extent of Sand mining Indicative Only.
Exact area of Mining to be confirmed by DOIR.

POTENTIAL BUFFERS TO EXISTING AND PROPOSED DEVELOPMENT

FIGURE 4



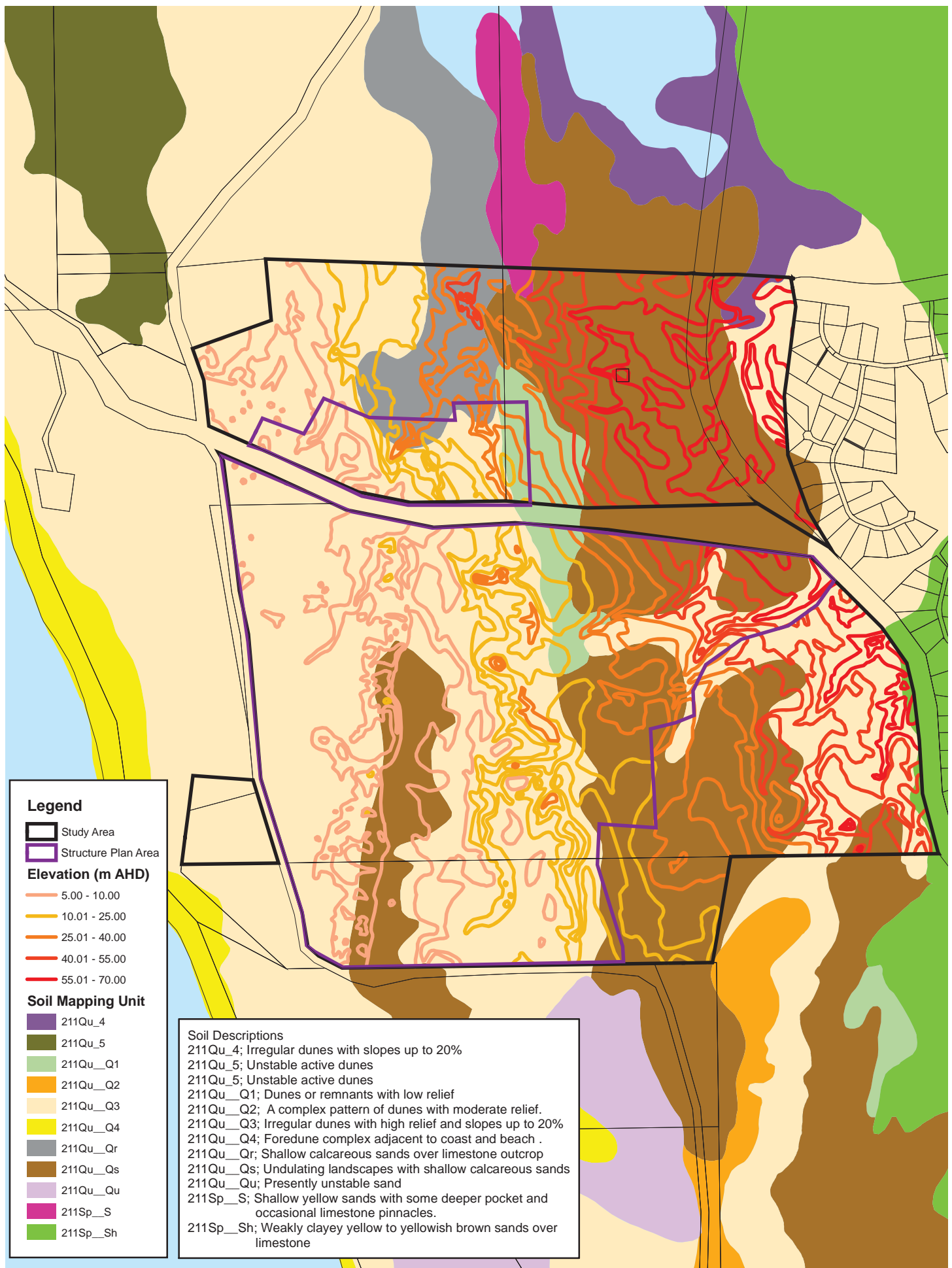
plan no. - 03/096

client - JB Matthews
date - July 2009

0m 250m 500m

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SOURCE: Ecoscape Australia Pty Ltd



3.6 Vegetation and Flora

A vegetation and flora survey was undertaken for an area which included and extended beyond the boundaries of the proposed Structure Plan and ODP and this assessment is documented in Appendix D. The following section describes the vegetation and flora which relate specifically to the Structure Plan and ODP area only.

A number of reference sites were used to determine the vegetation types which occur in the subject site. A total of 8 vegetation types were found in the Structure Plan and ODP area which ranged in condition due to past land use activities. The variation in the vegetation types is subtle primarily due to changes in topography, geology, soil types and prevailing winds. The vegetation types are listed in the table below and identified in **Figure 6**.

Appendix D provides details of the survey methodology, data analysis, photographs of reference sites and vegetation and flora descriptions.

Table 3: Vegetation Types identified in Subject Site

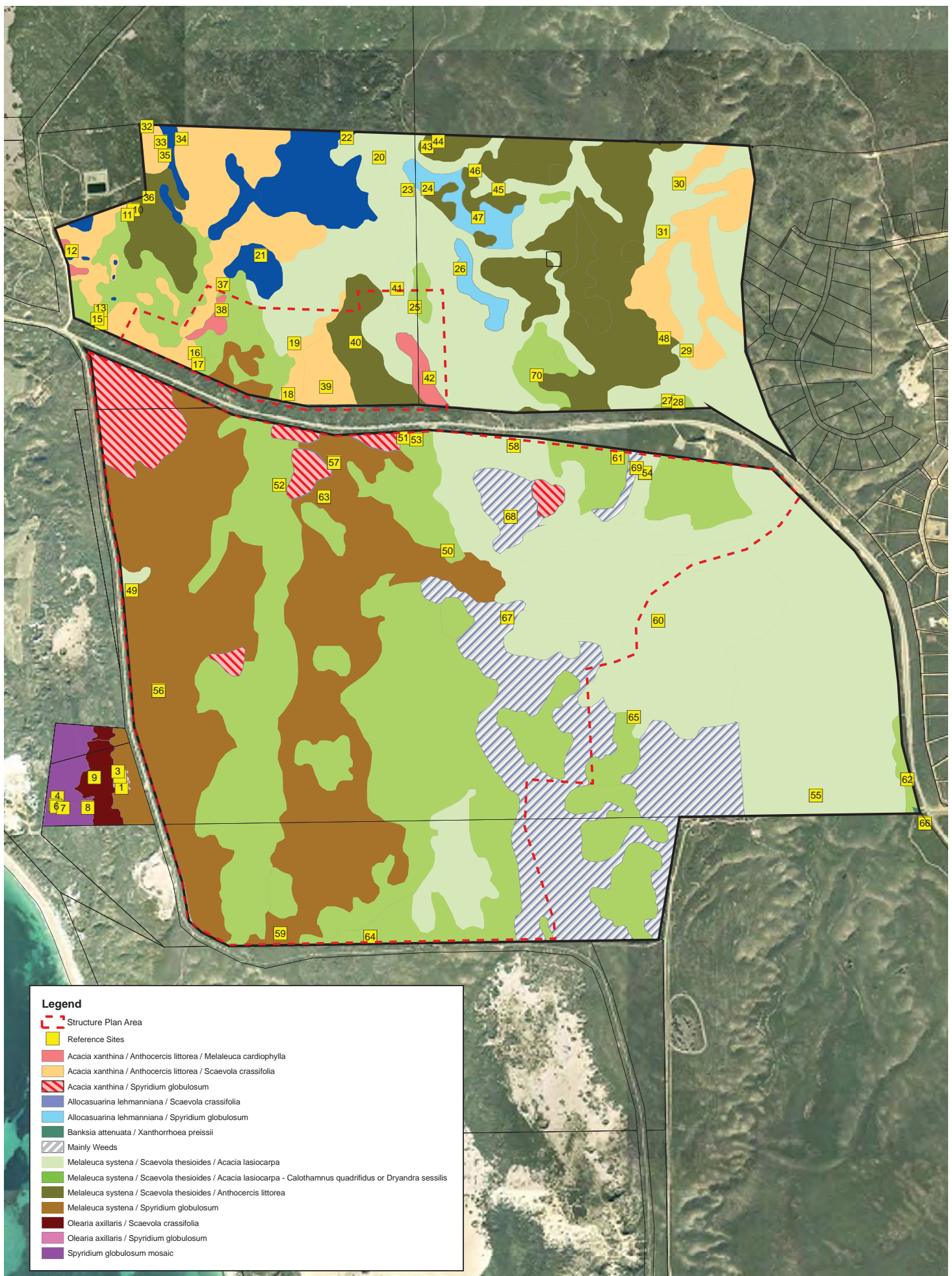
Vegetation Type	Typical Landform
<i>Acacia xanthina</i> / <i>Spyridium globulosum</i>	Swales
<i>Acacia xanthina</i> / <i>Anthocercis littorea</i> / <i>Melaleuca cardiophylla</i>	Swales and slopes
<i>Acacia xanthina</i> / <i>Anthocercis littorea</i> / <i>Scaevola crassifolia</i>	Swales, slopes and crests
Mainly Weeds	Swales
<i>Melaleuca systema</i> / <i>Scaevola thesioides</i> / <i>Acacia lasiocarpa</i>	Swales, slopes and crests
<i>Melaleuca systema</i> / <i>Scaevola thesioides</i> / <i>Acacia lasiocarpa</i> - <i>Calothamnus quadrifidus</i> or <i>Dryandra sessilis</i>	Shallow sand over limestone
<i>Melaleuca systema</i> / <i>Spyridium globulosum</i>	Shallow sand, swales and slopes
<i>Melaleuca systema</i> / <i>Scaevola thesioides</i> / <i>Anthocercis littorea</i>	Sand over rocky outcrops, swales, slopes

3.6.1 Regional Vegetation Classification

Three alternate regional vegetation classification systems are used for describing vegetation on the Swan Coastal Plain. The three classifications, which are based on different parameters, are:

- Vegetation Associations as identified by Shepherd *et al.* (2002) which classifies vegetation across the entirety of Western Australia on the basis of structure and dominant species ; and
- Vegetation Complexes defined by Heddl *et al.* (1980), which divide the Swan Coastal Plain into medium to large areas based on structure and dominant species and soils and landforms respectively; and
- Floristic Community Types (FCTs), defined by Gibson *et al.* (1994), which divide the Swan Coastal Plain into comparatively small to medium areas on the basis of groups of plant species that tend to co-occur.

All three classifications are referred to because vegetation associations and complexes are useful in determining the degree to which vegetation types have been cleared at a regional scale and Threatened Ecological Communities are often defined in terms of FCTs.



SOURCE: Ecoscape Australia Pty Ltd



The Vegetation Associations mapped at a regional level by Shepherd *et. al.* (2002) on the basis of vegetation structure and dominant species, within the study area are listed in **Table 4** and their distributions are shown in **Figure 6A**.

Table 4: Vegetation Associations mapped by Shepherd *et. al.* (2002)

System	Association	Description
Guilderton	129	Bare areas, drift sand
Guilderton	1007	<i>Acacia lasiocarpa</i> , <i>Melaleuca systena</i> heath with patches of <i>Acacia rostellifera</i> – <i>Acacia cyclops</i> thicket
Jurien	1029	Shrublands - scrub-heath <i>Dryandra-Calothamnus</i> association with <i>Banksia prionotes</i> on limestone in the northern Swan Region

As highlighted in **Figure 6A**, there are discrepancies between the boundaries of the Associations and edges of bare sand, the coastline and Vegetation Complexes. The only Association that can be appropriately ascribed to the study area is Association 1007 (*Acacia lasiocarpa*, *Melaleuca systena* heath with patches of *Acacia rostellifera* – *Acacia cyclops* thicket).

3.6.2 Vegetation Complexes

Vegetation types are grouped into vegetation complexes on the basis of patterns in soil and geomorphology and are appropriate for assessing the value of vegetation at a regional scale (i.e. at a scale of 1:250 000).

The site occurs entirely within the *Quindalup Vegetation Complex*, which is a complex restricted to coastal dunes. The *Quindalup Vegetation Complex* into two main alliances – the strand and fore dune alliance, and the mobile and stable dune alliance (slightly inland). The mobile and stable dune alliance is relevant to the subject site.

The native plants in the mobile and stable dune alliance typically include Coastal Wattle (*Acacia cyclops*), Yellow Tailflower (*Anthocercis littorea*), Coastal Sword Sedge (*Lepidosperma gladiatum*), Blueberry Tree (*Myoporum insulare*), Wild Grape (*Nitraria billardierei*), Coastal Daisy (*Olearia axillaris*), Thick Leaved Fan Flower (*Scaevola crassifolia*), *Scaevola nitida*, *Spyridium globulosum*, *Westringia rigida*, and *Wilsonia backhousei*.

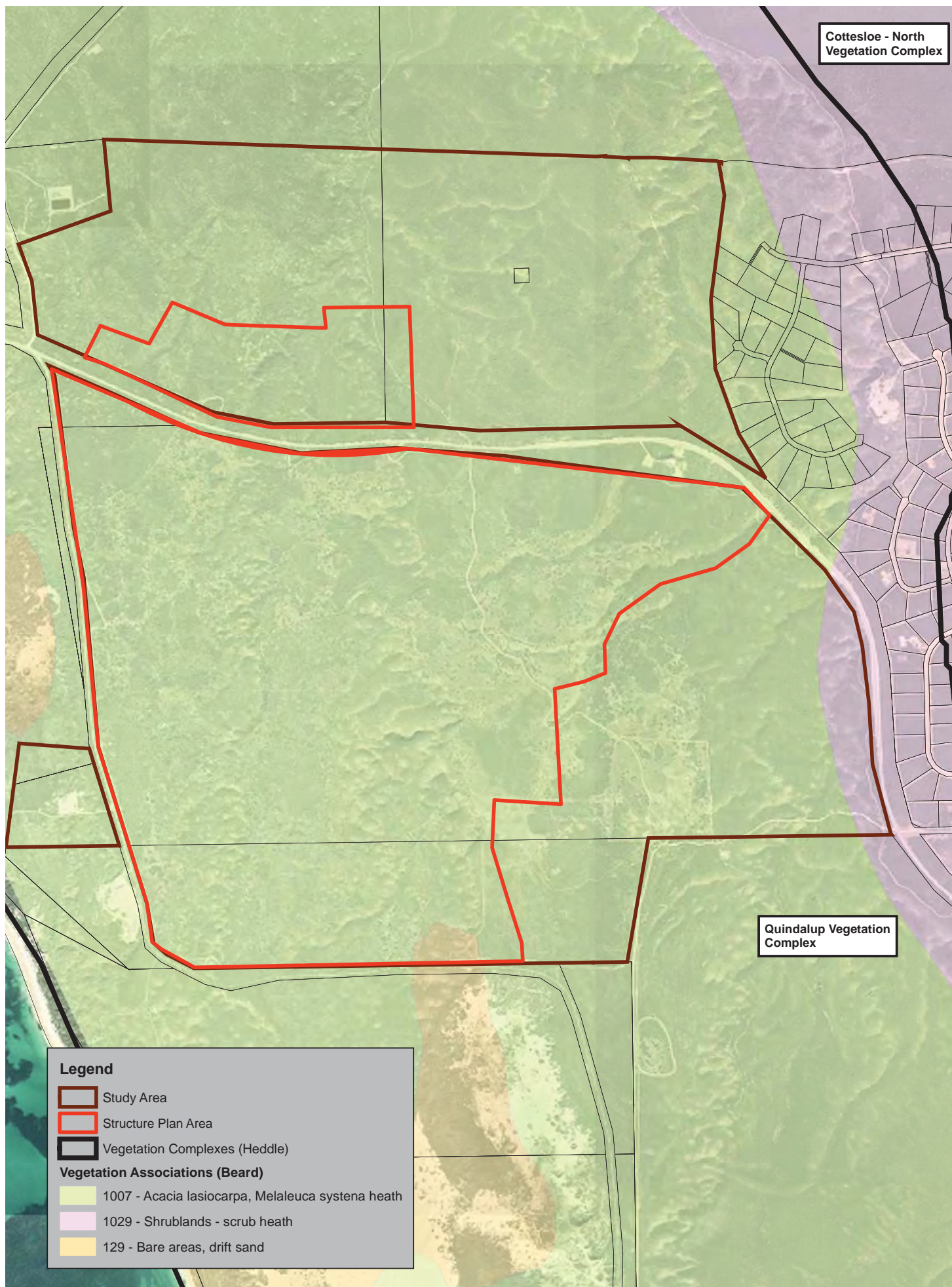
Because of the regional scale at which complex mapping was undertaken there is imprecision associated with the linework. However, the description is appropriate for the subject site, and it is appropriate to assess the significance of the site with reference to the *Quindalup Vegetation Complex*.

3.6.3 Floristic Community Types (FCTs)

Floristic Community Types are an alternate form of vegetation classification to that of vegetation complexes. The presence or absence of particular plant species is used to define floristic groupings based on shared species.

To make an assessment of the conservation status and reservation status of vegetation communities, the vegetation needs to be assigned to one of the Floristic Community Types defined by Gibson *et al.* (1994) for the Swan Coastal Plain. The subject land is outside of the area sampled by Gibson *et al.* (1994), with the closest (most northern) FCT quadrats located around Seabird (approximately 30 kilometres south of the subject land).

Based on the significant distance between the subject land and the closest FCT quadrats, the application of Floristic Community Type classifications through the extrapolation of the dataset of Gibson *et al.* (1994) is not considered appropriate for Lancelin and should not be used to determine the conservation significance of vegetation within the study area.



SOURCE: Ecoscape Australia Pty Ltd

3.6.4 Previous Recommendations for Conservation

The subject site was not recommended for reservation for conservation purposes as part of the assessment of System 5 by the EPA (1976).

3.6.5 Bushland Condition and Significant Plant Taxa

Figure 7 highlights the bushland condition within the subject site as well as the significant plant taxa. The complete flora inventory for the study area is listed in **Appendix D**.

The bushland condition is in very good to excellent condition. The areas within the surveyed area in the poorest condition are where grazing has occurred in the swales.

A total of 188 plant taxa from 133 genera in 58 families were recorded of which 42 are weed species for the entire vegetation and flora survey area, as detailed in Appendix D. The plant taxa list was determined from two sources (Weston 1998 and Ecoscape 2005, 2006) who used opportunistic searches and quadrat survey methods to determine the species present for the entire survey site. Therefore determining the specific number of taxa present in the lesser Structure Plan and ODP area is difficult because of the survey methodology particularly opportunistic searches. However, analysis of Ecoscape's data suggests that the number of taxa present in the Structure Plan and ODP area is only be slightly less compared to the number present in the overall survey site area. The plant families with five or more taxa recorded onsite are listed in the following table.

Table 5: Plant Families with Most Taxa Present within the Survey Area

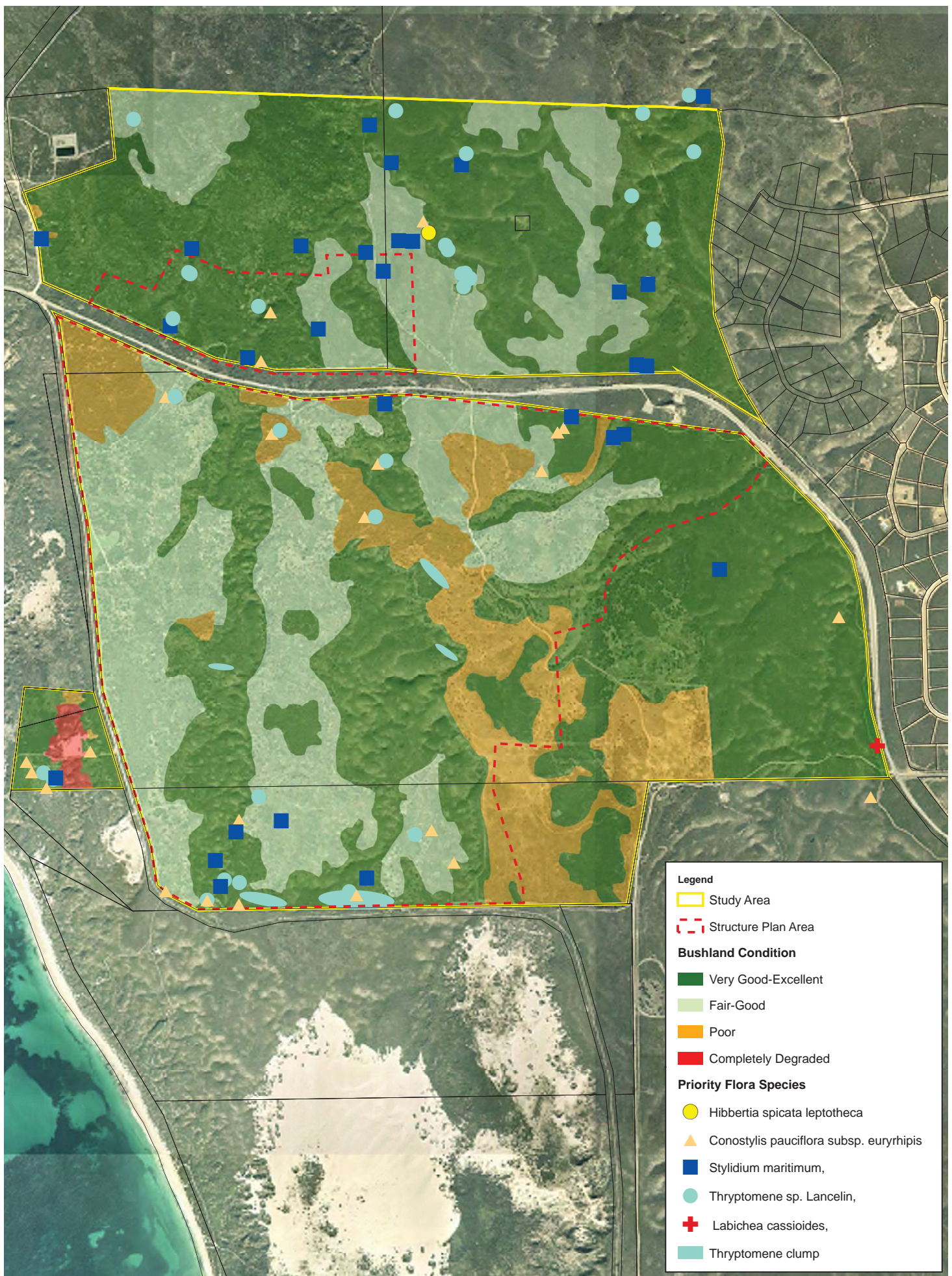
Family	Number of Taxa
POACEAE	22
PAPILIONACEAE	15
ASTERACEAE	12
MIMOSACEAE	10
PROTEACEAE	10
MYRTACEAE	9
CYPERACEAE	7
SANTALACEAE	5

A total of three significant flora taxa were identified within the Structure Plan and ODP area. This consisted of one Priority 2 and two Priority 3 taxa. Refer to the table below and **Figure 7**.

Table 6: Location and abundance* of Conservation Significant Flora

Taxa	Status	Lot 1	Lot 9505	Pt Lot 5243 sth	Pt Lot 5243 nth	Lot 9504
<i>Thryptomene</i> <i>sp. Lancelin</i>	P2	100s	100s		100s	100s
<i>Conostylis</i> <i>pauciflora</i> subsp. <i>euryrhipis</i>	P3	10s	10s		10s	10s
<i>Stylidium</i> <i>maritimum</i>	P3	10s	10s		10s	10s

* order of magnitude of number of observed individual plants



SOURCE: Ecoscape Australia Pty Ltd



As evident by the preceding information, the subject site has some intrinsic ecological value due to its size, overall good bushland condition and the location of populations of three Priority listed plant taxa. However, the site does not appear to contain any unique or poorly reserved vegetation types in terms of Vegetation Types, Associations, Complexes, Floristic Community Types or Threatened Ecological Communities.

The vegetation within the study area is also expected to be represented on nearby reserves, in particular Nilgen Nature Reserve located several kilometres to the north and Reserve 36447 (Electricity Power Station), located several kilometres to the south which was recommended as a high priority for reservation by Griffin and Trudgen (1994).

Whilst Priority Flora and plants at the extremity of their distribution may be cleared, efforts will be made to maintain populations of these taxa. If their clearing is unavoidable then consideration will be given to translocating these populations to nearby sites where they can be conserved. Efforts will also be made to preserve any bushland within the subject site that have the potential to maintain linkages with adjacent bushland as a matter of best practice.

3.7 Fauna

A fauna assessment classified on the basis of a Level 2 survey under the EPA Guidance Statement 56 for terrestrial fauna surveys (EPA, 2004) was undertaken for the subject site by MJ & AR Bamford Consulting Ecologist (2006). The results of the survey are summarised in the table below.

Table 7: Number of Native Fauna Species in Study Area

	Native Species - Possibly in vicinity	Significant Species - Possibly in vicinity	Native Species - Recorded in Area	Significant Species – Recorded/Likely
Frogs	10	0	2	-
Reptiles	61	5	15	Carpet Python CS1 Black-striped Snake CS2 Skink (<i>Ctenotus gemmula</i>) CS2
Birds*	197	37#	51	Carnaby's Cockatoo CS1 Hooded Plover CS2 Crested Bellbird CS2 White Breasted Robin CS3
Mammals	20		6	Chuditch CS1 Brush Wallaby CS2
Total	288	42	74	8

including shorebirds

* excluding shorebirds as considered outside study area

The conservation significance of the significant species recorded or likely to occur in the area are as follows:

- **Conservation Significance (CS) 1:**
Species listed under State or Commonwealth Acts
- **Conservation Significance (CS) 2:**
Species not listed under State or Commonwealth Acts, but listed in publications on threatened fauna or as Priority species by CALM; and
- **Conservation Significance (CS) 3:**
Species not listed under Acts or in publications, but considered of at least local significance because of their pattern of distribution.

3.7.1 Impacts

The focus of the assessment was:

- ecological processes that may be impacted and upon which fauna depend (e.g. hydrology, fire);
- significant habitats (e.g. habitat distribution and linkage, rare habitats, habitats that support high or unusual biodiversity, habitats with a unique ecological role); and
- significant species.

The EPA's Guidance Statement No. 56 (2004) suggests a range of factors that should be taken into account when assessing the potential impact of a development. These factors and the associated scale/nature of impact are summarised in the table below.

Table 8: Level of Impacts on Fauna in Area

Factor	Impact	Rationale
Degree of habitat degradation or clearing within the region	Low	Much of the land to the east and south-east has either been cleared for agriculture or grazed. To the north lies an extensive area of uncleared vegetation that includes the Defence Training Area and Nambung National Park. Within the site the south-western corner of the block has been partially cleared for sand mining and the main block south of the Lancelin-Perth road is severely degraded in parts
Scale of the proposal/impact	High	The Lancelin South Development has a potentially high impact, covering >10 ha within the Bioregion Group 1 (see EPA, 2004). This group includes those bioregions "of the South-West Botanical Province that are extensively cleared for agriculture" (EPA, 2004).
Rarity of vegetation and landforms	Low	The vegetation and landforms present within the study area appear well represented outside the development site e.g. areas to the north of Lancelin including the Defence Training Area and Nambung National Park.
Significant habitats	Moderate	The main significant habitat adjacent to the study area is the beachfront. Shorebirds, including many that are protected under international agreements (e.g. JAMBA, CAMBA, Bonn Agreement), utilise this area. Some non-migratory protected species, such as the Hooded Plover, may also utilise the foredunes for nesting.
Refugia	Low	The area does not appear to provide refugia for any terrestrial fauna groups.
Conservation Significant Fauna	High	A number of conservation significant fauna species were recorded from the study area, including a range of migratory shorebirds protected under international agreements (e.g. JAMBA, CAMBA, Bonn Agreement) and the Priority 3 Black-striped Snake.
Size of remnant and condition/intactness of habitat and faunal assemblages	Moderate	Although the Lancelin South Development site is a relatively large block within the Group 1 Bioregions (EPA, 2004), there are extensive areas of uncleared land to the north of the site and it is expected that these areas support more intact habitats and faunal assemblages.
Ecological Linkage	High	The study area is connected on all sides to uncleared vegetation, although roads form several boundaries both surrounding and within the site. It is possible that uncleared area such as this would allow movement of fauna.
Heterogeneity or complexity of the habitat and faunal assemblages	Moderate	Although the Lancelin South Development area contains a great complexity of habitats, these habitats appear well represented in the surrounding areas. It is difficult to assess the complexity of fauna assemblages on the basis of a single field survey, especially considering

Factor	Impact	Rationale
		the cool weather experienced during this survey and the pyrosere vegetation across much of the north and east of the site.

The highest impact for the site relates to:

- Ecological linkage;
- Scale of the proposal/impact; and
- Conservation of significant fauna.

Based on the above impacts the following recommendations are made in relation to the future development of the subject site:

- **Allow for the movement of fauna through the site.** Provide corridors of vegetation, where possible, to facilitate the movement of animals through the site, therefore reducing the impact of habitat loss.
- **Focus initial developments on cleared/degraded areas.** Cleared/degraded areas provide limited habitat for fauna. Focussing developments on these areas will minimise at least initial impacts on fauna.
- **Restrict vehicular access to the beachfront.** A large number of shorebirds, including many migratory species protected by international agreements, utilise the beachfront adjacent to the study area. Development could potentially result in increased vehicle access to the beachfront. This has the potential to impact a range of species, including some that may breed along the beachfront such as the Hooded Plover.

The design for Lancelin South addresses the recommendations relating to fauna movement and the initial stages of development given a north-south public open space corridor has been incorporated into the design and the first stages of development will be concentrated in the areas identified as having a poor quality of bushland.

In relation to the recommendation regarding restriction of vehicle access to the beachfront, currently there is uncontrolled vehicle access to the beachfront. It is envisaged that as Lancelin South is developed, vehicle access to the beachfront will be controlled through the construction of a carpark adjacent to the beach (as required by a Deed of Agreement between JB Matthews and the Shire of Gingin).

It is also assumed that other measures will be implemented by the Shire of Gingin to ensure the shorebirds and migratory species will be protected. These measures would possibly include excluding vehicles from access to certain parts or the entire beachfront adjacent to Lancelin South or use appropriate signage recommending that vehicles do not access the beachfront given the possible impact on species that utilise this portion of the coastline.

3.8 Surface Hydrology and Groundwater

3.8.1 Surface Hydrology

No wetlands or wetland dependent vegetation was identified in the study area by Weston (1998) or Ecoscape.

3.8.2 Groundwater

No wetlands, rivers, creeks or streams were identified in the study area by either Weston (1998) or Ecoscape. The superficial groundwater in the Lancelin area has high value for municipal, domestic, stock and irrigation water supply, in addition to environmental values associated with the health of nearshore seagrass meadows.

The proposed development is located outside the Lancelin and Ledge Point Public Drinking Water Source Area (PDWSA), which are located to the north and south respectively. These PDWSAs obtain water from the superficial aquifer in Tamala limestone. The subject land is not included within any of the generalised locations of proposed water supply schemes indicated in the Gingin Coast Structure Plan Working Paper 4.

The water table in the Gingin Groundwater Area generally slopes westward (WAPC, 2006). Morgan (1964) indicated that the flow of groundwater in the vicinity of the Lancelin PDWSA is towards the coast in a west south west direction. The flow of groundwater from the subject land would also be expected to flow westward towards the coast.

No groundwater dependent ecosystems (GDEs) were recorded by either Weston (1998) or Ecoscape. The likelihood of groundwater dependent ecosystems is reduced with increasing groundwater depth (Rutherford, Roy and Johnson, 2005) and the depth to groundwater is generally deep and unrelated to surface topography below the coastal belt (Moncreiff & Tuckson, 1989). The water table in the Lancelin and Ledge Point Water Source Protection Areas is 2.5-6 m deep and 12-25 m deep respectively (WAPC, 2006).

A bore field is proposed north of Lancelin Road, directly north of the subject land. The bore field is proposed to supply water to the Lancelin South development. The proposal is at a conceptual stage only and no detail was available from the Water Corporation. However, if the bore field is utilised for water purposes it is most likely to be a Priority 3 (P3) Public Drinking Water Source Area (PDWSA).

P3 PDWSAs generally include areas where water-supply needs co-exist with other land uses such as housing, commercial sites and light industry. Management controls, rather than land use restrictions dominate the water management and protection policy for these areas. The areas are defined to minimise the risk of pollution to the water source. In addition to this priority classification, wellhead protection zones are defined to protect the water source from contamination in the immediate vicinity of production wells. Wellhead protection zones are usually circular, with a radius of 300 metres in P3 areas.

Urban and Industrial development have the potential to impact on the hydrological regimes and water quality of groundwater in the Lancelin South area. The two main potential impacts to groundwater resources are:

- Reduction in the quantity of groundwater resources; and
- Export of nutrients and other pollutants into groundwater from waste water disposal and stormwater management.

The potential reduction in the quantity of groundwater resources expected from water demand should be managed in terms of the capacity of the resource to meet the demands for water on a continuing basis and make proposals for regular monitoring of the capacity of the resource to meet those demands. Pollution of groundwater can occur when pollutants percolate or infiltrate from the surface into shallow groundwater aquifers. Nutrients, toxins, pathogens, litter and sediment may affect the quality of urban stormwater. Sources of pollutants include commercial, residential and industrial land uses, transportation, effluent disposal, and fertiliser and pesticide use in gardens and parks.

The export of nutrients and other pollutants into groundwater will be managed in terms of waste water disposal and stormwater management based on the current Best Management Practices in Water Sensitive Design. The multi-purpose corridors and public open space areas used for stormwater management will incorporate water sensitive design principles, including:

- Appropriate separation between developments and groundwater to ensure that urban stormwater is not discharged in to the groundwater without first receiving appropriate treatment;
- Managing surface water quality through a number of non structural and structural methods using Water Sensitive Urban Design (WSUD) principles
- At source treatment and infiltration; and
- Use of ecologically sound compensation and infiltration basins designed to remove nutrients.

3.9 Heritage

3.9.1 *Indigenous Heritage*

A desktop study on the Aboriginal Heritage of the site has been undertaken by Anthropos Australis Pty Ltd (refer **Appendix E**). As identified in the desktop study, the Register of Aboriginal Sites does not identify any Aboriginal sites within the subject site, however, there is one previously recorded site located in close proximity pursuant to the *Aboriginal Heritage Act 1972*.

It is acknowledged that the subject site is in within the Yued native title claim registered under the *Native Title Act 1993*. This reflects the fact that there are Aboriginal people today who are asserting strong cultural connection to the region- which also includes the subject site. Given that the subject site is freehold land, Native Title over the subject site has been extinguished.

However, to ensure the required obligations are met under the *Aboriginal Heritage Act*, the traditional owners will be consulted and a heritage survey prepared prior to the commencement of any works which may disturb a site (or potential site).

3.9.2 *European Heritage*

The Heritage Commission's data base does not identify any listed areas of European Heritage within the subject site. However, evidence of the site's European heritage remains in place in the form of an old well, windmill and tank and stand of mature Tuart trees in the central northern sector of the site. This will be retained within the central area of POS.

4.0 PLANNING CONTEXT

4.1 State Planning

4.1.1 WA State Sustainability Strategy

In September 2003, the State Government adopted and published the *Western Australian State Sustainability Strategy – a vision for quality of life in Western Australia* (SSS). Its relevance as part of the planning for Lancelin South is by virtue of the Planning and Development Act 2005 (PD Act), the purpose of which being to “promote the sustainable use and development of land in the State” (PD Act S3(1)(c)).

The foundation principles of the Strategy include, in relation to settlement efficiency and quality of life, that, “sustainability recognises that settlements need to reduce their ecological footprint, while simultaneously improving quality of life”. The Strategy states (on page 167), that, “to be sustainable, settlements require the integration of environmental, social and economic dimensions”.

The planning for the southward expansion of Lancelin has been underpinned by these principles. This Structure Plan and ODP brings together the environmental aspects of the land, identifies existing employment and businesses opportunities and establishes the groundwork for a vibrant and sustainable community through the provision of land for schools, open space, retail, commercial and residential.

The development of Lancelin South represents a planned, logical extension of an existing settlement, being Lancelin, and provides new opportunities to expand business and employment opportunities and services for existing and proposed residents.

4.1.2 State Planning Policies

Following the principles embedded in SSS, the WAPC has adopted two State Planning Policies of particular relevance – SPP 3, *Urban Growth and Settlement* (gazetted 17 March 2006) and SPP 2.5, *State Coastal Planning Policy* (gazetted 10 June 2003).

4.1.2.1 Urban Growth and Settlement (SPP 3)

The overall aim of SPP 3 is to, “facilitate sustainable patterns of urban growth and settlement by setting out the requirements of sustainable settlements and communities and the broad policy in accommodating growth and change”.

The objectives of SPP 3 are:

- “To promote a sustainable and well planned pattern of settlement across the state, with sufficient and suitable land to provide for a wide variety of housing, employment, recreation facilities and open space.
- To build on existing communities and established local and regional economies, concentrate investment in the improvement of services and infrastructure and enable the quality of life in those communities.
- To manage the growth and development of urban areas in response to the social and economic needs of the community and in recognition of relevant climatic, environmental, heritage and community values and constraints.
- To promote the development of a sustainable and liveable neighbourhood form which reduces energy, water and travel demand, whilst ensuring safe and convenient access to employment and services by all modes, provides choice and affordability of housing and creates an identifiable sense of place for each community.
- To coordinate new development with the efficient, economic and timely provision of infrastructure and services.”

It is the policy of the Commission to create sustainable communities, and the key requirements of a sustainable community have been identified by the Commission as being:

- a strong, diversified and sustainable economic base with assured access to jobs and employment;
- sufficient and suitable serviced land in the right locations for housing, employment, commercial, recreational and other purposes, coordinated with the efficient and economic provision of transport, essential infrastructure and human services;
- directing urban expansion into designated growth areas which are, or will be, well serviced by employment and public transport; and
- proper consideration of the environment, recognising the need to restore and enhance as well as protect biodiversity and to minimise development impacts on land, water, energy, materials, basic raw materials, agriculture and other natural resources that help urban economies and society.

Accordingly, new settlements and major town expansions – like that proposed for Lancelin South – need to be considered and assessed in the context of their ability to satisfy these key requirements. A new and expanded townsite at Lancelin South will prove to be a sustainable development option for Lancelin for the following reasons:

- It addresses a significant existing and projected shortfall of available housing land in Lancelin and the Gingin coastal region.
- It provides for the development of a secure employment base which is not solely premised on tourism, but draws on the existing business and employment industries in the town and region, which are largely focused on fishing, agriculture and horticulture.
- The planned development area comprises some 583 ha, which is large enough to support a range of local services including schools, shops and employment.
- Considering the projected future population increase for Lancelin and the Gingin coastal region and the need to accommodate this growth, Lancelin South has been chosen for its ability to deliver the most sustainable form of development. No more sustainable alternative has been identified through regional and district level planning strategies.

4.1.2.2 State Coastal Planning Policy (SPP 2.6)

An objective of SPP 2.6 is to, *“ensure the identification of appropriate areas for the sustainable use of the coast for housing, tourism, recreation, ocean access, maritime industry, commercial and other activities”*.

In relation to development and settlement, the policy measures of SPP 2.6 include the following:

- “xv) Ensure that use of the coast, including the marine environment, for recreation, conservation, tourism, commerce, industry, housing, ocean access and other appropriate activities, is sustainable and located in suitable areas.”*
- “xviii) Encourage urban development to be concentrated in and around existing settlements, particularly those with established infrastructure and services. Continuous linear urban development along the coast should be discouraged or, where it has occurred, carefully controlled. Proposed major urban development outside existing settlements will only be supported where a genuine community need has been demonstrated and the environmental capability has been properly assessed.”*

The proposed development at Lancelin South has a strong, diversified and sustainable economic base providing access to jobs and employment through the allocation of land in the Structure Plan for the development of a sound service industry in the region. The Structure Plan area has been chosen due to its suitability for urban development, its location in proximity to the existing Lancelin townsite, and its ability to provide a high level of amenity for future residents. It does not represent linear development along the coast as development is concentrated around the existing nodal development at Lancelin and access to the coast is carefully managed.

A genuine community need has been established for the expansion of Lancelin, as evidenced in the *Central Coast Regional Strategy*, *Gingin Coast Regional Strategy* and *Gingin Coast Structure Plan*, which all project a significant population growth in the region, with Lancelin South identified as being a suitable location to accommodate this growth.

It is also demonstrated in this Structure Plan, through the environmental assessments, that Lancelin South is environmentally capable of sustaining the level of development proposed in the Structure Plan and Outline Development Plan.

4.2 Regional Planning

Given the subject site comprises a significant area within the Gingin Coast Region, it is impacted on by a number of regional and local strategic planning documents. These documents contain a number of key statements in support of the development of the subject site.

4.2.1 Central Coast Regional Strategy

The 1996 Central Coast Regional Strategy provides a vision for the development and protection of the Central Coast Region and includes the Shires of Irwin, Coorow, Carnamah, Dandaragan and Gingin within the study area.

The strategy acknowledges that as Perth expands there will be increasing pressure on the Central Coast Region to provide urban, employment, recreation and tourism opportunities for an increasing number of residents, holiday makers and visitors. The strategy concludes by stating that the increased development pressure will result in demands for urban growth within the Shire of Gingin.

To address this there are a number planning units identified, which are based on five major surface water catchments. The subject site is located within the Cataby Coastal Catchment, which comprises the coast between Lancelin and Ledge Point. This catchment is where future settlement development is proposed to be facilitated within a townsite hierarchy.

4.2.2 Gingin Coast Structure Plan

The Gingin Coast Structure Plan was finalised by the WAPC in February 2006. It was prepared to *"...guide the planning, development and management of the existing and potential land use changes in the coastal portion of the Shire of Gingin..."*

As with the Central Coast Regional Strategy, the GCSP acknowledges the high demands placed on the Gingin Coastal region for residential development. Given this, the Structure Plan notes the importance of addressing the sustainable supply of water to meet the economic needs of the region, which will be derived from agriculture, horticulture, residential and tourism related activities.

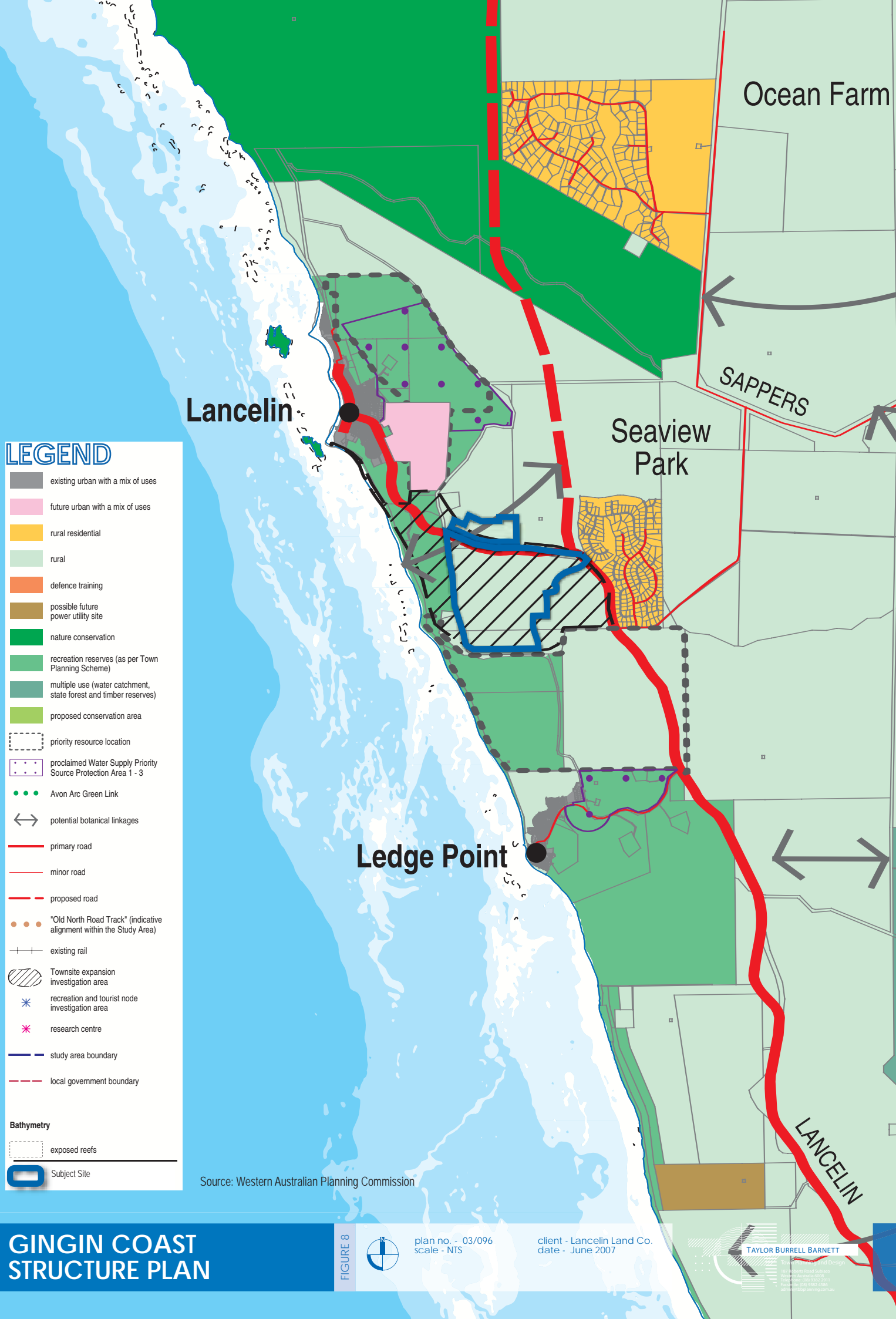
The GCSP stipulates that the townsite of Lancelin is a Major Local Centre that will provide district and local level shopping and tourist facilities and have a population growth of 5,000- 10,000 people by 2031.

As illustrated by **Figure 8**, the GCSP identifies two potential development areas south of Lancelin. One is the 'pink area', which is located south-south-east of the town and is identified as 'Future Urban with a Mix of Uses' and the other comprises the subject site and the Lancelin Sport and Recreation Club immediately south of the townsite and is identified as 'Townsite Expansion Investigation Area'.

The identification of the subject site as 'Townsite Expansion Investigation Area' was a result of there being numerous constraints identified for the development of the 'pink area'.

To enable development of the subject site, the GCSP stipulates the following:

"The next step to progressing the expansion of urban development at Lancelin is the preparation of a detailed townsite structure plan which addresses the opportunities and constraints to development"



Source: Western Australian Planning Commission

GINGIN COAST STRUCTURE PLAN

FIGURE 8



plan no. - 03/096
scale - NTS

client - Lancelin Land Co.
date - June 2007

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To address this requirement two separate planning documents were prepared. The first is the Lancelin Townsite Expansion Plan (LTEP), which is a detailed townsite structure plan that identifies the opportunities and constraints to development in Lancelin. The second is a report prepared for DPI by Chris O'Neill and Associates, which examines the demand for urban land within Lancelin and the constraints to development of the 'pink area'. These two local planning documents will be discussed in more detail in the following subsections.

4.3 Local Planning

4.3.1 Shire of Gingin Town Planning Scheme No. 8

The subject site is zoned 'Rural' under TPS8 (refer **Figure 9**). Accordingly, a town planning scheme amendment is proposed to provide for the land to be rezoned to provide for the urban development of the land consistent with the GCSP.

4.3.2 Shire of Gingin Draft Local Planning Scheme No. 9

Under the Shire of Gingin Draft Local Planning Scheme No. 9 (LPS9), the subject site is zoned 'Rural'. At the time of preparing this report, it is understood that the Draft LPS9 has been considered by the Hon. Minister for Planning and Infrastructure for final approval, and is awaiting modification by the Shire of Gingin to enable gazettal. In the event that LPS9 is gazetted ahead of the completion of this planning process, it is proposed to initiate an amendment to LPS9 to facilitate the development proposed in this Structure Plan and ODP.

4.3.3 Shire of Gingin Draft Local Planning Strategy

The Shire of Gingin Draft Local Planning Strategy has been prepared concurrently with the Shire of Gingin LPS9. The Local Planning Strategy makes the following observation in relation to the subject site:

"Area earmarked for urban townsite expansion subject to environmental assessment and Structure Planning, which addresses townsite links, function or urban area and employment" (refer **Figure 10** Draft Local Planning Strategy).

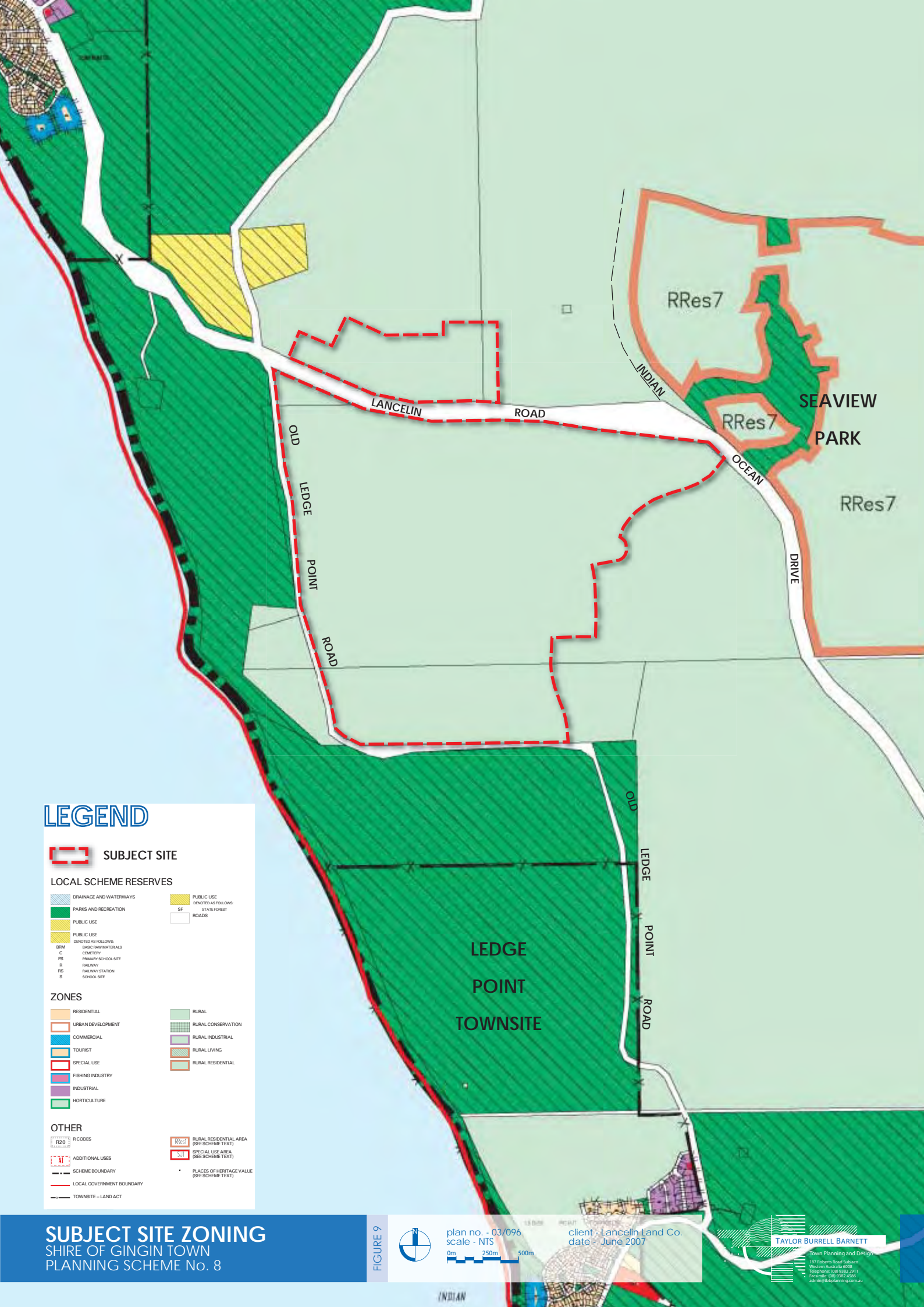
The Strategy also notes that expansion of urban development immediately surrounding the town is constrained by mobile sand dunes and the required development is best placed on the subject site. It also notes that the preparation and adoption of a structure plan for the subject site is required to ensure that development and subdivision proceed after environmental assessment has been undertaken and planning to a high design standard, which is sensitive to the environment and matters relating to townsite links with Lancelin.

To address this, detailed environmental assessment of the subject site and development proposal has been undertaken. The structure plan design addresses the environmental attributes of the land and provides opportunities to link proposed new development with existing services and residents in the town.

4.3.4 Lancelin Townsite Expansion Plan (LTEP)

In addressing the requirements of the GCSP and the Shire of Gingin Draft Local Planning Strategy, as listed above, the LTEP has been prepared as a detailed townsite structure plan that addresses the opportunities and constraints to development in Lancelin. The plan (refer **Figure 11**) was jointly prepared by JB Matthews and LandCorp, the major landholders within the study area, but has now largely been superseded by the Commission's request for an Overall Structure Plan encompassing Lancelin and Ledge Point.

The preparation of the plan involved considerable input from the community during various open days, and key stakeholders at a stakeholder workshop. A number of specialist consultants also provided input into the plan.



LEGEND

SUBJECT SITE

LOCAL SCHEME RESERVES

	DRAINAGE AND WATERWAYS		PUBLIC USE DENOTED AS FOLLOWS:
	PARKS AND RECREATION		STATE FOREST
	PUBLIC USE		ROADS
	PUBLIC USE DENOTED AS FOLLOWS:		
BRM	BASIC RAW MATERIALS		
C	CEMETERY		
PS	PRIMARY SCHOOL SITE		
R	RAILWAY		
RS	RAILWAY STATION		
S	SCHOOL SITE		

ZONES

	RESIDENTIAL		RURAL
	URBAN DEVELOPMENT		RURAL CONSERVATION
	COMMERCIAL		RURAL INDUSTRIAL
	TOURIST		RURAL LIVING
	SPECIAL USE		RURAL RESIDENTIAL
	FISHING INDUSTRY		
	INDUSTRIAL		
	HORTICULTURE		

OTHER

	R20 CODES		RURAL RESIDENTIAL AREA (SEE SCHEME TEXT)
	ADDITIONAL USES		SPECIAL USE AREA (SEE SCHEME TEXT)
	SCHEME BOUNDARY		PLACES OF HERITAGE VALUE (SEE SCHEME TEXT)
	LOCAL GOVERNMENT BOUNDARY		
	TOWNSITE - LAND ACT		

SUBJECT SITE ZONING

SHIRE OF GINGIN TOWN
PLANNING SCHEME No. 8

FIGURE 9



plan no. - 03/096
scale - NTS
0m 250m 500m

client - Lancelin Land Co.
date - June 2007

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PROVIDE FOR SERVICED INFILL
RESIDENTIAL DEVELOPMENT

URBAN DEVELOPMENT CONSTRAINED
BY MOBILE DUNE SYSTEM

EXISTING RURAL RESIDENTIAL

NOTES/ISSUES

- POPULATION APPROX. 600-700 PERSONS (seasonally fluctuating).
- UPGRADE EXISTING SEWER, WATER AND OTHER SERVICES.
- PROMOTE RELEASE OF VACANT CROWN LAND FOR PRIVATE DEVELOPMENT.
- PROVIDE INCREASE IN HOME BUSINESS OPPORTUNITY.
- CONSERVATION OF HERITAGE PLACES.
- FACILITATE FURTHER STUDIES AND DETAILED PLANNING TO PROMOTE COASTAL MARINA AND BOAT LAUNCHING DEVELOPMENTS, INTEGRATED WITH COASTAL NODES AND/OR URBAN DEVELOPMENT.

LEGEND

- * PROPOSED REZONING OF THIS LAND HAS NOT BEEN SUPPORTED BY THE WESTERN AUSTRALIAN PLANNING COMMISSION AND HAS BEEN HELD IN ABEYANCE BY THE HON. MINISTER PENDING OUTCOMES OF GINGIN COAST STRUCTURE PLAN

 STUDY AREA

**Lancelin
Townsite**

**Indian
Ocean**

**Seaview
Park**

**Lancelin
South**

PREPARE AND IMPLEMENT COASTAL
MANAGEMENT PLANS IN
RECOGNITION OF COASTAL
DEVELOPMENT OPPORTUNITIES AND
THE NEED FOR PROTECTION OF
COASTAL AND INLAND DUNE SYSTEMS

SPORTS & RECREATION AREA

FACILITATE STRONG LINKS BETWEEN
URBAN PRECINCTS

PROMOTE PLANNING FOR EXPANSION
OF EXISTING INDUSTRIAL/MIXED
BUSINESS AREA

AREA EARMARKED FOR URBAN
TOWNSITE EXPANSION SUBJECT TO
ENVIRONMENTAL ASSESSMENTS AND
STRUCTURE PLANNING WHICH
ADDRESSES TOWNSITE LINKS,
FUNCTION OF URBAN AREA AND
EMPLOYMENT

DRAFT LOCAL PLANNING STRATEGY

FIGURE 10



plan no. - 03/096
scale - NTS
0m 400m 800m

client - Lancelin Land Co.
date - June 2007





LEGEND

STUDY AREA

Note: Not adopted by Council

LANCELIN TOWNSITE EXPANSION PLAN

FIGURE 11



plan no. - 03/096
scale - NTS
0m 500m 1km

client - Lancelin Land Co.
date - June 2007



As illustrated by **Figure 11**, the subject site was identified in the LTEP as follows:

“Lancelin South- short/medium term urban cell- defined villages with distinct characteristics and attributes”

It also identifies key north-south and east-west access roads, two existing ridge lines comprising remnant native vegetation and a key community focal point, all of which have been given due regard in the preparation of this Structure Plan and ODP.

The LTEP is unlikely to progress to adoption by the Council as both this Structure Plan and the proposed Overall Structure Plan have superseded this earlier planning instrument.

4.3.5 **Report on Expansion Options for Lancelin**

As previously mentioned, Chris O’Neill and Associates were engaged by the DPI to prepare a report on the expansion options for Lancelin and review the land requirements and constraints to development. It also included an assessment of the demand for land in Lancelin to facilitate the growth forecast by the GCSP.

The report was intended to provide DPI and WAPC with the necessary content in making informed decisions on the future expansion and development of Lancelin.

The report was endorsed by the WAPC on the 27 February 2007 and correspondence was sent to Taylor Burrell Barnett on the 8 March 2007 advising that the WAPC is prepared to support the urban development of the subject site (refer **Appendix F** for draft report and correspondence). In summary, some of the key findings from the report are as follows:

- The recognition of the Gingin Coast Structure Plan (GCSP) that forecasts Lancelin will need to accommodate 10,000 people by 2031.
- The inability for the dunes south east of the Lancelin townsite as identified as ‘future urban with a mix of uses’ in the GCSP to meet the short to medium term population growth forecast of Lancelin due to the considerable constraints to urban development.
- The recognition of these constraints, which include the following:
 - The location of a Priority One Water Resource Protection Area within approximately one third of the ‘pink area’ and the advice from the Waters and Rivers Commission that none of the ‘pink area’ should be developed for urban purposes.
 - The identification of the majority of the ‘pink area’ as a Priority Resource Location in the WAPC’s State Planning Policy 2.4 and that this priority resource may take 55 years to be extracted, which is well beyond the 2031 planning horizon.
 - The acknowledgement that while the resource is being extracted the difficulties having residential development in mined out/worked out areas given the off-site impact of the sand mining.
 - The existence of Native Title and the need for this to be extinguished before urban development can take place, which may cause a considerable delay.
- The suitability of the majority of the area identified as ‘Townsite Expansion Investigation Area’ (i.e. the subject site) in the GCSP to meet the short to medium growth forecast for Lancelin given the following:
 - There are no Priority One Water Resource Protection Areas or Priority Resource Locations over the site.
 - There are no significant resource or environmental constraints identified over the subject site.
 - The subject site is identified in the Shire of Gingin’s Local Planning Strategy for urban townsite expansion.

- The subject site is in a single private ownership, which makes development less problematic as there is no need to deal with multiple owners.
- The recommendation for appropriate parts of the 'Townsite Expansion Investigation Area' south of Lancelin to be rezoned for urban development.

Based on these findings, it is considered that the development of the subject site for urban development is justified ahead of the 'pink area' in the GCSP given the considerable constraints to development.

The correspondence from the WAPC states that an overall structure plan should be prepared for Lancelin, Lancelin South and Ledge Point to address a number of matters. The requirement for a structure plan has in part been addressed by the Lancelin Townsite Expansion Plan and this Structure Plan.

The matters covered within this Structure Plan report are listed below:

- Point D - Staging and Development, Provision of Infrastructure and Developer Contributions
- Point E - Timely development of land for housing, commercial, community facilities etc
- Point F - provision for local employment and review of composite industrial estate
- Point J - Access to the coast

4.3.6 Overall Structure Plan

The WAPC's requirement for a broader structure plan incorporating Ledge Point has been addressed by the preparation of the *Lancelin to Ledge Point Overall Structure Plan* (TBB November 2007).

This Overall Structure Plan was provided to the WAPC to assist in its consideration of a town planning scheme amendment to rezone Lancelin South to facilitate urban development. It is not a prerequisite for the Council's consideration of this Structure Plan, the ODP, or the initiation of a scheme amendment.

4.4 Opportunities

The subject site possesses many characteristics which make it suitable for urban development as an extension to the Lancelin townsite (refer Fig. 12). These characteristics represent opportunities which can be capitalised on in the Structure Plan and the ODP. The following is a summary of some of the characteristics of Lancelin South and the opportunities that they create.

Proximity to Lancelin Townsite – The subject site is only 2.2 km south of Lancelin Townsite and represents a logical extension to the townsite, with growth to the east and north constrained.

Proximity to Coast – The subject site is approximately 1 km from the coast, with Old Ledge Point Road providing a separation between the two. Ocean views are afforded to elevated parts of the site and controlled access to a useable coastal strip is able to be provided through land to the west.

Extent of Land Area – The subject site comprises 538 ha, which represents only a portion of the land under the ownership of JB Matthews. This significant land area provides the opportunity to comprehensively plan for residential, retail, commercial and light industrial development, providing an employment base for the new residents and offering a high level of community facilities and infrastructure to the new residents, including schools, shops and recreation.

Single Land Ownership – The absence of multiple landowners means that there are no complications or constraints to development by virtue of different landowner aspirations and no requirement for land pooling or shared infrastructure contribution.

Access to Established Road Network – The subject site has direct and convenient access to Lancelin Road and indirect access to Indian Ocean Drive, both of which are existing constructed roads providing access to Lancelin Townsite and Perth. Old Ledge Point Road is located adjacent to the western boundary and, while it is not currently constructed to a suitable urban standard, will ultimately provide alternative access to the townsite and clearly legible separation of the subject site from the coast.

Upgrade and Consolidation of Existing Golf Course – The subject site is located adjacent to the existing golf course. There may be an opportunity to redevelop this land to consolidate the fairways, provide other recreational facilities and potentially some residential development integrated with the recreation facilities. Consideration is also being given to utilising treated waste water from Lancelin South to irrigate the greens.

Availability of Existing Service Infrastructure - The Water Corporation has confirmed that existing sewerage treatment facilities (primary) could be expanded to accommodate the additional capacity required to service Lancelin South.

Vegetation Preservation and Enhancement – Environmental assessment has identified significant landform features and vegetation and there is an opportunity to preserve these within public open space.

4.5 Constraints

The following is a summary of the constraints to development of Lancelin South which have arisen in the environmental, engineering, planning and land use assessment for the subject site. While some of these factors may serve to constrain development, they are also important factors to be considered in the design of the Structure Plan, the preparation of scheme amendment provisions and the staging of development.

Sand Mining – The Special Control Area proposed over land to the south to protect the priority sand resources area, together with the existing mining tenements over land to the west with associated buffer requirements constrain development in the short-medium term in the southern and western portions of the subject site. The Structure Plan addresses this constraint through the staging of development to ensure that the land to the south and west is able to be mined ahead of the residential development of the impacted areas. Should residential development be proposed in any area subject to a mining buffer prior to the completion of mining activities, these generic buffers may be reduced following scientific assessment.

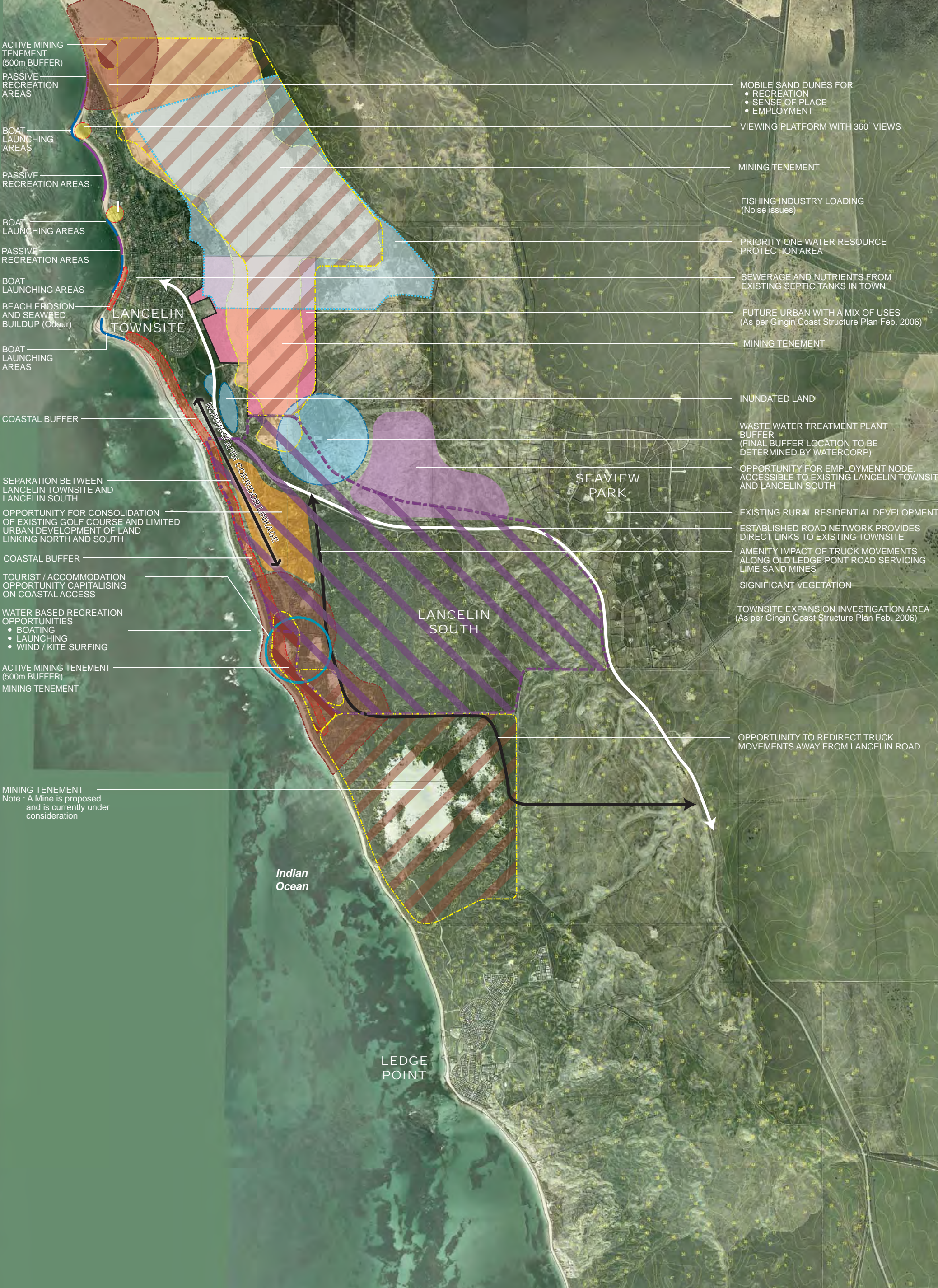
Location of Sewerage Treatment Plant – The buffer requirements for the sewerage treatment facility constrain the development of the land to the north of Lancelin Road. The Structure Plan responds to this constraint by setting aside adjacent land for Composite Industry. The location of the sewerage treatment facility limits the opportunity to extend this employment area westward to link with the existing townsite.

4.6 Community and Stakeholder Consultation

In preparing the Structure Plan, a stakeholder workshop was held on the 28 November 2006. The attendees at the workshop included representatives from community organisations and various government departments. The purpose of the workshop was to present the Structure Plan and workshop various aspects of it. A full copy of the attendees and items discussed has been appended in the workshop outcomes report (refer **Appendix G**).

In summarising the outcome of the workshop, there was a general consensus that the Structure Plan was satisfactory and addressed a number of requirements raised during the previous community consultation and stakeholder workshops undertaken for the LTEP. Some of the key aspects of the plan, which were acknowledged, include the following:

- The retention of the existing ridge lines and the vegetation on them.
- The provision of an animal corridor traversing in a north-south direction through the estate, which will be maintained as remnant native vegetation.
- The links from the subject site to the coast, i.e. traversing privately owned land to the west and the crown reserve currently leased to the Lancelin Sport and Recreation Club.
- The proximity of the site to the Lancelin golf course and the possibility for grey water provision from the site to the golf course.
- The scale of the plan, which will be an appropriate size and scale to accommodate the current high demand for land in Lancelin and the predicted population in the GCSP (5,000-10,000 people by 2031).



OPPORTUNITIES AND CONSTRAINTS PLAN

FIGURE 12



plan no. - 03/096
0km 0.5km 1km

client - Lancelin Land Co
date - October 2007

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4.6.1 Community Expectations

There is a growing expectation within the community that Lancelin will expand to accommodate new residents and new employment opportunities. This expectation has been discussed and addressed in numerous regional and local planning studies and strategies which have been subjected to community and stakeholder consultation.

The community has a firm opinion on what form the development should take and what important matters must be addressed and accommodated within any future expansion of Lancelin, including environmental and servicing considerations.

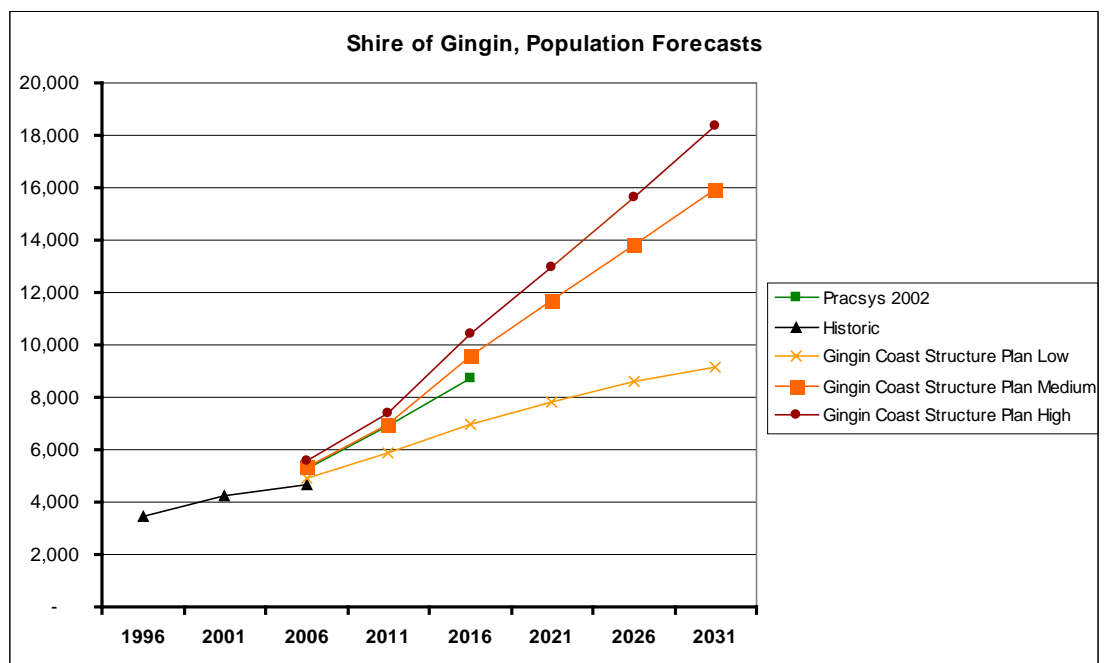
The community's expectations have been addressed in this Structure Plan and ODP.

4.7 Population Projections

In justifying the proposed scale and size of the proposed development, the following population projections are provided.

As previously noted, Lancelin is identified in the GCSP as a major local centre, with a forecast combined permanent and tourist population of between 5,000 and 10,000 by 2031, with this provision of district and local level shopping, tourist and community facilities, including a medical centre and a K-12 school.

The estimated timing of this growth is subject to some variation. Several growth projections for the Shire of Gingin are incorporated in the GCSP based on the 2001 ABS Census and 2000 WA Tomorrow projections, and Pracsys incorporated medium term population projections in the Indian Ocean Drive Economic and Social Impact Study. These estimates are shown in Graph 1 below. The estimated population for the Shire for 2006 (based on ABS 2005 estimates) is lower than the 2006 estimates for any of the above forecasts.



Graph 1: Population Forecasts for the Shire of Gingin

As the main urban centre in the Gingin Coast area, Lancelin would be expected to take the majority of this growth. The projections for the Shire in the GCSP show growth rates of 2.73% p.a. (low projection), 5.06% p.a. (medium projection) and 5.65% p.a. (high projection) from 2006 to 2031. By way of comparison, one of the highest recent growth rates in Australia for a rural shire has been in the Shire of Busselton. Between 1991 and 2005 this had an average annual population growth rate of 4.64%.

The variation in estimates for the population of Lancelin over time means that it must be planned to ultimately accommodate a large population (i.e. up to 10,000), but be staged so that the community is viable and well planned at each point of its development and, by implication, in the event that the long term population is at a figure somewhat less than the theoretical ultimate.

Lancelin can be defined as a 'Coastal Getaway', in the terms of a report for the National Sea Change Taskforce (March 2005). This report defines a Coastal Getaway as a small to medium coastal settlement within three hours drive of a capital city. The location of these settlements close to the city provides an attractive domestic tourism opportunity for day trips and weekends. Many 'Coastal Getaways' were once low-key family holiday destinations or small fishing villages. According to the report *"a high proportion of property owners in Coastal Getaways are absentee landlords who own holiday houses or weekenders"*. The above descriptions match precisely with the attributes of Lancelin, which currently has a very high proportion of unoccupied dwellings at various times of the year, a combination of the seasonal nature of the fishing industry and a high proportion of holiday and second homes.

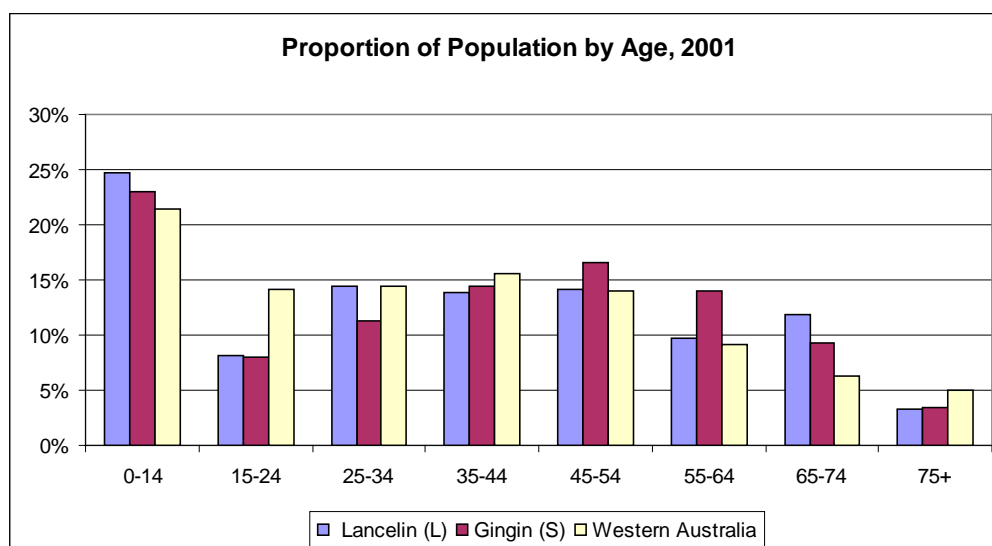
Any population increase in the town is likely to be driven mainly by tourism development and the 'Coastal Getaway' nature of the town attracting second home buyers and retirees.

A number of demographic factors are coinciding to create an expanding demand for accommodation that is not tied to a traditional economic base. These include declining household size, an ageing population with greater life expectancy after retirement and increasing household incomes. These trends are likely to continue for some time.

These demographic factors underpin the so-called 'sea-change' phenomenon, characterised by a large number of people, in relative terms, not needing to reside where they work for long periods of time, or accepting reduced employment circumstances, or looking forward to long periods of independent, active retirement. This creates demand for an attractive coastal location such as Lancelin and will be a key driver in its population growth.

The ultimate size of Lancelin will depend very much on the strength of this phenomenon and is difficult to predict with precision. In any event, in accordance with the Structure Plan design, it would be prudent to plan for a population of, say, 5,000 in the medium term, with possible long term expansion capacity.

The graph below shows the proportion by age of the populations in Lancelin, the Shire of Gingin and Western Australia.



Graph 2: Population by Age Source: ABS Census 2001

The graph shows that compared with the State average, Lancelin has:

- a high proportion of 0-14 year olds;
- a low proportion of 15-24 year olds;
- a high proportion of 65-74 year olds; and
- a low proportion of 75+ year olds.

The graph also shows that in the other age groups, or persons between the ages of 25 and 64, Lancelin is comparable to the state average.

It is likely that the proportion of the population in the over 65 age brackets will grow. This is reflected in WA Tomorrow estimates.

Table 9: Population Projections, Shire of Gingin

Age Cohort	2004	%	2021	%
0-14	980	21.7%	990	16.8%
15-24	370	8.2%	540	9.2%
25-34	500	11.1%	790	13.4%
35-44	670	14.8%	710	12.0%
45-54	660	14.6%	820	13.9%
55-64	710	15.7%	840	14.2%
65+	625	13.8%	1,210	20.5%
TOTAL	4,515	100.0%	5,900	100.0%

Source: WA Tomorrow, WAPC, November 2005

4.8 Employment and Business Opportunities

In order to justify the proposed development from an economic and employment perspective, the following is provided.

4.8.1 Economy

The economy of the Gingin Coast area relies heavily on the production of western rock lobsters. The area also produces abalone. The estimated gross value of the western rock lobster catch in the area was \$38 m in 1998-99 and approximately \$50 m in 1999-2000. The following table shows the number of boats and crew operating within the area.

Table 10: Boats and Crew Operating in Shire of Gingin

Port	1998 -1999	
	Boats	Fishers
Lancelin	60	163
Ledge Point	28	75
Seabird	11	30
Two Rocks	62	172

Source: Gingin Coast Structure Plan - WA Fisheries data

The following table outlines the agricultural production for the Shire of Gingin in 1997. The table shows that vegetable production represents the largest proportion of production.

Table 11: Agricultural Production, Shire of Gingin

Agricultural Product	Value (\$m)	Proportion
Vegetables	23.0	43%
Pigs	7.5	14%
Beef	6.4	12%
Nurseries	4.8	9%
Fruit	2.7	5%

Agricultural Product	Value (\$m)	Proportion
Poultry	2.7	5%
Wool	2.1	4%
Other	4.3	8%
TOTAL	53.4	100%

Source: Gingin Coast Structure Plan - Shire of Gingin data

According to the GCSP, in the Shire of Gingin:

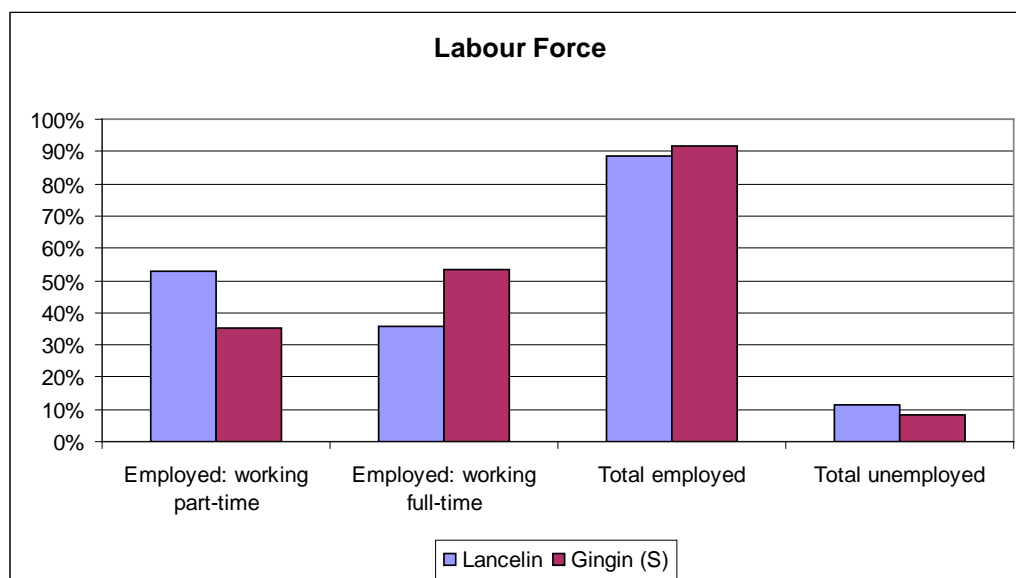
- Honey production accounts for 7-13% of the State total with a value of \$690,000;
- Limestone and sand valued at \$632,000 was extracted from mining leases in 2004;
- Total tourist takings are approximately \$6.5 m per annum; and
- Total value of construction was \$11 m in 2002-2003.

It is likely that tourism expenditure could account for up to \$20 m when expenditure on shopping, tours and other holiday activities are taken into account. It is likely that tourism and recreation will add significantly to the economy in the future.

Based on this, it is considered that Lancelin has a sound economic base that will be able to address the pressures of an expanding population resultant from the proposed development.

4.8.2 Employment

The following graph shows the breakdown of the labour force in Lancelin and the Shire of Gingin.

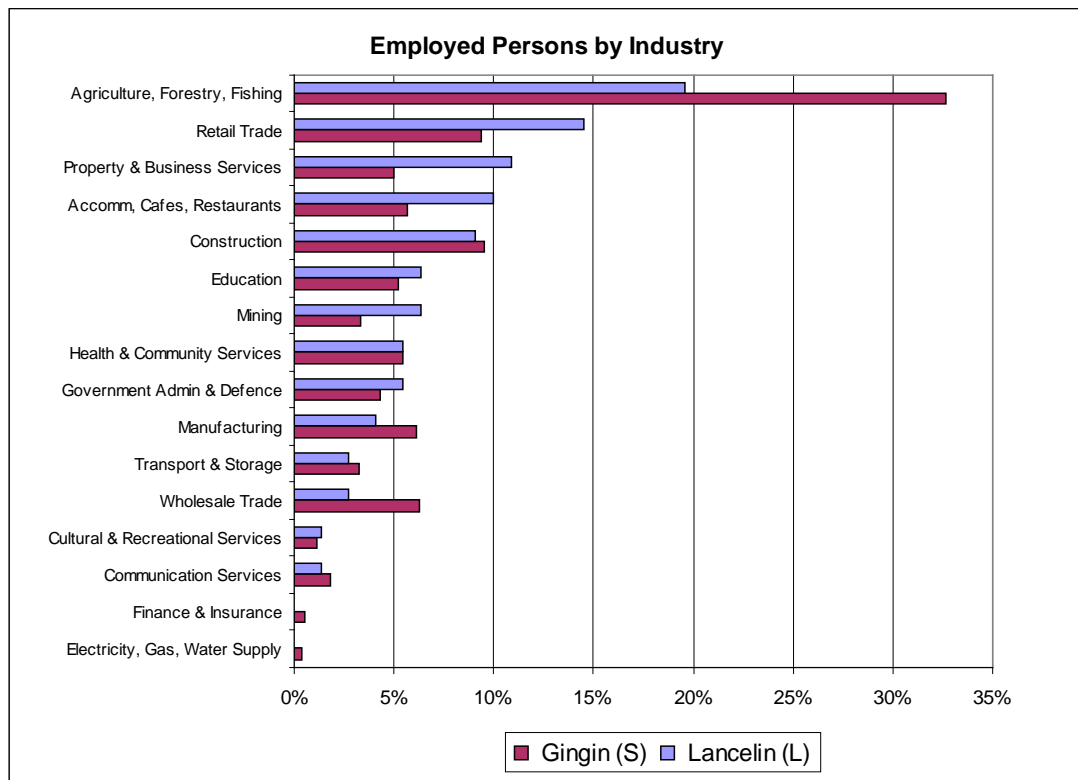


Source: ABS Census 2001

Graph 3: Labour Force in Lancelin and Shire of Gingin

There are a high proportion of part time workers in Lancelin compared to the whole Shire. This is consistent with the primary industry economics base of the region. There is also a higher proportion of unemployed workers (11.6%) compared to the average for the Shire of Gingin (8.4%).

The graph below indicates the proportion of employment by industry type in the Shire of Gingin and the town of Lancelin.



Source: ABS Census 2001

Graph 4: Employment by Industry Type in Lancelin and Shire of Gingin

The graph shows a high proportion of persons employed in retail; property and business services; accommodation, cafes and restaurants; and mining in Lancelin when compared to the Shire of Gingin average.

4.8.3 Employment Generation

The table below shows the projected employment to 2026 for the GCSP area from Draft Plan B, which projects the lowest employment increase for the area compared to the Draft Plan A and Draft Plan C.

Table 12: Projected Employment to 2026 GCSP Area

		Base Case Employment	Growth Factor	Projected Employment	Output per Employee \$/yr	Value of Output \$/yr
1a	Intensive animal products	74	NA	111	140,000	15,500,000
1b	Horticulture	152	NA	1,518	140,000	212,500,000
1c	Other agriculture	35	NA	90	100,000	9,000,000
1d	Rock lobster	286	NA	208	96,000	20,000,000
1e	Roe's abalone	6	NA	4	20,000	80,000
1f	Apiary	17	NA	15	40,000	588,000
2	Mining	33	2	66	415,577	27,428,102
3	Manufacturing	47	30	1,410	180,545	254,569,055
4	Elec, Gas & Water Supp	1	100	100	86,875	8,687,500
5a	Construction – Residential	67	NA	407	99,039	40,312,502
5b	Construction – Other	30	NA	177	99,039	17,530,381
6	Wholesale Trade	28	15	420	124,856	52,439,667
7a	Retail Trade – Tourism	64	NA	154	47,138	7,281,787
7b	Retail Trade – Other	71	30	2,130	47,138	100,404,870
8a	Accom, Cafes & Rstrnts – Tourism	175	NA	426	68,407	29,127,150
8b	Accom, Cafes & Rstrnts – Other	43	15	645	68,407	44,122,502
9a	Transport and Storage – Tourism	33	NA	80	152,304	12,136,312
9b	Transport and Storage – Other	35	15	525	152,304	79,959,395
10	Communication Servs	9	15	135	139,213	18,793,690
11	Finance and Insurance	6	10	60	134,128	8,047,688
12	Property & Busin. Servs	25	10	250	200,655	50,163,643
13	Govt Admin & Defence	22	10	220	92,807	20,417,536
14	Education	40	10	400	46,074	18,429,742
15	Health & Comm. Servs	21	10	210	51,033	10,717,003
16	Cultural & Rec. Servs	6	10	60	83,785	5,027,082
17	Personal & Other Servs	21	10	210	52,363	10,996,191
18	Non-classif econ. Units	6	0	0		0
19	Not stated	24	0	0		0
	Totals	1,377		10,031	2,877,687	1,074,259,799

Source: *Gingin Coast Structure Plan WP: 7 Economic Evaluation, Sinclair Knight Merz, 2000*

Lancelin as the designated Major Local Centre would expect to attract a significant proportion of any additional employment in the region. It is likely that the majority of these employees would live in coastal locations such as Lancelin and would therefore require appropriate accommodation.

The combination of economic and demographic population drivers underpin demand for a settlement of at least 3,000 to 5,000 in the medium term, and possibly larger than that in the long term, in the area covered by the GCSP. The Plan notes Lancelin as the site for that settlement. These drivers are distinct from those that support urban expansion in the north-west corridor of the Perth metropolitan area, for example, and indicate that additional development at; say; Yanchep or Two Rocks is not a substitute for expansion of the Lancelin townsite.

5.0 DESIGN PHILOSOPHY

5.1 Extent of Structure Plan and ODP

This site comprises 538 ha and the design is based on detailed investigation involving planning, environmental, engineering and ethnographic assessment. The factors relating to the selection of the subject area for develop in the Structure Plan are as follows:

- The identification of the site as 'Investigation Area with a Mix of Uses' under the Gingin Coast Structure Plan.
- The identification of the site within the LTEP as a short/medium term urban cell with defined villages with distinct characteristics and attributes.
- The identification of the site in the Shire of Gingin Draft Local Structure Plan for urban townsite expansion subject to environmental assessment and structure planning.
- The WAPC's endorsement of the report prepared by Chris O'Neill and Associates, which stipulates the suitability of the subject site meeting the short to medium-term growth forecast for Lancelin.
- The proximity of the subject site to the Lancelin townsite, the Lancelin golf course, existing roads and infrastructure.
- The ability to preserve significant landforms and vegetation within open space systems incorporated in the overall urban development area.

5.2 Vision and Design Philosophy

The vision for the Lancelin South development is to create a special place in harmony with its form and setting that supports a great lifestyle for residents and visitors through a variety of housing, recreation, leisure and employment opportunities.

The design philosophy for the ODP is centred on the desire to create a unique development that fits comfortably on the landform, respects the relationship with the existing Lancelin settlement, and provides new residents and landowners a strong sense of belonging. The following objectives provide the framework for the ODP design.

5.3 Objectives

The overall objectives of the Structure Plan are to:

- provide for development that respects the existing Lancelin townsite character and community aspirations;
- facilitate a suitable level of self-sufficiency for the Lancelin area;
- achieve minimal disturbance of the existing landform;
- optimise broad-level sustainability measures;
- provide a full 'lifestyle' living opportunity; and
- foster a 'sense of place' and 'sense of belonging' for residents.

5.4 Design Response

In order to achieve these objectives, the Structure Plan responds in the following manner, through:

- The allocation of land for light/general industries to establish and expand.
- The provision of a site for the long-term growth of a district shopping centre to serve the Lancelin and Ledge Point area.
- The recognition of future tourist accommodation development opportunities west of Old Ledge Point Road.
- The identification of opportunities for innovative residential built form that is sympathetic to the dunal landform through the use of design guidelines.
- A street layout design that fits contours and topography with minimal need for retaining and alteration of significant landform features.

- The strategic positioning of public open space to protect key landform features.
- The orientation of lots to provide a good level of passive solar access and capture prevailing cooling breezes.
- The location and configuration of parks to support effective full water cycle management.
- The retention and enhancement of existing vegetation within the central dunal-ridge system and within large lots.
- Permeable street pattern linking local retail and community facilities, which encourage walking and cycling.
- The provision of places for 'daily needs' retail and hospitality activities, and locate them to be easily accessible to the local community.
- The allocation of suitable residential densities and passing traffic to help sustain local retail, hospitality and commercial enterprises.
- Facilitating the development of different housing types that attract single people, young and middle-age couples, families with children, retirees, the elderly and weekenders/holiday-makers.
- The provision of a range of schools and other community facilities throughout the area.
- The provision of a variety of recreation opportunities through a diverse range of small and large formal parks, informal natural public open spaces, passive and active areas, walking/cycling trails and links to the beach.
- The provision of a variety of places for employment opportunities, include retail, tourism and service industry.
- The provision of good connectivity to the Lancelin and Ledge Point communities.
- The creation of distinct character precincts based on landform and land use features and built form variety.
- The alignment of streets along 'natural movement' desire-lines.
- The allocation of key east-west streets extending in straight lines to/from high points to enhance major view-lines to the ocean and a central ridge increase people's easy understanding of the main movement network, emphasise the landform character of the settlement.
- The provision of major parks and activity nodes that serve as popular public gathering/ leisure/ recreation places.
- The provision of special 'child-safe' streets and pedestrian-friendly environments throughout the settlement.
- The provision of strong east-west connectivity for easy access to the beach and integration across the central ridge.
- Ensuring public access along key ridgelines to enable a strong appreciation of the landform and natural setting.
- Location of schools and activity nodes like 'pearls on a string' to provide reference points, areas of interest and facilitate the formation of local geographic communities around these community features.

6.0 STRUCTURE PLAN CONTENT

6.1 Land Use Overview

6.1.1 Residential

As illustrated by **Figure 13**, three categories of residential development have been provided – low density single residential, traditional/conventional residential and medium density residential (single and grouped dwellings). It is expected that the RCode designations will range from R2.5 to R20/40. As identified by **Figure 14**, it is estimated that a total of 3109 single residential lots and 46 grouped housing lots will be accommodated within 380 ha.

The different densities allocated across the subject site are depicted on the Outline Development Plan and discussed in section 7.0 of this report.

The design of each of the residential areas has been defined around a number of independent precincts, which have also been identified in the Structure Plan. This division allows for staging of the estate and for each precinct to be framed around open space or community facilities. Access to proposed local centres and school sites has been facilitated through strong road links.

6.1.2 Mixed Business

A Mixed Business/Light Industry/Service Commercial area will be provided north of Lancelin Road and comprise an area of 54 ha with an estimated total of 118 lots (refer **Figure 15**). This will be divided into three sections incorporating Composite Industry, Service Commercial and Light Industry. It will provide employment, services and limited residential live/work opportunities.

The Service Commercial component is located on Lancelin Road and will allow for bulky goods retail. Its location on Lancelin Road affords accessibility and a high level of exposure. The timeframe for establishment of buildings on this site will be dependent on the rate of population growth.

The Composite Industrial component has been provided to enable a live/work opportunity whereby people are able to run a cottage style industry and also construct a dwelling to reside on their property. Uses that generate large levels of noise and noxious odours will not be permitted in this area. Two significant areas of Public Open Space have been provided to afford a high level of residential amenity.

The Light Industrial component has been located to the rear of the service commercial area to enable it to be 'screened' from Lancelin Road. Light Industrial uses permitted within this site will be similar to those permitted in the 'Rural Industrial' zone of TPS8.

6.1.3 Retail

Village Centre

The proposed village centre comprises 3.6 ha (refer **Figure 15**) and has been strategically located on the eastern side of the predominant ridge line, providing excellent road access to Lancelin and Ledge Point via an internal north south subdivisional road linking Lancelin and Old Ledge Point Roads. It is also located in close proximity to proposed medium density residential development.

It is envisaged that the village centre will be based around a traditional 'main street' design that comprises both retail and commercial uses through a central spine. In addition to the commercial uses, it is also envisaged that there will be a mix of community facilities and a mixed business precinct, which will provide for professional offices.

This shopping precinct will provide the main shopping function for the Lancelin South community as well as Lancelin and Ledge Point residents. Based on the GCSP forecast population of Lancelin (i.e. 5,000-10,000 by the year 2031), it is expected that this site will be able to accommodate the retail demands.

It is proposed the village centre will be developed only when there is sufficient population within the estate to make it economically viable and when it will not have any impact on the current commercial centres within Lancelin and Ledge Point.



LANCELIN SOUTH STRUCTURE PLAN

**DESIGN SUPERSEDED BY REVISED STRUCTURE PLAN ADOPTED BY
COUNCIL 18 JUNE 2013**

FIGURE 13



plan no. - 03/096
scale - 1:5000 @ A1
0m 100m 200m

client - Lancelin Land Co.
date - June 2007



LOT YIELD TABLE

PRECINCT	No. OF LOTS	No. GROUP HOUSING LOTS
1	212	3
2	309	3
3	263	1
4	71	2
5	139	1
6*	20	7
7	185	3
8	29	0
9	103	1
10	162	1
11	211	6
12	29	2
13	18	2
14	74	2
15	141	0
16	88	0
17	19	5
18	25	0
19	100	0
20	116	1
21	63	3
22	180	1
23	126	1
24	138	1
25	103	0
26	185	0
A	47	0
B	41	0
C	30	0
TOTAL	3227	46

* This site also includes a retirement village

LEGEND

- LOW DENSITY RESIDENTIAL
- RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- SCHOOLS / COMMUNITY
- RETAIL / COMMERCIAL - VILLAGE CENTRE
- RETAIL / COMMERCIAL - LOCAL CENTRE
- PUBLIC OPEN SPACE (to be developed)
- PUBLIC OPEN SPACE (to be retained as natural vegetation)
- VEGETATION TO BE RETAINED IN LOTS
- MIXED BUSINESS - COMPOSITE INDUSTRIAL
- MIXED BUSINESS - SERVICE COMMERCIAL
- MIXED BUSINESS - LIGHT INDUSTRY
- REGIONAL DUAL USE PATHWAYS
- COASTAL ACCESS POINTS

LANCELIN SOUTH
LOT YIELD PLAN

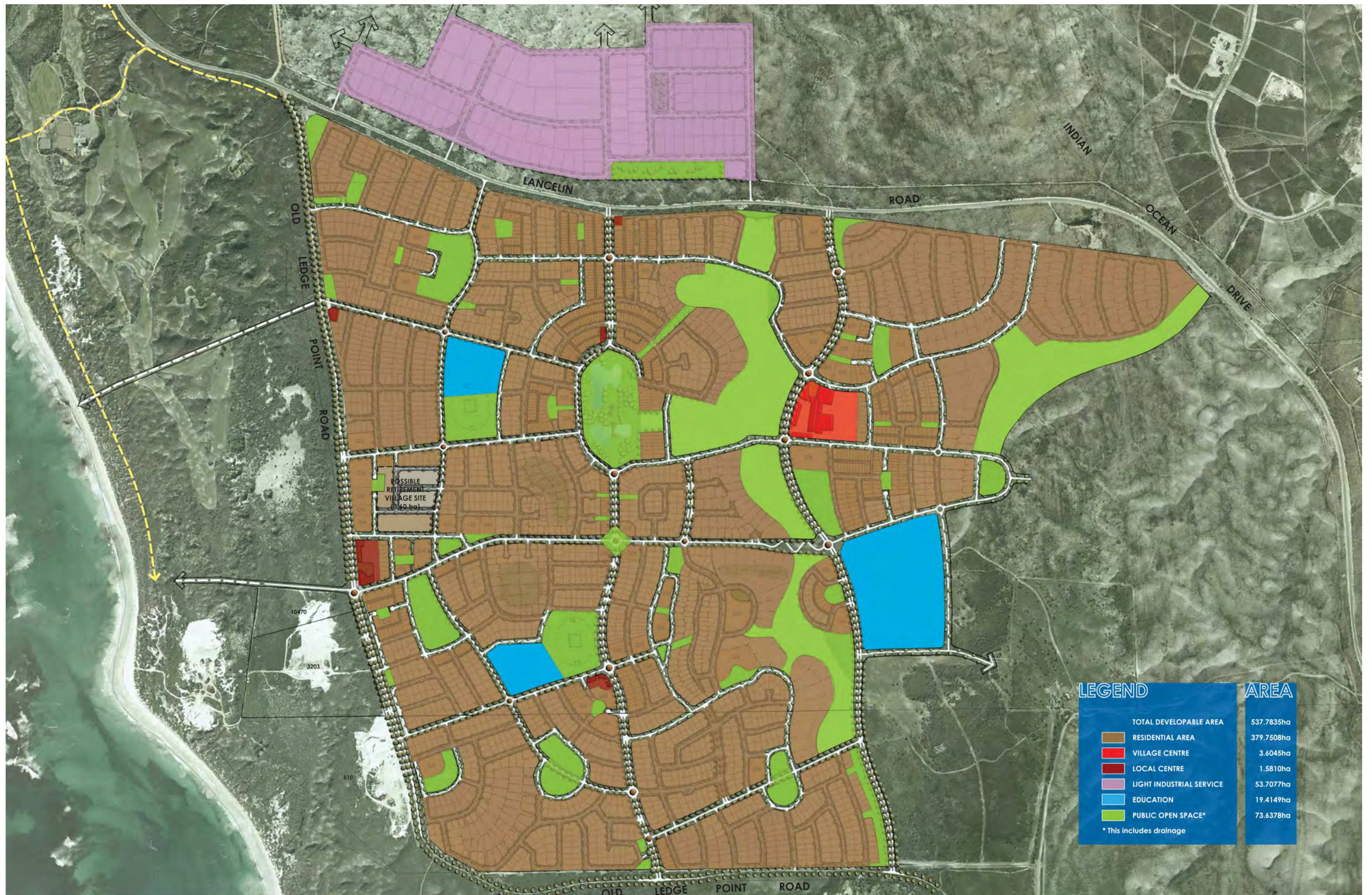
DESIGN SUPERSEDED BY REVISED STRUCTURE PLAN ADOPTED BY
COUNCIL 18 JUNE 2013

FIGURE 1.4

plan no. - 03/096
scale - 1:5000 @ A1
0m 100m 200m

client - Lancelin Land Co.
date - October 2007

TAYLOR BURRELL BARNETT
Town Planning and Design
147 Norton Road, Albany
Western Australia 6172
Telephone: (08) 9422 2911
Fax: (08) 9422 2912
www.tbbrn.com.au



LEGEND		AREA
TOTAL DEVELOPABLE AREA		537.7835ha
	RESIDENTIAL AREA	379.7508ha
	VILLAGE CENTRE	3.6045ha
	LOCAL CENTRE	1.5810ha
	LIGHT INDUSTRIAL SERVICE	53.7077ha
	EDUCATION	19.4149ha
	PUBLIC OPEN SPACE*	73.6378ha
* This includes drainage		

**LANCELIN SOUTH
AREA PLAN**

**DESIGN SUPERSEDED BY REVISED STRUCTURE PLAN ADOPTED BY
COUNCIL 18 JUNE 2013**

FIGURE 15
plan no. - 03/096
scale - 1:5000 @ A1
0m 100m 200m
client - Lancelin Land Co
date - June 2007

TAYLOR BURRELL BARNETT
Town Planning and Design
187 Roberts Road, Lancelin
Western Australia 6209
Telephone: 08 9382 2411
Fax: 08 9382 2412
tbb@tbbba.com.au

The total Net Lettable Area of the village centre will be determined at the time of development application when specific commercial uses and the commercial catchment are known.

Local Centre

The five local centres comprise a combined total area of 1.58 ha and will be a smaller scale to the village centre. These are designed to serve the daily needs of residents, and will not compete with the village centre.

The local centre on Old Ledge Point Road has been located to be in close proximity to a possible retirement village site and Lot 10470, which is located to the west of the subject site and will be separately developed to provide coastal access from the subject site. Given this, it is envisaged that this site will attract trade from people accessing the coast. In addition to this, due to its location and proximity to the coast this local centre will also provide a tourist function that may include tourist shopping and an eatery.

The proposed southernmost local centre is located in close proximity to a primary school site and will provide a convenient retail facility for parents picking up or dropping off children.

The north-western local centre will be developed along with the early stages of development to meet the immediate needs of surrounding residents.

The fourth local centre is located in close proximity to a central area of Public Open Space, a key north south road traversing the centre of the estate and medium density Residential Development.

The fifth local centre is located on the corner of Lancelin Road and the key north-south road traversing the centre of the site. This node will provide convenience facilities to people entering the estate and travellers along Lancelin Road.

6.1.4 Community

The Structure Plan allocates land for community purposes and facilities. This encompasses the following land uses and development which fulfil the community's needs:

- Two primary school sites.
- A combined primary school and high school site.
- Various areas of Public Open Space, which include areas to be development and areas where vegetation is to be retained.
- Allowance for child care centres.
- Allowance for Place/s of Worship.
- Allowance for a Medical Centre and Child Health Centre within the Town Centre.
- Allowance for emergency services, which include Ambulance(s) and Fire Station(s), with the appropriate locations for these being determined by the relevant servicing authorities.
- Allowance for a Shop Front Police Service within the Town Centre.
- Allowance for a public library and Local Community Centre.

With respect to the provision of a High School site, based on the outcome of the Stakeholder workshop and various discussions with the community during the preparation of the LTEP, it was established that there is high demand for a high school site to service the Lancelin-Ledge Point district. To address this and to also accommodate the proposed residential development expected within Lancelin South, a high school site has been provided on site.

In confirming the timeframe for both primary school and high school sites being constructed and the construction requirements, discussion will need to be entered into with the Department of Education and Training.

6.2 Community Infrastructure Provision

As well as providing general community facilities, a strategy is proposed for the staging and funding of future community facilities both within the estate and in the district generally, through a Deed of Agreement with the Shire of Gingin.

The provision of these community facilities will not only benefit residents of the proposed estate, but also the greater Lancelin area. This is proposed to be facilitated by providing a 'Community Facilities Fund' and 'Maritime Facilities Fund', which will provide both a cash contribution from the sale of each residential lot within the subject site and also see the upfront construction of key pathways and access points linking the subject site with the Lancelin townsite and the coast.

This essentially ensures that the Lancelin South Development will do more than simply provide land and the necessary population to support community facilities but will also generate the financial ability to develop such facilities in a timely manner. A copy of the current Deed of Agreement has been appended as **Appendix H**.

It is noted that the appended Deed of Agreement dated 2001 was based on the previous structure plan for the subject site (refer **Appendix A**). The landowner, as a party to the agreement, has advised the Shire in writing that, while the Structure Plan has changed, the intent of the Agreement has not changed and it would similarly apply in relation to this Structure Plan. If both parties seek to vary the Deed to include specific reference to the Lancelin South Structure Plan, this can be done at a later stage.

6.3 Public Open Space Provision

Provision of Public Open Space (POS) has been central to the design approach of the Structure Plan. The location and size of POS has been based on the site analysis and environmental assessment.

The POS has been divided into two categories:

1. Formal open space that is to be developed and will provide opportunities for passive and active recreation; and
2. Natural vegetation that is to be preserved to maintain the site's natural attributes- both topographic and remnant vegetation.

With respect to the total land provision for POS, there is a total 73.6378 ha which includes 41.6485 ha of formal open space, 37.2393 ha of natural vegetation and 10.5 ha of drainage (note: given that swales will be used for drainage a 50% credit for drainage is assumed). In accordance with the total developable area, this represents a 16% provision of POS, which is illustrated in detail by **Figure 16** and **Table 13**.

The retention of 8% of the nett subdivisible area as remnant natural vegetation is in response to the previous consideration of the EPA that required the retention of significant native vegetation. The select areas of remnant vegetation to be retained are of significant quality and have been determined in accordance with advice provided by the project's Environmental consultants.

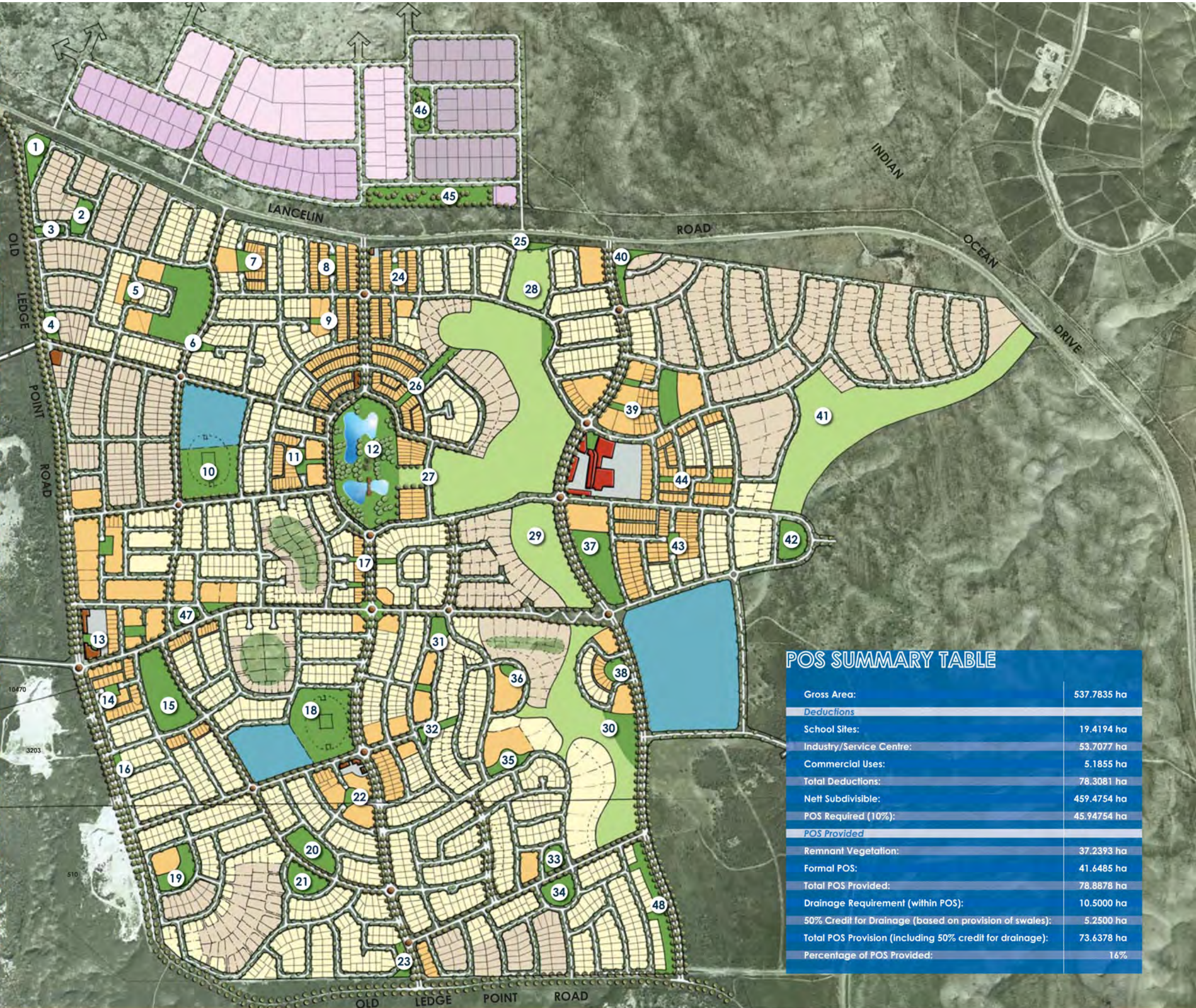
As illustrated by **Figure 17**, the POS has been allocated to enable 95% of residents to be within a 200 m walking distance of useable POS. A significant number of residents will also have access to more than one POS area within this radius. This high percentage has been facilitated through the retention of significant vegetation and the provision of large areas of formal open space and a number of small 'pocket parks'.

Table 13: Public Open Space Provision

GROSS AREA:		537.7835 ha
DEDUCTIONS		
School Sites	19.4194 ha	
Industry/Service Centre	53.7077 ha	
Commercial Uses	5.1855 ha	
Total Deductions:		78.3081 ha
Nett Subdivisible		459.4754 ha
POS Required (10%)		45.94754 ha

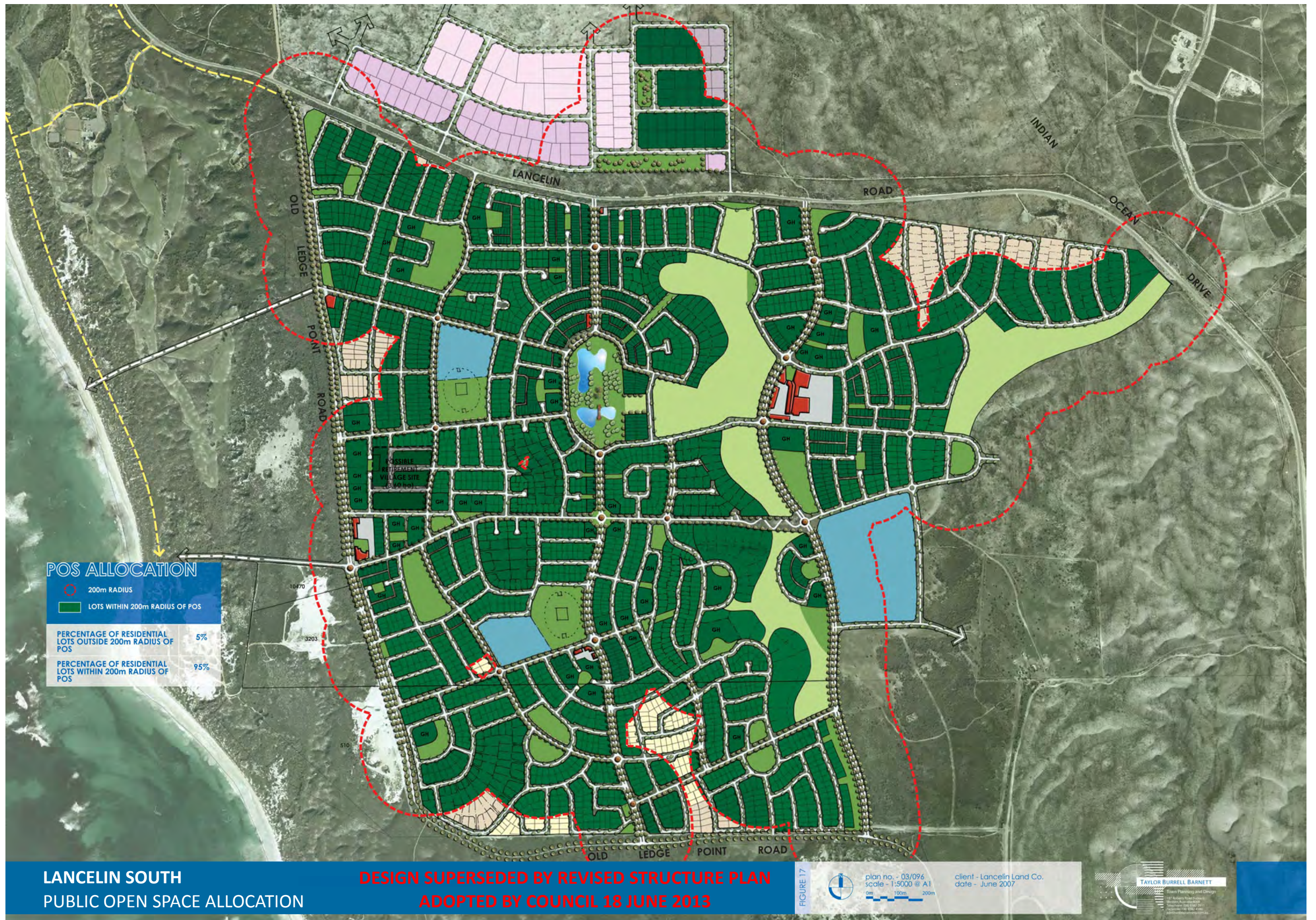
POS PROVISION TABLE (units in m²)

	GROSS AREA	DRAINAGE PROVISION (DEDUCTION)	50% CREDIT FOR DRAINAGE	NETT POS
1	6 875	N/A	N/A	6 875
2	5 153	N/A	N/A	5 153
3	1 942	N/A	N/A	1 942
4	2 858	N/A	N/A	2 858
5	1 309	N/A	N/A	1 309
6	31 666	10 400	5 200	26 466
7	3 582	N/A	N/A	3 582
8	1 285	N/A	N/A	1 285
9	1 185	N/A	N/A	1 185
10	26 392	10 000	5 000	21 392
11	3 391	N/A	N/A	3 391
12	72 343	13 000	6 500	65 843
13	1 969	N/A	N/A	1 969
14	1 452	N/A	N/A	1 452
15	24 583	10 300	5 150	19 433
16	1 204	N/A	N/A	1 204
17	2 541	N/A	N/A	2 541
18	35 560	4 900	2 450	33 110
19	8 556	3 200	1 600	6 956
20	10 684	6 400	3 200	7 484
21	8 033	6 000	3 000	5 033
22	2 060	N/A	N/A	2 060
23	2 533	N/A	N/A	2 533
24	959	N/A	N/A	959
25	2 096	N/A	N/A	2 096
26	5 831	N/A	N/A	5 831
27	155 622	N/A	N/A	155 622
28	19 846	N/A	N/A	19 846
29	40 288	N/A	N/A	40 288
30	60 749	N/A	N/A	60 749
31	5 236	N/A	N/A	5 236
32	2 926	N/A	N/A	2 926
33	3 892	3 600	1 800	2 092
34	7 139	3 100	1 550	5 589
35	4 909	N/A	N/A	4 909
36	1 874	N/A	N/A	1 874
37	20 100	10 200	5 100	15 000
38	3 719	2 800	1 400	2 319
39	13 122	N/A	N/A	13 122
40	5 833	7 500	3 750	2 083
41	110 436	N/A	N/A	110 436
42	8 806	1 900	950	7 856
43	2 175	N/A	N/A	2 175
44	2 145	N/A	N/A	2 145
45	22 641	6 200	3 100	19 541
46	6 443	1 800	900	5 543
47	9 487	3 700	1 850	7 637
48	15 448	N/A	N/A	15 448
TOTAL	788 878	105 000	52 500	736 378



POS SUMMARY TABLE

Gross Area:	537.7835 ha
Deductions	
School Sites:	19.4194 ha
Industry/Service Centre:	53.7077 ha
Commercial Uses:	5.1855 ha
Total Deductions:	78.3081 ha
Nett Subdivisible:	459.4754 ha
POS Required (10%):	45.94754 ha
POS Provided	
Remnant Vegetation:	37.2393 ha
Formal POS:	41.6485 ha
Total POS Provided:	78.8878 ha
Drainage Requirement (within POS):	10.5000 ha
50% Credit for Drainage (based on provision of swales):	5.2500 ha
Total POS Provision (including 50% credit for drainage):	73.6378 ha
Percentage of POS Provided:	16%



LANCELIN SOUTH
PUBLIC OPEN SPACE ALLOCATION

DESIGN SUPERSEDED BY REVISED STRUCTURE PLAN
ADOPTED BY COUNCIL 18 JUNE 2013

FIGURE 17



plan no. - 03/096
scale - 1:5000 @ A1
0m 100m 200m

client - Lancelin Land Co.
date - June 2007



POS PROVIDED		
Remnant Vegetation	37.2393 ha	
Formal POS	41.6485 ha	
Total POS Provided:		78.8878 ha
Drainage Requirement (within POS)	10.5 ha	
50% Credit for Drainage (based on provision of swales)	5.25 ha	
Total POS Provision (including 50% credit for drainage)		73.6378 ha
Percentage of POS Provided		16%

6.3.1 POS Philosophy and Landscape Design

In establishing the philosophy and landscape design for the POS, due regard has been given to the site's character and environment, with key elements being as follows:

- The strong coastal influence.
- The diverse vegetation communities on the site.
- The sands and limestone underlying the site.
- The heritage of the site related to cattle grazing.

The plant species endemic to the site will be used for both the planting palette for the development and may also provide the inspiration for artworks and other motifs.

The proposed landscape character will reflect the coastal location and rural heritage, with the use of materials and colours complimentary to the area. These will include the following:

- Predominantly off-whites or creams in paved areas, possibly with exposed aggregate and shell grit in key areas.
- Limestone, rammed limestone and/or gabion feature walls.
- Galvanised steel and timber.
- The use of predominantly endemic or native plant species. Limited use of exotic species may be considered in key areas for amenity and / or effect.

These elements will be combined in a contemporary style to reflect a modern look.

Based on this, the vision for Lancelin South is to create a development with a strong sense of place and identity that is compatible and seamless with the surrounding environment. The incorporation of sustainable design principles is an over-riding objective, with tree and vegetation retention in select areas of public open spaces being a key priority wherever possible.

The creation of useful open space that fulfils several functions is a key objective in the development of the structure plan and includes the following:

- Establishes significant green-link corridors incorporating retention of landform, vegetation and habitat, and promoting walkability.
- The provision of a showcase for a variety of environmental features and practices to assist in community education and foster a sense of community pride, ownership and responsibility for the local environment.
- The provision of a diversity of visual and recreational opportunities and experiences.

An overall approach in the open space design will be to minimise areas of irrigated grass and to retain extensive areas of coastal heath and bushland. Grassed spaces will be incorporated into key nodes to enable a diversity of passive and active recreational activity to occur.

6.3.2 POS Areas – Function Defined

The POS provided for in the Structure Plan offers a diverse range of recreational experiences and opportunities. The layout of the POS and its connection via a legible street network facilitates a 'walkable' environment. With respect to the individual areas of POS as illustrated by the Structure Plan, the key elements of the landscape theme are identified in **Appendix I** and are outlined under the following headings.

North South Green Spine

The retention of the major north-south dune formation and its associated coastal vegetation as an open space corridor will be a significant natural feature of the site and will contribute strongly to the coastal 'sense of place,' with the remnant dunal vegetation softening and containing the proposed built form. The focal element of this open space is a conical hill immediately west of the central park, which not only serves as a natural landmark and point of orientation within the area, but also offers panoramic 360° views over the surrounding area, including good views to the ocean and Lancelin. A viewing deck is proposed for the summit of this hill to provide a desirable destination point for residents and visitors.

A walking trail with logical links to the adjacent street network and other parks is proposed through the green spine to encourage passive recreation and appreciation of this unique natural resource. Destination points will be provided along the route, such as seating areas, picnic areas and viewing decks, with public art and interpretive signage (highlighting environmental and cultural values) adding another level of interest and meaning.

Central Park

A central park will be located at the heart of the development, providing a strong recreational and visual focus. It is strategically located on the main north-south road which deflects around the park so that its visual prominence is reinforced. It is also physically connected to the north-south green spine, forming an important and integral part of the primary open space network.

Sitting in the floor of the valley between the two north-south dunes, this park will be a natural focal point with a more protected setting from the prevailing south westerly wind. As the primary park, it will have a high level of treatment, including large open lawn areas for informal active recreation, shaded seating and picnic areas and an extensive path network. This park incorporates the historical de Burgh's well, installed in 1941, as well as three Tuart trees that were planted in the same year by the de Burgh family. Artwork and interpretive signage will be used to explain the site's history. A water feature or lake will be included to reflect the history of the site as a 'watering hole' for the grazing cattle of the de Burgh family. A copy of this plan is included in **Appendix J**.

Large Parks

There are four other large parks proposed; two in association with school sites. These two parks will include ovals for formal active recreation, while the other parks will include open lawn areas for informal active and passive recreation. Amenities will include paths, seating areas and possibly play facilities.

Small Parks

There are numerous smaller parks scattered through the development, which ensures open space amenity is readily available to all residents. These parks will provide more intimate spaces for passive recreation and may incorporate play facilities.

Linear Parks and Public Access Ways

There are numerous linear parks and public access ways that provide intimate pocket parks and facilitate pedestrian and cycle linkages through the development.

Plazas and Urban Parks

There are several small parks adjacent retail and commercial areas that will be developed with a more urban feel, incorporating paved seating areas, shade and possibly public art, and facilitating pedestrian connections to parking areas and shops.

Major Boulevards

The major north-south and east-west streets through the estate will be developed as tree-lined boulevards, signifying their importance in the road hierarchy and also promoting their use as the primary pedestrian and cycle routes through the development. The network of boulevards combined with the open space linkages will provide a diversity of legible and attractive walking and cycle circuits within the development.

6.3.3 Public Art

Public art will be an important and integral component of the landscape design within the development. Artworks will provide numerous benefits to the community, including the following:

- Enrich the built environment.
- Contribute to the creation of a local identity.
- Develop community pride.
- Interpret and express in a creative way the unique characteristics of this area (including natural, cultural and social characteristics).
- Provide landmarks as points of reference and orientation.
- Contribute to the safety of a place and reduce vandalism.

A public art strategy and program will be developed at the outset of the project to ensure the implementation of meaningful and relevant artworks throughout the development, particularly in relation to the site's past history. Opportunities will be explored to involve local artists in specific projects.

6.4 Movement Network

In accordance with the Structure Plan design, the consultant traffic engineer has undertaken a detailed assessment to confirm that the road design will be able to accommodate the predicted traffic flows. Assessment has also been undertaken to determine any implications the proposed development will have on the existing roads, i.e. Lancelin Road, Old Ledge Point Road and Indian Ocean Drive. A full copy of the traffic report has been included in **Appendix K**, and a summary of the key findings is discussed below.

6.4.1 Existing Road Access

The site is surrounded by an established road network, comprising Lancelin Road to the north, Indian Ocean Drive to the east and the as yet unconstructed Old Ledge Point Road to the west. Lancelin Road connects the subject site to Lancelin Townsite and Indian Ocean Drive provides access to Perth.

6.4.2 Internal Road Network

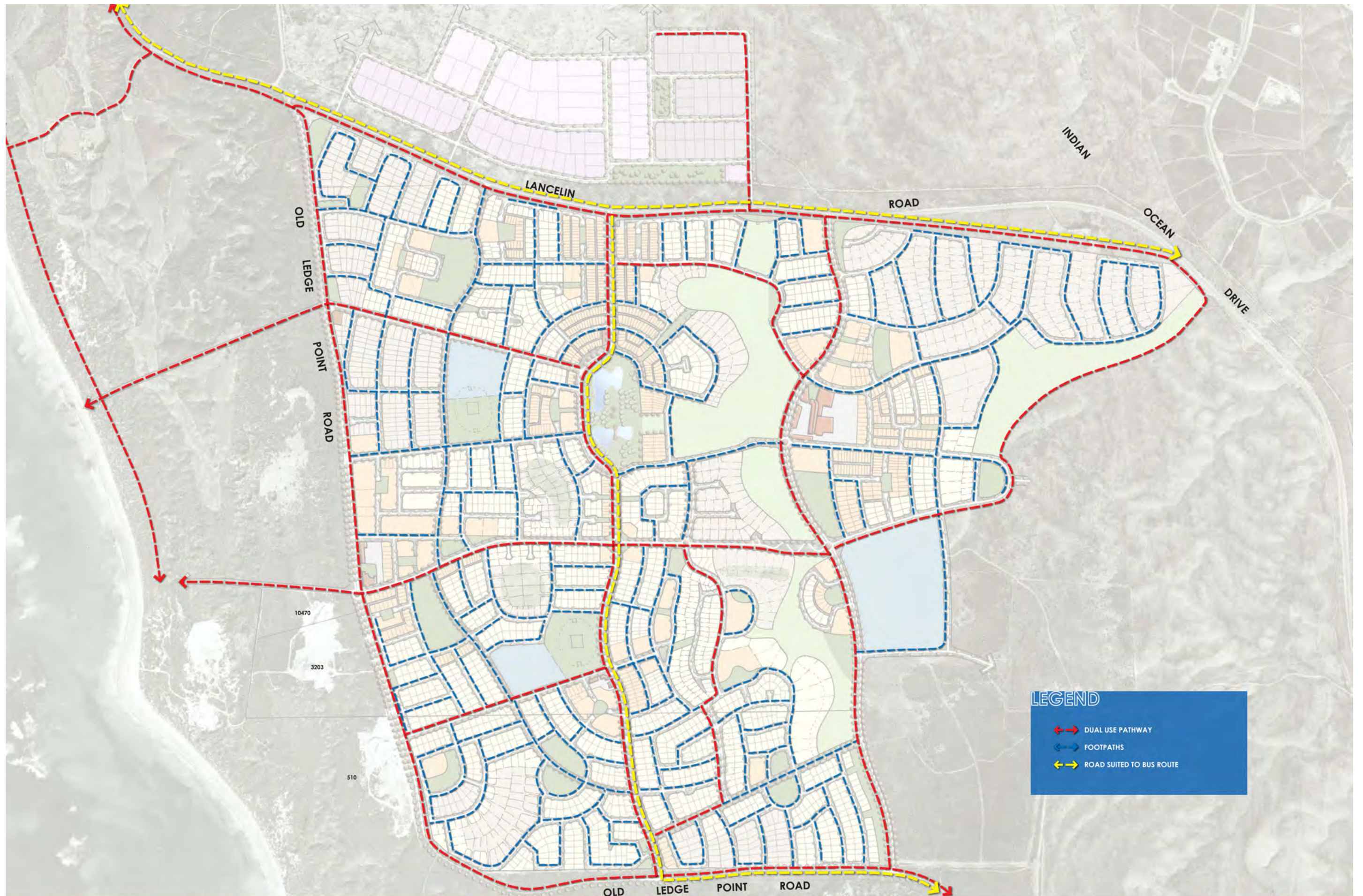
The Structure Plan incorporates a highly connected local street system to give a choice of travel direction, travel distances and to create a legible and permeable road network.

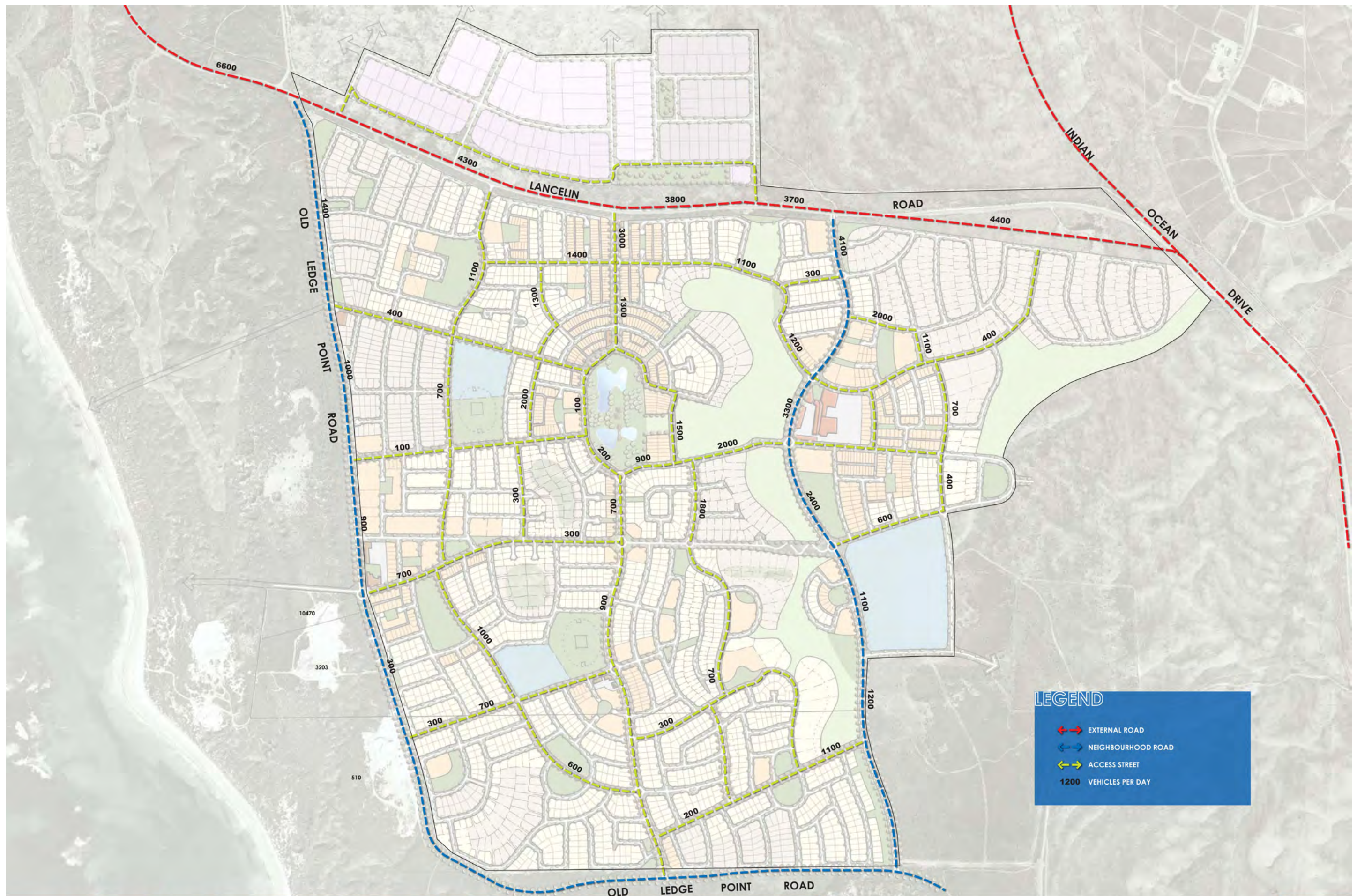
As illustrated by **Figure 18**, the Structure Plan provides both Neighbourhood Connectors and Access Streets, with consideration being given for the Access Streets to have a choice of connections to the Neighbourhood Connectors. The network distributes traffic and provides robustness for the future changes in land use and traffic needs.

6.4.3 Traffic Volumes

Figure 19 illustrates the future traffic estimate for the Neighbourhood Connectors and Access Streets within the subject site. Justification for the traffic volumes have been included in the appended traffic report prepared by the consultant traffic engineer.

The planning proposals for the road network accommodate traffic volumes within the framework of the road hierarchy, without creating adverse effects upon the living environment.





With respect to the external road network the detailed traffic report has determined that the external road network (Lancelin Road) will continue to operate in an appropriate manner and major upgrading will not be required resultant from the development of the subject site.

6.4.4 Safety and Management

Lancelin Road will provide the primary point of access to the subject site. Currently Lancelin Road has a speed limit of 110 km/ph passing the subject site; however, it is noted that when Indian Ocean Drive is constructed the speed will be reduced to 90 km/ph. This aside, to ensure access safety the traffic assessment assumes a speed of 110 km/ph on Lancelin Road.

In determining the safety of the access point with Lancelin Road, the safe intersection sight distances have been examined. As covered in detail in the appended traffic report, it has been established that the appropriate sight distances can be achieved for the proposed access locations to the residential and commercial development.

With respect to the intersection spacing requirements, the safety of these have been based on the ability to provide a deceleration lane to Austroads standards. As established in the appended traffic report, a minimum distance of 120 metres is required to provide a deceleration and supplementary turn lane on a road with a posted speed on 110 km/ph. Given that the minimum intersection spacing on Lancelin Road is 150 m, the Austroads standards have been met.

Speed throughout the subject site will be controlled through careful street design and traffic management. Roundabouts have been proposed at strategic four way intersections. Other intersections will be defined through road treatment, i.e. rumble strips, variation on the asphalt colour. The meandering nature of the majority of roads within the structure plan will also limit vehicle speed.

6.4.5 Pedestrian Movement and Dual Use Path Provision

As illustrated by **Figure 18**, a network of dual use paths are proposed along major desire routes, which include all the Neighbourhood connectors. This network makes provision for local linkages to areas of POS, school sites, community centres and commercial areas.

As part of the developer contributions, allowance has been made for the provision of a dual use path network that will provide regional linkages from the subject site to the Lancelin Townsite and coast. This will involve the construction of dual use pathways along areas of the Lancelin Golf Course and Crown Reserve north of the golf course and nominated coastal access points. It is noted that the location of the dual use pathways are subject to formal agreement by the relevant landowners.

Cycling will be appropriate on roads that carry less than 3,000 vehicles per day. On busier roads where dual use pathways are not provided, on street cycle lanes will be provided.

Footpaths will be provided on every street and higher order roads accessing the local centres. School sites will have footpaths provided both sides.

6.4.6 Public Transport Provision

There are limited bus services in the Lancelin area and it is not likely that this will not change in the foreseeable future. However, the design of the subject site is cognisant of future public transport accessibility and **Figure 18** identifies the roads that have been designed to accommodate future bus routes.

6.4.7 Coastal Access

As illustrated on the Structure Plan, it is proposed that the subject site will have two coastal access points. The southern most access point traverses a portion of Lot 10470 Old Ledge Point Road and a Crown Reserve, which has been vested in the Shire of Gingin as a Reserve for Recreation (i.e. the Lancelin Sporting club). The northern access point traverses the same Reserve for Recreation.

The owner of Lot 10470 Old Ledge Point Road has indicated their support for this access track traversing their land. Preliminary consultation has taken place with the Lancelin Sporting Club and the Shire of Gingin and they have indicated that they would be supportive of these access points.

With respect to the access links it is envisaged that the southern link will be constructed to facilitate vehicles and pedestrians. A car park for vehicles will be provided within the fore dune and vehicle access will not be permitted onto the beach. The northern access link will be constructed as a dual use pathway only. Amenities such as toilet facilities, change rooms and showers will be erected in select locations in accordance with a Coastal Access and Development Plan prepared in accordance with the Deed of Agreement.

6.5 Fire Management

A Fire Management Plan has also been prepared (**Refer Appendix L**), providing fire protection measures for the developer and future residents.

6.5.1 Fire Protection Around Areas of Strategic Development

The Fire Management Plan provides for:

- The provision of strategic firebreaks in appropriate locations within the estate;
- The installation and provision of fire hydrants; and
- A building protection zone being established between the last lots within each stage and the required strategic firebreak.

6.5.2 Fire Protection Adjoining Public Open Space and Native Vegetation

In order to ensure the protection of remnant vegetation and prevent the threat of bushfire spreading to nearby residents, the Fire Management Plan provides for:

- The installation of a strategic firebreak for areas of remnant vegetation that separate proposed residential development;
- A building protection zone around buildings that are adjacent to remnant vegetation and any native vegetation adjoining the development;
- The construction of roads around the areas of development and the native vegetation adjoining the development; and
- Where roads are not proposed, the construction of a 4 m wide emergency access way (road base) will be necessary.

6.5.3 Dwelling Construction Standards

In regard to the construction of new buildings to protect from the threat of bushfire, the Fire Management Plan provides for:

- Dwellings to be constructed in accordance with Home Owners Bushfire Survival Manual, the Shire of Gingin Specifications and Requirements and Australian Standards AS3959;
- Memorials to be placed on title for lots adjacent to coastal vegetation advising landowners of potential risks associated with bushfire; and
- Where required, the building protection zone must be 20 metres wide.

6.6 Site Works and Drainage

6.6.1 Earthworks/Site Works

As previously noted, the site varies in elevation with a major ridge aligned north/south which roughly dissects the site into two major catchments. There is also a general grade across the site, from a high of about 60 m AHD on the eastern boundary, to low areas of approximately 5 m AHD to the west. In accordance with the Structure Plan design, the earthworks programme will retain the existing vegetation located on the ridge lines.

The site works component of the construction programme will involve clearing of vegetation and stripping of topsoil in the development areas, except where vegetation is to be retained in lots. It is expected that hard rock may be encountered on site during initial earthworks programmes and also in trenching activities during the installation of services.

In the undulating medium density areas (R20/40 and R20), it will be necessary for retaining walls to be provided. In the elevated steep areas where larger lots are proposed and the majority of vegetation will be retained, retaining walls will not be necessary.

As part of the development of the subject site, Old Ledge Point Road will be upgraded to meet a standard acceptable to the Shire of Gingin.

Road widths will vary throughout the proposed development, with dual lane boulevards being constructed on the major estate entrances. A combination of 7.4 m and standard 6.0 m roads will comprise the road reserve widths within the subdivision and laneways with a width of 6.0 m will also be constructed in the higher density areas. Due to the undulating nature of the site, and the developers intent to retain existing ridge lines it will be necessary for detailed design to be undertaken in select areas. In order to minimise the impact of earthworks on areas of bushland being retained and the steep ridges, innovative design under close collaboration with the Shire of Gingin will be required at the time of subdivision. All roads will be designed and constructed to the engineering standards of the Shire of Gingin, and Main Roads WA where appropriate.

Road design will be undertaken with regard to the sustainable drainage strategies and opportunities to minimise standard road kerb and piped systems will be sought. Flush kerbing will be included on POS boundaries and also where verge or median swales can be included in the design.

Roads will be kerbed and asphalted with brick paved intersections and red asphalt treatments included as desired. Bollards will be installed along road reserve boundaries adjacent to POS areas where flush kerbing may be incorporated into the design.

6.6.2 *Drainage*

Water sensitive urban design initiatives will be implemented into the detailed drainage design as most practical for the site. Storm water collected in the road reserves will be infiltrated as close as possible to the collection point for immediate groundwater recharge.

Based on the undulating land, and the numerous areas of POS as identified in the Structure Plan, a number of small drainage swale facilities will be incorporated within select sites. As previously mentioned, the installation of these drainage facilities will see the provision of a 50% credit towards public open space in accordance with WAPC policy. Excavation to expose the groundwater as a water feature in the low lying central POS area will be used as a drainage facility for the western catchment of the site.

As mentioned, flush kerbing will be utilised on POS boundaries and where median and verge swales may be constructed in the road reserves. Where necessary, the piped drainage systems will transfer the 1 in 5 year storm event to infiltration basins capable of storing the 1 in 10 year storm event. Soak wells and baseless pits will also be included to reduce the dependency on downstream facilities and to promote direct infiltration. Given the sandy nature of the soils on site, this would be appropriate and will be included where sufficient elevation is provided above the groundwater table.

6.7 *Servicing*

6.7.1 *Water Supply*

Water is readily available to the subject site, with several servicing options available at this preliminary stage. As illustrated by **Figure 20**, there are currently three options for the provision of water to the subject site. The most appropriate option will be dependent on the timing and demand for development at Lancelin South and the capacity of existing infrastructure in the area.

With respect to the three options the following is noted.



Option 1

The Lancelin town site is currently served by four groundwater extraction bores to the north east of the town. It is understood the Water Corporation are planning to upgrade the supply tank to cope with increased demand, which could also service initial development of the subject site, which will require the developer constructing a 250 mm water main along Lancelin Road. It is noted that given the supply storage tank at Lancelin is 30 m AHD development above the 10 m contour of the subject site could not be adequately serviced. Given this, a temporary booster pump and storage supply tank will be required.

Option 2

The second option would be to draw on the existing water supply facilities from the Seaview Park Rural Residential estate to the east of the subject site. There are currently two groundwater extraction bores and a storage supply tank with a top water level of 91 m AHD within this estate.

In terms of the viability of this option, it is understood the Water Corporation are planning to duplicate the supply tank and construct two additional bores to serve other developments in the locality. Lancelin South could be included with these upgrades, as there is sufficient capacity and as illustrated by **Figure 20**, a 200 mm main can be placed within the road reserve of Seaview Drive, Indian Ocean Drive and Lancelin Road to the subject site. It is noted that for this option to proceed, the construction of Indian Ocean Drive would need to have commenced and the road reserve earth worked to Lancelin South.

Option 3

The third option is a long term solution and involves constructing confined aquifer bores, independent of other reticulation schemes. Permanent sites could either be incorporated within the subject site or be located in the land to the north of Lancelin Road, which is also owned by JB Matthews. The bores would require a 50 m buffer and if placed within the subject site will be located within POS areas.

The bores will pump the water to a common tank where it is treated. This option requires investigative drilling to determine the most appropriate location and approvals from the Department of Water and Department of Environment and Conservation.

The above options are preliminary and require further detailed planning by the Water Corporation. The ultimate strategy to best serve Lancelin South will be dependent on the timing for upgrades being undertaken on surrounding infrastructure, and future demand.

6.7.2 Wastewater

The existing waste water treatment facility, located 500 m north of Lancelin Road adjacent to the development, currently caters for parts of the Lancelin town site that are served by sewer reticulation. Whilst the treatment plant currently has some capacity, it will need to be expanded to cater for the ultimate Lancelin South development. It is noted that there is sufficient room within the treatment facility site for additional ponds to be constructed to serve the development of the subject site. The construction and upgrading requirements for this would be dependent on the construction timing and demand for the development of the subject site.

While the Water Corporation has not commenced any detailed planning or assessment, preliminary consideration of the significant population growth anticipated in this area has prompted consideration of the following four potential wastewater treatment options for the Gingin coast:

1. Decommission the Lancelin and Ledge Point facilities and construct a new facility at an as yet undetermined location, with the capacity to service the existing and predicted population growth;
2. Decommission the Ledge Point facility and increase the capacity of the Lancelin site;
3. Decommission the Lancelin facility and increase the capacity of the Ledge Point site; or
4. Increase the capacity of both sites to accommodate the anticipated population growth in each respective local area.

Of these options, the first and third are the preferred planning outcomes as these would allow for the relocation of the wastewater facility that obstructs the urban integration of Lancelin South with the Lancelin townsite.

Should the Water Corporation determine to pursue option one, a new site would need to be located in the context of the Overall Structure Plan on suitable land with sufficient buffer distances from other existing or proposed land uses. This planning has not yet commenced, and the Water Corporation has not identified this as a priority task at this time.

Regardless of the final location of the wastewater plant, the development of the subject site will be served by reticulated Water Corporation sewerage mains. Preliminary planning undertaken by the Water Corporation identifies four pump station locations for the Structure Plan, with two either side of the main north/south ridge. However, given the site generally grades to the west, it may be possible to bore through the ridge and construct only two pump stations in the lower western areas. Given the ridge is less than 150 m wide in some areas, boring the sewer mains provides an opportunity to retain the existing ridge lines without cutting deep trenches through POS.

Construction of the sewer pump-station and pressure main in the first stage of development will would be pre-funded by the developer, given that it is permanent infrastructure fitting with Water Corporation's overall planning. The exact locations of the permanent pump station sites will be established at the time of subdivision.

6.7.3 Power Supply

There is an existing three-phase overhead power cables on the northern side of Lancelin Road connecting the Lancelin town site to the high voltage lines to the east. There is sufficient power in these lines to adequately service Lancelin South. Liaison with Western Power will be required during detailed design stages to ensure sufficient switch gear and transformer facilities are included in the design, with sites necessary given up to Western Power that may adequately serve overall development of the Lancelin South area.

6.7.4 Telecommunications

There are existing Telstra network cables on the northern side of Lancelin Road, serving the Lancelin town site, which are accessible for residential distribution with development of Lancelin South. It is anticipated that this underground infrastructure be extended to serve the development of the site, though Telstra may require the developer to trench external to the development. Telstra services will in any case be laid in common trenches during construction.

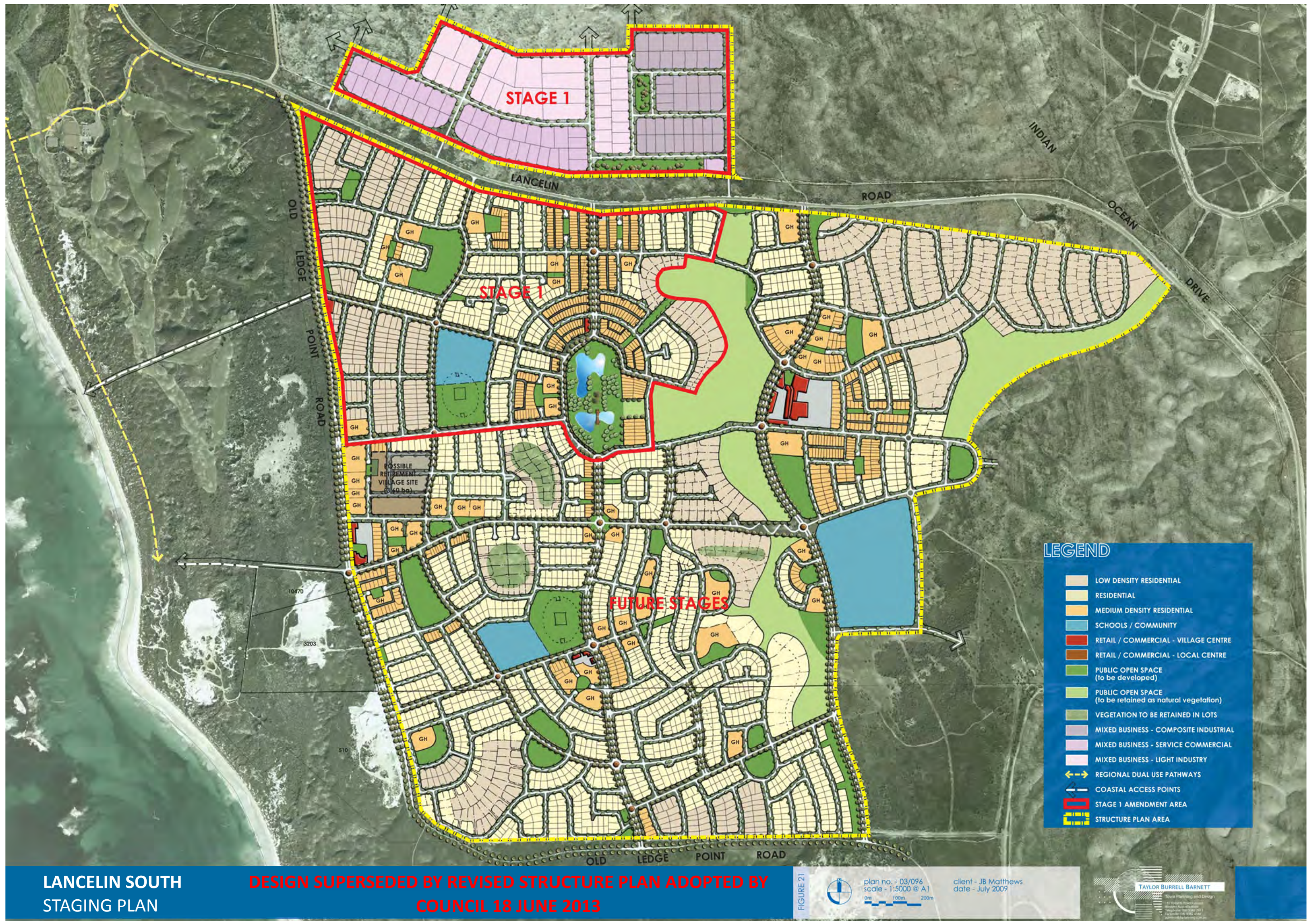
6.7.5 Gas

There are no existing AlintaGas services in the area. The Dampier to Bunbury pipeline is located approximately 30 km to the east that transfers all the gas to the south west of the state. A major gate pressure reduction facility station would be required to draw gas from that service for reticulation mains. With respect to this a pipeline would need to be constructed to the Lancelin area and the nearest distribution main is about 75 km to the south and no extensions to Lancelin are planned. Based on this, any provision of private use gas within the subject site will be required to be bottled.

6.8 Staging and Development

In reflecting the economic drivers and likely employment generators, the proposed staging of land releases will be careful planned to track demand, as well as the ability to provide adequate services, employment etc.

With respect to this, as illustrated by the attached staging plan (refer **Figure 21**), it is envisaged that development of the site will commence in the north western corner in accordance with the area identified in the *Shire of Gingin Town Planning Scheme No. 8 Amendment No. 93* and will provide for 1000-1250 dwellings, being a maximum of 1100 single dwellings and 150 grouped dwellings, public open space, a site for a small local centre/convenience goods shop and a primary school site. The location for this first stage has been selected given its proximity to the Lancelin townsite and the Lancelin Sporting Complex. The location also enables the provision of a new residential market with its own identity whilst still linking with the present community within Lancelin.



The release of future stages beyond the area rezoned under Amendment 93 will require additional amendments to the Shire of Gingin Local Planning Scheme and the adoption of additional Outline Development Plans prepared in accordance with this Structure Plan. The size and location of future development stages shall be determined largely by market demand, with land in the northern section of the Structure Plan area developed first.

The preliminary stages have been established to allow for the following:

- A mixture of densities that will provide for diversity in built form and affordable lot product.
- The timely provision of community infrastructure, which includes POS and a primary school site.
- The provision of small scale commercial facilities that will provide convenience goods for future residents. It is noted that these facilities will be constructed at a scale to jeopardise the commercial uses within the Lancelin townsite.
- The proximity to coastal access points.

Later staging of the estate has been established around the central POS area, where a diversity of lot product is proposed. Whilst the first 12 stages of development will be located on the western side of the major north south dune, stages 14, 15 and 16 have been proposed on the eastern side, as these lots afford excellent coastal views. Depending on the property market, the staging of the estate may be modified to bring on these stages earlier.

It is envisaged that the southern and western portion of the estate will be developed as a final stage as this should coincide with the finalisation of the sand mining, which currently imposes a buffer on this portion of the site.

The proposed mixed business precinct, north of Lancelin Road, that provides land for light industrial, service commercial and composite industrial uses will form part of Stage 1 and will be progressively released in response to market demand for this land.

6.9 Built Form Guidelines

In order to achieve a high standard of development, provide guidance to builders and implement the built form recommendations in the Structure Plan, it is proposed that design guidelines be prepared and implemented jointly by the Shire of Gingin and the land developers.

6.9.1 Design Guidelines

The design guidelines will be prepared following approval to subdivide the land and prior to the sale of the lots. The following is an outline of some of the matters to be addressed in the design guidelines:

- Front and side setbacks;
- Location of garages;
- Site responsiveness (i.e. minimal disturbance of vegetation and landform);
- Building materials;
- Thermal efficiency;
- Water and energy management;
- Landscaping;
- Fire protection;
- Building height; and
- RCode variations.

Consideration will also be given to mechanisms to implement the design guidelines, including through a local planning policy adopted by the Shire of Gingin, a sales contract and restrictive covenants on titles. The advertising and adoption of a local planning policy to guide Council in its decision-making on future development proposals would provide the mechanism for alternative acceptable standards to be sought by Council.

7.0 OUTLINE DEVELOPMENT PLAN

7.1 Overview

Clause 5.5.3 of TPS8 requires the preparation of an Outline Development Plan (ODP) for land within an 'Urban Development' zone. This ODP has been prepared in accordance with the provisions in the Scheme for the 'Urban Development' zone, with designated land use zones and reserves consistent with the zones and reserves contained within TPS 8. Provision has also been made for a transition from TPS 8 to TPS 9 with appropriate land use zones and reserves identified in TPS 9.

This Outline Development Plan relates only to the land proposed for rezoning to "Urban Development" and identified as "Stage 1" in the attached Structure Plan. Following rezoning and development of this first stage, subsequent Outline Development Plans shall be prepared in association with new amendment areas prepared for the balance of the Lancelin South Structure Plan area.

This ODP establishes three zones: 'Residential', 'Commercial' and 'Industrial', and two reserves: 'Parks and Recreation' and 'Public Use' (Primary School). Under TPS 9, the 'Residential' zone remains, however the 'Commercial' zone translates into the 'Town Centre' zone and the 'Industrial' zone translates into the 'Mixed Business' zone.

The land use zones and reserves combine to provide a diversity of housing choice and lifestyle options supported by a viable amount of employment opportunities and commercial uses, which can be developed to create a robust 'urban village'.

The uses permitted within each of the land use zones shall be in accordance with the land use permissibility for the corresponding zone in the Scheme, as detailed in the Zoning Table (Table 1). The specific development requirements for each of the uses shall also be in accordance with the Scheme, unless expressly stated otherwise.

The attached ODP Plan 1 (refer **Figure 22**) indicates the location of selected land use zones. The attached ODP Plan 2 identifies the residential densities (refer **Figure 23**).

7.2 Land Use Zones

The location of each of the land use zones have been illustrated in Plan 1 (**Figure 22**). The ODP defines the following land use zones over the subject site:

- Residential
- Commercial (or Town Centre under TPS 9)
- Industrial (or Mixed Business under TPS 9)
- Parks and Recreation Reserve
- Public Use (Primary School)

For each of these land use zones, the permissible uses (P), the uses subject to Council's approval (AA), the uses subject to Council's special approval (SA), and incidental uses (IP) shall be in accordance with the corresponding land use zones in the Scheme, as depicted in Table 1 – Zoning Table. All other uses are not permitted.

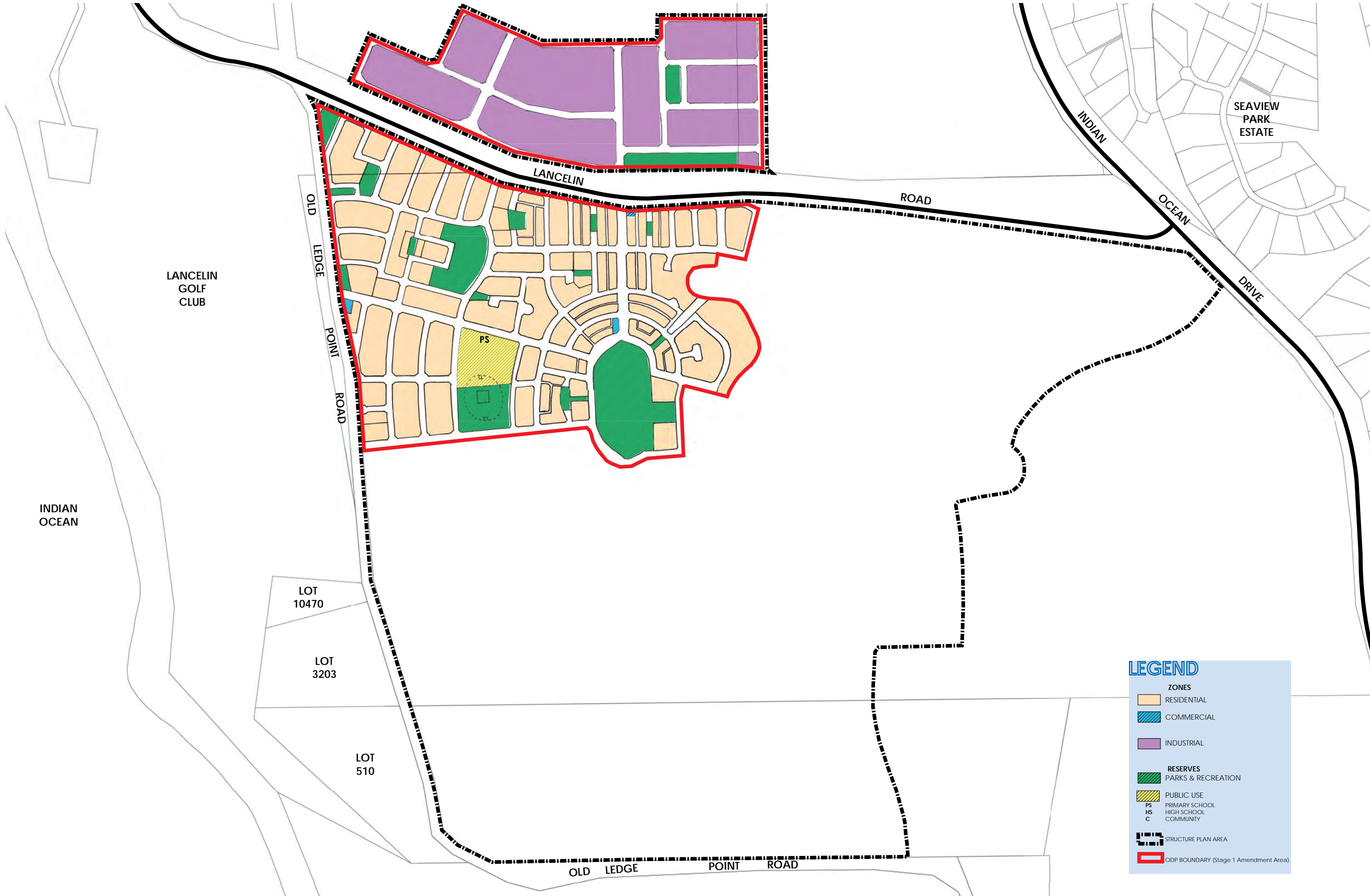
7.3 Residential Density Allocations

All residential development provided for within the ODP shall be developed in conformity with the provisions of the Residential Design Codes of Western Australia (RCodes). In accordance with Clause 5.5.3 (b) of the Shire of Gingin Town Planning Scheme No. 8, the attached **Plan 2** 'Residential Density Code Map' (refer **Figure 23**) indicates the RCodes that apply to the subject site.

7.3.1 Permissible Densities

In accordance with Plan 2 (**Figure 23**), the development of the subject site will permit the creation of a range of residential densities within the 'Residential' zone and the 'Commercial' zone, as follows:

- R5
- R10



LEGEND

ZONES

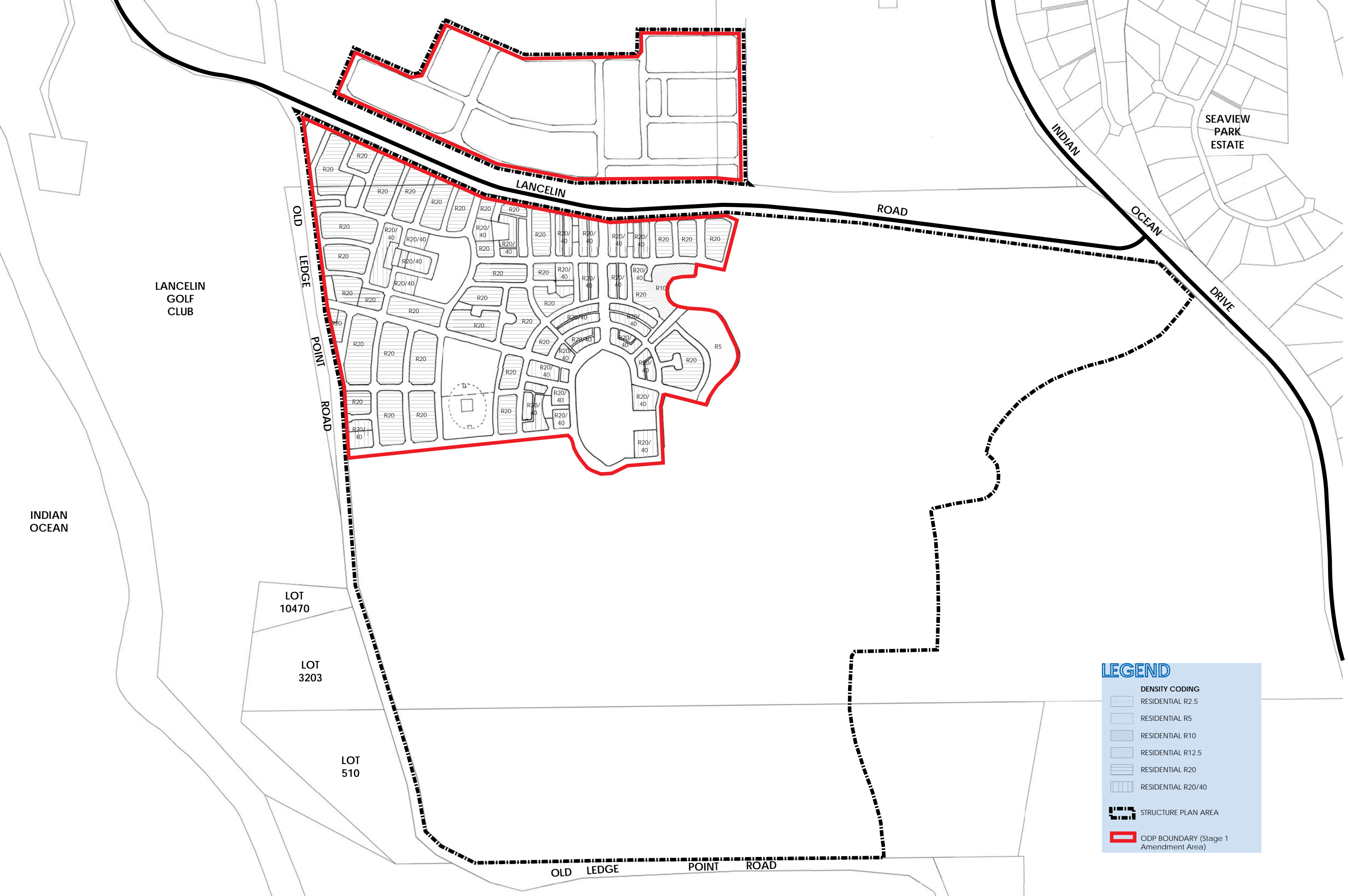
- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

RESERVES

- PARKS & RECREATION
- PUBLIC USE
 - PS PRIMARY SCHOOL
 - HS HIGH SCHOOL
 - C COMMUNITY

STRUCTURE PLAN AREA

ODP BOUNDARY (Stage 1 Amendment Area)



LEGEND

DENSITY CODING

- RESIDENTIAL R2.5
- RESIDENTIAL R5
- RESIDENTIAL R10
- RESIDENTIAL R12.5
- RESIDENTIAL R20
- RESIDENTIAL R20/40

STRUCTURE PLAN AREA

ODP BOUNDARY (Stage 1 Amendment Area)

OUTLINE DEVELOPMENT PLAN - RESIDENTIAL DENSITY CODE MAP - PLAN 2

- R20
- R20/40

With respect to the Residential R20/40 split coding, should this land be developed in accordance with the R20 density coding, further subdivision to the R40 density coding will not be permitted and will be restricted through a Section 70A Notification on Title prohibiting further subdivision of the subject lot.

An RCode has not been designated over the 'Industrial' zone as it is not intended that residential development take place in this zone, except in the form of a caretaker's residence. While a dwelling is currently a use which may be permitted by Council under TPS 8, provided it is incidental to the predominant use (Industry), it is noted that Council intends to remove this provision in the Scheme and introduce a caretaker's dwelling, in accordance with TPS 9. Accordingly, the ODP Plan 2 has been prepared to reflect this intent.

7.4 Reserves

Plan 1 (**Figure 22**) also illustrates the location of reserves. The ODP defines the following reserves over the subject site:

- Parks and Recreation
- Public Use

Land designated as 'Parks and Recreation' reserve includes areas for passive and active recreation. Natural vegetation will be retained with passive recreation areas, while formal or active POS areas may be turfed and may include playing fields and playgrounds. This land will be ceded free of cost to the Crown and developed by the subdivider as part of the subdivision approval process and in accordance with the staged development of the estate.

Land reserved for 'Public Use' shall also be ceded free of cost to the relevant authority. This Outline Development Plan reserves one primary school site that will accordingly be ceded to the Department of Education and Training.

8.0 IMPLEMENTATION

8.1 Structure Plan

The Structure Plan provisions in TPS8 for the 'Urban Development Zone' have been used as the basis for the preparation and adoption of this Structure Plan. These provisions are outlined below:

"5.5 URBAN DEVELOPMENT

5.5.1 Objectives

It is the intention of the Council to ensure that subdivision and development of land within the Urban Development zone proceeds only after comprehensive planning to ensure high design standards and cost effective servicing, which is sensitive to the environment.

5.5.2 Structure Plan

- (a) *The Council, before supporting or initiating any rezoning proposal to include land in the Urban Development zone, will require the preparation and adoption of a Structure Plan for the whole of the area or for any particular part or parts as considered appropriate by Council.*
- (b) *The preparation of a Structure Plan shall have regard to the 'Commission's Guidelines for the Preparation of Structure Plans for Urban Release Areas' and may include such other information particular to the land or context of the Structure Plan, or as required by the Council.*
- (c) *The Council may cause the Structure Plan to be advertised for a period of not less than 28 days, after which Council may adopt the Structure Plan, with or without modifications, as a basis for the preparation of an amendment to the Town Planning Scheme.*

This Structure Plan has been prepared in accordance with clause 5.5.2 of TPS8, with regard also given to the Commission's 'Guidelines for the Preparation of Local Structure Plans for Urban Release Areas' (1992).

8.1.1 Consultation

In accordance with clause 5.5.2(c) of TPS8, the Council may advertise a Structure Plan for 28 days or more. In regard to this Structure Plan, a stakeholder and community workshop has previously been undertaken. It is recommended that the Structure Plan not be separately advertised for the reason that it has already been the subject of community consultation, and instead, the Structure Plan shall form part of the background and explanatory documentation accompanying the advertising of the ODP and TPS Amendment.

8.1.2 Approval Process

Clause 5.5.2(c) also provides for a Structure Plan to be adopted by Council with or without modification. In accordance with these provisions, this Structure Plan is presented for adoption as the basis for the initiation of a scheme amendment to rezone the land to 'Urban Development' zone. The Commission's approval is not required for a Structure Plan prepared in accordance with clause 5.5.2 of TPS8.

8.2 Town Planning Scheme Amendment

This Structure Plan, ODP and accompanying background and technical assessments form the basis for a request to initiate an Amendment to Town Planning Scheme No. 8 (or TPS 9, in the event that the new scheme is gazetted in the meantime). The proposed scheme amendment will rezone the land to 'Urban Development' zone with provisions to provide for land use permissibility, residential density and development requirements to be in accordance with an adopted ODP.

8.2.1 Overview of Proposed Zoning and Scheme Provisions

The Amendment will rezone the land from 'Rural' to 'Urban development' zone and include minor modifications to the provisions of the zone to ensure that, in areas designated as zones on an adopted ODP, the permissibility of uses shall be the same as set out in Table 1 – Zoning Table as if those areas were zones under the Scheme having the same designations. Furthermore, the standards and requirements applicable to the zones and R-Codings under the Scheme shall apply to the areas having corresponding designations under the adopted ODP and, where land is classified as a local reserve on the adopted ODP, the rights, provisions and procedures as set out in the Scheme shall apply as if the land were correspondingly reserved under the Scheme.

8.2.2 Initiation of Scheme Amendment

In order for an Amendment to be made to its Scheme, the Shire of Gingin must first resolve to initiate the Amendment, enabling the Amendment to be forwarded to the Environmental Protection Authority (EPA) for a determination on whether it should be assessed and then forwarded to the Western Australian Planning Commission (WAPC) for consent to advertise.

At the request of the WAPC, the first stage Amendment area only comprises a portion of the Structure Plan area, reflecting a staged approach to the rezoning and development of the land. Subsequent amendments will be required to be initiated by the Shire of Gingin, at the request of the landowner, in the future, in order to provide for the staged implementation of the Structure Plan.

8.2.3 Advertising of Scheme Amendment

In accordance with the *Town Planning Regulations 1967*, the Scheme Amendment shall be advertised for public comment only after a determination has been made by the EPA and consent has been obtained by the WAPC. Advertising requirements will be set by the WAPC and normally include the requirement to advise and invite comment from selected stakeholders and the general public, with signs placed on-site and advertisements in local and state-wide newspapers. Advertising is usually for 42 days, although a longer or shorter period may be determined by the WAPC. During the advertising period, submissions may be made to the Shire of Gingin.

8.2.4 Approval Process

Following the consideration by the EPA and advertising of the Amendment, any submissions received shall be assessed and a resolution must be made by Council to adopt the amendment for Final Approval. There are strict timeframes for Council to consider submissions and proceed to final approval, which requires the Amendment to be forwarded to the Minister for Planning and Infrastructure for consideration of final approval within 70 days of the close of advertising (unless an extension is granted).

There are no statutory timeframes for the Minister's consideration and determination of the Amendment; however it is likely to take between 3 months and 6 months for a final determination.

8.3 Outline Development Plan (ODP)

The ODP provisions in TPS8, for the 'Urban Development' zone, have been used as the basis for the preparation and adoption of this ODP.

The Scheme provides for a Structure Plan to be considered by Council as the basis for adoption of a Scheme Amendment, followed by an Outline Development Plan prior to subdivision and development. In this case, the Structure Plan and ODP have been prepared at the same time to provide stakeholders and the wider community with the opportunity to review and comment on the comprehensive and consolidated planning proposal for the site.

This ODP area matches the first stage Scheme Amendment area, and provides the additional land use detail required to inform subdivision and development. The balance of the Structure Plan area will require the preparation and adoption of future outline development plans in association with future scheme amendments.

8.3.1 Consultation

Unlike a Structure Plan, the Scheme requires that any ODP be advertised for at least 28 days and submissions considered by Council prior to its adoption. It is proposed that the ODP be advertised concurrently with the amendment which rezones the land to 'Urban Development' zone.

8.3.2 Approval Process

The mechanism for the Council to adopt the ODP is included with the Scheme under the provisions for the 'Urban Development' zone. Council may consider the ODP for adoption at the same time that it considers the Scheme Amendment for Final Approval. In the event that the Council decides to adopt the ODP, the adoption will be subject to the Amendment being granted Final Approval by the Minister. The ODP must then be forwarded to the WAPC with a request for the Commission's adoption. The ODP comes into force and effect on the date it is adopted by the Commission.

8.4 Subdivision and Development

The Scheme Amendment must be finalised and the ODP adopted by Council and the WAPC prior to subdivision and development for urban purposes. Subdivision and development shall be in accordance with the ODP, with any modifications which affect the integrity of the ODP requiring an amendment to the ODP.

9.0 CONCLUSION

The primary objective of this report, encompassing a Structure Plan and Outline Development Plan, is to provide an outline of the planning, environmental and engineering (including traffic) issues affecting the subject site and a design response to these issues.

The development of the subject site is in accordance with the policies of both the WAPC and the Shire of Gingin and also has the support of the local community.

The development of Lancelin South in accordance with this Structure Plan and ODP will ensure the long term sustainability of Lancelin as a townsite, providing the full range of urban services, facilities and infrastructure required to support the projected population increase in this region of the State, including:

- Residential land for the development of single, group and multiple dwellings;
- Employment opportunities;
- Community facilities (recreation, shops, schools, medical facilities, etc.); and
- Reticulated water, sewerage, power and telecommunications.

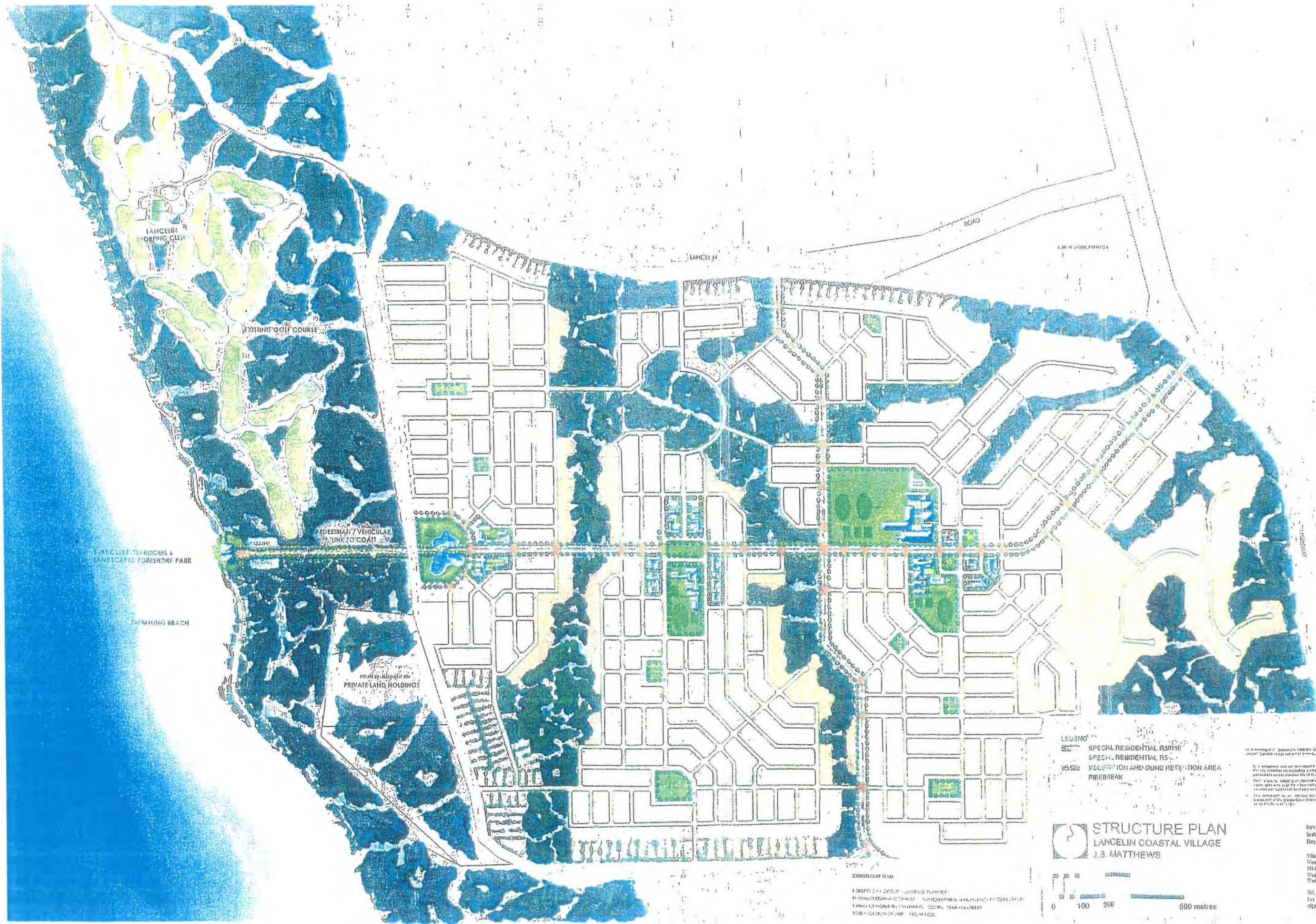
It is respectfully requested that Council adopt this Structure Plan as the basis for initiating an amendment to its scheme, which facilitates the delivery of the proposals contained in this Structure Plan and reflected in the ODP, and which is consistent with the strategic planning direction of the State Government and the Shire of Gingin.

The initiation of an amendment to rezone the land to 'Urban Development' zone represents the next important stage in the planning for the expansion of Lancelin townsite and the urban development of Lancelin South.

The consultation process which follows the initiation of the scheme amendment provides the mechanism for the proposals in the Structure Plan to be considered in detail by the existing Lancelin community, the ratepayers of Gingin and government agencies.

We look forward to the commencement of this formal process and the opportunity for the ODP contained in this report to be considered and adopted by the Council and the Western Australian Planning Commission, providing for the subsequent subdivision and ultimate development of Lancelin South for urban purposes.

APPENDIX A
Lancelin Coastal Village Structure Plan
(Roberts Day)



LEGEND
 SPECIAL RESIDENTIAL RS10
 SPECIAL RESIDENTIAL RS
 VEGETATION AND DUNE RETENTION AREA
 FIREBREAK

STRUCTURE PLAN
LANCELIN COASTAL VILLAGE
J.B. MATTHEWS



DATE: 12/12/1998
 BY: J.B. MATTHEWS
 FOR: LANCELIN COASTAL VILLAGE
 1. The purpose of this Structure Plan is to provide a framework for the development of the Lancelin Coastal Village. It sets out the general principles and objectives for the development, and provides a guide to the layout and design of the village. The plan is based on the following assumptions:
 2. The village will be developed as a residential community, with a mix of housing types and densities.
 3. The village will be designed to be sustainable, with a focus on energy efficiency, water conservation, and waste management.
 4. The village will be designed to be accessible, with a focus on pedestrian and bicycle friendly infrastructure.
 5. The village will be designed to be aesthetically pleasing, with a focus on landscaping and public art.

DATE: 12/12/1998
 SCALE: 1:1000
 DRAWN BY: J.B. MATTHEWS
 2 HUNDRED STONE
 WESTPORT 6002
 210 BUS 140
 STATION
 WAIRUNA, NEW ZEALAND
 TEL: 0454 11 1111
 FAX: 0454 11 1111
 E-MAIL: jbm@lancelin.co.nz



APPENDIX B

DPI Correspondence



Western
Australian
Planning
Commission

Our Ref: 808/3/8/4
Your Ref: SW:ct 03/096
Enquiries: Judi Bell (9264 7651)

Taylor Burrell Barnett Town Planning and Design
Box 8188
SUBIACO EAST WA 6008

ATTENTION: Lex Barnett

Dear Sir/Madam

LANCELIN TOWNSITE EXPANSION PLAN

I refer to your correspondence dated 13 April 2006, regarding the above matter. In this regard, the Commission has resolved that prior to supporting this significant proposal, Landcorp and the Department for Planning and Infrastructure should be requested to;

- comprehensively review the opportunities for consolidated townsite development in the areas east and south of Lancelin to ensure any growth options for townsite consolidation are maximised;
- review the opportunities for accommodating urban development elsewhere along the coastline in the context of reasonable demand which should include opportunities for short term development at Ledge Point; and
- investigate the staging of such a development and ways of ensuring that the area does not develop as a separate settlement to the Lancelin townsite, if the subject land represents the best option for urban development.

Yours faithfully

for Lindsay Preece
Acting Secretary
Western Australian Planning Commission

17 May 2006

cc. Landcorp
DPI - Country Planning (Phil Woodward)



Albert Facey House, 469 Wellington Street (cnr Forrest Place), Perth, Western Australia 6000
Tel: (08) 9264 7777; Fax: (08) 9264 7566; TTY: (08) 9264 7535; Infoline: 1800 626 477
e-mail: corporate@wapc.wa.gov.au; web address: <http://www.wapc.wa.gov.au>
ABN 35 482 341 493

APPENDIX C

Certificate of Title



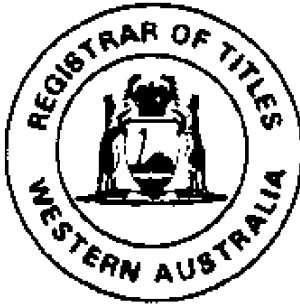
REGISTER NUMBER 9505/DP51420	
DUPLICATE EDITION 2	DATE DUPLICATE ISSUED 10/1/2007

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **2646** FOLIO **97**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

RG Roberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 9505 ON DEPOSITED PLAN 51420

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

JOSEPH BECK MATTHEWS OF ABILENE, TEXAS, UNITED STATES OF AMERICA
(AF K042374) REGISTERED 2 JANUARY 2007

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

- 1. RESTRICTIVE COVENANT BENEFIT - SEE DEPOSITED PLAN 51420 AND INSTRUMENT K42376
- 2. *H712992 CAVEAT BY SHIRE OF GINGIN LODGED 4.4.2001.
- 3. RESTRICTIVE COVENANT BENEFIT - SEE DEPOSITED PLAN 51420 AND INSTRUMENT K42377.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP51420 [SHEET 1,4,5].
PREVIOUS TITLE: 2625-276.
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA: SHIRE OF GINGIN.



REGISTER NUMBER 1/D24526	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
1240

FOLIO
35

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

RG Roberts

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 1 ON DIAGRAM 24526

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

JOSEPH BECK MATTHEWS OF ABILENE, TEXAS, UNITED STATES OF AMERICA
(T D037370) REGISTERED 5 JUNE 1985

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. *H712992 CAVEAT BY SHIRE OF GINGIN LODGED 4.4.2001.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1240-35 (1/D24526).

PREVIOUS TITLE: 1198-544.

PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.

LOCAL GOVERNMENT AREA: SHIRE OF GINGIN.



REGISTER NUMBER 5243/DP206398	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
1696

FOLIO
283

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

RG Roberts

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 5243 ON DEPOSITED PLAN 206398

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

JOSEPH BECK MATTHEWS OF ABILENE, TEXAS, UNITED STATES OF AMERICA
(T D037558) REGISTERED 5 JUNE 1985

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. THE LAND THE SUBJECT OF THIS CERTIFICATE OF TITLE EXCLUDES ALL PORTIONS OF THE LOT DESCRIBED ABOVE EXCEPT THAT PORTION SHOWN IN THE SKETCH OF THE SUPERSEDED PAPER VERSION OF THIS TITLE.
2. *I049280 CAVEAT BY SHIRE OF GINGIN LODGED 20.3.2002.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:1696-283 (5243/DP206398).

PREVIOUS TITLE:1319-700.

PROPERTY STREET ADDRESS:NO STREET ADDRESS INFORMATION AVAILABLE.

LOCAL GOVERNMENT AREA:SHIRE OF GINGIN.

- NOTE 1: A000001A LAND PARCEL IDENTIFIER OF SWAN LOCATION 5243 (OR THE PART THEREOF) ON SUPERSEDED PAPER CERTIFICATE OF TITLE CHANGED TO LOT 5243 ON DEPOSITED PLAN 206398 ON 30-JUL-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
- NOTE 2: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.



REGISTER NUMBER 9504/DP51420	
DUPLICATE EDITION 2	DATE DUPLICATE ISSUED 10/1/2007

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
2646

FOLIO
96

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 9504 ON DEPOSITED PLAN 51420

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

JOSEPH BECK MATTHEWS OF ABILENE, TEXAS, UNITED STATES OF AMERICA
(AF K042374) REGISTERED 2 JANUARY 2007

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

- 1. RESTRICTIVE COVENANT BENEFIT - SEE DEPOSITED PLAN 51420 AND INSTRUMENT K42376
- 2. RESTRICTIVE COVENANT BENEFIT - SEE DEPOSITED PLAN 51420 AND INSTRUMENT K42377.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:DP51420 [SHEET 1,4,5].

PREVIOUS TITLE:2625-276.

PROPERTY STREET ADDRESS:NO STREET ADDRESS INFORMATION AVAILABLE.

LOCAL GOVERNMENT AREA:SHIRE OF GINGIN.

APPENDIX D

Environmental Assessment (Ecoscape)

GPS Co-ordinates of Reference Sites

Lancelin South Structure Plan Vegetation and Flora Report

* Denotes site is inside Structure Plan and ODP areas.

Reference Sites	Easting	Northing
1	343109	6562213
2	343101	6562261
3	343093	6562283
4	342830	6562169
5	342820	6562137
6	342825	6562130
7	342854	6562123
8	342962	6562125
9	342990	6562256
10	343161	6564732
11	343135	6564711
12	342891	6564554
13	343018	6564293
14	343019	6564238
15	343003	6564257
16*	343428	6564109
17*	343443	6564060
18*	343835	6563929
19*	343862	6564151
20	344232	6564962
21	343715	6564534
22	344091	6565047
23	344356	6564820
24	344443	6564826
25*	344387	6564309
26	344585	6564476
27	345492	6563901
28	345536	6563895
29	345572	6564118
30	345540	6564848
31	345470	6564637
32	343219	6565096
33	343280	6565029
34	343370	6565043
35	343298	6564971
36	343228	6564788

Reference Sites	Easting	Northing
37	343551	6564408
38*	343545	6564296
39*	344000	6563962
40*	344129	6564156
41*	344310	6564389
42*	344451	6563999
43	344441	6565007
44	344489	6565031
45	344752	6564821
46	344650	6564903
47	344663	6564700
48	345474	6564173
49*	343153	6563073
50*	344530	6563245
51*	344337	6563739
52*	343796	6563533
53*	344394	6563730
54*	345391	6563585
55	346136	6562179
56*	343270	6562635
57*	344035	6563630
58*	344819	6563702
59*	343801	6561576
60	345449	6562942
61*	345272	6563651
62	346535	6562248
63*	343992	6563480
64*	344194	6561563
65	345343	6562520
66	346611	6562057
67*	344791	6562954
68*	344805	6563395
69*	345355	6563608
70	344919	6564010

Photographs at Reference Sites

Lancelin South Structure Plan Vegetation and Flora Report

* Denotes site is inside Structure Plan and ODP areas.



Site 1



Site 2



Site 3



Site 4



Site 5



Site 6



Site 7



Site 8



Site 9



Site 10



Site 11



Site 12



Site 13



Site 14



Site 15



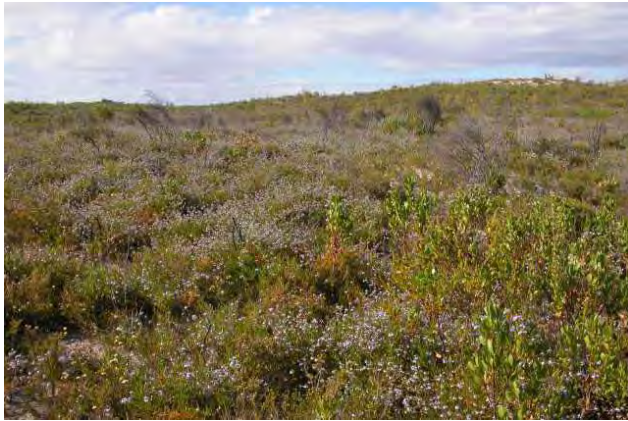
*Site 16



*Site 18



*Site 19



Site 20



Site 21



Site 22



Site 23



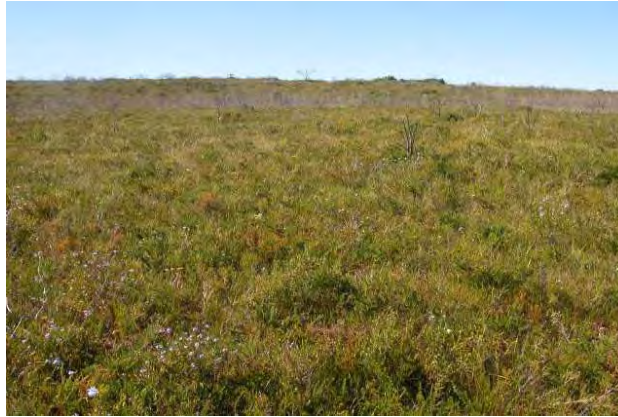
Site 24



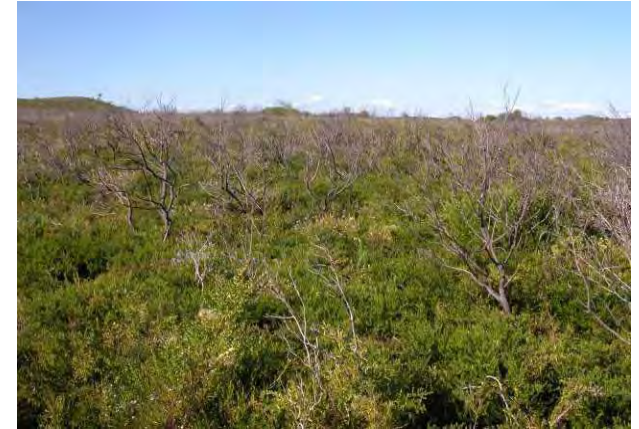
*Site 25



Site 26



Site 27



Site 28



Site 29



Site 30



Site 31



Site 32



Site 33



Site 34



Site 35



*Site 36



Site 37



*Site 38



*Site 40



*Site 41



*Site 42



Site 43



Site 44



Site45



Site 46



Site 47



Site 48



*Site 49



*Site 50



*Site 51



*Site 52



*Site 53



*Site 54



Site 55



*Site 56



*Site 57



*Site 58



*Site 59



Site 60



*Site 61



Site 62



*Site 63



*Site 64



Site 65



Site 66



*Site 67



*Site 68



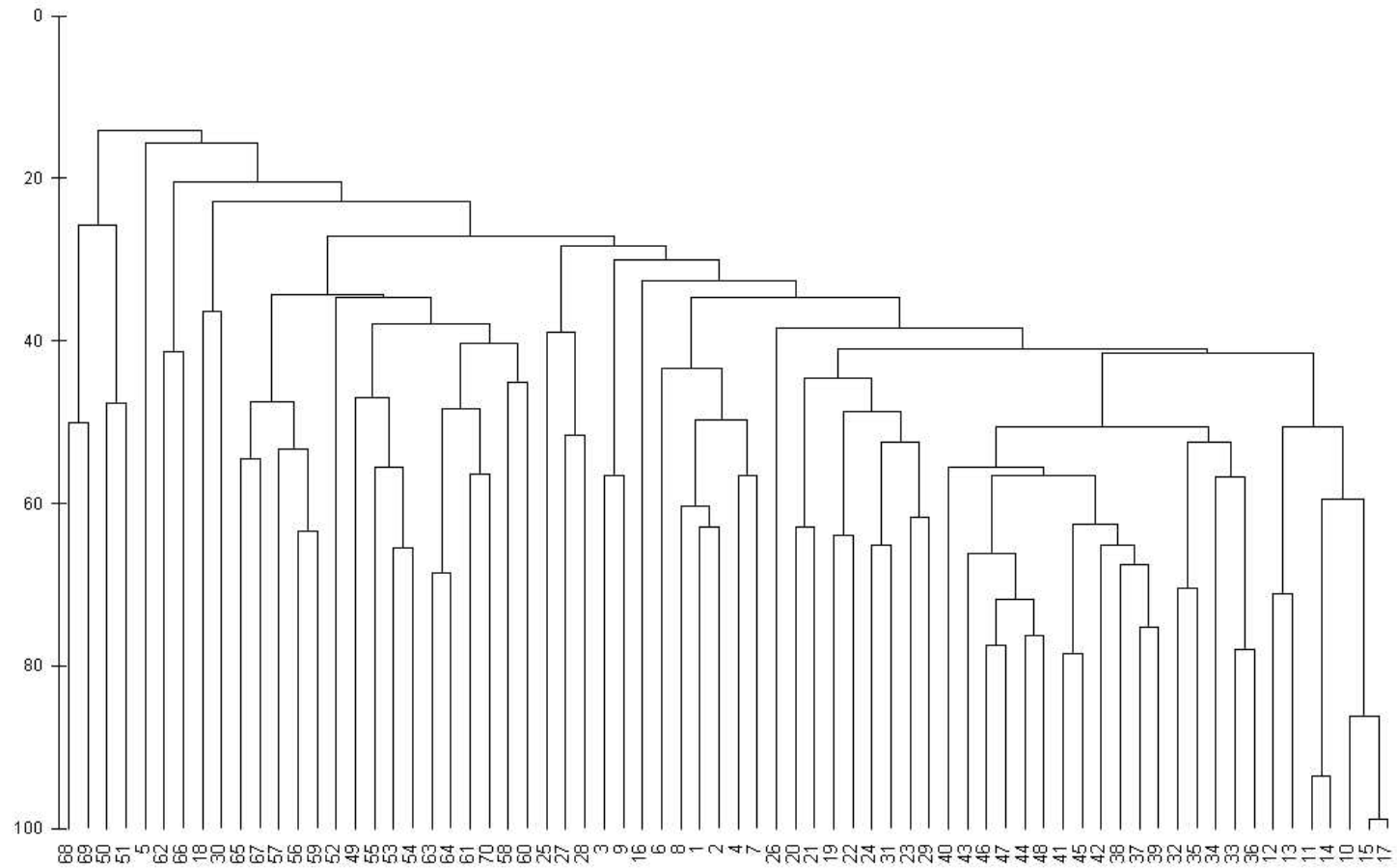
*Site 69



Site 70

Dendrogram based on presence/absence of plant taxa

Lancelin South Structure Plan Vegetation and Flora Report



Vegetation Descriptions

Lancelin South Structure Plan Vegetation and Flora Report

* - Denotes site is inside Structure Plan and ODP Areas

Vegetation Type	Site	Vegetation Description at Reference Site
Acacia xanthina / Anthocercis littorea / Melaleuca cardiophylla	12	Melaleuca cardiophylla, Allocasuarina lehmanniana, Melaleuca systema and Acacia xanthina Shrubland over Scaevola thesoides, Acacia lasiocarpa and Myoporum insulare Low Shrubland over *Bromus diandrus and *Avena barbata Grassland over Clematis linearifolia, Euphorbia terracina, Cassytha racemosa, Stackhousia monogyna and Opercularia vaginata Open Herbland
	*42	Melaleuca cardiophylla, Acacia xanthina and Scaevola crassifolia Open Heath over Scaevola thesioides, Anthocercis littorea and Melaleuca systema Shrubland over , Cryptandra mutila, Leucopogon parviflorus, Lysinema ciliatum, Calothamnus quadrifidus and Phyllanthus calycinus Low Open Shrubland over Opercularia spermacoea and Cuscuta epithymum Herbland
	*38	Acacia xanthina, Melaleuca cardiophylla and Anthocercis littorea Open Heath over Scaevola crassifolia, Scaevola thesioides, Melaleuca huegelii and Thryptomene sp Lancelin Shrubland over over *Bromus madritensis and *Lolium rigidum Open Grassland over *Senecio pinnatifolia var. pinnatifolia Herbland
Acacia xanthina / Anthocercis littorea / Scaevola crassifolia	*18	Acacia xanthina and Anthocercis littorea Tall Shrubland over Scaevola thesioides and Scaevola crassifolia Shrubland
	30	Acacia xanthina, Anthocercis littorea Tall Open Scrub over Scaevola crassifolia, Scaevola thesioides, Acacia lasiocarpa and Exocarpos sparteus Low Shrubland over Opercularia spermacoea, Clematis linearifolia, Hardenbergia comptoniana and Conostylis pauciflora subsp. euryrhipis Open Herbland
	11	Acacia xanthina and Anthocercis littorea Tall Open Scrub over Melaleuca systema, Scaevola crassifolia and Scaevola thesioides subsp. thesioides Shrubland
	14	Acacia xanthina Tall Closed Scrub over Scaevola crassifolia and Scaevola thesioides Shrubland
	37	Scaevola crassifolia, Acacia xanthina and Anthocercis littorea Shrubland over Melaleuca systema, Scaevola thesioides, Acacia lasiocarpa, and Acrotriche cordata Low Open Shrubland over Acanthocarpus preissii, Senecio pinnatifolia var. pinnatifolia Herbland
	*39	Acacia rostellifera, Scaevola crassifolia and Anthocercis littorea Open Heath over Scaevola thesioides, Melaleuca systema, Acacia lasiocarpa, Acacia truncata and Leucopogon insularis Shrubland over Cassytha racemosa and Acanthocarpus preissii Herbland
	35	Acacia xanthina, Anthocercis littorea, Acacia rostellifera and Allocasuarina lehmanniana Open Heath over Scaevola thesioides and Scaevola crassifolia and Melaleuca huegelii Shrublands over Thryptomene sp. Lancelin, and Acacia truncata Low Shrubland over Austrostipa compressa Grassland over Conostylis candicans subsp. calcicola, Isotoma hypocrateriformis and Opercularia spermacoea and Acanthocarpus preissii Very Open Herbland
	33	Anthocercis littorea and Scaevola crassifolia Tall Shrubland over Scaevola thesioides, Melaleuca systema, Acacia lasiocarpa, Melaleuca huegelii, and Acacia rostellifera Shrubland over Hibbertia sp and Pimelea ciliata subsp. ciliata Low Shrubland over *Crassula glomerata, Opercularia spermacoea, Conostylis candicans subsp. calcicola and *Centaurium erythraea Open Herbland
	*36	Acacia xanthina and Anthocercis littorea Tall Open Scrub over Scaevola thesioides and Scaevola crassifolia Shrubland over Acacia truncata, Acacia lasiocarpa, Calothamnus quadrifidus and Melaleuca systema Low Open Shrubland over Conostylis candicans subsp. calcicola, Acanthocarpus preissii and Opercularia spermacoea Herbland
Acacia xanthina / Spyridium globulosum	*51	Acacia xanthina and Spyridium globulosum Tall Open Scrub over Melaleuca systema and Phyllanthus calycinus Low Shrubland over Avena barbata, Bromus madritensis, *Lolium rigidum and *Bromus diandrus Very Open Grassland over Acanthocarpus preissii, Cassytha racemosa, Clematis linearifolia and *Euphorbia terracina Herbland
Allocasuarina lehmanniana / Scaevola crassifolia	21	Allocasuarina lehmanniana, Scaevola crassifolia Open Shrubland over Scaevola thesioides Melaleuca systema, Acacia lasiocarpa and Calothamnus quadrifidus Open Low Heath over Acanthocarpus preissii, Opercularia vaginata, Pimelea ciliata Herbland
	22	Anthocercis littorea , Scaevola crassifolia and Allocasuarina lehmanniana Shrubland over Pimelea ciliata subsp. ciliata and Opercularia vaginata Very Open Herbland
	13	Melaleuca systema, Scaevola crassifolia and Hibbertia cordata Shrubland over Opercularia vaginata Herbland
	10	Allocasuarina lehmanniana, Melaleuca systema and Melaleuca huegelii Shrubland over Scaevola thesioides subsp. thesioides Open Heath over Cassytha racemosa Herbland
	32	Allocasuarina lehmanniana Tall Shrubland over Melaleuca huegelii Open Heath over Santalum acuminatum Open Shrubland over Leucopogon insularis, Acacia lasiocarpa, Acacia rostellifera, Acanthocarpus preissii, and Gastrolobium nervosum Very Open Shrubland over Isotoma hypocrateriformis, Cassytha racemosa, Opercularia spermacoea, Brachyscome iberidifolia, *Bromus madritensis Herbland
	34	Allocasuarina lehmanniana, Anthocercis littorea and Scaevola crassifolia Tall Open Scrub over Scaevola thesioides, Acacia truncata and Leucopogon insularis, Calothamnus quadrifidus, Hibbertia hypericoides and Melaleuca systema Shrubland over Opercularia spermacoea Anigozanthos manglesii and Thysanotus gracilis Open Herbland
Allocasuarina lehmanniana / Spyridium globulosum	6	Acacia rostellifera Tall Open Shrubland over Spyridium globulosum, Santalum acuminatum, Melaleuca huegelii and Allocasuarina lehmanniana Shrubland over Clematis aristata var. occidentalis Very Open Herbland
	4	Allocasuarina lehmanniana, Spyridium globulosum Tall Open Scrub over Santalum acuminatum Open Shrubland over Acrotriche cordata Low Shrubland over Opercularia vaginata Very Open Herbland
	7	Spyridium globulosum, Santalum acuminatum and Allocasuarina lehmanniana Open Heath over Acrotriche cordata and Acacia truncata Low Shrubland
	26	Spyridium globulosum, Allocasuarina lehmanniana and Scaevola thesioides Open Heath over Acacia lasiocarpa, Melaleuca systema and Leucopogon parviflorus Low Shrubland over Conostylis pauciflora subsp. euryrhipis and Desmocladius virgatus Herbland
	24	Acacia xanthina, Allocasuarina lehmanniana and Spyridium globulosum Tall Open Shrubland over Anthocercis littorea, Scaevola thesioides, Acacia lasiocarpa, Calothamnus quadrifidus, Melaleuca systema Shrubland over Opercularia spermacoea and Lomandra maritimum Herbland
Banksia attenuata / Xanthorrhoea preissii	66	Banksia attenuata Low Open Woodland over Xanthorrhoea preissii and Anthocercis littorea Tall Open Shrubland over Gompholobium tomentosum, Melaleuca systema and Grevillea thelemanniana Low Shrubland over Lomandra maritima Very Open
Mainly Weeds	*68	Pelargonium capitatum, Trachyandra divaricata and Euphorbia terracina Herbland
	*69	Anthocercis littorea and Acacia lasiocarpa Open Shrubland over Phyllanthus calycinus, *Pelargonium capitatum , *Euphorbia terracina, *Trachyandra divaricata and *Anagallis arvensis Herbland
	*67	Cleared vegetation
Melaleuca systema / Scaevola thesioides / Acacia lasiocarpa	*49	Acacia rostellifera and Spyridium globulosum Tall Open Scrub over Acacia lasiocarpa, Leucopogon parviflorus, Melaleuca systema and Melaleuca huegelii Shrubland over Austroanthonia caespitosa, Austrostipa compressa, *Bromus madritensis and *Bromus diandrus Very Open Grassland over Cassytha glabra and Clematis linearifolia Open Herbland
	55	Scaevola thesioides, Acacia lasiocarpa and Melaleuca systema Open Heath over Phyllanthus calycinus and Leucopogon parviflorus Low Shrubland over Austrostipa compressa, Austrostipa flavescens Very Open Grassland over Lomandra maritima, Conostylis candicans subsp. calcicola, Cassytha racemosa, Desmocladius virgatus and Hardenbergia comptoniana Open Herbland
	*54	Melaleuca systema, Acacia lasiocarpa and Scaevola thesioides Shrubland over Gompholobium tomentosum, Phyllanthus calycinus and Leucopogon parviflorus Low Shrubland over Austroanthonia caespitosa, Austrostipa compressa, Austrostipa flavescens, *Bromus madritensis and Eragrostis curvula Very Open Grassland over Conostylis candicans subsp. calcicola, Cassytha glabella, Cassytha racemosa, Clematis linearifolia and Crassula glomerata Very Open Herbland
	*58	Anthocercis littorea Tall Open Shrubland over Melaleuca systema, Scaevola thesioides and Acacia lasiocarpa Shrubland over Phyllanthus calycinus Low Open Shrubland over Lepidosperma squamatum and Lepidosperma empetriformis Very Open Sedgeland over Lomandra maritima Herbland
	60	Acacia xanthina Tall Open Scrub over Melaleuca systema, Acacia lasiocarpa, Scaevola thesioides and Scaevola crassifolia Open Shrubland over Dianella revoluta Very Open Sedgeland

Vegetation Type	Site	Vegetation Description at Reference Site
	27	Melaleuca systema and Acacia lasiocarpa Shrubland with scattered Leucopogon parviflorus Very Open Shrubland over Lomandra maritima Herbland
	20	Scaevola crassifolia, Scaevola thesioides, Melaleuca systema, Calothamnus quadrifidus, and Acacia lasiocarpa Open Low Heath over Cassytha racemosa, Conostylis candicans subsp. calcicola and Acanthocarpus preissii Herbland
	31	Acacia xanthina, Melaleuca systema, Scaevola thesioides, Acacia lasiocarpa and Melaleuca huegelii Open Heath over Lepidosperma squamata Sedgeland over Lomandra maritima and Conostylis candicans subsp. calcicola Herbland
	23	Scaevola thesioides Shrubland over Cryptandra mutila, Desmocladius vaginatus, Leucopogon parviflorus and Acacia lasiocarpa Open Shrubland over Lomandra maritima, Conostylis pauciflora subsp. euryrhipis, Opercularia vaginata Herbland
	29	Melaleuca systema , Scaevola thesioides and Acacia lasiocarpa Shrubland over Calothamnus quadrifidus, Hemiantra glabra subsp. glabra, Thryptomene sp. Lancelin, Pimelea ciliata subsp. ciliata and Leucopogon parviflorus Shrubland over Opercularia spermacoea and Conostylis pauciflora subsp. euryrhipis, Lomandra maritima, Desmocladius virgatus and Conostylis candicans subsp. calcicola Herbland over Lepidosperma squamata Sedgeland
	*41	Acacia xanthina, Scaevola crassifolia Scaevola thesioides, Melaleuca systema and Acacia lasiocarpa Shrubland over Hemiantra glabra subsp. glabra and Hibbertia racemosa Low Shrubland over Cuscuta epithymum, Leptorhynchos scaber, Rhagodia mutila and Senecio pinnatifolia var. pinnatifolia, Lomandra maritimum and Conostylis candicans subsp. calcicola Herbland
	45	Thryptomene sp Lancelin, Scaevola thesioides, Melaleuca systema and Acacia lasiocarpa Shrubland over *Cuscuta epithymum, Lomandra maritimum and Desmocladius virgatus Herbland over Austrostipa compressa Grassland
Melaleuca systema / Scaevola thesioides / Acacia lasiocarpa - Calothamnus quadrifidus or Dryandra sessilis	62	Acacia rostellifera and Dryandra sessilis Tall Open Scrub over Acacia lasiocarpa, Melaleuca systema, Hakea prostrata, Hakea trifurcata and Scaevola thesioides Shrubland over Austrostipa flavescens Very Open Grassland over Clematis linearifolia and Hardenbergia comptoniana Very Open Herbland
	65	Dryandra sessilis, Spyridium globulosum and Acacia xanthina Closed Heath over Melaleuca systema and Melaleuca cardiophylla Low Shrubland over *Bromus madritensis, *Avena barbata, *Ehrharta villosa and *Lagurus ovatus Very Open Grassland over Clematis linearifolia, Crassula glomerata, Desmocladius aspera, Hardenbergia comptoniana, *Anagallis arvensis and *Euphorbia terracina Open Herbland
	*52	Acacia xanthina and Spyridium globulosum Tall Open Shrubland over Melaleuca huegelii and Calothamnus quadrifidus Shrubland over Phyllanthus calycinus, Hibbertia racemosa, Myoporum insulare, Low Open Shrubland over Austrostipa flavescens, *Avena barbata, *Ehrharta villosa and *Lolium rigidum Very Open Grassland over Conostylis pauciflora subsp. euryrhipis, Conostylis candicans subsp. calcicola, Cassytha racemosa, Clematis linearifolia and Hardenbergia comptoniana Very Open Herbland
	*53	Spyridium globulosum Tall Open Shrubland over Calothamnus quadrifidus, Melaleuca systema and Acacia lasiocarpa Shrubland over Phyllanthus calycinus and Gompholobium tomentosum Low Open Shrubland over Austroanthonia caespitosa, Austrostipa flavescens, *Bromus madritensis, *Eragrostis curvula and *Lolium rigidum Open Grassland over Conostylis candicans subsp. calcicola, Cassytha glabella, Clematis linearifolia, Crassula glomerata and Desmocladius virgatus Open Herbland
	*63	Scaevola nitida and Acacia xanthina Tall Shrubland over Calothamnus quadrifidus, Melaleuca systema, Melaleuca cardiophylla and Acacia lasiocarpa Open Heath over Phyllanthus calycinus and Leucopogon insularis Low Open Shrubland over Lomandra maritima, Cassytha racemosa, Desmocladius aspera and Crassula glomerata Open Herbland
	*64	Thryptomene sp Lancelin, Acacia xanthina and Calothamnus quadrifidus Closed Heath over Melaleuca systema, Acacia lasiocarpa, Phyllanthus calycinus, Rhagodia baccata and Gompholobium tomentosum Low Shrubland over *Bromus diandrus and *Avena barbata Very open Grassland
	*61	Dryandra sessilis Shrubland over Acacia truncata, Acacia lasiocarpa, Scaevola thesioides, and Melaleuca systema Low Open Heath over Clematis linearifolia Very Open Herbland over Schoenus grandiflorus Very Open Sedgeland
	70	Dryandra sessilis Shrubland over Acacia truncata, Acacia lasiocarpa, Scaevola thesioides and Melaleuca systema Open Low Heath over Clematis linearifolia Very Open Herbland over Schoenus grandiflorus Very Open Sedgeland
	*25	Acacia xanthina, Scaevola crassifolia and Scaevola thesioides Open Heath over Acacia truncata, Melaleuca cardiophylla and Melaleuca huegelii Low Open Shrubland
	28	Dryandra sessilis Shrubland over Acacia truncata, Acacia lasiocarpa, Scaevola thesioides and Melaleuca systema Low Open Shrubland over Schoenus grandiflorus Very Open Sedgeland over Clematis linearifolia Very Open Herbland
	15	Scaevola thesioides subsp. thesioides Open Heath over Melaleuca systema, Melaleuca huegelii, Calothamnus quadrifidus, Scaevola crassifolia and Acacia lasiocarpa Shrubland over Conostylis candicans subsp. calcicola Herbland
	*17	(Same as NR8) Anthocercis littorea, Acacia rostellifera, and Scaevola crassifolia, Closed Heath over Scaevola thesioides, Melaleuca systema and Acacia lasiocarpa, Acacia truncata and Leucopogon insularis Shrubland over Cassytha racemosa and Acanthocarpus preissii Herbland
Melaleuca systema / Scaevola thesioides / Anthocercis littorea	*40	Acacia rostellifera, Scaevola crassifolia, Anthocercis littorea Open Heath over Scaevola thesioides, Acacia lasiocarpa, Melaleuca systema, Low Shrubland over Austrostipa compressa Granssland over Lepidosperma squamata Sedgeland over Cassytha racemosa, Clematis linearifolia, Opercularia spermacoea and Senecio pinnatifolia var. pinnatifolia Open herbland
	43	Acacia xanthina, Anthocercis littorea and Spyridium globulosum Tall Shrubland over Scaevola crassifolia, Melaleuca systema, Dryandra sessilis, Calothamnus quadrifidus and Thryptomene sp Lancelin Shrubland over Scaevola thesioides and Melaleuca huegelii Low Shrubland over Lomandra maritimum, Daucus glochidiatus, Desmocladius virgatus and Hardenbergia comptoniana Herbland over Lepidosperma squamata Sedgeland
	46	Acacia xanthina and Anthocercis littorea Tall Open Scrub over Scaevola crassifolia, Scaevola thesioides, Acacia lasiocarpa, Melaleuca systema, and Hibbertia racemosa Open Shrubland over Lomandra maritimum, Opercularia spermacoea and Clematis linearifolia Herbland
	47	Scaevola crassifolia and Anthocercis littorea Shrubland over Scaevola thesioides, Melaleuca systema, Acacia lasiocarpa, Leucopogon insularis and Phyllanthus calycinus Open Low Heath over Lepidosperma gladiatum Sedgeland over Lomandra maritimum, Opercularia spermacoea, Hardenbergia comptoniana, Desmocladius virgatus, and Clematis linearifolia Herbland
	44	Anthocercis littorea Tall Open Scrub over Scaevola thesioides, Acacia truncata, Acacia lasiocarpa and Melaleuca systema Shrubland over Hibbertia racemosa Low Open Shrubland over Hardenbergia comptoniana, Lomandra maritimum, Clematis linearifolia and Carpobrotus virgatus Open Herbland over Austrostipa compressa Grassland
	48	Acacia xanthina and Anthocercis littorea Open Heath over Scaevola thesioides, Acacia truncata, Melaleuca systema, Acacia lasiocarpa and Exocarpos sparteus Open Low Heath over Lepidosperma squamatum Sedgeland over Lomandra maritimum, Opercularia spermacoea, Desmocladius virgatus, Acrotriche cordata and Clematis linearifolia Herbland
Melaleuca systema / Scaevola thesioides / Melaleuca cardiophylla	*16	Acacia rostellifera and Melaleuca cardiophylla Shrubland over Thryptomene sp. Lancelin, Calothamnus quadrifidus, Melaleuca systema, Leucopogon parviflorus, Leucopogon insularis and Scaevola thesioides Closed Low Heath
Melaleuca systema / Spyridium globulosum	*50	Acacia rostellifera and Spyridium globulosum Tall Open Scrub over Austrostipa flavescens, Bromus madritensis and *Ehrharta longiflora Very Open Grassland over Hardenbergia comptoniana, Clematis linearifolia and *Euphorbia terracina Very Open Herbland
	5	Melaleuca huegelii and Santalum acuminatum Closed Heath over Melaleuca systema and Spyridium globulosum Low Open Shrubland
	*57	Acacia xanthina and Spyridium globulosum Tall Shrubland over Melaleuca systema and Acacia lasiocarpa Open Shrubland over Phyllanthus calycinus Low Shrubland over, Avena barbata, Bromus diandrus and Eragrostis curvula Very Open Grassland over Acanthocarpus preissii, Lomandra maritima and Euphorbia terracina Open Herbland
	*56	Melaleuca systema, Spyridium globulosum, Scaevola thesioides and Acacia lasiocarpa Shrubland over Acanthocarpus preissii, Conostylis candicans subsp. calcicola, Leucopogon insularis and Leucopogon parviflorus Low Shrubland over Avena barbata and Lolium rigidum Very Open Grassland
	*59	Spyridium globulosum and Acacia xanthina Tall Shrubland over Melaleuca systema, Scaevola crassifolia and Acacia lasiocarpa Shrubland over Thryptomene sp Lancelin, Phyllanthus calycinus and Olearia axillaris Low Shrubland over Lomandra maritima Open Herbland
	*19	Anthocercis littorea, Scaevola crassifolia, Melaleuca systema, Scaevola thesioides, Calothamnus quadrifidus Closed Low Heath over Acanthocarpus preissii, Opercularia vaginata and Conostylis pauciflora subsp. euryrhipis Herbland
Olearia axillaris / Scaevola crassifolia	9	Anthocercis littorea and Scaevola crassifolia Open heath over Olearia axillaris Low Open Shrubland, over Carpobrotus virescens Very Open Herbland
Olearia axillaris / Spyridium globulosum	3	Olearia axillaris, Scaevola crassifolia, Anthocercis littorea, Spyridium globulosum and Santalum acuminatum Closed Heath over *Avena barbata, *Lagurus ovatus and *Bromus madritensis Grassland over *Euphorbia terracina, Raphanus raphanistrum, Carpobrotus virescens, Sonchus oleraceus and Crassula glomerata Closed Herbland
	8	Olearia axillaris, Myoporum insulare and Spyridium globulosum Open Heath over Melaleuca systema, Acacia Truncata, Acanthocarpus preissii, Leucopogon parviflorus and Melaleuca huegelii Low Shrubland
	1	Allocasuarina lehmanniana Tall Open Shrubland over Melaleuca systema, Rhagodia baccata, and Spyridium globulosum Closed Heath over Hibbertia racemosa, Acacia truncata, Olax benthamii and Eremophila sp Low Shrubland over Austrostipa compressa, *Bromus madritensis, and *Lolium rigidum Open Grassland over Crassula glomerata and Clematis linearifolia Open Herbland
	2	Melaleuca huegelii, Spyridium globulosum, Acacia truncata, Melaleuca systema and Olearia axillaris Closed Heath over Clematis linearifolia, Crassula glomerata, Daucus glochidiatus, Conostylis pauciflorus and Acanthocarpus preissii Open Herbland

Flora Inventory

Lancelin South Structure Plan Vegetation and Flora Report

Family Number	Family	Priority Taxa	Weeds	Taxa
018	CUPRESSACEAE			Callitris preissii
026	JUNCAGINACEAE			Triglochin mucronata
031	POACEAE		*	Briza maxima
			*	Bromus diandrus
			*	Bromus madritensis
			*	Bromus rubens
				Austrostipa flavescens
			*	Avena barbata
				Poa porphyroclados
				Austrodanthonia caespitosa
				Austrostipa compressa
			*	Ehrharta longiflora
			*	Aira cupaniana
			*	Ehrharta villosa
			*	Eragrostis curvula
			*	Hordeum glaucum
				Poa poiformis
			*	Poaceae sp.
			*	Vulpia myuros var. myuros
			*	Lolium rigidum
				Notodanthonia caespitosa
				Spinifex hirsutus
				Spinifex longifolius
			*	Lagurus ovatus
032	CYPERACEAE			Schoenus caespitius
				Ficinia nodosa
				Lepidosperma squamatum
				Lepidosperma squamatum
				Mesomelaena stygia
				Schoenus grandiflorus
				Lepidosperma gladiatum
039	RESTIONACEAE			Desmocladius aspera
				Desmocladius flexuosus
				Desmocladius virgatus
054C	DASYPOGONACEAE			Acanthocarpus preissii
				Lomandra maritima
054D	XANTHORRHOEACEAE			Xanthorrhoea preissii
				Xanthorrhoea sp.
054E	PHORMIACEAE			Dianella revoluta var. divaricata
054F	ANTHERICACEAE			Anthericaceae sp.
				Corynotheca micrantha
				Arthropodium capillipes
				Thysanotus patersonii
				Tricoryne elatior

Family Number	Family	Priority Taxa	Weeds	Taxa
				Thysanotus gracilis
054G	ASPHODELACEAE		*	Asphodelus fistulosus
			*	Trachyandra divaricata
055	HAEMODORACEAE			Conostylis candicans subsp. calcicola
				Anigozanthos manglesii subsp. manglesii
		P3		Conostylis pauciflora subsp. euryrhipis
070	CASUARINACEAE			Allocasuarina huegeliana
				Allocasuarina lehmanniana
088	URTICACEAE			Parietaria debilis
090	PROTEACEAE			Banksia attenuata
				Hakea ruscifolia
				Hakea prostrata
				Conospermum capitatum
				Hakea trifurcata
				Dryandra sessilis
				Hakea lissocarpa
				Grevillea preissii subsp. preissii
				Dryandra lindleyana var. lindleyana
				Petrophile serruriae
092	SANTALACEAE			Santalum acuminatum
				Exocarpos sparteus
				Leptomeria empetrifomis
				Leptomeria pauciflora
				Leptomeria preissiana
095	OLACACEAE			Olax benthamiana
097	LORANTHACEAE			Amyema preissii
				Nuytsia floribunda
105	CHENOPODIACEAE			Rhagodia baccata
				Rhagodia preissii subsp. preissii
				Threlkeldia diffusa
109	PHYTOLACCACEAE		*	Phytolacca octandra
110	AIZOACEAE			Carpobrotus virescens
			*	Tetragonia decumbens
113	CARYOPHYLLACEAE		*	Sagina maritima
			*	Petrorhagia velutina
119	RANUNCULACEAE			Clematis linearifolia
				Clematis linearifolia
				Clematis aristata
131	LAURACEAE			Cassytha glabella
				Cassytha racemosa
				Cassytha aurea var. hirta
138	BRASSICACEAE		*	Brassicaceae sp.
			*	Cakile maritima
			*	Diplotaxis muralis
			*	Heliophila pusilla
			*	Raphanus raphanistrum
			*	Raphanus raphanistrum
143	DROSERACEAE			Drosera macrantha
149	CRASSULACEAE		*	Crassula glomerata
163	MIMOSACEAE			Acacia crispula
				Acacia cyclops

Family Number	Family	Priority Taxa	Weeds	Taxa
				Acacia lasiocarpa
				Acacia pulchella
				Acacia rostellifera
				Acacia saligna
				Acacia truncata
				Acacia cochlearis
				Acacia xanthina
				Acacia rostellifera
				Acacia sp.
164	CAESALPINIACEAE			Labichea cassioides
165	PAPILIONACEAE			Bossiaea eriocarpa
				Daviesia decurrens
				Daviesia divaricata
				Gompholobium tomentosum
			*	Melilotus indicus
				Nemcia reticulata
			*	Medicago truncatula
				Mirbelia spinosa
				Templetonia retusa
			*	Trifolium campestre
				Hardenbergia comptoniana
			*	Lupinus cosentinii
				Gompholobium shuttleworthii
				Nemcia reticulata
167	GERANIACEAE		*	Pelargonium capitatum
			*	Erodium cicutarium
183	POLYGALACEAE			Comesperma confertum
185	EUPHORBIACEAE			Phyllanthus calycinus
				Adriana quadripartita
			*	Euphorbia terracina
202	STACKHOUSIACEAE			Stackhousia monogyna
207	SAPINDACEAE			Dodonaea aptera
				Diplopeltis huegelii subsp. huegelii
215	RHAMNACEAE			Cryptandra mutila
				Trymalium ledifolium var. ledifolium
				Spyridium globulosum
221	MALVACEAE			Alyogyne huegelii var. huegelii
223	STERCULIACEAE			Thomasia foliosa
226	DILLENIACEAE			Hibbertia racemosa
				Hibbertia hypericoides
		P3		Hibbertia spicata subsp. leptotheca
243	VIOLACEAE			Hybanthus calycinus
263	THYMELAEACEAE			Pimelea ciliata subsp. ciliata
273	MYRTACEAE			Calothamnus quadrifidus
				Agonis flexuosa
				Eucalyptus utilis
				Chamelaucium uncinatum
				Corymbia calophylla
		P2		Thryptomene sp. Lancelin (M.E. Trudgen 14000)

Family Number	Family	Priority Taxa	Weeds	Taxa
				Melaleuca cardiophylla
				Melaleuca huegelii
				Melaleuca systema
281	APIACEAE			Daucus glochidiatus
				Hydrocotyle diantha
				Apium annuum
288	EPACRIDACEAE			Acrotriche cordata
				Andersonia heterophylla
				Lysinema ciliatum
				Leucopogon insularis
293	PRIMULACEAE			Leucopogon parviflorus
303	GENTIANACEAE		*	Anagallis arvensis
304	APOCYNACEAE		*	Centaurium erythraea
307A	CUSCUTACEAE		*	Alyxia buxifolia
313	LAMIACEAE			Cuscuta epithymum
315	SOLANACEAE			Hemiandra glabra subsp. glabra
316	SCROPHULARIACEAE		*	Anthocercis littorea
320	OROBANCHACEAE		*	Dischisma arenarium
326	MYOPORACEAE			Orobanche minor
				Myoporum insulare
				Myoporum montanum
329	PLANTAGINACEAE			Eremophila glabra subsp. glabra
331	RUBIACEAE			Plantago exilis
340	LOBELIACEAE			Opercularia spermacoea
				Opercularia vaginata
341	GOODENIACEAE			Isotoma hypocrateriformis
343	STYLIDIACEAE			Scaevola crassifolia
				Scaevola thesioides subsp. thesioides
				Stylidium junceum subsp. junceum
345	ASTERACEAE			Stylidium crossocephalum
				Stylidium maritimum
			*	Sonchus oleraceus
				Podolepis lessonii
				Senecio pinnatifolius
				Rhodanthe citrina
				Ozothamnus cordatus
				Brachyscome iberidifolia
			*	Hypochaeris glabra
				Olearia axillaris
				Senecio lautus subsp. dissectifolius
				Olearia rudis
			*	Ursinia anthemoides
				Leptorhynchus scaber

APPENDIX E
Desktop Study on
Indigenous Heritage Significance

**THE DESKTOP STUDY OF THE LANCELIN SOUTH DEVELOPMENT AREA UNDER
THE *ABORIGINAL HERITAGE ACT* 1972, WESTERN AUSTRALIA**

November 2006

For

Taylor Burrell Barnett Town Planning and Design

By

**Kyoko Metz
Anthropos Australis Pty Ltd**

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The results, conclusions and recommendations within this Report are based on information available at the time of its preparation.

ACKNOWLEDGEMENTS

The Author would like to acknowledge and thank the following people in this Report:

- Nicholas Green of Anthropos Australis Pty Ltd; and
- Samuel Williams of Taylor Burrell Barnett Town Planning and Design.

EXECUTIVE SUMMARY

- This Report details the results of a Desktop Study situated over the proposed Lancelin South Development Area in the Shire of Gingin, Western Australia;
- The Desktop Study resulted in **one** recorded Aboriginal site being located **near** the proposed Lancelin South Development Area.;
- It is **recommended** that Taylor Burrell Barnett Town Planning and Design ensure that its clients, employees and contractors, as appropriate, are advised of the recorded Aboriginal site located near the proposed Lancelin South Development Area;
- It is **recommended** that Taylor Burrell Barnett Town Planning and Design consider adopting the Heritage Survey Process described and approach the *Yued* native title claimants through the South-West Aboriginal Land and Sea Council Aboriginal Representative Body in order to undertake an Aboriginal heritage survey (ethnographic and archaeological) of the proposed Lancelin South Development Area; and
- It is finally **recommended** that Taylor Burrell Barnett Town Planning and Design keep the *Yued* native title claimants informed of the progress of the proposed development Lancelin South Development Area.

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SECTION ONE – INTRODUCTION AND BACKGROUND DATA

INTRODUCTION

Taylor Burrell Barnett Planning and Design (TBBPD) is examining the feasibility of developing the Lancelin South Development Area which is located approximately 1km south-east of the town of Lancelin in the Shire of Gingin, Western Australia (the Study Area, see Figure 1).

TBBPD commissioned Anthropos Australis Pty Ltd to undertake a Desktop Study to examine whether there are any Aboriginal sites within the Study Area and to provide advice on compliance with the *Aboriginal Heritage Act* 1972 (the Act).

This Report details the results of the Desktop Study and is designed to assist TBBPD in providing advice to their clients seeking to develop the Study Area in a manner, which is cognisant of, and sensitive to, any Aboriginal sites protected by the Act.

REPORT FORMAT

The format and contents of this Report follow those suggested by the *Draft Guidelines for Aboriginal Heritage Assessment in Western Australia* (DAS 1993; DIA 2002).

This Report is divided into two sections:

Section One contains this introduction, providing details of the Study Area, including tables and the Desktop Study methodology.

Section Two details the results of the Desktop Study. This section also provides, the proposed heritage survey procedures, the recommendations and references cited and the appendix.

THE STUDY AREA

Located approximately 127km north of Perth, the Study Area is situated within the Gingin Shire. John Hopkins settled the Lancelin area in 1928 and the actual town was established in 1950. The municipality was originally called *Wangaree* an Aboriginal word apparently meaning fish or fishing, but changed its name to Lancelin in 1954. Lancelin was originally founded on fishing, but has since built a steady reputation for tourism. The town enjoys a seasonal population but maintains a core population of approximately 600 people¹.

The Study Area is within the *Yued* Native Title Claim (WC97/71) which is represented by the South West Aboriginal Land and Sea Council Representative Body (SWALSC).

¹ According to the 2000 census.

The Study Area is situated approximately 1km south-east of Lancelin and is approximately 2km east-west x 2.5km north-south. A search polygon was employed during the Desktop Study based upon the map provided by TBBPD and is designated by the following co-ordinates (see Figure 1):

50K	342376mE	6562113mN	342323mE	6565053mN
	347588mE	6565140mN	347588mE	6560067mN
	343558mE	6560007mN		

PREVIOUSLY RECORDED ABORIGINAL SITES

The Register of Aboriginal Sites, which is held in the Heritage and Culture Division of the Department of Indigenous Affairs (DIA), was searched for Aboriginal sites located within the Study Area. The results of the Register search are provided below (see Appendix 1).

There is **one** previously recorded Aboriginal site listed **near** the Study Area (see Table 1).

Table 1: Previously recorded Aboriginal sites near the Study Area

<i>DIA Site Id</i>	<i>DIA Site No/ Field Site No.</i>	<i>Site Name</i>	<i>Easting (± 10m)</i>	<i>Northing (± 10m)</i>	<i>Site Type</i>
3237	S00542	Ledge Point	345136mE	6565151mN	Camp/water source

* Datum GDA94

It should be noted, the *actual boundary* of some sites is depicted in the Register of Aboriginal Sites, while in other cases a nominal box (of between 1 km² and 100 km² in area) or circles (of varying diameters) is used to indicate the general *location* of a site. The positions of registered Aboriginal sites, therefore, cannot always be assumed to be accurate or precise.

The details of many registered Aboriginal sites can often be limited or inaccessible owing to cultural restrictions, making it difficult to accurately identify such sites on the ground. However, the results of the Register search indicate that there are no known Aboriginal sites within the Study Area.

Figure 1: General Location of the Study Area



ABORIGINAL SITE RECOGNITION

On the basis of previous Aboriginal heritage surveys in the region, a number of different types of Aboriginal sites are expected to be encountered within the Study Area. Definitions of these sites are as follows:

Artefact scatter refers to locations where a range of activities have occurred such as the manufacture and maintenance of tools and the processing of foods. These sites will often contain a wider range of lithic materials than quarries and knapping floors.

Burial refers to a place where Aboriginal people were buried pre and post contact. These sites may be marked by stones and/or star pickets (for historic burials) or may have no recognisable features at all. Burial sites may have an associated traditional name or will be referred to by the Aboriginal Consultants as the place “where x is buried”.

Camp site refers to a location which may have associated stone artefacts or may be a historic camp with evidence of post-contact settlement such as star pickets, wire, tin cans, glass etc. Camp sites may have an associated traditional name.

Ceremonial refers to a location where Aboriginal people practice or continue to practice traditional ceremonies. Ceremonial sites usually have an associated traditional name

Gnamma hole/water source refers to a natural or artificial rock cavity, which holds water after rain or is linked to the water table. Gnamma holes may have an associated traditional name. A water source may be a pool in a creek

Modified tree refers to a tree, which has trunks and/or limbs that have been modified by the removal of bark and/or wood. Aboriginal people removed wood and bark for material items such as shields and baskets or to access native honey inside hollows in the tree.

Mythological refers to a location where Aboriginal people have knowledge in story and or song about the activities of their Ancestral Beings. Mythological sites usually have an associated traditional name.

Named locality usually refers to a creek, section of river or other natural feature that has no associated mythological or ceremonial significance. Such localities are not necessarily considered to be Aboriginal sites.

Quarry refers to a location from which stone used to manufacture flaked or ground stone artefacts has been extracted.

Reduction area (or knapping floor) refers to a cluster of stone artefacts, which represent the remains of an episode (or episodes) of stone artefact manufacture. Artefacts within a knapping floor can usually be conjoined back together.

Rock art refers to art placed on a rock surface that may be created by additive (such as painting or drawing) or subtractive (such as abrading or engraving) processes.

Stone arrangement refers to a location where stones/rocks have been placed either as single events (standing stones) or as clusters or arrangements and which may have contemporary ceremonial and/or mythological significance. Stone arrangements may have an associated traditional name.

Structure is a term used by the DIA to refer to groupings or piles of rocks or tree branches, relating to economic (eg. habitation) or ceremonial practices. Cairns may mark water sources; rock shelters may be walled to make small animal habitats and traps; tall stones or lines of stones may indicate ritual grounds.

SECTION TWO - RESULTS

RESULTS

The results of the Desktop Study are discussed in detail, below.

ABORIGINAL SITE ID 3237 – LEDGE POINT

Aboriginal site ID 3237 (Ledge Point) was recorded in 1976. The DIA lists the site as a ‘traditional water source and campsite’. The recorder of the site is noted only as ‘Griffiths’. The site itself is a fresh water spring, colloquially known as Thomas’s Well, situated near a sheltered cove.

A government report, “Planning for the Gingin Coast: 7. Land Use Scenarios and Options”, states that “...*There has been no comprehensive study undertaken of Aboriginal sites in the region...*” (2000: 8). This is reflected in lack of ethnographic or archaeological information located that is relevant to the Study Area during the search of the Register of Aboriginal Sites.

It is noted that the topography of the landscape of the Study Area is likely to contain Aboriginal sites. Harris states in her report for Quartermaine Consultants that:

“...archaeological sites tend to cluster around the chain of lakes and swamps running parallel to the coast extending from Geraldton to Mandurah...” (1999: 10).

Harris goes on to postulate that the lack of verification of Aboriginal sites within the region is due to either “...*a factor of visibility where dense vegetation camouflages any evidence of occupation...*” or “...*a lack of permanent potable water ...inhibit(ing) the formation of large and continuous campsites...*” (1999:10).

HERITAGE SURVEY REPORTS

There are three Heritage Survey Reports in the Register of Aboriginal Sites, although none of the reports directly pertain to Aboriginal site ID 3237.

Two of the reports are by Jacqueline Harris for Quartermaine Consultants, as mentioned above, and were prepared for Halpern Glick Maunsell Pty Ltd. The reports are entitled “Report on an Archaeological Survey of a Proposed Road between Cervantes and Lancelin” and the “Second Addendum to a Report on an Archaeological Survey of a Proposed Road Between Cervantes and Lancelin”.

The Aboriginal heritage survey conducted by Jacqueline Harris that resulted in the production of the above reports occurred in November 1999. The reports detail an Aboriginal archaeological survey (only) of an area between Lancelin and Cervantes. This area is to the north of Lancelin and hence, outside the Study Area. Both of these reports list Aboriginal site ID 3237 sketchily. Aboriginal site ID 3237, is briefly mentioned as “...*a water resource site, (is) incorrectly grid referenced in the register and is actually five kilometres south of the proposed alignment [of the proposed road between Cervantes and Lancelin]*” (p8.) and “...S0542 and S0600, two well sites, are

located some four kilometres west of the proposed alignments...[of the proposed road between Cervantes and Lancelin]” (p5.) respectively.

The third report is by Barrie Machin entitled “Aboriginal Heritage issues and cable crossings: upper Canning River downstream from Nicholson Road traffic bridge adjacent downstream from Canning Bridge and Narrows bridge utilizing internal bridge structure Swan River adjacent upstream to Causeway”. This report is unrelated to the Study Area and is included in this Aboriginal Site File ostensibly because it has an addendum, which provides a list of registered sites, including Aboriginal site ID 3237. However, no additional information regarding Aboriginal site ID 3237 is provided within this report.

THE YUED NATIVE TITLE CLAIM

The Study Area is within the *Yued* native title claim registered under the *Native Title Act* 1993. The registration of the claim by the National Native Title Tribunal reflects the fact that there are Aboriginal people today who are asserting strong cultural connection to the region including the land within the Study Area.

The SWALC is charged with undertaking ethnographic research with the *Yued* native title claimants to support their continued connection to the land including their heritage rights and interests, since colonisation. It is likely therefore, that the SWALSC will have ethnographic and historic data pertaining to the region including the Study Area.

The fact that there is a paucity of Aboriginal site data in the Register of Aboriginal Sites does not necessarily mean that there are no Aboriginal sites within the Study Area. It may simply mean that there has not been an incentive to undertake an Aboriginal heritage survey of the land within the Study Area in the past. Therefore, consultation with the *Yued* native title claimants about their heritage rights and interests within the Study Area is considered to be an essential step in ensuring compliance with the Act as well as Best Practice in cultural heritage resource management, via the conduct of an Aboriginal heritage survey (both archaeological and ethnographic) with the participation of the *Yued* native title claimants.

THE HERITAGE SURVEY PROCESS

The Heritage Survey Process is a course of Best Practice that is designed to ensure that obligations under the Act are met to the satisfaction of the DIA as well as the *Yued* native title claimants. A brief outline of this process is outlined as follows:

1. Archival research – Access information pertaining to previously recorded Aboriginal sites within and in the vicinity of the Study Area as well as previous heritage surveys and publications relating to the area;
2. Informing the native title party – Formal notification to the *Yued* native title claimants via the SWALSC of the request to undertake an Aboriginal heritage survey of the Study Area. The formal notification will require a meeting with SWALSC to define the parameters of the Survey and to establish the participation of the *Yued* native title claimants who have demonstrable cultural connections and knowledge pertaining to the area;
3. Field survey – Undertaken with the participation of the *Yued* native title claimants in order to locate and record any Aboriginal ethnographic and archaeological sites within the Study Area using an agreed Survey methodology. The Survey will result in a series of recommendations pursuant to any Aboriginal sites located and recorded, including the views of the *Yued* native title claimants regarding site preservation versus mitigation;
4. Preliminary Advice - On the completion of the Survey, a draft Preliminary Advice is provided to the parties, which provides immediate feedback on the conduct and results of the Survey. The provision of such advice is a timely way for the parties to be provided with formal advice on the location of any Aboriginal sites within the Study Area and the recommendations regarding those sites which will need to be considered prior to any development design or ground disturbance during preparations for construction;
5. Final Report – Subject to the feedback regarding the Preliminary Advice, a Final Report is drafted within an agreed timeframe, which will provide details on the location and recording of Aboriginal sites within the Study Area to a standard that meets the agreed requirements of the parties. It should be noted that there are different standards and methodologies for the recording of Aboriginal sites and in the case of land over which major ground disturbance is being proposed, then the highest level of recording referred to here as Site Identification will need to occur. The Final Report is designed to satisfy the requirements of the DIA as well as the expectations of the *Yued* native title claimants;
6. Section 18 Application - Should an Aboriginal site need to be impacted during the proposed development of the land, the landowner (irrespective of whether the land is freehold) is obliged to lodge a Notice under Section 18 of the Act with the Minister for Indigenous Affairs to use the land for a specific purpose. Failure to do this may constitute a breach of Section 17 of the Act. The Notice, along with the Report detailing the description of the Aboriginal site(s) in question and comment from the *Yued* native title claimants, is provided to the DIA for the consideration of the Aboriginal Cultural Material Committee (ACMC) that is the entity responsible for advising the Minister under the Act. The ACMC meets once a month to consider such Notices; and

7. Timeframes - The length of time required to commence and complete the Heritage Survey Process is largely dependant on the availability of the *Yued* native title claimants and heritage practitioners to participate as well as any requirement to formally lodge a Notice under the Act. The minimum timeframe would be three months.

RECOMMENDATIONS

It is **recommended** that Taylor Burrell Barnett Town Planning and Design ensure that its clients, employees and contractors, as appropriate, are advised that:

1. The Lancelin South Development Area is adjacent to **one** Aboriginal site pursuant to the *Aboriginal Heritage Act 1972*.

It is **recommended** that Taylor Burrell Barnett Town Planning and Design consider adopting the Heritage Survey Process described and approach the *Yued* native title claimants through the South-West Aboriginal Land and Sea Council Aboriginal Representative Body in order to undertake an Aboriginal heritage survey (ethnographic and archaeological) of the proposed Lancelin South Development Area.

It is finally **recommended** that Taylor Burrell Barnett Town Planning and Design keep the *Yued* native title claimants informed of the progress of the proposed Lancelin South Development Area.

REFERENCES CITED

- Department of Aboriginal Sites. 1993. *Guidelines for Aboriginal Heritage Assessment in Western Australia*. Department of Aboriginal Sites, Perth.
- Department of Indigenous Affairs. 2002. *Draft Guidelines for Aboriginal heritage assessment in Western Australia*. Department of Indigenous Affairs, Perth.
- Harris, J., 1999. *Report on an Archaeological Survey of a Proposed Road Between Cervantes and Lancelin*. Unpublished Report: Quatermaine Consultants for Halpern Glick Maunsell Pty Ltd.
- Harris, J., 1999. *Second Addendum to a Report on an Archaeological Survey of a Proposed Road Between Cervantes and Lancelin*. Unpublished Report: Quatermaine Consultants for Halpern Glick Maunsell Pty Ltd.
- Machin, B., *Aboriginal Heritage issues and cable crossings: upper Canning River downstream from Nicholson Road traffic bridge adjacent downstream from Canning Bridge and Narrows Bridge utilizing internal bridge structure Swan River adjacent upstream to Causeway*. Unpublished Government Report.
- Sinclair, Knight, Merz. September 2000. *Planning for the Gingin Coast: 7. Land Use Scenarios and Options*, Draft Working Paper Summary: Unpublished Report.

APPENDIX 1

EXTRACT FROM THE DIA REGISTER OF ABORIGINAL SITES

APPENDIX F
Report on Expansion Options for Lancelin
(C O'Neill for DPI)

DRAFT

EXPANSION OPTIONS FOR LANCELIN

REVIEW OF LAND REQUIREMENTS AND CONSTRAINTS

Prepared by Chris O'Neill

For

**Department for Planning and Infrastructure
Country Planning**

20 September 2006

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1. BACKGROUND

In February 2006, the WAPC published the *Gingin Coast Structure Plan* in which land immediately to the east of the developed area of Lancelin was earmarked for '*future urban with a mix of uses*', while land to the south of the town was designated as '*townsite expansion investigation area*'.

The land to the east of Lancelin has some constraints associated with its availability for development in the short term. These include mineralisation (lime sands currently being extracted), the wastewater treatment plant and associated buffer, native title considerations and land fragmentation.

The bulk of the land identified as '*townsite expansion investigation area*' to the south of Lancelin is in a single ownership, and significant planning work has been undertaken over that land by planning consultants Taylor Burrell Barnett (TBB) on behalf of the major landowner with a view to proving up the land's suitability for urban development. Currently, TBB in association with Landcorp is developing the Lancelin Townsite Expansion Plan for eventual submission to the WA Planning Commission for endorsement.

The WA Planning Commission recognises that there is a demand for land in the Gingin coastal area, and wishes to see the area develop in an orderly and sustainable way. The preference, all things being equal, would be to develop land closest to existing infrastructure and services at Lancelin and other existing townsites. However, the constraints facing such townsite expansion may prevent this happening in the short term, in which case an alternative source of land supply in the Lancelin area would need to be brought on stream.

The current investigation has been commissioned in order to address these questions and to provide the WA Planning Commission with an informed basis for decision making in relation to proposals for the future expansion and development of Lancelin. The task initially involves an assessment of the demand for land in this area so as to facilitate the growth of Lancelin by between 5000 and 10000 as proposed in the *Gingin Coast Structure Plan*. Following on from this, is a review of the constraints on development of the land identified for possible future expansion of the Lancelin townsite and of the potential impact of such development on the existing township.

2. GINGIN COAST SETTLEMENT HIERARCHY

The *Gingin Coast Structure Plan* identifies four major settlements within the Study area in addition to the town of Gingin (which is situated outside the Study area). The settlements together with their classification, services and population ranges identified in the *Structure Plan*, are listed in Table 1.

Table 1: Gingin Coast settlement hierarchy and populations 2031

CENTRE	Classification	Population	Commercial	Community
Lancelin	Major local centre	5000-10000	District and local shopping and tourist facilities	Medical, K-12 school(s) Community Centre and office
Guilderton	Village	2000-5000	Local shopping and tourist facilities	Medical, K-7 school, Community Centre and office
Ledge Point	Village	1000-3000		
Sea Bird	Minor local centre	500-1000	Local shopping and tourist facilities	Community hall and office

3. GROWTH ALLOCATION BETWEEN SETTLEMENTS

Population and dwelling numbers for each of the identified settlements as at the 2001 Census are shown in table 2, with *population capacity* derived from average occupancy of occupied dwellings for each of the respective settlements. It is likely that household occupancy during peak holiday periods would be considerably higher than the average recorded on Census night, which would result in a commensurate increase in population capacity.

Table 2: Population and dwellings by locality (post code) - 2001

CENTRE	Census Population	Occupied Dwellings	Occupancy (Average)	Un-Occupied Dwellings	Population Capacity 2001
Lancelin	868	376	2.3	591	2232
Guilderton	689	281	2.5	408	1689
Ledge Point	144	69	2.1	239	643
Sea Bird	361	151	2.4	100	600
TOTAL	2062	877	2.4	1338	5208

Table 3 includes the range of population forecasts for each of the settlements as identified in the Structure Plan, together with estimates of dwelling requirements to accommodate the respective forecast population ranges (low-high) and a derived compound pa growth rate for development over the 30 year period from 2001 to 2031. While the high growth forecasts involve relatively high rates of growth when expressed as a percentage of the base figures, future growth needs to be seen in the context of metropolitan drivers.

Table 3: Population and dwellings forecasts by locality - 2031

CENTRE	Population Forecast		Dwelling Estimate		Dwelling Growth % pa	
	Low	High	Low	High	Low	High
Lancelin	5000	10000	2000	4000	2.5%	5.5%
Guilderton	2000	5000	800	2000	0.5%	3.6%
Ledge Point	1000	3000	400	1200	0.9%	4.6%
Sea Bird	500	1000	200	400	0%	1.6%
TOTAL	8500	19000	3400	7600	1.4%	4.2%

Dwelling numbers have been estimated on the basis of an average 2.5 persons per dwelling, although this may not be reflective of the demographic characteristics of every settlement. Nevertheless, it might be expected that as the size of settlements increases, there will be an increasing proportion of permanent residents, particularly retirees, with combined occupancy (permanent and holiday) stabilizing at around 2.5 persons per household.

4. DEVELOPMENT PROFILE FOR LANCELIN

4.1 Urban Growth Forecasts

Table 4 provides a profile of development for Lancelin over the 30 year planning period based on estimates of permanent and holiday population, dwelling counts from past census years and recent trends in housing occupancy.

Table 4: Growth in dwellings for Lancelin locality 2001 to 2031

CENTRE	2001	2006	2011	2016	2021	2026	2031
Occupied Permanent	36%	38%	40%	42%	44%	46%	50%
Occupancy Permanent	2.3	2.2	2.1	2.0	2.0	2.0	2.0
Occupancy Holiday (est)	4.0	3.8	3.6	3.4	3.2	3.0	3.0
Total Dwellings (Low)	967	1000	1150	1320	1520	1740	2000
Total Dwellings (High)	967	1000	1320	1740	2300	3030	4000

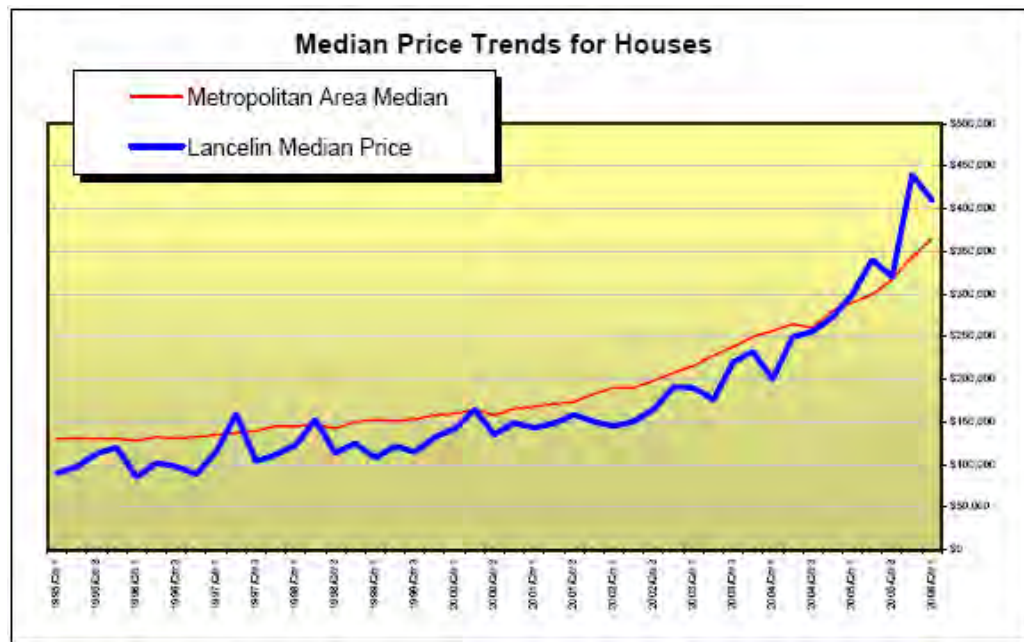
During the five year period between 1996 and 2001, the number of dwellings in Lancelin urban area increased at an average rate of 1.9% pa compound. However, because of the limited availability of vacant housing lots in Lancelin in recent years, a commensurately lower growth has been assumed from the census of 2001 to the present. Growth beyond 2006 assumes additional serviced lots are available to meet the demand associated with forecast growth.

4.2 Current Housing Land Availability

There is currently a severe shortage of vacant residential building sites in Lancelin. This is evident from an inspection of the area but is also borne out by house price statistics in figure 1 provided by the Valuer General's Department for the period from 1995 to 2006 which show a significant escalation in property values in recent times.

In the past five years the median house price in Lancelin has risen by 287% compared with a rise for the same period for Metropolitan Perth of 217%. Beginning this period at 85% of Metropolitan values, the median price of housing in Lancelin as at the first quarter of 2006 was 112% that of Perth, which represents a rise of nearly 30% against the metropolitan benchmark.

Figure 1: Lancelin House Prices compared with Perth Metro 1996-2006



Source: Valuer General

While housing growth in the five years from 1996 to 2001 averaged around 1.9% pa compound, this has almost certainly decreased over the ensuing five years, due to the limited availability of vacant lots. This has artificially constrained the growth of Lancelin, and significantly reduced the level of affordability for new residents wishing to move into the area.

4.3 Future Growth Potential

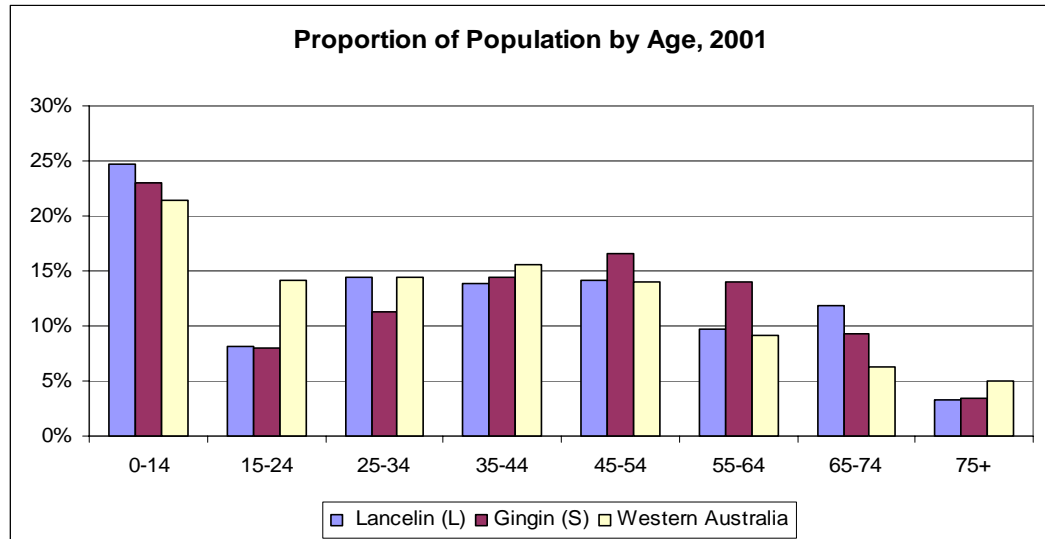
While it is beyond the scope of this report to review the growth projections for Lancelin, it is worth noting that the differences between the *high* and *low* growth forecasts are likely to relate to *rate* of growth rather than ultimate size. With Lancelin having been identified as the only *Major Local Centre* in the Gingin Coast Study Area, its continued growth towards the designated threshold of 10,000 population is to be facilitated.

Increasing population will provide for an improved level of services, including commercial, education, medical and recreational facilities. Associated with these services there will be increasing local employment and self-sufficiency, and while it is likely the major driver of growth in the local economy will be tourism, it might be expected that an increasing proportion of the population will be permanent residents.

Improved services, particularly in the areas of education (high school) and health, will facilitate the retention of local residents, particularly families while the town is likely to become increasingly attractive as a location for retirees and telecommuters. These trends have been recorded as part of a wider *sea change* phenomenon in other parts of coastal Australia, and Lancelin is ideally situated to accommodate a share of this growth.

Figure 2 illustrates age distribution of Lancelin compared with that of Gingin Shire and the State. This analysis highlights the dramatic drop in the proportion of the population of children aged 15 - 24, as well as the already high level of attraction of the area to those aged 65 - 74. The small proportion of the population in the 75+ age bracket, is common to most regional areas where health services are generally limited.

Figure 2: Age Distribution of Lancelin compared with Shire and State



Source ABS: Prepared by Syme Marmion for Taylor Burrell Barnet

5. URBAN EXPANSION OPTIONS FOR LANCELIN

5.1 Gingin Coast Structure Plan

The Gingin Coast Structure Plan illustrates a *'future urban'* area immediately to the east of the existing Lancelin settlement area with an additional area south of the existing settlement identified as *'townsite expansion investigation area'*. An extract from the Structure Plan Map is included in figure 3 on the following page, and shows the *future urban area* as pink and the *townsite expansion investigation area* to the south as hatched.

According to the Structure Plan report, it is proposed that additional urban expansion should be adjacent to existing development to the east and south of the existing settlement, i.e. the *future urban area*. However, the report goes on to say that:

A major constraint to orderly urban expansion is the existence of undeveloped priority resource locations in areas immediately adjacent to, and in proximity of existing settlements.

It is in this context that the Structure Plan identifies the *townsite expansion investigation area* which is situated some 2-3 km south-west of the built-up area of Lancelin. The basis for identifying this area is explained in the Structure Plan report as follows:

A development investigation area has also been identified to the south of Lancelin for further consideration as it is realised that there are numerous constraints to developing on the areas immediately adjacent to and south-south-east of the existing Lancelin townsite. The scale and extent of expansion are subject to detailed structure planning addressing physical and social integration with the existing Lancelin community, and to the demonstration of sustainability.

Figure 3: Excerpt from Gingin Coast Structure Plan (Figure 4.1)



5.2 Future Urban Area (pink in figure 3)

The priority resource locations referred to in the Structure Plan report as constraining the orderly urban expansion of Lancelin, include:

- a Priority 1 Drinking Water Source Area to the north and east of the settlement and
- a Basic Raw Materials (Lime sand) resource area to the south and east of the settlement.

These resource areas are subject of protection as Special Control Areas (SCA-3 and SCA-5) under the Shire's proposed Town Planning Scheme No 9, and are illustrated in figure 4. The constraints imposed by the priority resource area designations as well as the issue of Native Title, reservation of the land under the local planning scheme and development potential, are discussed as follows.

Figure 4: Special Control Areas as illustrated on TPS No 9



Public (groundwater) Drinking Water Source

According to the proposed TPS No 9, SCA 3 (Public Drinking Water Source Areas), in determining land uses and development proposals within SCAs, the Council will have due regard to relevant State Government policies and the most recent Land Use Compatibility Tables for Public Drinking Water Source Areas. These guidelines currently identify *urban* and *rural-residential* subdivision as *incompatible* forms of development in Priority 1 Public Drinking Water Source Areas, which is the classification applied to SCA 3.

In its Water Resource Protection Plan for Water Reserve, the Water and Rivers Commission has noted that *‘the transmissive limestone soils in the area and the shallow depth to groundwater are such that more intensive development would lead to a degradation of groundwater quality’*. Accordingly, it is reasonable to conclude that none of the *future urban* area within the Priority 1 Public Drinking Water Source area should be developed for urban purposes. The area of land concerned amounts to approximately one-third of the future urban area under the Structure Plan.

Basic Raw Materials (Limesand for agriculture)

In determining land uses and development proposals within SCA 5 Council is to have due regard to the WA Planning Commission’s Statement of Planning Policy No 2.4 *Basic Raw Materials*. Under this policy, the majority of the area identified under the Structure Plan for future urban development has been identified under Policy SPP 2.4 as a *Priority Resource Location*.

These areas are referred to in the Policy as *regionally significant resources which should be recognised for future basic raw materials extraction and not be constrained by incompatible uses or development*.

The importance of the limesand resources is underlined by the latest draft *State of the Environment Report* which identified soil acidification as a 3-star priority, with about two-thirds of the South-west agricultural area becoming acidic or at risk of acidification. According to the Report, since 1990 the use of lime and domomite as a soil treatment has increased nearly nine-fold, and the EPA has emphasized in response, the need to finalise the draft *State Lime Supply Strategy*.

The draft *State Lime Supply Strategy* currently includes specific reference to the Lancelin lime sand resource which it states '*is extremely important for the future successful agriculture in Western Australia*' and concludes that '*there are no readily identifiable alternatives*'. In recent correspondence to DPI, the Department of Industry and Resources, which is coordinating the finalization of the *State Lime Supply Strategy*, advises that it *would be concerned at any proposals to develop this land (for urban purposes) ahead of the removal of the limesand, as this would effectively sterilize these important resources*.

Correspondence from the Department of Agriculture also confirms the strategic importance of the Lancelin lime sand resource. The Department advised that *Lancelin lime sands supply 25% of the State's agricultural lime, and is the most economic resource for sustaining crop production on soils affected by acidity in the central and eastern wheatbelt*. According to the Department the Lancelin location provides for efficient transport to the wheatbelt, and feasible back-loading of wheat because of its proximity to Perth. Around 65% of farmers in the central and eastern wheatbelt are currently thought to be using lime sand from Lancelin.

According to Policy SPP 2.4, the Special Control Area provisions under local planning schemes should, where appropriate, include extractive industry as the only *permitted* use in priority resource areas designated on the policy map, although this does not preclude consideration of other compatible uses on a *discretionary* basis. The Policy also includes a presumption against the introduction of *sensitive* land uses which could be adversely affected by existing or potential future extractive industries, unless appropriate measures can be taken to ameliorate adverse impacts. Such (*sensitive*) uses are defined under the Policy to include *all forms of residential use*.

Policy SPP 2.4 provides that, in order to facilitate the exploitation of basic raw materials whilst supporting future long-term development for urban and other purposes, sequential land use planning should be a requirement, whereby extraction and rehabilitation can take place on a programmed basis in advance of longer-term use and development. The Department of Industry and Resources has advised that based on current extraction rates the resources could continue to provide limesand for many decades, although it supports the concept of sequential residential development following extraction.

The off-site impact of sand extraction operations coupled with the need for comprehensive planning of worked-out areas, could add substantially to the lead time associated with sequential residential development of mined-out areas, and would in all likelihood preclude any significant staged residential development until extraction of the resource is effectively completed. This is likely to be well beyond the current 2031 planning horizon on which the Structure Plan has been based, with one estimate of the operational time frame indicating lime sand extraction from this area could continue for a further 55 years.

Native Title

Advice has been sought and received by the proponent of the development of the *townsite expansion investigation area* in Lancelin South, concerning the Native Title implications for development of the ‘future urban’ area identified on the Structure Plan. According to that advice from Blake Dawson Waldron Lawyers, Native Title has probably been extinguished in respect of part, but not all of the land, with the possibility of Native Title remaining over that portion which remains as unallocated crown land.

While the existence of Native Title does not preclude urban development, the determination of any Native Title claim and any ensuing negotiations for property acquisition is likely to involve a considerable delay before any land were to become available for development. Any action to compulsorily acquire land for the purposes of urban development would need to commence with a notice of intention, and it is understood no such action has been commenced at the present time.

Reservation under TPS No 9

With the exception of a small area of land fronting on to Walker Avenue near the entrance to the town, all of the area identified as ‘future urban’ under the Structure Plan is currently reserved for *Parks and Recreation* under TPS No 8 and this reservation is proposed to be maintained under TPS No 9. However, it is understood there is no specific parks or recreation use for which this land has been currently identified, and the reservation has been applied largely in response to public ownership of the land.

In the event that any or all of the land identified as ‘*future urban*’ were to become available for development following resolution of the various constraints discussed above, it would need to be rezoned and an appropriate structure plan prepared as a prerequisite to urban subdivision.

Potential Urban Development

At such time as the basic raw material (limesand) extraction is complete, there is estimated to be an area of around 120 ha of land available for urban development, excluding those areas within the Priority 1 Public Drinking Water Source Protection Area and a 500 metre buffer around the existing waste-water treatment facility.

On the basis of standard R-20 subdivision and development, and allowing for normal infrastructure and services, this land has been estimated to have a population potential of around 3000 people.

However, it needs to be appreciated that the extraction of lime sand is likely to impose significant constraints on residential development of this land for a considerable time to come, and it doubtful whether any residential lots would be available for at least 10 years, with a possibility of a considerably longer time frame if extraction of the resource continues at its present rate. While extractive industry is being undertaken and until the wind-blown movement of sand is stabilized, there would be a need for a 300-500 m buffer to any future housing development.

5.3 Townsite Expansion Investigation Area (hatched in figure 3)

The bulk of the *townsite expansion investigation area* south of Lancelin Road, is zoned Rural (light green) under TPS No 8, while an area adjacent to the foreshore is reserved for Parks and Recreation (dark green) and comprises a foreshore reserve and existing 18-hole golf course together with associated recreational facilities. No significant changes are proposed under proposed TPS No 9, an excerpt from which is illustrated in figure 5.

Figure 5: Zoning as of townsite expansion area as proposed in TPS No 9



The *investigation area* itself is not subject to any Special Control Areas, although a Special Control Area (SCA-5) has been designated over the priority sand resource area immediately to the south, and the associated buffer requirements may constrain development of the southern and eastern portions of this land. No other significant resource or environmental constraints have been identified over the rural zoned land to the south of Lancelin Road.

The Local Planning Strategy which has been prepared in conjunction with TPS No 9 has ‘earmarked’ the Rural zoned land for:

. . . urban townsite expansion, subject to environmental assessment and Structure Planning, which addresses townsite links, function of urban area and employment.

It is noted on the Local Strategy Plan which accompanied proposed TPS No 9, that the proposed rezoning of this land (Amendment 85 to TPS No 8) was not previously supported by the WA Planning Commission, and has been held in obedience by the Minister pending the outcome of the Gingin Coast Structure Plan (which was in preparation at the time the Local Planning Strategy was completed but has since been published).

With the exception of the reserved portion of the *investigation area*, the bulk of the land in the identified area is in private ownership. The major owner (Mathews) has engaged planning consultants Taylor Burrell Barnett to progress the planning and development of this land holding in the form of a separate urban cell.

6. TOWNSITE EXPANSION PLAN (DRAFT)

6.1 Overview of draft Plan

A draft townsite expansion plan has been prepared by planning consultants Taylor Burrell Barnett (TBB) for the major land owner (Mathews), in association with Landcorp (which might be expected to play a major role in developing the substantial areas of crown land identified for urban expansion in the Structure Plan, if and when that land becomes available). In the event that some of the Parks and Recreation reserve within the investigation area were to be approved for urban expansion, Landcorp might also be expected to play a role in the development of that land.

A copy of the draft Expansion Plan is included as Appendix 2 to this report, and illustrates the relationship between the existing town site, the designated *future urban* area, the golf course and the townsite expansion investigation area of Lancelin South. The expansion area is divided into three distinct parts, being a short-medium urban cell, a long-term future growth area (to the east) and a tourist-residential area adjoining the foreshore. In addition, the draft Plan identifies a proposed new Composite Industrial Estate, on the north side of Lancelin Road immediately to the west of the sewerage treatment plant.

As discussed in the previous section of this report, the bulk of the land identified for *future urban* development under the Structure Plan (pink) has been identified as a priority resource area and is unlikely to be available for development within the current planning horizon of 2031. The draft Expansion Plan includes no detail as to how this area might be developed in the longer term.

6.2 Population capacity and staging

While a detailed structure plan for the Lancelin South area has yet to be finalised, based on the work undertaken to date by consultants TBB, an ultimate lot yield of up to 5000 has been estimated. This includes all of the investigation area, although approximately a third of the proponent's holding has been identified as a '*long term future growth area*'. Some reduction in developable land might also be expected as a consequence of the buffer requirements to protect priority sand resources immediately to the south.

On this basis, it might be expected that the medium term growth potential for Lancelin South would be around 2500-3000 lots which could accommodate a population of between 6000 and 7500 based on a projected occupancy of 2.5 persons per dwelling.

According to TBB consultants, the first stage of development would commence at the closest point of Lancelin South to the existing townsite, which is some 2.2 km from the edge of the existing town site. This initial stage is expected to provide around 300 lots, and incorporate a small convenience shop, community hall and POS.

The consultants TBB have accepted that housing development should take place within a reasonable time of lot sales, which would avoid the prospect of housing sites being taken up for purely speculative purposes, without housing development. It is understood such requirements are imposed by some of the larger residential land developers in the Perth metropolitan area, and could be enforced through a covenant in conjunction with subdivision approval.

6.3 Infrastructure

Developer contributions have been proposed to fund linkages to the existing town site and to the foreshore, via dual-use pathways, while the plan also shows a future direct road link with Ledge Point via Old Lancelin Road. According to consultants TBB, the timing of additional development stages would be determined by demand, and would include additional POS, a primary school and additional commercial facilities. Ultimate development is to include a high school, additional primary school(s) and a neighbourhood shopping centre.

Preliminary feasibility assessment has been undertaken by TBB consultants in relation to physical infrastructure, such as water and sewerage, which would be a prerequisite to any subdivision and development of the land for urban purposes. The consultant proposes water supply for the first stages of development will draw from the existing supply facilities servicing Lancelin, with separate extraction bores closer to the estate being provided in the longer term.

It has been suggested by TBB consultants that *greywater* from the Lancelin South development could be provided to the adjacent Lancelin Golf Course, which would facilitate the re-use of this waste-water and enable grass greens to replace the existing sand *greens*. This, together with a general upgrading of the golf course, would assist in making Lancelin and adjacent settlement areas a more desirable retirement and holiday location.

The Water Corporation has confirmed that existing sewerage treatment facilities (primary) could be expanded to accommodate the additional capacity required to service the South Lancelin development, and that reuse of (secondary) treated wastewater by way of sub-surface irrigation of recreational open space may be feasible, subject to satisfactory funding arrangements. These are matters that can be addressed in more detail at the Structure Planning stage.

6.4 Industrial development

In addition to the proposals for future residential development, the draft Expansion Plan shows an area to the north of Lancelin Road and immediately to the north of the proposed new residential cell as '*composite industrial estate live/work*'. The existing industrial area servicing Lancelin is situated adjacent to the entrance to the existing townsite, immediately to the east of Lancelin Road, and has now been zoned Mixed Business under the new TPS No 9. However, it remains as an essentially light-service industrial area.

No analysis has been presented in conjunction with the draft Townsite Expansion Plan to demonstrate the likely future demand for industrial land, but it might be expected that service industry of the type which characterises the existing industrial (mixed business) area would be the major use of future industrial sites. If this were to be the case, a consolidation of the existing industrial (mixed business) area may be preferable to a separated industrial estate.

Although the bulk of the existing industrial (mixed business) area is occupied, there is an opportunity for expansion of this area to the immediate south, and it is likely this could accommodate the development requirements in this sector for some years to come. Based on the economic profiling undertaken in conjunction with the Gingin Coast Structure Plan, it is likely the drivers of the economy and therefore development will continue to be dependent on fishing, agriculture and tourism, and no new industrial sector has been identified for the Lancelin locality.¹

¹ The Structure Plan identifies tourism as the major growth sector within the study area, with the majority of new jobs being in retail, accommodation and transport. Industrial growth according to the Structure Plan is expected to be in line with population growth, but on a limited scale, and likely to consist of light and service industry and other activities associated with a tourism and service-based economy. No significant growth has been identified for the primary sectors of fishing, agriculture, and mining, and the Structure Plan highlights the importance of conservation and environmental protection for the growth sector of tourism, and the potential adverse impact of ill-conceived industrial development.

With regard to the context for any new industrial area, there has been no indicative planning undertaken for the *future urban* area north of Lancelin Road, as shown on the Structure Plan, other than to identify constraints to urban and residential development. Until further more detailed planning is undertaken for this area, it would be premature to commit an isolated area of land for industrial development. It may be for example, that some of the mined out areas remaining after the completion of sand extraction are more suitable for industrial development than the site proposed in the draft Expansion Plan.

7. CONCLUSIONS

7.1 Demand for Residential Land

In order to accommodate the growth of Lancelin up to its forecast capacity of 10,000 population, there will be a need to provide approximately 3000 dwellings in addition to the existing housing stock. While a limited number of additional dwellings may be provided in the form of infill development within the current townsite, the bulk of these will involve the development of land outside the existing settlement area.

There is currently a severe shortage of available residential land in Lancelin, which is evident from the very limited number of vacant lots and the significant escalation in property values in recent times. In the past five years the median house price in Lancelin has risen by nearly 300% and outstripped house prices in the metropolitan area by around 30%.

While housing growth in the five years from 1996 to 2001 averaged around 1.9% pa compound, this has almost certainly decreased over the ensuing five years due to a shortage in vacant development sites. This has artificially constrained the growth of Lancelin, and significantly reduced the level of affordability for new residents wishing to move into the area.

7.2 Land Supply

The area identified in the Structure Plan for *future urban* expansion of Lancelin is severely constrained as a consequence of natural resources (underground water and lime sand) as well as being potentially subject to Native Title claim.

With the exception of the Public Drinking Water Source Protection Area, and a buffer around the existing wastewater treatment site, the remainder of the future urban area might be expected to become available for development once the limesand resource has been removed. However, this is unlikely to be for many years, and much if not all of this land is likely to remain unavailable for a considerable time due to the need for buffer protection associated with existing extractive industry operations.

At such time as the future urban land does become available, it will only have a capacity of around 1200 lots based on R-20 density standards, which is less than half the land requirement forecast for Lancelin at ultimate capacity under the Structure Plan. This capacity assumes development up to the edge of the Priority 1 Public Drinking Water Source Protection Area and a buffer to the south of this area to protect future residents from wind-blown dust and sand emanating from the shifting sand dunes to the north, would further reduce the potential lot yield of this area.

7.3 Townsite Expansion

Based on the investigation undertaken to date, the *townsite expansion investigation area* of Lancelin South appears to have very few if any constraints to its early development for residential and associated purposes. This land is in private ownership, appears not to present any insurmountable servicing difficulties, and the owner has expressed a willingness to develop the land and provide a range of commercial and community services, including providing land for additional primary and secondary schools and contributing towards the upgrading of existing recreational facilities.

The extent of the investigation area is however substantially larger than required to accommodate the additional population forecast under the Structure Plan, and not all of this land will be required for urban purposes within the current planning timeframe. Based on the constraints on the development of the future urban land for urban purposes, it is estimated a maximum of around two-thirds of the South Lancelin land would be required to meet the forecast demand for urban land up to the year 2031.

In the longer term at such time as the *future urban* land does become available, this could be expected to accommodate the on-going growth of Lancelin in the period beyond 2031.

7.4 Integration and Connectivity

Apart from the strategic importance of facilitating the expansion of Lancelin, the major issues to be considered in relation to the South Lancelin *townsite expansion investigation area*, are:

- its relationship with the existing township of Lancelin, and the settlement at Ledge Point, and
- the level of self sufficiency during the initial stages of its development.

The proponents of development of the major land holding in the Lancelin South area have sought to address the foregoing issues by highlighting the development of local services as well as connectivity with the existing townsite and the adjacent beach.

In this regard it is relevant to note that the closest point of the proponent's land to the edge of the existing town site is around 2.5 km by road while the distance to the town centre is around 4 km. By comparison, the closest point of the proponent's land to Ledge Point (based on the alignment of Old Lancelin Road) is around 3.5 km. The adjacent beach is around 800 metres from the western boundary of the Mathews land (as the crow flies).

Access through the adjacent golf course (which is interposed between the Mathews land and the beach) has also been suggested, with some rearrangement of fairways to facilitate access and the possibility of parts of the reserved (golf course) land being developed for residential purposes. The consultants TBB have suggested a system of dual use paths to link with the town and beach, and have indicated the proponent's preparedness to fund this infrastructure via some form of development contribution.

While it is generally more efficient and convenient arrangement to provide for contiguous urban expansion rather than a leapfrogging of development, there are circumstances in which discontinuous development is unavoidable, and may be acceptable. In the present circumstances the separation between the South Lancelin urban expansion area and the existing settlement is relatively small, and in the longer term (following removal of the limesand resource) there will be an opportunity for infill development between the two areas.

The physical extent of an expanded Lancelin township based on development of the South Lancelin area, would be comparable to other coastal settlements such as Dongara – Port Dennison which are of a similar scale to that planned for Lancelin. Subject to adequate local services being provided, and development proceeding within a relatively short space of time so as to support such services, there is no reason why the two sub-areas of Lancelin cannot work effectively together.

The demographic characteristics of each sub-area are likely to develop somewhat differently, with tourism and holiday accommodation being dominant within the existing townsite and permanent accommodation likely to be the mainstay of South Lancelin. Being situated approximately between the existing Lancelin townsite and Ledge Point, South Lancelin could complement services to both areas, and bring forward the date when facilities such as a high school could be supported.

7.5 Staging of Development

In the circumstances, the investigation area is considered suitable for the short to medium term expansion although the full extent of this area is unlikely to be required within the time frame of the Structure Plan (2031). Any application for rezoning of the land should be accompanied by a suitable local structure plan which satisfactorily addresses not only the standard matters such as design, land use, development and infrastructure, as listed in the Commission's draft Structure Planning provisions for inclusion in local planning schemes, but also addresses the following:

- Provision for adequate and timely developer contributions so as to facilitate the provision of service infrastructure, including particularly the construction of landscaped dual use paths by which future residents of the area can safely and conveniently access the existing town and its facilities via cycle and on foot;
- Assurances that provision will be made for subdivided lots to be developed with housing within a reasonable time of their creation and disposal (say within 3 years);
- Assurances that subdivisional development of the land will be progressed within a reasonable time of its rezoning, with the first stage being made available for sale within say 3 years, and additional stages being brought on stream within say 2 years of the first stage release.

The intention of these requirements would be to provide a self-contained, viable residential cell based on a primary school catchment (c. 1500 lots) within say 10 years of rezoning. This would avoid the creation of an isolated outlier development which is unable to support basic services such as a primary school and local commercial centre.² Early development of the area would contribute support for a high school, which would service Lancelin as well as adjacent areas, including particularly Ledge Point.

Based on the high growth scenario from Tables 3 and 4, the following growth is considered achievable for Lancelin and Ledge Point, assuming an adequate supply of serviced lots can be assured. The major growth driver is the area's attraction as a holiday and visitor destination for Perth residents, although as the area develops an increasing proportion of the population is likely to be permanent residents engaged in services or telecommuting and retirees.

Table 5: Lancelin - Growth in population and dwellings, 2001 to 2031

CENTRE	2001	2006	2011	2016	2021	2026	2031
Occupied Permanent	36%	38%	40%	42%	44%	46%	50%
Occupancy Permanent	2.3	2.2	2.1	2.0	2.0	2.0	2.0
Occupancy Holiday	4.0	3.8	3.6	3.4	3.2	3.0	3.0
Permanent Population	800	836	1109	1460	2024	2788	4000
Holiday Population	2475	2356	2850	3430	4120	4909	6000
Total Population	3275	3192	3959	4890	6144	7697	10000
Total Dwellings	967	1000	1320	1740	2300	3030	4000

Table 6: Ledge Point - Growth in population and dwellings, 2001 to 2031

CENTRE	2001	2006	2011	2016	2021	2026	2031
Permanent Population	144	205	292	416	592	843	1200
Holiday Population	499	618	765	948	1174	1453	1800
Total Population	643	823	1057	1364	1766	2296	3000
Total Dwellings	308	382	475	595	747	944	1200

² On the basis of current retail shopping standards, a basic primary school cell should be sufficient to support around 2000 m² of retail floorspace, which could include a small supermarket and a limited range of support facilities.

Table 7: Combined Lancelin - Ledge Point Growth, 2001 to 2031

CENTRE	2001	2006	2011	2016	2021	2026	2031
Total Population	3918	4015	5016	6254	7910	9993	13000
Total Dwellings	1275	1382	1795	2335	3047	3974	5200

7.6 Future Planning

The draft Townsite Expansion Plan prepared by consultants TBB provides a useful framework for more detailed planning for the expansion of Lancelin, and the evaluation of constraints which underlie the Plan are generally sufficient to justify the early development of the Lancelin South area. However, there will be a need to provide at least a concept plan for the area to the north of Lancelin Road as a prerequisite to any further significant development in that area. This includes particularly the proposal for a new *composite industrial estate* immediately to the north of Lancelin Road, in the vicinity of Lancelin South.

In terms of progressing the planning and development of Lancelin South, the next steps should include formal consultation with relevant landowners and the Shire with a view to fine-tuning a proposal to include appropriate land in a suitable *urban development* zone. This would need to be accompanied by a consolidated assessment of constraints, including any restrictions imposed as a consequence of the priority (sand) resource areas immediately to the south of the proponent's site.³

While not essential at the rezoning stage, the submission of a draft structure (outline development) plan for the whole of the area proposed for rezoning would assist in the consideration of any proposal for a scheme amendment, and would enable concurrent advertising of both the amendment and the structure plan. This would have the potential to streamline the planning of this area and address any questions of detail that may be raised in the assessment of the more general urban development rezoning proposal.

Because of the relative isolation of the Lancelin South site from the existing townsite, it will be necessary to pay particular attention to the issues of connectivity, staging of land release and development required to establish a viable urban cell. This will involve not only the provision of infrastructure and services to cater for the needs of future residents, but assurances that serviced lots will be developed within a reasonable period of their sale.

³ In conjunction with its submission of TPS No 9 for final approval, the Shire had sought the removal of the Special Control Area (SCA) over the priority resource (sand) location on the private land immediately to the south of the land designated '*long term future growth area*'. However, the Acting Minister has advised that such a change is not supported without a review of these resources in the Shire. In any event, there is no proposal to remove the SCA from the crown land immediately to the south of the '*short/medium term urban cell*'.

8. RECOMMENDATIONS

1. Note the constraints on area designated for *future urban* development, in particular the unsuitability of the Priority 1 Drinking Water Supply Protection Area for urban development and the strategic importance of the lime sand resources situated within the southern portion of the future urban area.
2. Note the substantial time delay likely to be involved in removal of the lime sand resources from the area identified for *future urban*, and the consequent delay in planning and development of that land for urban purposes.
3. Note suitability of the bulk of the *townsite expansion investigation area* for suburban development and the availability of this land for early subdivisional development. Note also the presence of priority sand resources to the south of this land and the need for a suitable buffer (300-500 m) to protect both the resource and future sensitive development (in particular housing) within the South Lancelin site.
4. Note the importance of connectivity between the townsite expansion area of South Lancelin, the existing Lancelin townsite and the adjacent foreshore, and the need for funding of appropriate dual-use pathways to facilitate such connectivity. Note also the proposal for a future direct link with Ledge point via Old Lancelin Road, as illustrated on the draft Townsite Expansion Plan.
5. Note the importance of timely local services for the townsite expansion area of South Lancelin and the need for these to be provided and/or funded in conjunction with development of this area. These include particularly the school(s), open space and commercial and community facilities.
6. Note the importance of timely and progressive subdivision and development of the townsite expansion area of South Lancelin, which will be required to support local services. Note particularly that such services will not be supported by speculative investment in serviced urban lots in the absence of housing construction.
7. Note the draft Lancelin Townsite Expansion Plan prepared by TBB Consultants in consultation with the major landowners in the townsite expansion area of South Lancelin. Note particularly that there will be a need to prepare an overall concept plan for the area north of Lancelin Road before allocating individual parts of this land for industrial or other urban development.
8. Subject to deletion of the proposed composite industrial estate from the area north of Lancelin Road, invite the proponent to seek the Shire's approval and/or comment on the proposal and undertake public consultation, prior to its submission to the Commission for consideration and/or endorsement (with or without modifications).

9. Invite the proponent to consult relevant land owners and the Shire with a view to re-zoning appropriate parts of the townsite expansion area of South Lancelin, to a suitable *urban development* zone, so as to provide the framework for appropriate Structure Planning, infrastructure provision, staging and development contributions.
10. Advise the proponent that in addition to the matters normally required to be addressed in the submission of a proposal for re-zoning and associated structure planning, the following issues should also be addressed:
 - (i) staging of subdivisional development and the provision of infrastructure and development contributions;
 - (ii) arrangements to ensure timely development of land for housing and associated facilities (commercial, community, schools, recreation);
 - (iii) arrangements for the progressive release of serviced lots to ensure the timely development of a viable urban cell with an appropriate level of commercial, community, educational and recreational facilities;
 - (iv) arrangements to ensure appropriate funding and timely construction of dual-use paths, to provide safe, convenient and landscaped access to the adjacent foreshore, township and existing commercial, community, recreational and educational facilities;
 - (v) arrangements for the funding and upgrading of existing community and recreational facilities (including golf course) which will service the townsite expansion and contribute to its attraction to a permanent resident population; and
 - (vi) arrangements for the recharge of storm water, re-use of wastewater and development of energy efficient housing.

APPENDIX 1: BRIEF FOR CURRENT INVESTIGATION

Background

In February 2006, the WAPC published the *Gingin Coast Structure Plan* in which land immediately to the east of the developed area of Lancelin was earmarked for '*future urban with a mix of uses*', while land to the south of the town was designated as a '*townsite expansion investigation area*'.

The *future urban* land to the east of Lancelin has some constraints associated with its availability for development in the short term. These include mineralisation (lime sands currently being extracted), the wastewater treatment plant and associated buffer, native title considerations and land fragmentation.

The land identified as '*townsite expansion investigation area*' to the south of Lancelin is largely in a single ownership, and significant planning work has been undertaken over that land by planning consultants Taylor Burrell Barnett (TBB) on behalf of the landowner with a view to proving up the land's suitability for urban development. Currently, TBB in association with Landcorp is developing the Lancelin Townsite Expansion Plan for eventual submission to the WAPC for endorsement.

The WA Planning Commission recognises that there is a demand for land in the Gingin coastal area, and wishes to see the area develop in an orderly and sustainable way. The preference, all things being equal, would be to develop land closest to existing infrastructure and services at Lancelin and other existing townsites. However, the constraints facing such townsite expansion may be sufficient to prevent this happening in the short term, in which case an alternative source of land supply in the Lancelin area would need to be brought on stream.

Task

The task is initially to undertake an assessment of the demand for land in this area taking into account existing supply, including both Lancelin and Ledge Point and to provide a guide as to the amount of land that may need to be provided over a timeframe such as five year intervals (the Structure Plan indicated that Lancelin could grow by between 5000 to 10000 from its 2001 population of 679, and Ledge Point could grow to between 1 000 and 3000 from 128 in 2001).

The consultant is required to undertake an independent and comprehensive view of the constraints to development of the land between the existing developed area of Lancelin and that land designated as "townsite expansion investigation area" on the Gingin Coast Structure Plan, including both the land designated as "future urban with a mix of uses" and land shown as "recreation reserves" on the Structure Plan.

The assessment of the constraints should include an opinion as to how long they may take to overcome, and therefore how long it may be before development could occur in that area. The consultant should also evaluate the potential impact of development outside the Lancelin townsite with regard to efficient provision of services and on existing development in the Lancelin townsite.

The expected outcome of the study will be recommendations regarding the coordination of future development of residential land development in this coastal area that will provide the Commission with a framework for future decision-making.

Information availability

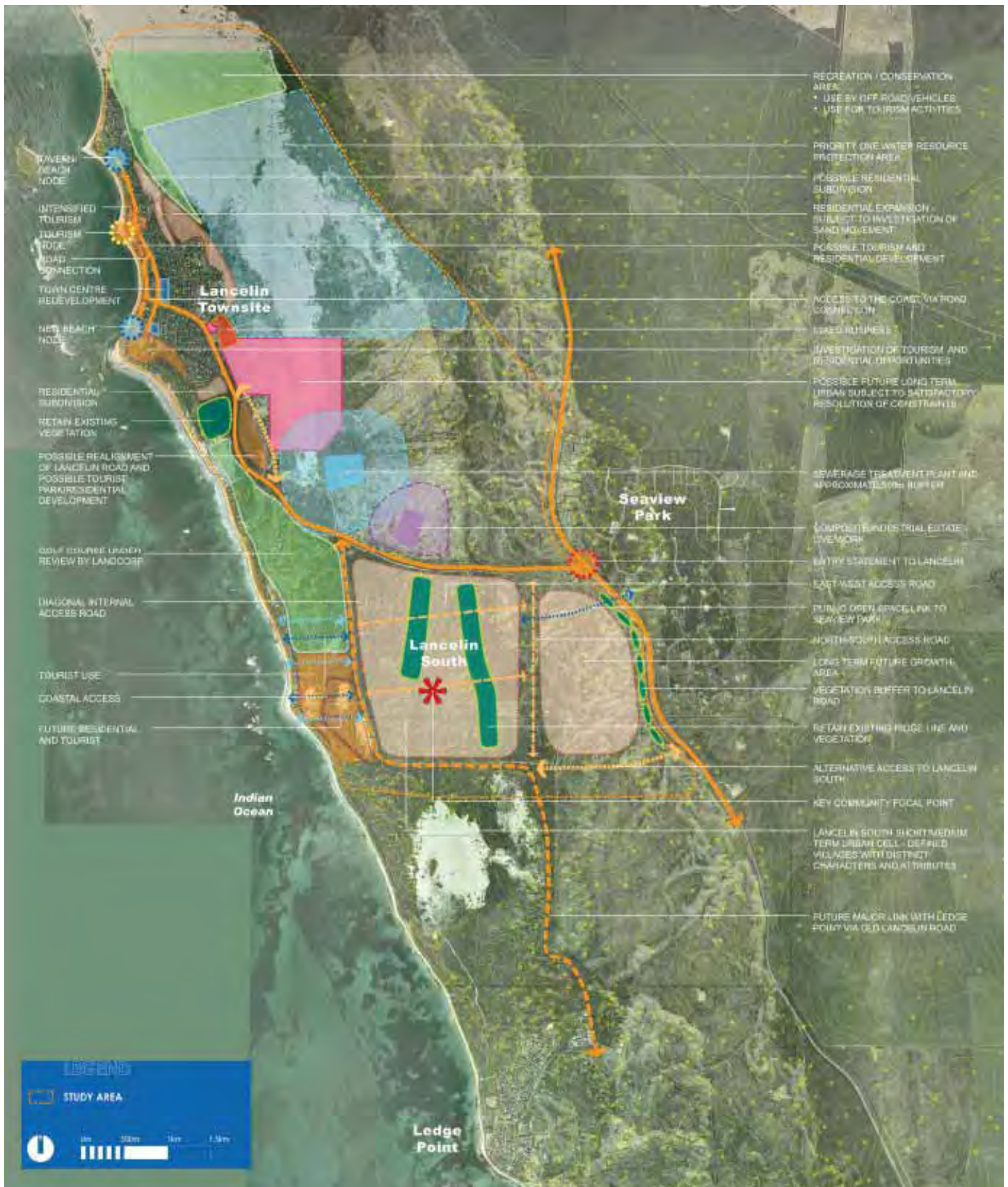
The background information that supported the production of the Gingin Coast Structure Plan will be made available, together with any relevant information that has been gathered by TBB in the production of the Lancelin Townsite Expansion Plan to date. There is also information held by the Shire of Gingin that was used to produce its local planning strategy and new town planning scheme (both yet to be finalised) that would assist in the completion of this study.

Consultation

In order to complete the task expeditiously, it is expected that consultation would be held with:

- DPI for advice on the Gingin Coast Structure Plan and the overall requirements for the study,
- the Shire of Gingin for advice on the town planning scheme and local planning strategy,
- the Department of Industry and Resources with respect to the lime sands extraction to the east of Lancelin,
- Landcorp with respect to the preparation of the Lancelin Townsite Expansion Plan, any proposals they may have for Ledge Point and any assessments as to the demand for land they may have made,
- The Water Corporation with respect to the Lancelin wastewater treatment plant,
- Taylor Burrell Barnett with respect to the Lancelin Townsite Expansion Plan and other work undertaken on behalf of the major landowner of the land south of Lancelin designated as "townsite expansion investigation area".

APPENDIX 2:DRAFT LANCELIN TOWNSITE EXPANSION PLAN





Our ref: 801/3/8/4PV
Your ref:
Enquiries: Phil Woodward (9264 7660)

Taylor Burrett Barnett
187 Roberts Road
SUBIACO WA 6008

Attention: Mr Lex Barnett

Dear Sir/Madam

LANCELIN TOWNSITE EXPANSION

I refer to the above. In this regard, the Commission advise that it is prepared to support the urban development of Lancelin South subject to an overall structure plan being prepared for the Lancelin, Lancelin South and Ledge Point area which, in addition to matters normally addressed in a structure plan, will address the following matters:

- a) The integration of Lancelin and Lancelin South and the capacity for Lancelin and Ledge Point to grow as separate and distinct communities.
- b) The priority to be given to maximising development and consolidation within the existing Lancelin and Ledge Point townships.
- c) The potential to use all or part of the golf course for urban use.
- d) The staging of subdivision and development, and the provision of infrastructure including arrangements for developer contributions.
- e) Arrangements to ensure the timely development of land for housing and associated facilities including commercial/industrial and community facilities, schools, recreation and dual use paths (or the upgrading of these);
- f) Provision for local employment including a review of the proposed composite industrial estate.
- g) The potential to relocate the waste-water treatment plant to provide residential land closer to the existing township.
- h) The identification of strategic tourist sites where permanent residents will be excluded as distinct from other tourist sites where a proportion of permanent residents may be permitted.
- i) Arrangements for the recharge of storm-water, re-use of wastewater and development of energy efficient housing; and
- j) Access to the coast.

Yours faithfully

for Moshe Gilovitz

Secretary

Western Australian Planning Commission

8 March 2007

APPENDIX G

Stakeholder Workshop

LANCELIN SOUTH – STRUCTURE PLAN WORKSHOP OUTCOMES REPORT

STAKEHOLDER WORKSHOP, 28 NOVEMBER 2006

DECEMBER 2006

Prepared for: **Lancelin Land Co**

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DOCUMENT HISTORY AND STATUS

Printed	27/02/2007 11:33:00 AM
Last Saved	27/02/2007 10:36:00 AM
Job Number	05/79
Author	Samuel Williams
Document Version	Rev 0

[illegible]

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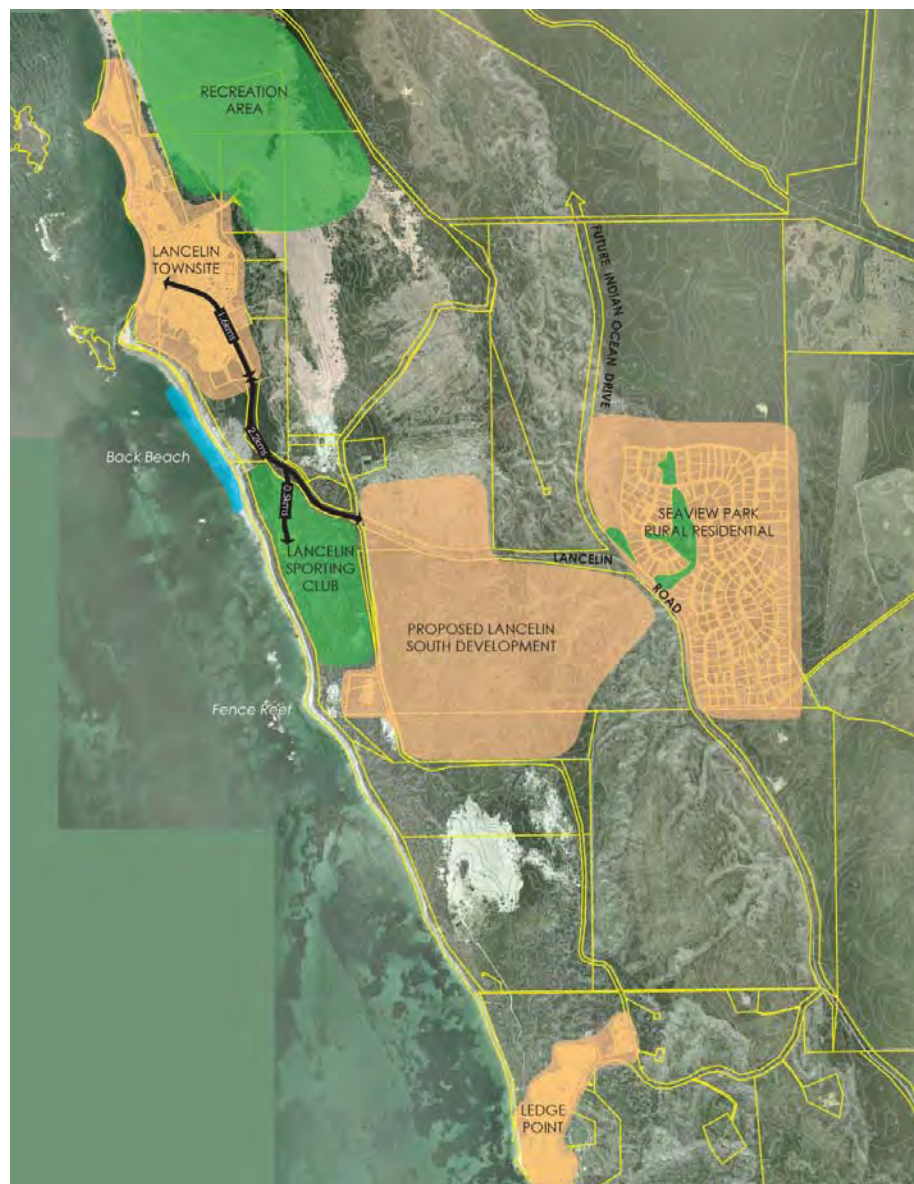
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1.0 INTRODUCTION

The Lancelin South Structure Plan Stakeholder Workshop was held in Lancelin on the 28 November 2006.

The major aims of the workshop were as follows:

- Introduce key stakeholders to the proposed Structure Plan and Outline Development Plan for Lancelin South.
- Provide stakeholders with a breakdown of the issues considered when preparing the Structure Plan
- Obtain comment from stakeholders based on the Structure Plan.



2.0 WORKSHOP PARTICIPANTS AND PROGRAMME

The workshop was held at the Lancelin Sport and Recreation Club and was attended by the following people:

Shire of Gingin	Cr Brian Manson Cr Anita Jarvis Mr Kelvin Oliver
Wheatbelt Development Commission	Mr Robert Panasiewich
DEC	Ms Jackie McGuire Ms Kathryn Schell
Tourism Commission of WA	Mr Lance Hardy
Lancelin Chamber of Commerce	Mr Martin Guggenheimer
Community Advisory Group	Ms Toni Jurinovich
Lancelin Golf Club	Mr Trevor Pond Mr Adrian Cobill Mr Vern Ferguson
LandCorp	Ms Kylie Coman
Creating Communities	Mr Allan Tranter
Lancelin Land Co.	Mr Les Caporn
Ecoscope	Mr David Kaeshagen
TABEC	Mr Jonathan Small
Taylor Burrell Barnett	Mr Lex Barnett Mr Sam Williams

The workshop programme involved a power point presentation (refer **Appendix A**), which provided the following:

- An overview of planning undertaken to date for Lancelin South and surrounds;
- The design criteria for the preparation of the Structure Plan;
- The presentation of the Structure Plan;
- Environmental and servicing considerations undertaken for the reparation of the structure plan.

This was followed by a session that divided the group into two sections, either Technical or Strategic/Community.

Each section raised a number of key statements/questions relating to the Structure Plan (refer **Appendix B**). A summary of the points raised is listed in Section 3.0.

3.0 WORKSHOP RESPONSES

3.1 Technical Stakeholder Responses

A summary of the outcomes based on the key statements/ questions relating to the technical matters are as follows

3.1.1 *Satisfaction with the Plan*

This statement asked the technical members how satisfied they were that the project principles had been incorporated into the plan to date. With respect to the project principles, we reiterated that these had been obtained from previous community consultation undertaken in the preparation of the Lancelin Townsite Expansion Plan.

The key items raised were as follows:

- There is a high demand for land in Lancelin and the Structure Plan and eventual development of Lancelin South will be able to meet this demand;
- The subject site is well located immediately east of the golf course and only a 2km from Lancelin Townsite;
- There should be a minimum timeframe for dwellings to be constructed on site.

3.1.2 *Strengths and Weaknesses*

The key items raised were as follows:

- The impacts the development will have on the surrounding environment, particularly the coast;
- Access from the development to Fence Reef needs to be ensured;
- The possibility of providing grey water generated from Lancelin South to the golf course;
- Integration of Lancelin South with the golf course;
- The provision of design guidelines to ensure built form maintains a certain standard.

3.1.3 *If anything, what improvements could be made to the plan*

The key items raised were as follows:

- Issues relating to Fire Management need to be covered through the preparation of a fire management plan. Also, the provision of fire fighting infrastructure;
- The provision of wildlife crossings through the greenlink;
- The plan needs to ensure that larger lots cannot be subdivided and the existing vegetation within the existing lots cannot be cleared.

3.1.4 *If anything, what more do you need to know*

The key items raised were as follows:

- Environmental requirements and confirmation they had been considered and addressed;
- How coastal management issues will be addressed;
- Will a dual use pathway be funded by the developer upfront?

3.1.5 *How do we bring the plan to fruition*

This statement asked the technical members their opinion on the requirements to bring the plan to fruition.

There was only one comment noted and this was that vegetation reporting should be thoroughly prepared to try and minimise any delays.

3.2 Strategic/Community

A summary of the outcomes based on the key statements/ questions relating to the technical matters are as follows.

3.2.1 *Project Principles*

There was a strong feeling that the plan fairly represents the principles that have been developed by the stakeholders and broader general community throughout the consultation process.

This was evidenced by the wildlife corridors, protection of ridge lines, maintaining the focus of the true Lancelin character in Lancelin while developing a complementary character for Lancelin South, having the major retail amenity still located in Lancelin as well as continuing to work with the Lancelin stakeholders in the further development of the plan.

3.2.2 *Strengths and Weaknesses*

As previously mentioned, there were a large amount of strengths with the plan given the focus on POS, additional industrial land, and the increase in population, which will facilitate in the provision of vital services such as schools, medical and the like.

It is also considered that the development of the estate will facilitate the provision of a number of services opportunities that include the following:

- Develop design guidelines to ensure a coastal theme in the estate
- Provide an opportunity for an aquarama (boat stacker) in the industrial area
- Develop an education attractor to the area through a focus on marine studies, fisheries, aqua-culture, lobster etc
- Create fish farms

It was considered that some potential additions to the plan could include as follows:

- Cemetery
- Airstrip
- Big recreation centre
- Cycleway to Lancelin
- Jetty
- Boat launching

Also, the process of encouraging affordable housing was also suggested as a good idea.

3.2.3 *How do we bring the plan to fruition*

To bring the plan to fruition it was decided that defining the role of Lancelin in the district/region must be undertaken and that role brought to life through working with the key stakeholders in both Lancelin and Lancelin South.

4.0 CONCLUSION

It was determined that based on the outcome of the workshop the co-consultants would reconvene to discuss any necessary modifications to be undertaken to the draft Structure Plan.

Following this, any suggested necessary modifications will be made and the plan circulated to stakeholders and community for comment and feedback. Comments will be assessed and incorporated into the final version of the plan prior to lodgement.

APPENDIX A

Workshop Programme



LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN

Key Stakeholder Workshop

28 November 2006

WORKSHOP FORMAT

- ☐ Process to Date
- ☐ Background
 - ☐ Proposed development site
 - ☐ LTEP
 - ☐ Lancelin South Planning Requirements
- ☐ Design of draft Outline Development Plan
 - ☐ Planning
 - ☐ Environmental
 - ☐ Servicing
- ☐ Lunch
- ☐ Discussion
 - ☐ The purpose of the workshop and your input
 - ☐ Where to from here

LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN PROCESS TO DATE

- Community and stakeholder involvement:
 - ▣ Community Open Day, 17-18 September 2005 for Lancelin Townsite Expansion Plan
 - ▣ Stakeholder Workshop, 12 December 2005
 - ▣ Various community newsletters



PROCESS TO DATE

- Key points raised:
 - ▣ The need for development to be sympathetic with the environment
 - ▣ Any development must retain the character of Lancelin
 - ▣ Development of untapped tourism opportunities
 - ▣ Development south of Lancelin is preferable
 - ▣ Additional schools
 - ▣ Integration with Lancelin Townsite
 - ▣ Coastal access

LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN BACKGROUND

Proposed Development Site Context

- ☐ Lancelin Townsite
- ☐ Lancelin South
- ☐ Lancelin Golf Course
- ☐ Seaview Park Estate
- ☐ Ledge Point
- ☐ Recreation area
- ☐ Distances
 - ▣ Lancelin South to Lancelin Townsite: 2.2 km
 - ▣ Lancelin South to Lancelin Town Centre: 3.8 km
 - ▣ Lancelin South to sporting club (via road): 1.7 km
 - ▣ Lancelin South to Ledge Point: 3.5 km
 - ▣ Lancelin South to beach: 800 m



LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN BACKGROUND

Lancelin Townsite Expansion Plan

- Derived as a joint planning exercise with LandCorp to examine the detailed townsite expansion of Lancelin and address opportunities and constraints to development
- Prepared in accordance with community and stakeholder feedback
- Key points of plan
- Status of plan



BACKGROUND

Lancelin South Planning Requirements

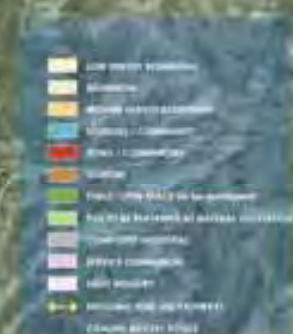
- ☐ Gingin Coast Structure Plan
- ☐ Detailed review of development locations
- ☐ Detailed planning for Lancelin South
 - ☐ Structure Plan/ODP
 - What is a Structure Plan?
 - Why do we need one?
 - What is an ODP and how does it differ from the Structure Plan?
- ☐ Rezoning
 - ☐ Town Planning Scheme 8
 - ☐ Local Planning Scheme 9

WORK IN PROGRESS

Lancelin South Structure Plan

- **Design Philosophy:**
 - Coastal Village Heritage
 - Natural Coastal Landforms
 - Development of Public Realm
 - Unique Architectural Style

OUTLINE DEVELOPMENT PLAN

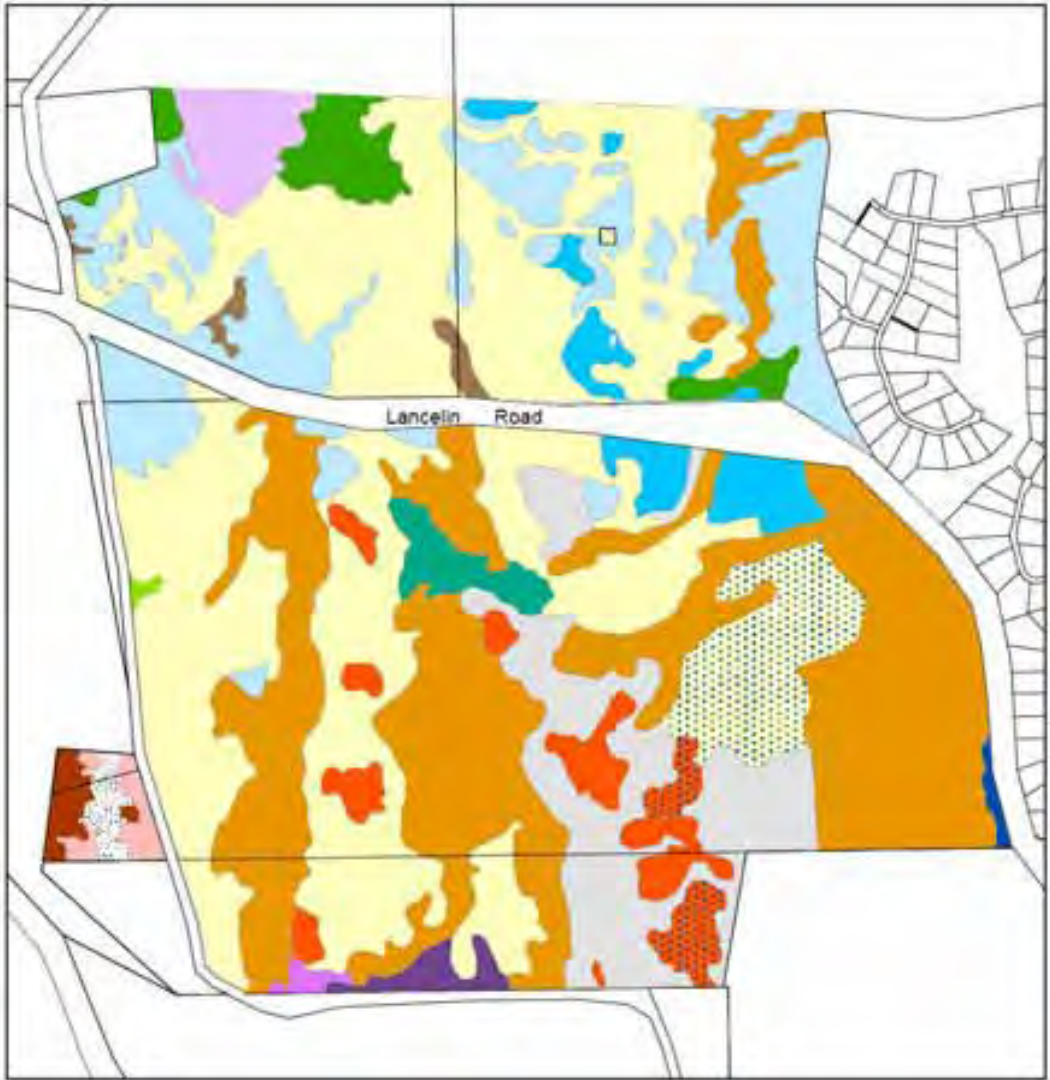


LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN DESIGN OF DRAFT OUTLINE DEVELOPMENT PLAN

- Planning aspects discussed in detail

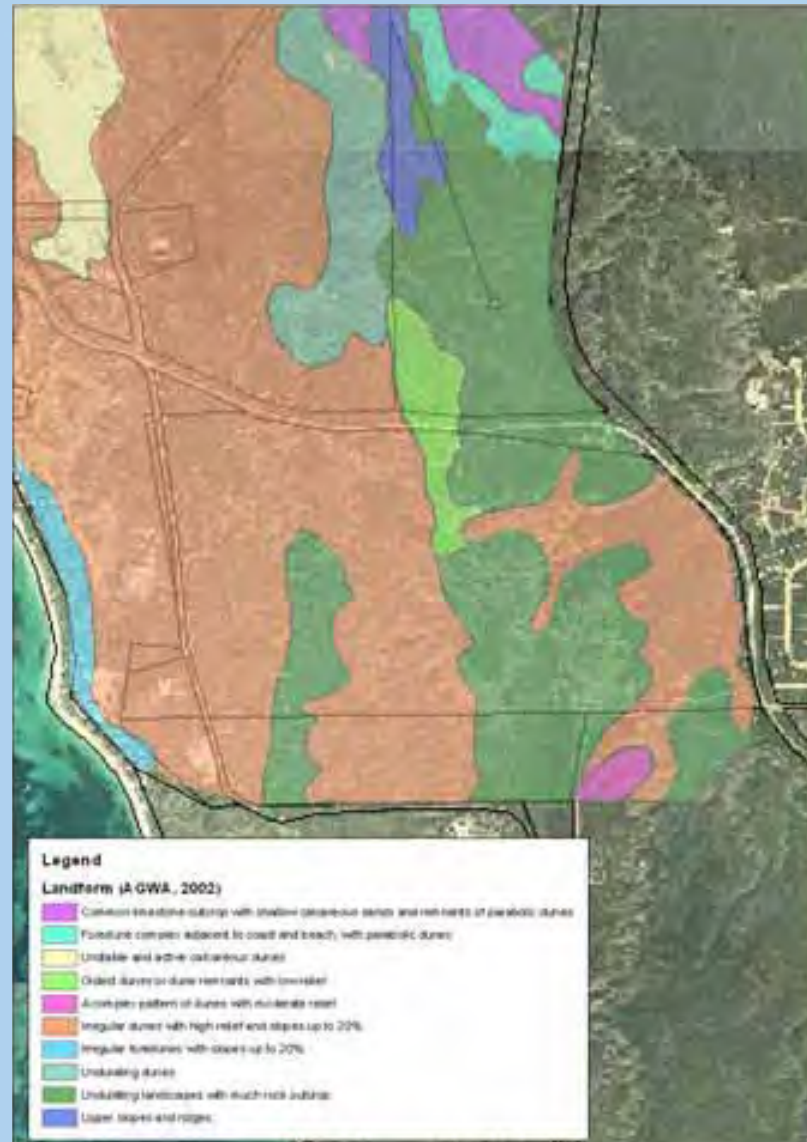


LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN



DESIGN OF DRAFT OUTLINE DEVELOPMENT PLAN

- Environmental aspects discussed in detail (cont)



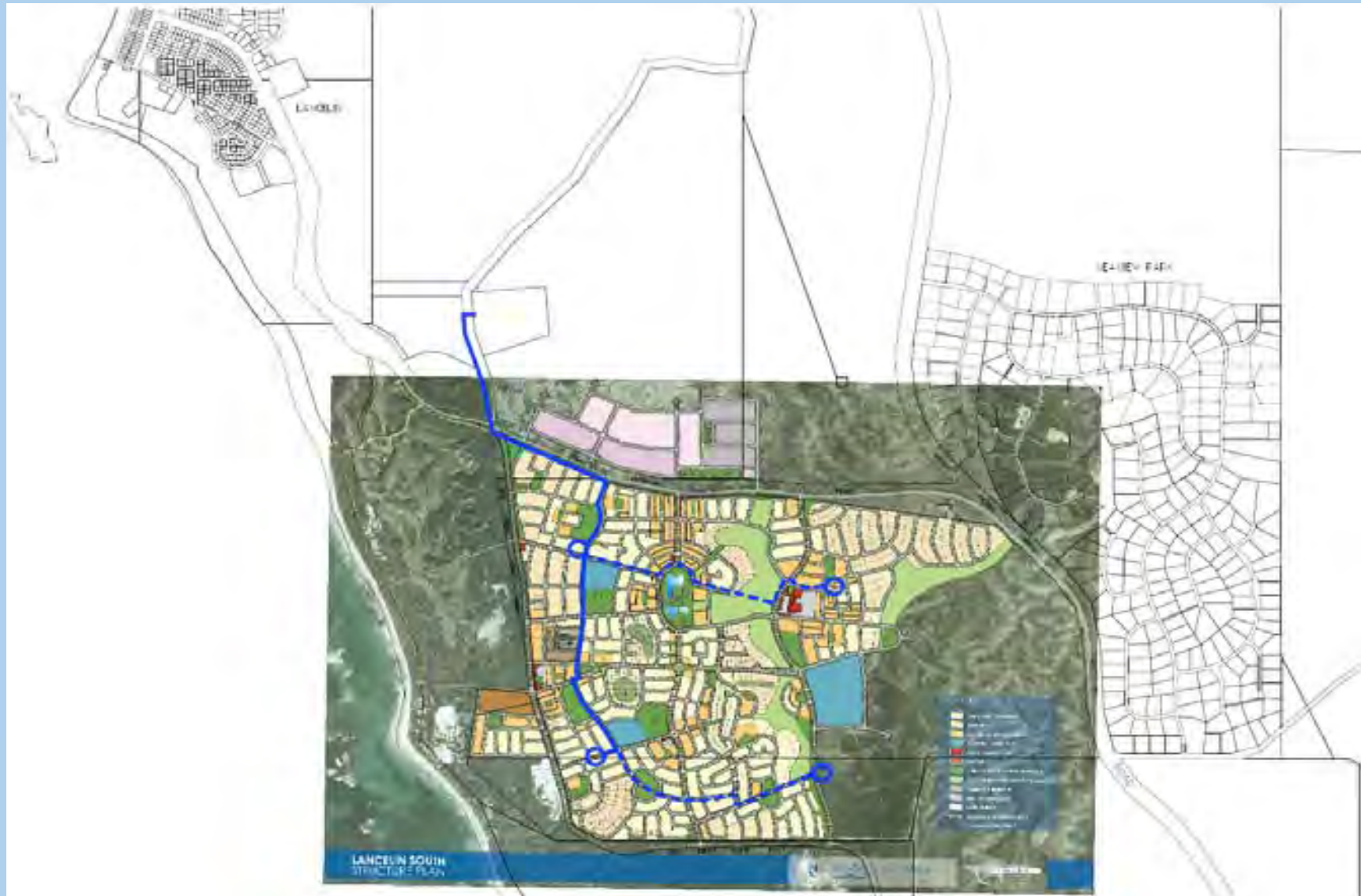
LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN DESIGN OF DRAFT OUTLINE DEVELOPMENT PLAN

□ Servicing – Roads & Drainage



LANCELIN SOUTH OUTLINE DEVELOPMENT PLAN DESIGN OF DRAFT OUTLINE DEVELOPMENT PLAN

□ Servicing – Waste Water



DESIGN OF DRAFT OUTLINE DEVELOPMENT PLAN

□ Servicing – Water Reticulation



TECHNICAL STAKEHOLDERS

- ☐ How satisfied are you that the project principles have been incorporated into the plan to date?
- ☐ What are the strengths and weaknesses of the plan from your technical perspective?
- ☐ What needs to be done so the plan can be completed?
- ☐ What more do you need to know?
- ☐ How do we bring this plan to fruition?

COMMUNITY STAKEHOLDERS

- ☐ How satisfied are you that the project principles have been incorporated into the plan to date?
- ☐ What are the strengths and weaknesses of the plan from a community perspective?
- ☐ How can we take advantage of this process for the entire community of Lancelin?
- ☐ How do we bring the plan to life?

WRAP UP OF DISCUSSION

LUNCH TIME

DISCUSSION

- ☐ The purpose of the workshop and your input
- ☐ Where to from here

APPENDIX B

Structure Plan- Key Statements/Questions

Lancelin South- Key Stakeholder Workshop

Technical Stakeholders

How satisfied are you that the project principles have been incorporated into the plan to date?

What are the strengths and weaknesses of the plan from your technical perspective?

If anything, what needs to be done so the plan can be completed?

If anything, what more do you need to know?

How do we bring this plan to fruition?

Lancelin South- Key Stakeholder Workshop

Community/ Strategic Stakeholders

How satisfied are you that the project principles have been incorporated into the plan to date?

What are the strengths and weaknesses of the plan from a community perspective?

How can we take advantage of this process for the entire community of Lancelin?

How do we bring the plan to life?

APPENDIX H
Community Benefit - Deed of Agreement

DATED _____ 2001

JOSEPH BECK MATTHEWS

AND

SHIRE OF GINGIN

DEED

McLEOD & CO
SOLICITORS
220-222 STIRLING HIGHWAY
CLAREMONT WA 6010
Telephone: 9383 3133
Facsimile: 9385 2693
Reference: McL/N8 12063
(cs/d)

© McLeod & Co

THIS DEED is made the 6th day of March 2001

B E T W E E N :

JOSEPH BECK MATTHEWS of Abilene,)
Texas in the United States of America)
("the Developer"))

A N D

SHIRE OF GINGIN of 7 Brockman Street,)
Gingin in the State of Western Australia)
("the Shire"))

TAX INVOICE - ABN 45 320 599 544
WESTERN AUSTRALIA STAMP DUTY
19/03/01 13:13 001648293-002
DUP \$ ***** 5.00
O/S \$ *****\$5.00

R E C I T A L S :

- A. The Developer is registered as the proprietor of an estate in fee simple in the land described in Item 1 of the Schedule hereto ("the Land").
- B. The Land is situated within the district of the Shire and is the subject of the Lancelin Coastal Village Structure Plan ("the Structure Plan") which has been approved by the Council of the Shire ("the Council") and a copy of which is annexed hereto as Annexure 1.
- C. The Council is contemplating rezoning the Land from "Rural" to "Urban Development" ("the Rezoning") to enable the development of a residential community within the area of the Structure Plan.
- D. On 18 July 2000 the Council resolved as follows:

- “1. Where Council is satisfied that an adequate mechanism for community facility provision has been achieved, Council is unlikely to insist on a staged rezoning of the structure plan area;
2. Council accepts the applicant’s suggestion for a managed strategy, whereby a community facilities contribution for facilities within the development is made on a per lot basis, matched by the local authority, and paid into a Reserve fund.
3. A Deed of Agreement would need to be prepared by Council’s solicitors, with legal costs shared equally between both parties, and should include:
 - (a) Common understanding that the agreement is based on the Lancelin Coastal Village Structure Plan and any urban development zoning and subdivision that may occur within the context of this Plan;
 - (b) Details for establishment of a Reserve Fund and the management structure for this fund, with Council being the administrator of the Reserve. A Community Management Group will be established and constituted as an advisory committee of Council, and will make recommendations to Council with respect to expenditure from this Reserve;
 - (c) Statement of purpose, namely, the establishment of a mechanism for the funding and staged implementation of community facilities to service the Lancelin Coastal Village Structure Plan area;
 - (d) A list of possible community facilities;
 - (e) A mutual commitment to contribute the equivalent of a single vacant lot minimum annual residential rate, payable into the Reserve Fund upon the sale of each lot within the subdivision area;
 - (f) Other contingencies considered necessary by Council solicitors.

- (g) A commitment from the developer to the provision of maritime facilities and coastal access links through the recreation reserve.”

(“the Conditions”)

- E. The Council requires the Developer to enter into this Deed to address the Conditions prior to the Council initiating the Rezoning.

OPERATIVE PART:

1. INTERPRETATION

Interpretation

Unless expressed to the contrary:

- (a) words importing:
 - (i) the singular include the plural and vice versa;
 - (ii) any gender include the other gender;
- (b) if a word or phrase is defined cognate words and phrases have corresponding definitions;
- (c) a reference to:
 - (i) a person includes a firm, unincorporated association, corporation and a government or statutory body or authority;

- (ii) a person includes its legal personal representatives, successors or assigns;
- (iii) a statute, ordinance, code, regulation, award or other law includes regulations and other statutory instruments made or issued under them and consolidations, amendments, re-enactments or replacements or any of them;
- (iv) a right includes a benefit, remedy, discretion, authority or power;
- (v) an obligation includes a warranty or representation and a reference to a failure to observe or perform an obligation includes a breach of warranty or representation;
- (vi) provisions or terms of this Deed or another document, agreement, understanding or arrangement include a reference to both express and implied provisions and terms;
- (vii) time is to be local time in Perth, Western Australia;
- (viii) "\$" or "dollars" is a reference to the lawful currency of Australia;
- (ix) this or any other document includes the document as varied or replaced and notwithstanding any change in the identity of the parties;
- (x) writing includes any mode of representing or reproducing words in tangible and permanently visible form, and includes facsimile transmissions;
- (xi) any thing (including, without limitation, any amount) is a reference to the whole or any part of that thing and a reference to a group of things or persons is a reference to any one or more of them.

Headings

Headings do not affect the interpretation of this Deed.

Schedule

The Schedule and Annexures form part of this Deed.

2. ACKNOWLEDGEMENTS AND COVENANTS RELATING TO REZONING AND SUBDIVISION

2.1 The Developer HEREBY ACKNOWLEDGES that the Shire's agreement to initiate the Rezoning is based on the provisions of the Structure Plan and the Shire being satisfied that:

- (a) an adequate mechanism for the provision of community facilities is put in place;
- (b) adequate and appropriate reserve funds are established to be administered by the Shire with advice being provided by a community management group as an advisory committee to the Council on the allocation and expenditure of funds from the reserve fund relating to the community facilities.

2.2 The Developer agrees with the Shire that:

- (a) within three years of the date of gazettal of the Rezoning, the Developer must:
 - (i) seek and obtain approval from the Western Australian Planning Commission for the Subdivision;

- (ii) act on the Subdivision approval by commencing and using its best endeavours to complete the development works contemplated by the conditions of Subdivision approval; and
 - (iii) use his best endeavours to comply with and obtain certificates of clearance for the conditions of subdivision approval.
 - (b) If the Developer does not comply with subclause 2.2(a) the Shire may again rezone the Land without complaint from or liability to the Developer;
- 2.3 The Shire agrees that if the Developer is unable to comply with subclause 2.2(a) because of delay which in the opinion of the Shire is not attributable to the Developer, the Shire will allow a further period of time that the Shire considers reasonable to enable the Developer to fulfil his obligations under subclause 2.2(a).
- 2.4 The Developer acknowledges that nothing in this Deed affects or purports to fetter the statutory discretion of the Shire.

3. DEVELOPER'S COVENANTS

In consideration of the Shire agreeing to initiate the Rezoning the Developer HEREBY COVENANTS AND AGREES with the Shire that:

- 3.1 any subdivision and development of the Land shall be in accordance with the Structure Plan and the requirements of the Shire;

Community Facilities

- 3.2 he will facilitate the establishment by the Shire of a reserve fund ("the Community Facilities Fund") in accordance with the provisions of the Local Government Act 1995 from which funds will be drawn for the construction

and/or maintenance of community facilities ("the Community Facilities") to service each part of the Structure Plan area as it is created by the subdivision of the Land ("the Subdivision");

- 3.3 on the sale of the fiftieth (50th) lot forming part of the Subdivision he will establish a community management group which will be created as an incorporated association ("the Community Association") the rules of which must be satisfactory to the Shire and which will become an advisory committee to the Council to make recommendations with respect to expenditure from the Community Facilities Fund for the provision of the Community Facilities;
- 3.4 he will ensure that the rules of the Community Association provide inter alia:
- (i) that the purchaser or occupier of any residential lot within the Subdivision will be eligible to become a member of the Community Association; and
 - (ii) that a committee be elected and that membership of the committee shall include one Councillor of the Council and an officer of the Shire both appointed by the Council and a representative of the Developer; and
 - (iii) that the committee of the Community Association must liaise with the Shire in regard to the construction and cost of the Community Facilities specified in the Structure Plan Report for each part of the Subdivision as that part of the Subdivision is created;
- 3.5 on the sale of each residential lot within the Subdivision the Developer will contribute to the Community Facilities Fund an amount equivalent to the single vacant lot minimum annual residential rate applicable at the time of sale;
- 3.6 the Community Facilities will be constructed in accordance with priorities set by the Shire in consultation with Developer and the Community Association, or, when the Developer is no longer involved, the Community Association, and

although the Shire shall have due regard to the recommendations of the Community Association, it shall not be bound to draw funds from the Community Facilities Fund in accordance with any recommendation made to it.

- 3.7 in the event that the Community Association becomes defunct or ceases to operate effectively because of lack of membership then the Shire shall be the sole arbiter of the need for Community Facilities and shall have the power to draw on the Community Facilities Fund for the construction and/or maintenance of the Community Facilities;

Maritime Facilities

- 3.8 (i) the Developer on the sale of each residential lot within the Subdivision shall contribute the amount specified in paragraph (ii) of this clause into another reserve fund ("the Maritime Facilities Fund") under the control of the Shire and the monies in the Maritime Facilities Fund shall be used for the construction and/or maintenance by the Shire of maritime facilities in the Upper Coastal Ward within the local government district of the Shire which maritime facilities may include, without limitation, boat launching facilities and boat launching facility access as and when determined necessary by the Shire.
- (ii) in the 2001 calendar year the Developer shall contribute \$140 to the Maritime Facilities Fund upon the sale of a residential lot within the Subdivision, and in each subsequent calendar year the amount to be contributed shall be increased cumulatively by an amount proportional to the percentage annual increase in the minimum single vacant lot annual residential rate.

Link Road and Coastal Facilities

- 3.9 he will prepare and submit to the Shire prior to the Subdivision of the Land a Coastal Access and Development Plan to the satisfaction of the Shire showing:
- (i) the pedestrian/vehicular link shown in the Structure Plan for access from the Land to the coast ("Link Road"); and
 - (ii) provision for beach-front vehicle parking and associated infrastructure and facilities ("Coastal Facilities").
- 3.10 the construction of the Link Road and Coastal Facilities will include a dual use path incorporated with the Link Road, provision for and construction of power and telephone services, pathway access to the beach and two beach carparks with a total of 80 car bays.
- 3.11 subject to obtaining all necessary approvals, he will construct the Link Road and Coastal Facilities (including the associated infrastructure referred to in clause 3.10) in accordance with the Coastal Access and Development Plan referred to above as modified from time to time by the Developer with the written approval of the Shire;

Expenditure by Shire

- 3.12 if, for any reason the funds held by the Shire in the Community Facilities Fund or the Maritime Facilities Fund are in the opinion of the Shire in excess of that required for the reasonable construction and/or maintenance of the Community Facilities or the Maritime Facilities, the Shire may expend monies from either Fund at its absolute discretion towards any developments or works within the Upper Coastal Ward, whether or not the expenditure is connected with the Subdivision.

4. **NO DISPOSAL**

The Developer must not sell, agree to sell, transfer, mortgage, lease, charge, assign or otherwise dispose of or encumber any part of the Land in its englobo state to any person without the prior written consent of the Shire which consent will not be withheld if the person to whom any such right or interest in the Land is to be granted has first executed a deed of covenant to be prepared by the Shire's solicitors at the cost of the Developer or such person whereby that person covenants to observe and perform such of the covenants, conditions and stipulations herein contained (including this covenant) as the Shire shall require as if that person had been a party to this Deed.

5. **CHARGE AND CAVEAT**

5.1 The Developer HEREBY CHARGES his interest in the Land in favour of the Shire with the performance of his obligations set out in this Deed and with the payment of all or any monies payable or which may become payable by the Developer to the Shire pursuant to this Deed and for the purpose of securing the same authorises the Shire to lodge an absolute caveat at the Department of Land Administration against the Land or any part thereof in order to protect the rights and interests of the Shire under this Deed

5.2 Providing there is no existing unremedied breach of this deed and provided that the developer complies with clause 4 herein, the Shire shall at the written request of the Developer provide an executed withdrawal of caveat to permit the registration of a mortgage over the Land to raise development funds in respect of the Land, with the Shire having a right to replace such caveat immediately following registration of such mortgage.

6. **SHIRE'S COVENANTS**

In consideration of the Developer agreeing to undertake the obligations set out in this Deed the Shire HEREBY COVENANTS AND AGREES with the Developer that:

6.1 it shall on the execution of this Deed by the Developer initiate the Rezoning;

- 6.2 if the Rezoning and Subdivision are achieved it shall set up and administer the Community Facilities Fund and Maritime Facilities Fund in accordance with the provisions of the Local Government Act;
- 6.3 on the sale of each residential lot within the Subdivision it will contribute to the Community Facilities Fund an amount equivalent to the single vacant lot minimum annual residential rate applicable at the time of sale;
- 6.4 it shall recommend clearance of conditions of subdivision approval where:
- (a) the provisions of this Deed; and
 - (b) the conditions of the subdivision approval
- have been satisfied;
- 6.5 it shall if the provisions of the Local Government Act permit accept the office bearers or nominated members of the Community Association as an advisory committee of the Council making recommendations with respect to expenditure from the Community Facilities Fund for the construction of Community Facilities; and
- 6.6 the Link Road may be constructed on a staged basis consistent with the level of development of the Subdivision as determined by the Shire.

7. COSTS

The costs of and incidental to the preparation (including drafts) execution and stamping of this Deed and all stamp duty payable hereon shall be shared equally between the Developer and the Shire and the cost of preparing and lodging any caveat lodged pursuant to the terms of this Deed and any withdrawal or replacement thereof shall be borne by the Developer.

ANNEXURES

Annexure 1: Copy of the Structure Plan.

APPENDIX I
Landscape Masterplan
(Plan E)



LANCELIN - STRUCTURE PLAN

LANDSCAPE MASTERPLAN

NORTH

DWG No. MP-01 B

JOB No.06079-01

FEBRUARY 2007

PLAN E

414 Rokeby Road
Subiaco WA 6008
Australia
Telephone (08) 9388 9566
Facsimile (08) 9388 9577
Email mail@plane.com.au

LANDSPACE PTY LTD ACN 008 538 879 TRUSTEE FOR THE BRT LAND TRUST

APPENDIX J
Focal Open Space
(Plan E)



PICNIC AREAS



PLAYGROUND



SHELTER



ARTWORK



- **VIEW CORRIDORS**
Retain view corridors & include features on these axes.

OPEN GRASSED AREA ALONG VIEW CORRIDOR

- **OPEN SPACE**
Include large open spaces for informal active recreation around the feature lake

SHADED PICNIC AREA

- **POS CONNECTIONS**

Emphasise pedestrian access points into the POS with the use of strong axes, created with both visual and physical features.

ACCESS TO PUBLIC ACCESS WAYS

SHADED PLAYGROUND

- **PLAYGROUND & PICNIC AREA**

Locate playground area close to high density residential, still allowing views and access to the lake and open space

- **SITE HISTORY**

Existing well site and tuart trees on site to be treated as a significant historical site, including walking trails and interpretive signage.



EXISTING WELL

- **DUAL USE PATH**

Meandering dual use path in and around the POS, with connections to surrounding public open spaces and public access ways.



EXISTING SITE



EXISTING TUART TREES



GRASSED OPEN SPACE

TUART TREES

- **LAKE**

Lake has been designed with both formal and 'natural' edge treatments, including pedestrian access and seating areas overlooking the lake and aerator fountain

NATURAL EDGE TREATMENT TO LAKE

LAKE AERATOR

BOARDWALKS AROUND AND OVER LAKE

DUP MEANDERING UP TO THE EXISTING RETAINED LANDSCAPE

SEATING NODE WITH ARBOR OVERLOOKING LAKE

- **PLANTING**

Planting is proposed for along the edge of POS to blend in with the adjacent retained existing landscape, and to create a variety of spaces within the park that can be discovered.

NATIVE PLANTING TO CREATE A COASTAL FEEL



COASTAL VEGETATION

TERRACED LANDSCAPE



PAVILION STRUCTURE AT INTERSECTION OF TWO AXES

- **AMPHITHEATRE**

Utilise the slope of the site and create grassed terraces with views down to the lake and informal performance space

STAGE FOR INFORMAL PERFORMANCES



SCALE OF SPACE



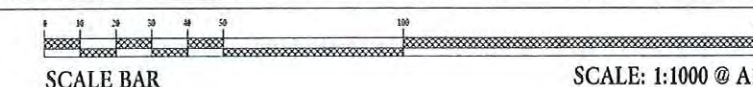
SEATING OVERLOOKING WATER FEATURE



LANCELIN - FOCAL OPEN SPACE

LANDSCAPE CONCEPT PLAN

NORTH DWG No. SK-01 B JOB No.06079-01 FEBRUARY 2007



PLAN E

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APPENDIX K
Structure Plan Traffic Overview
(Riley Consulting)

SOUTH LANCELIN

STRUCTURE PLAN TRAFFIC OVERVIEW

January 2006



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Perth WA 6000

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Issued on	29-01-07	Date
Version	V1	
Reference	391	

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- 1.0 EXECUTIVE SUMMARY
- 2.0 THE SITE AND SURROUNDING ROAD NETWORK
- 3.0 TRAFFIC GENERATION AND DISTRIBUTION
- 4.0 TRAFFIC IMPACT
- 5.0 ACCESS
- 6.0 INTERNAL ROAD NETWORK
- 7.0 PEDESTRIANS, CYCLISTS AND PUBLIC TRANSPORT

1.0 EXECUTIVE SUMMARY

Riley Consulting has been commissioned to consider the traffic issues associated with the development of 3,500 residential lots and 118 commercial lots on land south of Lancelin. The pertinent findings of this report are:

- The development of the Indian Ocean Drive can be expected to increase current traffic movements on Lancelin Road south of Lancelin. At the time Indian Ocean Drive is constructed, Lancelin Road to the town site should be reduced to a 90kph speed limit. At the time that development fronts Lancelin Road, it is recommended that the speed be reduced to 80kph.
- The traffic generation of the proposed development is based on current census data for Lancelin and therefore assumes a similar level of permanent and holiday home use. Overall the development could generate up to 14,000 vehicle movements per day.
- Analysis of the surrounding road network indicates that Indian Ocean Drive and Lancelin Road will continue to operate with acceptable Levels of Service. The analysis does not consider the potential future link between the subject land and Ledge Point, which can be expected to reduce traffic accessing Lancelin Road.
- Access to Lancelin Road has been reviewed and appropriate visibility can be achieved. All accesses are indicated to operate with priority control. The eastern most access is recommended to be provided with a painted median to increase its presence and warn drivers of the changing nature of Lancelin Road. Both left and right turn lanes are recommended for all accesses.
- All internal roads are indicated to operate with acceptable levels of traffic for their classification. Two roads are classified as neighbourhood connectors to provide clarity through the estate. All other roads are classified as access streets and generally operate with less than 1,500 vehicle movements per day.

2.0 THE SITE AND SURROUNDING ROAD NETWORK

Lancelin is a small fishing community situated on the Indian Ocean about 125 kilometres north of Perth. The current population is in the order of 800 people and can increase to about 2,500 at Christmas and Easter. The population increases to about 8,000 for the four-day windsurfing event held in January. Figure 1 shows the location of the site in relation to the regional road network



Figure 1 Site Location

Roads of importance to the region are considered below.

Lancelin Road

Lancelin Road is a regional distributor road linking Lancelin to Perth and the regional road network. It is in effect a cul-de-sac and only 4WD access is provided north of Lancelin townsite. The road is constructed to a rural standard with a 9.0 metre sealed pavement and a gravel edge.

Traffic data has been provided by Main Roads showing a daily flow of 650 vehicles per day (vpd) during a typical weekday. During the holiday periods (Easter) the traffic data shows a

Indian Ocean Drive

- Forecast Indian Ocean Drive flow (north of Lancelin Road) 875vpd

4WD Access Only

Proposed Indian Ocean Drive

650vpd Weekday
830vpd Holiday
2,500vpd Peak Holiday Weekend

[Link to Brand Highway](#)

Ledge Point - commercial rock lobster fishing, windsurfing, fishing and swimming.

¹ The Indian Ocean Drive Economic and Social Impact Study, Pracsys Management Consultants.

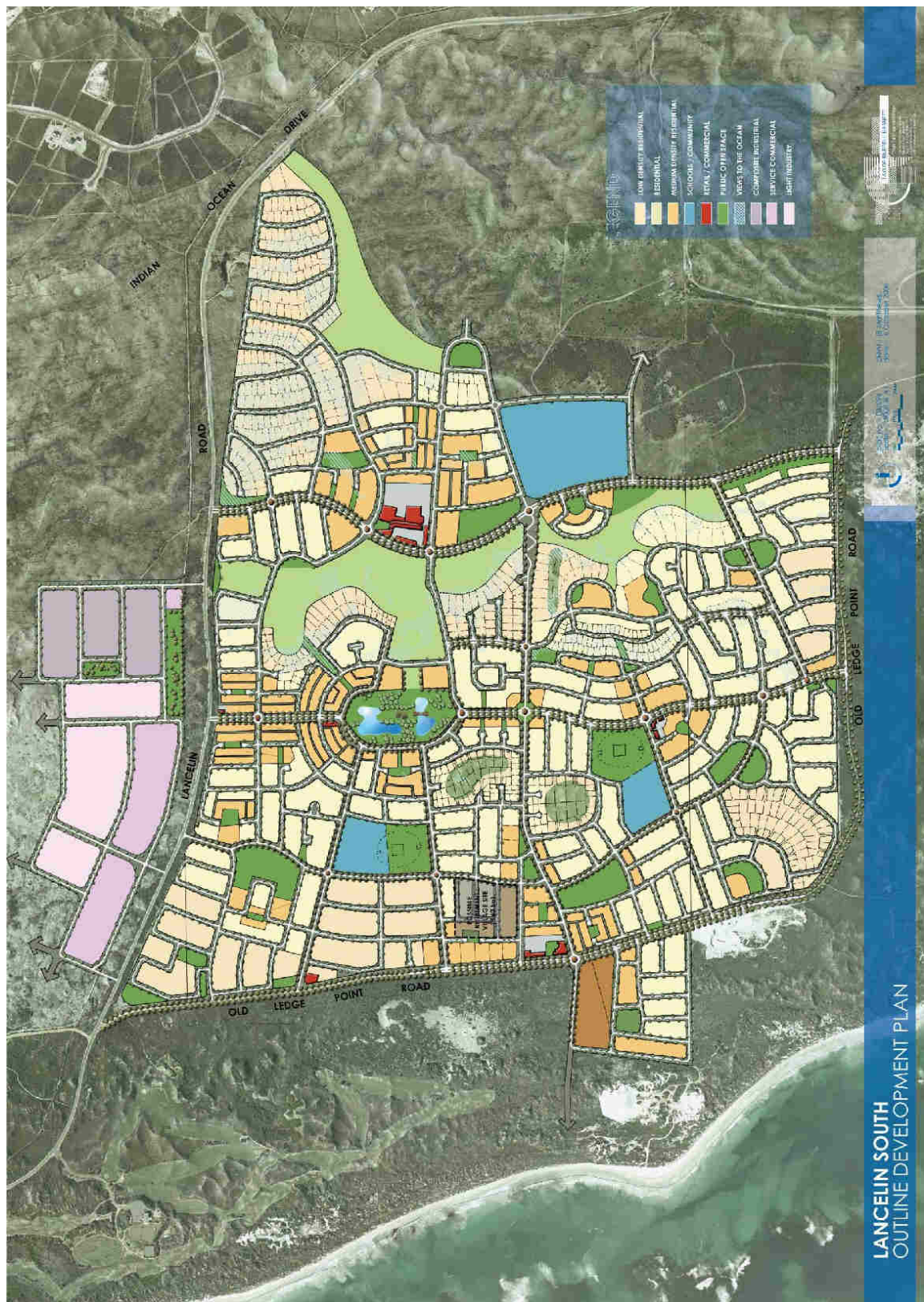


Figure 3 Outline Development Plan (refer Taylor Burrell Barnett for detail)

3.0 TRAFFIC GENERATION AND DISTRIBUTION

For the purpose of structure planning a daily trip rate of 8 trips per residential lot is commonly used², which is higher than can be expected to occur in Lancelin, as many lots will be occupied by retirees or will be investment / holiday homes. The metropolitan trip rate assumes typical occupancy levels of 2.6 persons per household undertaking work and school trips.

Statistical data provided for Lancelin indicates that the current residential occupancy is 1.2 persons per household, which is about 43% of the expected household size of 2.6 persons. Thus a trip rate of $(8 \times 43\%)$ 3.4 trips per lot per day could be expected with 100% occupancy.

Based on current traffic counts and population information (refer Appendix A), a daily trip rate of 3.4 trips per residential lot is derived. On the basis of 3,513 residential lots shown on the concept plan, the expected traffic generation would be $(3,513 \times 3.4)$ 11,944 vehicle movements per day.

The residential development could generate up to 11,944 vehicle movements per day

Commercial Development

To the north of Lancelin Road 118 commercial lots are shown occupying 43.4ha. For the purpose of this assessment it is assumed that 30% of the land area will be lost to roads and the remaining lot areas developed to 30% of their size. A daily trip rate of 10 trips per 100m² GFA has been used. In total the commercial land uses could generate 955 vehicle movements per day. It would be expected that employment would be local and many employees would walk or cycle.

The local centre is assumed to have a daily traffic attraction of 1,200 vehicles, which is based on traffic data counted for other small local centres in the metropolitan region.

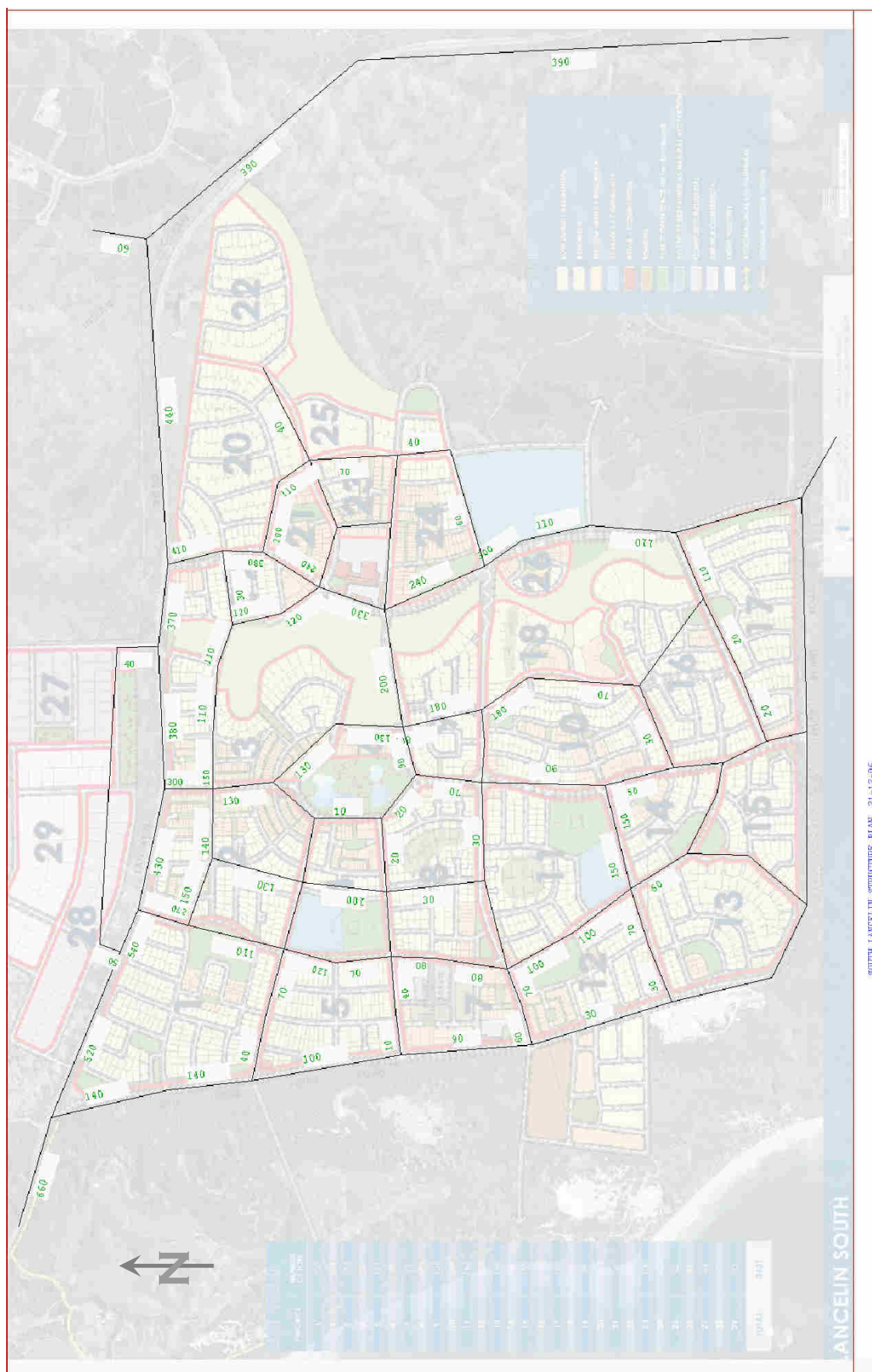
Distribution

Traffic associated with the proposed development can only take access to Lancelin Road. It is assumed that 5% of traffic would head north on Indian Ocean Drive, 35% would head south on Indian Ocean Drive (Wanneroo Road) and 60% would be attracted to Lancelin town centre.

² 7.6 trips per lot is the metropolitan average

All education trips are assumed to be internal to the site and the local centre only attracts local traffic. The traffic has been distributed to the local road network using a Saturn speed / distance model.

Figure 4 shows the forecast daily traffic flows with full development.



4.0 TRAFFIC IMPACT

The traffic flow forecasts shown in Figure 4 are based on full development and occupation of Lancelin South. The increases external to the subject site are considered in Table 1. Table 1 considers the traffic patterns that would be expected in the year 2020 (assuming full development) and existing daily traffic flows have been increased by 3% per annum to reflect possible traffic growth. However, traffic growth in the locality would occur as a result of additional development and it could be considered that applying growth is not realistic.

Table 1 Anticipated Traffic Increases

Road	2020 Fbw *	Development	Total
Indian Ocean Drive north	1,363	+600	1,963
Indian Ocean Drive south (Wanneroo Road)	2,376	+3,900	6,276
Lancelin Road	1,013	+6,600	7,613

2006 volumes at 3%pa growth

Traffic on the internal road network is considered in Section 6.0.

Based on Austroads - *Guide to Traffic Engineering Practice Part 2 Roadway Capacity*, rural highways can be expected to operate with the Levels of Service shown in Table 2 below. The values for the dual carriageway are derived from hourly flows and accord with advice contained in the *Regional Roads Reserves Review* (MfP) which suggests a four-lane divided carriageway has a capacity of 37,000vpd to 49,000vpd in an outer area. The upper level is based on a maximum Level of Service (LoS) of D being acceptable.

Table 2 Level of Service Based on Daily Volume

LOS-	Single Carriageway ¹	Dual Carriageway (4 lanes) ²
A	2,400vpd	13,000vpd
B	4,800vpd	28,000vpd
C	7,900vpd	38,000vpd
D	13,500vpd	48,000vpd
E	22,900vpd	58,000vpd

¹ based on Table 3.9

² based on Table 4.8. Hourly flow reduced by 250v- 70/30 split assumed. Daily = hourly x 10.

It can be seen that applying the Level of Service definitions shown in Table 2 to the forecast traffic flows anticipated in the year 2020:

- Lancelin Road will operate at Level of Service C.
- Indian Ocean Drive north will operate at Level of Service A.
- Indian Ocean Drive south will operate at Level of Service C.

It can be concluded that the external road network will continue to operate in an appropriate manner and major upgrading would not be expected as a result of the proposed development at Lancelin South.

5.0 ACCESS

Access to the structure plan area will be taken to Lancelin Road. At the present time Lancelin Road has a 90kph speed limit west of the site and 110kph passing the site. At the time that Indian Ocean Drive is constructed, Lancelin Road will become the minor road and a reduced speed of 90kph along its length would be appropriate. However to ensure safety of the accesses assessment using 110kph speed has been undertaken.

Of importance to the proposed access points is the visibility requirement that must be achieved. Approach Sight Distance (ASD) is the absolute minimum requirement that may be used, however Safe Intersection Sight Distance (SISD) is the recommended minimum. Wherever possible, Entering Sight Distance (ESD) should be provided. Current requirements are shown in the following extract from Austroads - *Guide to Traffic Engineering Practice*:

Design speed (major road) (km/h)	Deceleration (g) ⁽¹⁾	ESD - entering sight distance (1.05m to 1.05m) (m)	ASD - Approach sight distance (1.05m to 0.0m)				SISD - Safe intersection sight distance (1.05m to 1.05m)			
			Absolute minimum 2.0 secs		Desirable 2.5 secs		Absolute minimum 2.0 secs		Desirable 2.5 secs	
			m ⁽²⁾	min K ⁽⁴⁾	m ⁽²⁾	min K ⁽⁴⁾	m ⁽²⁾	min K ⁽⁴⁾	m ⁽²⁾	min K ⁽⁴⁾
40	0.56	100	33	5	39	8	66	5	72	6
50	0.52	125	47	11	54	14	89	9	96	11
60	0.48	160	63	19	71	25	113	15	121	17
70	0.45	220	82	32	91	40	140	23	149	27
80	0.43	305	103	51	114	63	170	34	181	39
90	0.41	400	128	78	140	94	203	49	215	55
100	0.39	500 ⁽³⁾	157	117	170	139	240	69	253	76
110	0.37	500 ⁽³⁾	190	172	205	200	282	94	297	105
120	0.35	500 ⁽³⁾	229	250	245	286	329	129	345	142

Austroads Table 6.3

Intersection Spacing

Current guidelines on intersection spacing requirements are based on the ability to provide a deceleration lane to current Austroads standards. Table 6.16 of Austroads (Part 5) indicates that for a posted speed of 110kph a deceleration lane length of 110 metres is required, although the minimum length of a supplementary turn lane is indicated as 120

metres. Therefore to provide a right turn lane at least 120 metres will be required³. Where right / left intersections are provided the start of a supplementary lane should be at least 20 metres from the intersection, therefore a separation of at least 150 metres is recommended. For a left / right intersection the supplementary lanes will be adjacent and at least 260 metres separation is recommended (lanes of 120 metres and separation of 20 metres).

Figure 5 shows the intersection spacing to Lancelin Road and labels the accesses as A through F.

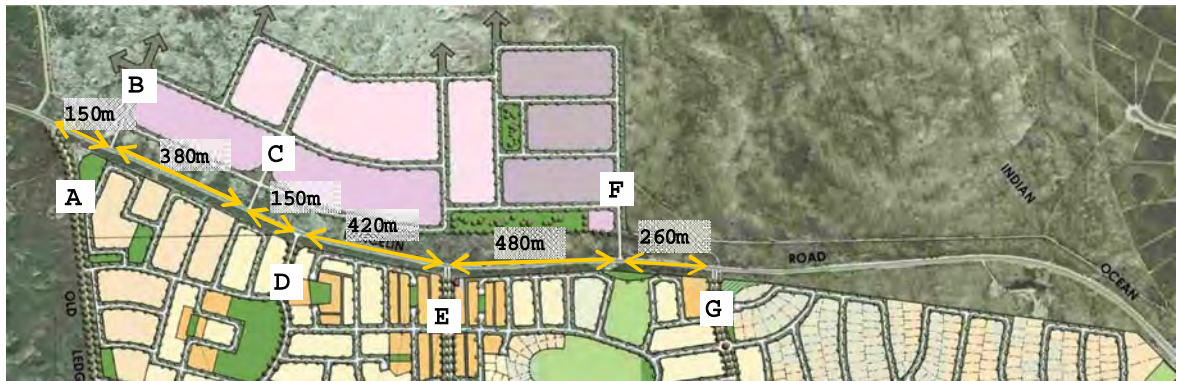


Figure 5 Intersection Spacing

Figure 6 shows the vertical visibility achieved for the proposed access points to the residential development based on the SISD for 110kph. Figure 7 shows the vertical visibility for the commercial site access. The cyan lines indicate SISD (290 metres) and the yellow lines indicate ASD (500 metres).

³ Austroads 1988 indicated 170 metres.

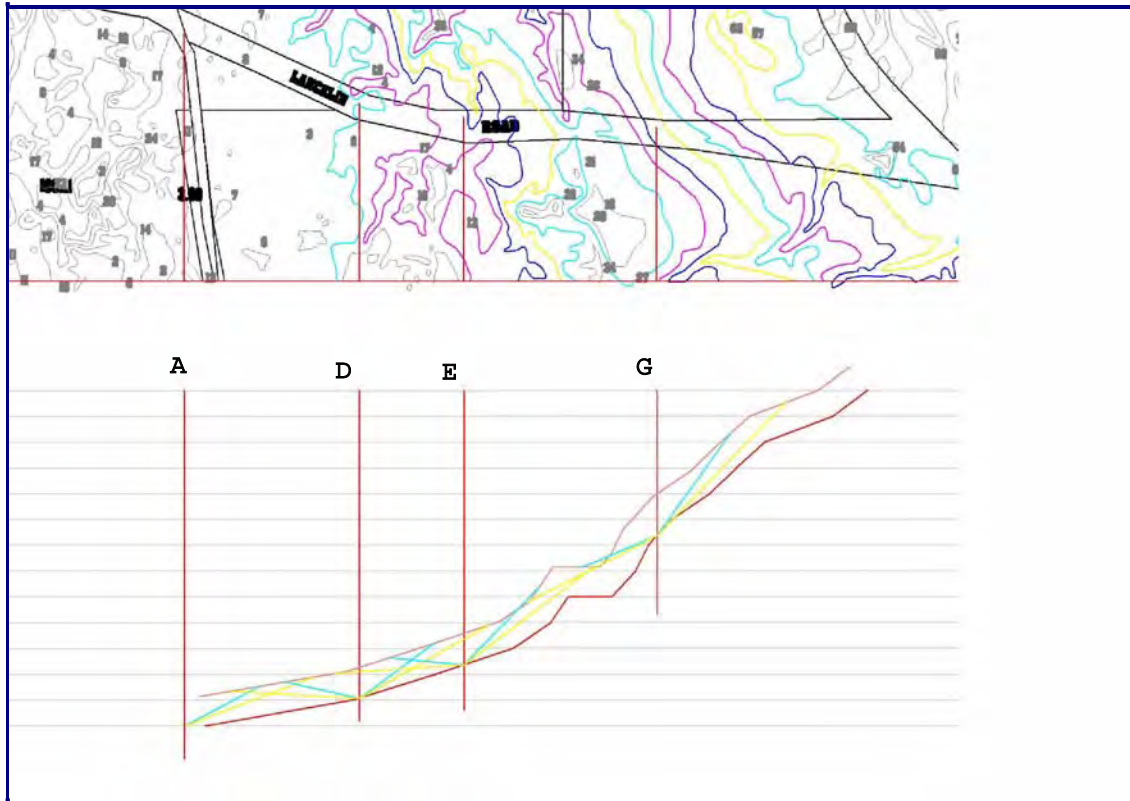


Figure 6 Visibility for Residential Access

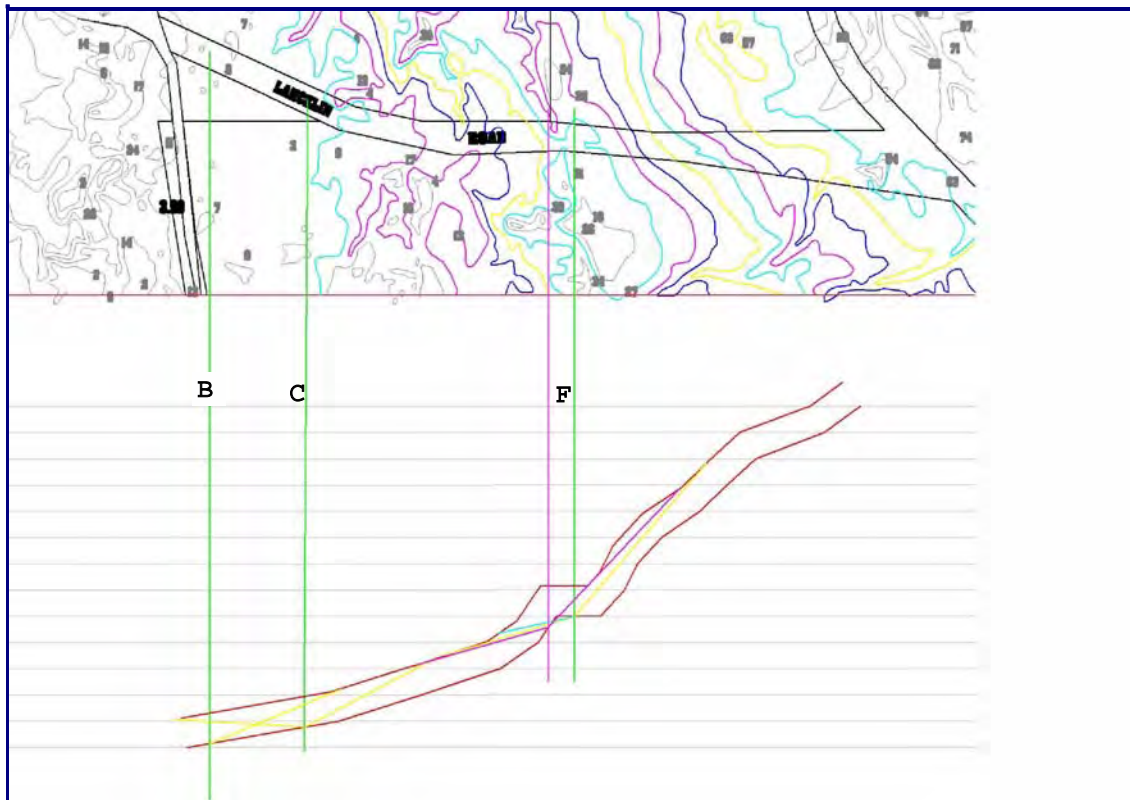


Figure 7 Visibility for Commercial Access

Figure 6 indicates that appropriate sight distances can be achieved for the proposed access locations to the residential development.

Figure 7 shows that the easternmost access to the commercial development may require further investigation due to the slight crest to the west of the access⁴. This access will require detail design review at the time of subdivision to ensure appropriate visibility can be achieved.

Access Control

Table 3 considers the forecast daily traffic flow at each access and indicates the expected access control based on advice contained in *Roads and Traffic in Urban Areas* an extract of which is attached as Appendix B.

Table 3 Intersection Requirements

Location	Main Road Flow *	Side Road Flow	Intersection Type
Access A	7,613	1,400	Priority
Access B	6,213	500	Priority
Access C	6,213	500	Priority
Access D	6,413	2,700	Priority
Access E	5,313	3,000	Priority
Access F	4,813	400	Priority
Access G	4,713	4,100	Priority

Based on 2020 volumes

Table 3 indicates that priority control of all accesses can be expected to operate in an appropriate manner with the forecast volumes. Figure 8 shows an extract from Austroads showing the minimum standard intersection layout that should be used for all accesses to Lancelin Road. Left turn slip lanes would also be required on Lancelin Road if the current posted speed is retained.

⁴ The contour plan is not of sufficient accuracy

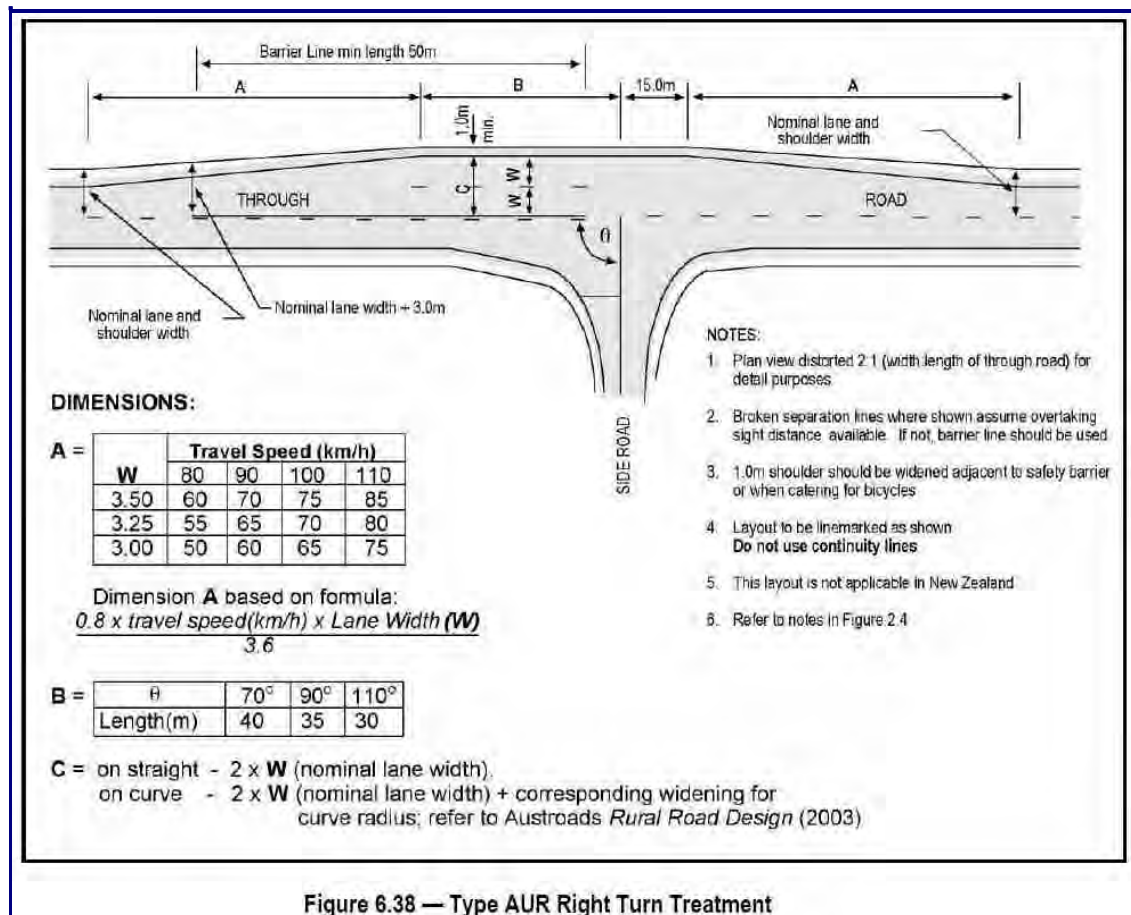


Figure 8 Minimum Access Intersection Treatment

It would be desirable to introduce a type C intersection at access F to provide a painted median which will increase the visibility of the residential development (see Appendix C).

At accesses C and D a raised median would be desirable to provide a pedestrian crossing opportunity between the commercial and residential areas. However, the introduction of medians to Lancelin Road should be considered with caution as obstructions with high traffic speeds can result in serious crash problems. A lower traffic speed should be planned for Lancelin Road in the long term to allow for the introduction of medians.

It is recommended that Lancelin Road be reduced to 80kph at the time that the commercial land is developed.

6.0 INTERNAL ROAD NETWORK

Figure 4 shows the forecast daily traffic volumes on local streets. Based on the forecast volumes, Figure 9 indicates the internal road hierarchy which is based on guidelines set out in *Liveable Neighbourhoods* (Edition 3). Table 4 provides a summary of the road classifications and functions.

Table 4 Road Hierarchy (based on *Liveable Neighbourhoods*)

Indicative Traffic Flow *	Classification	Street Characteristics	Typical Reserve Width
< 1,000vpd	Access Street	Narrower access street with minimal on-street parking demand. Pavement of 3.5m (short lengths only) to 6m.	14.2 metres
1,000vpd to 3,000vpd	Higher Order Access Street	Wider access streets (7 to 7.5m) cater for higher traffic volumes and are located closer to neighbourhood centres. Streets with a 5.5m to 6.0m pavement may be appropriate in locations further away from centres and activity. On-street parking can be accommodated with embayments or the use of a wider pavement.	15.4 metres to 18.0 metres depending on parking requirements
3,000vpd to 7,000vpd	Neighbourhood Connectors	Generally 2-lane undivided. These are 'special' streets and their design needs to have regard to context, function and adjacent land uses.	17.0 metres to 25.0 metres
>7,000vpd	Arterial Roads	Not applicable for residential developments	

* Function of streets needs to be considered as well as traffic volume.

The following section provides guidance on the suggested hierarchy with regard to road reserves and cross-sections. A range of appropriate road reserves for each street type is suggested and is based on current planning guidelines. However, the detail of the actual road reservation should be determined at the time of subdivision and should be cognisant of adjacent land uses, parking requirements and LN3.

Figure 9 shows the suggested road hierarchy.

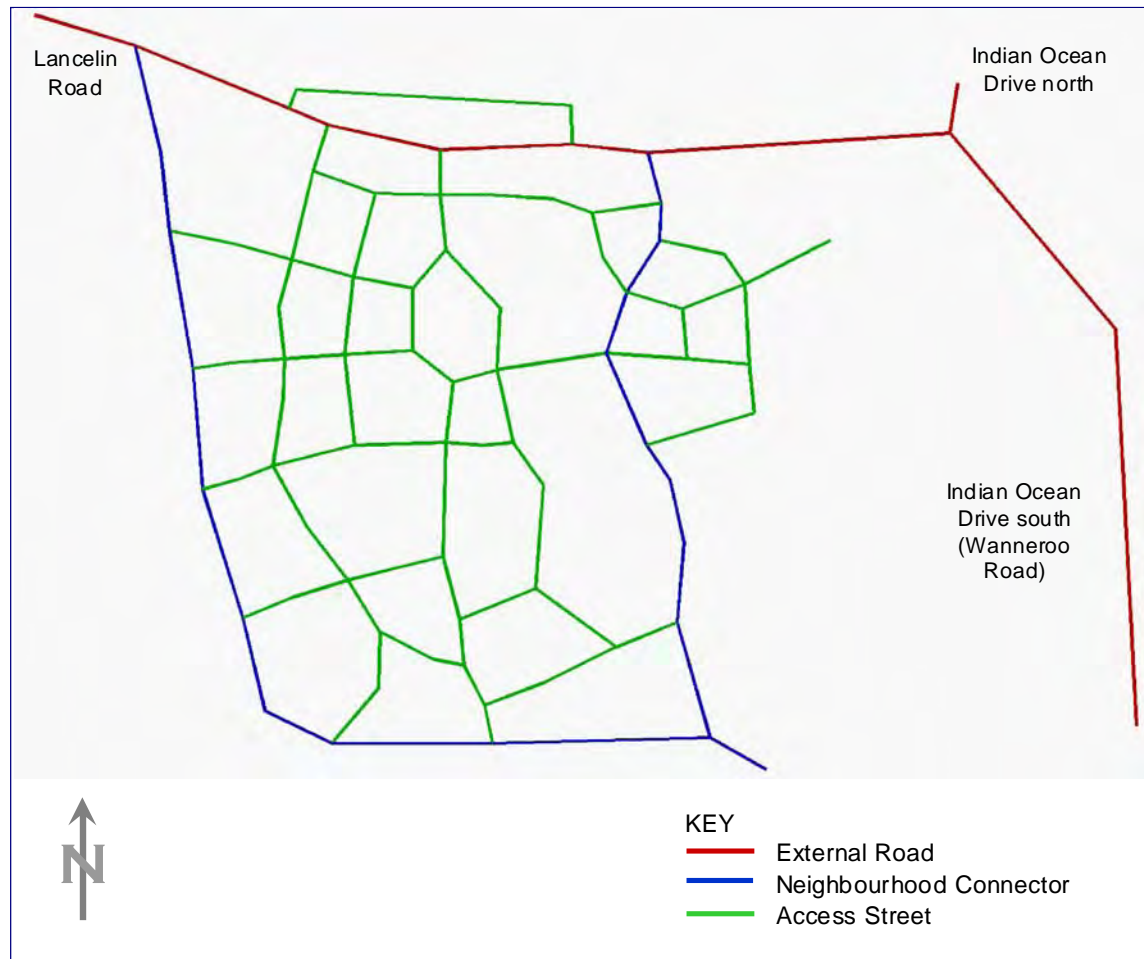


Figure 9 Lancelin South Road Hierarchy

The following commentary on the road reservation widths reflects the minimum recommended requirements. A wider reservation may be provided where feature landscaping or drainage is required.

Neighbourhood Connectors

Liveable Neighbourhoods provides the following comment on neighbourhood connectors:

Neighbourhood connectors link neighbourhoods and towns, are carefully designed to calm traffic, limit noise and facilitate pedestrian use. They have frequent local street connections. They should not attract substantial long distance through traffic, but provide for safe and convenient local travel to and from arterial routes, usually at signal controlled intersections.

The minimum carriageway width for a neighbourhood connector is 7.0 metres but should be widened to 7.4 metres where the street will provide a bus route. A minimum verge of 4.1

metres is to be provided and at intersections an additional width of up to 5.5 metres may be required to provide turning pockets and pedestrian crossing facilities.

Neighbourhood connectors should be provided with a 7.0 metre carriageway in a 20 metre road reservation.

Access Streets

Access streets are the main residential streets within the development and provide direct lot access. A standard carriageway of 7.0 metres can accommodate parking on-street without the need for parking embayments, however, when there is no parking traffic speeds can become higher than desirable for a residential environment. 7.0 metre wide carriageways are therefore only recommended for streets with high density dwellings. In lower densities (<R40) a 6.0 metre carriageway is appropriate and can still provide occasional on-street parking without disruption to the through traffic flow.

For access streets in Lancelin South a 6.0 metre wide carriageway is recommended to restrain traffic speeds and a 15 metre wide road reservation is appropriate.

Access streets should be provided with a 6.0 metre carriageway in a 15.0 metre road reservation.

Streets Adjacent to Schools

Where local streets abut schools a wider road reservation should normally be provided to cater for the higher demand for parking. Local intersections need special consideration and the provision of roundabouts to provide u-turn opportunities should be considered. Local street intersections should be provided with reduced corner radii of 6 metres to limit the opportunity for high traffic speeds.

Where pedestrian crossing points are expected, a kerb nib should be provided to ensure stopping sight distance can be achieved. Visibility should meet Austroads requirements for 40kph. Figure 10 shows a typical layout.

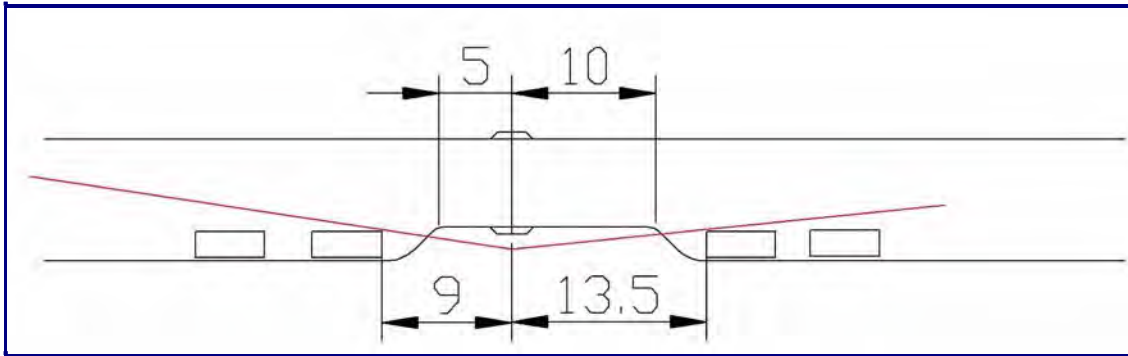


Figure 10 School Crossing Point for 40kph Speed

It is recommended that a 20 metre road reservation be provided to all school frontage roads.

Public Open Space

Where the road reservation abuts public open space there is limited need to provide a verge. The verge may be reduced where parking and/or services are not required and should be considered at the time of subdivision. A minimum verge of 0.75m is advised by current road planning standards to accommodate street furniture. Footpaths do not need to be adjacent to the road where public open space is provided, but must be provided in a safe and appropriate manner.

Traffic Management

Figure 11 shows where internal streets would benefit from intersection control and where supplementary traffic calming features may be of benefit. Full sight distances must be provided to current standards and the use of give-way control is appropriate. Stop signs should only be used where there is reduced visibility for the side road (which should never occur in a green field development).

All streets are of relatively short lengths and high traffic speeds would not be expected. Further, the narrower carriageway widths proposed in low traffic residential streets will assist in reducing the attraction for speeding, making a safer environment for local children. Four-way intersections are indicated and are not considered to be a road safety hazard where traffic volumes are less than 3,000 vehicles per day (this equates to one vehicle every 12 seconds using the intersection during the peak periods).

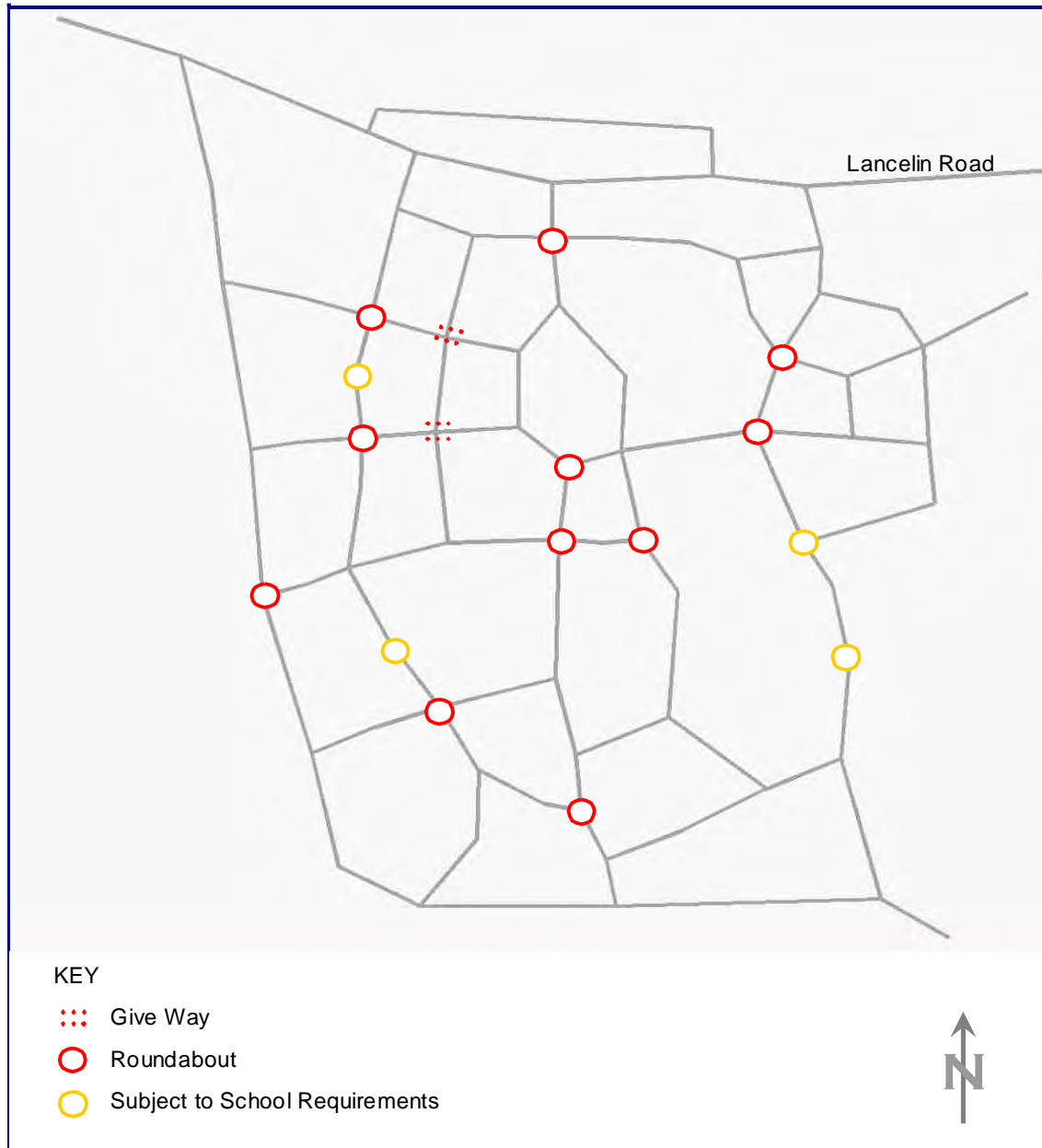


Figure 11 Traffic Management

7.0 PEDESTRIANS, CYCLISTS AND PUBLIC TRANSPORT

Lancelin South is a relatively isolated development in terms of walking and cycling and it can be expected that these modes would predominantly be used for recreational purposes and by children heading to school. Nevertheless, a good cycle and walking network is still very desirable.

A footpath should be provided to every street and higher order roads and roads accessing the local centre. Schools should be provided with a footpath to both sides.

Cycling on-street is appropriate where the daily traffic flows are less than 3,000 vehicles. On busier roads on-street cycle lanes can be provided or a dual use path. Figure 12 shows the path requirements.

Public Transport

There are limited bus services in the Lancelin area and it is unlikely that this will change in the foreseeable future. However, the planning of Lancelin South needs to be cognisant of future public transport accessibility and Figure 12 shows the roads that would make suitable bus routes.

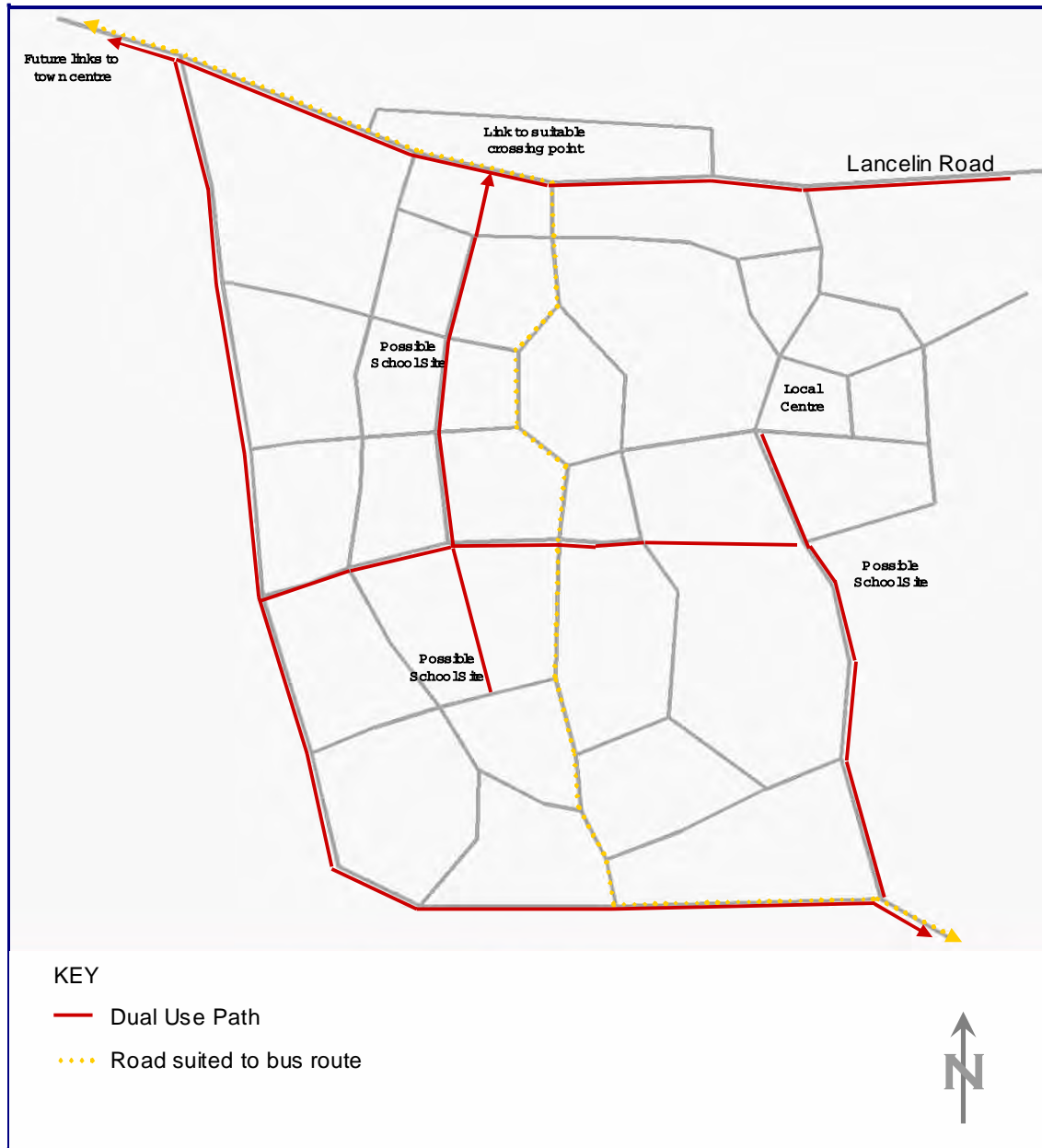


Figure 12 Dual Use Paths and Bus Routes

APPENDIX A**Census data**

2001 Census data

	Lancelin	%	Jurien	%
Population	678		1143	
Employed	276	40%	447	39%
Over 55	166	24%	360	31%
Dwellings	814		804	
Occupied dwellings	299	37%	497	43%
School children	95		151	
Families with children	289		149	

APPENDIX B

Roads and Traffic in Urban Areas –Types of Intersection Based on Traffic Flow

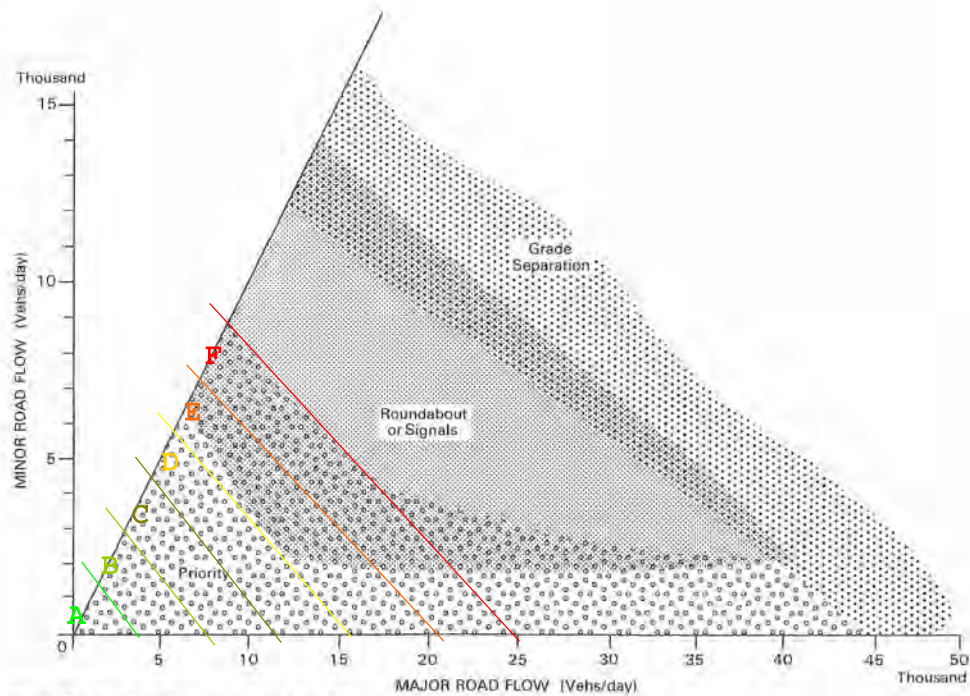


Figure 38.1 Type of junction appropriate for different traffic flows

The above figure is reproduced from *Roads and Traffic in Urban Areas* (UK) and provides a convenient guide to the likely intersection treatments required, based on daily traffic flows. Levels of Service are indicated for priority controlled intersections only.

APPENDIX C

Painted Turn Lane Treatment

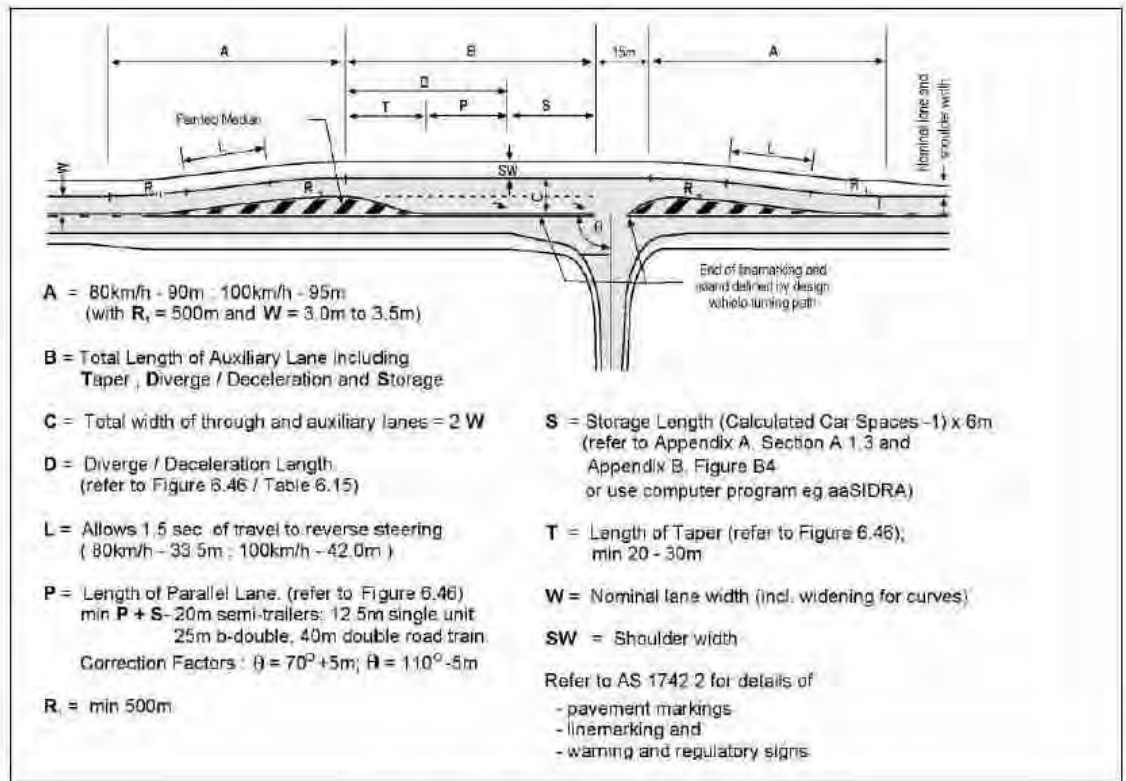


Figure 6.39 — Type CHR Right Turn Treatment

APPENDIX L
Fire Management Plan
(Fire Plan WA)

FIRE MANAGEMENT PLAN

Lancelin South Urban Development

Lancelin Land Co

February 2007

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Disclaimer: The above measures contained in this fire management plan are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bush fire. All surveys, forecasts, projections and recommendations made in this report associated with the project are made in good faith on the basis of information available to FirePlan WA at the time; and achievement of the level of implementation of fire precautions will depend among other things on the actions of the landowners or occupiers over which FirePlan WA has no control. Notwithstanding anything contained therein, FirePlan WA will not, except as the law may require, be liable for any loss or other consequences (whether or not due to the negligence of the consultants, their servants or agents) arising out of the services rendered by the consultants.

Underlying Principals.

In making these comments and recommendations in this Plan it should be understood that the focus of this document is to look into minimizing the impact and threat of an inevitable bush fire in a known bush fire prone area to the people residing or staying within this Development.

It must be concluded that bush fires will occur inevitably within this immediate locality. If there is not an immediate response with sufficient resources, the heavy fuel loading and climatic conditions prevailing at the time will in a short space of time, encourage high intensity fires to develop posing a risk to life and property. Any person living or staying within a bush fire prone area in the South West of Western Australia must take this established fact into account.

1.0 PURPOSE OF THE MANAGEMENT PLAN

The purpose of this Bushfire Management Plan is to detail the Fire Management methods and requirements that will be implemented within the proposed subdivision. The aim of the Bushfire Management Plan is to reduce the threat to residents and fire fighters in the event of a fire within or near the subdivision and to conserve the wetland areas.

In making the comments and recommendations in this fire management plan it should be understood that the focus of this document is to look into minimising the impact and threat of an inevitable bush fire in a known bush fire prone area to people residing or staying within the District of Gingin. It must be concluded that bush fires will inevitably occur within the District. If there is not an immediate response with sufficient resources, fuel loadings and weather conditions prevailing at the time, high intensity fire are likely to develop in a short space of time posing a risk to life and property. Any person living or staying within a bush fire prone area in Western Australia must take this established fact into account.

2.0 SUBDIVISION LOCATION AND DETAILS

The subject land Lancelin South is located approximately 3kms south of Lancelin townsite. It is proposed to develop the site into residential, commercial, light industry, tourism, retail/commercial areas and schools.

3.0 SITE DETAILS

The site is located between Ledge Point in the south and Lancelin in the north with Seaview Park to the east. The Lancelin Road is located on the northern edge of the residential development with light industry being located on the northern side of Lancelin Road.

The site is covered with coastal heathlands varying in height from 1metre – 3meters. The site slopes generally westward to the Indian Ocean.

Old Ledge Point Road is in the western extremity of the proposed development. The Lancelin Golf Course is located between Old Ledge Point Road and the Indian Ocean. Several non-vegetated sand dunes are located between Old Ledge Point Road and the Ocean.

The Indian Ocean Drive is proposed to follow the western boundary of Seaview Park and will travel in a northerly direction from the northeast corner of the proposed site.

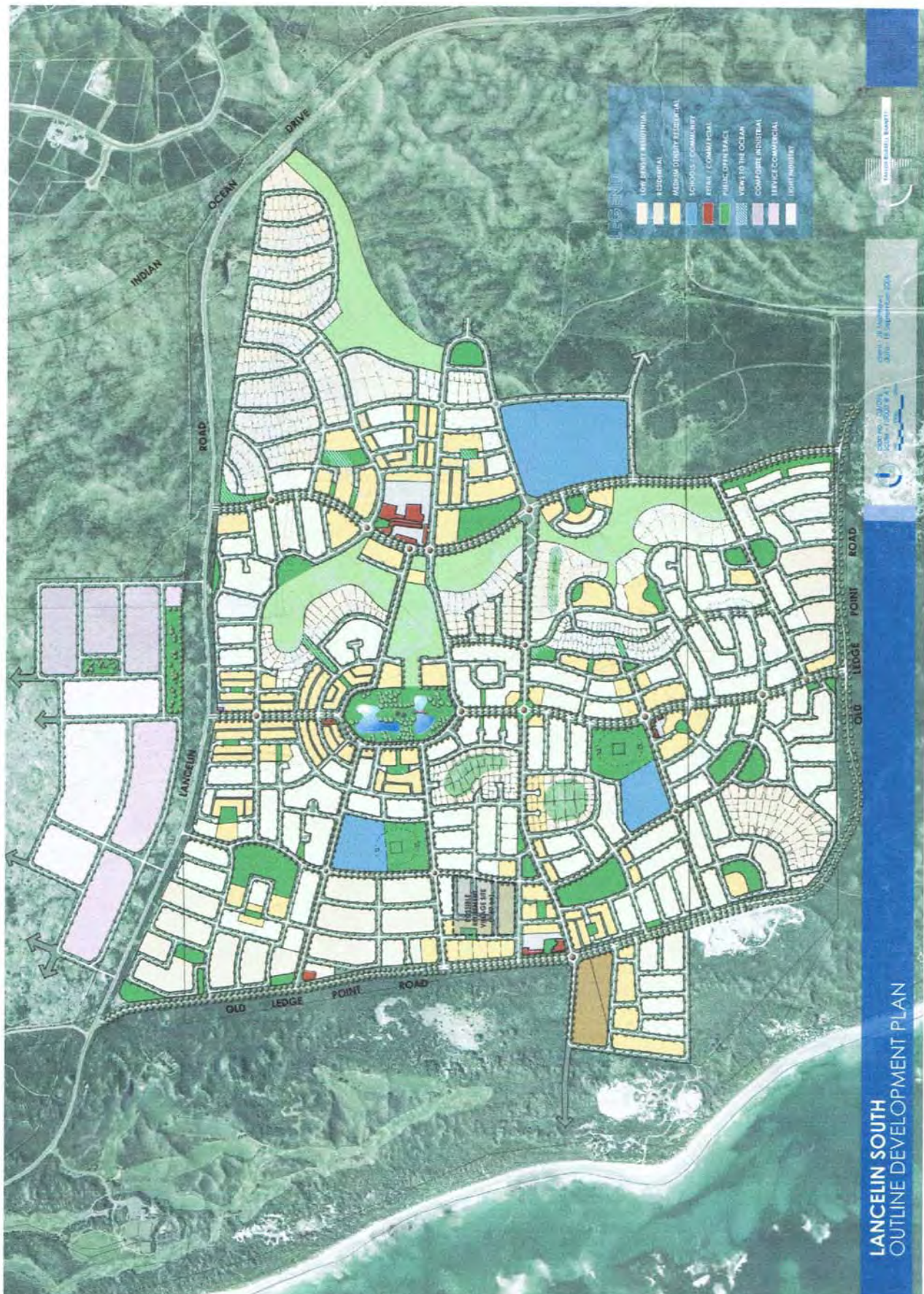
4.0 STATUTORY CONDITIONS

The Western Australian Planning Commission requires a fire management plan as part of the development application. This document has been prepared as part of the Development proposal.

As fire management strategies may require altering to meet changing environment and land use needs, landowners/occupiers are advised that provisions of the Bush Fires Act 1954 may still be enforced in addition to this Fire Management Plan.

Figure 1 Locality of Proposed Subdivision

Figure 2 Concept Development Proposal.



5.0 BUSH FIRE HAZARD ASSESSMENT

The assessment of fire risk takes into account existing site conditions which include:

- Topography with particular reference to ground slopes and accessibility;
- Vegetation cover – both remnant and likely revegetation;
- Relationship to surrounding development.

The Bush Fire Hazard Assessment is Extreme in the coastal heathlands. The hazard rating for the adjoining properties is extreme in coastal heathlands.

The Mediterranean climate experienced by this area is such that the majority of rain falls in late autumn through to early spring. This rainfall supports substantial vegetation growth which dries off in Summer/Autumn.

The combination of prevailing winds and dry vegetation poses a fire risk and bush fire control is considered essential for the protection of life and property, and to ensure that frequently and uncontrolled burning does not degrade existing and replanted vegetation.

6.0 FIRE MANAGEMENT PLAN

The aim of the Fire Management Plan is to reduce the threat to residents and fire fighters in the event of bush fire within or near the site.

The Fire Management Plan has been developed to incorporate fire management methods.

- Protection around each stage of development
- Fire Protection in Undeveloped Areas
- Road System and Emergency Egress
- Strategic firebreaks systems;
- Dwelling Construction;
- Building Protection Zone.

6.1 FIRE PROTECTION REQUIREMENTS AROUND STAGES OF DEVELOPMENT

The main threat to each stage of development to a wildfire (bushfire) is from a fire in the coastal heathlands threatening houses within the site.

To provide protection to residents in the various stages each stage is to contain the following bush fire protection requirements.

- A strategic firebreak is to be constructed on the outside of developed area on the alignment of the internal road in the next stage of release. This firebreak is to be to the standard of a strategic firebreak as detailed in Section 6.4. It may be necessary in some places (very heavy sand) to lay road base to provide access for large fire appliances.

- A building protection zone is to be established between the last lots in each stage to be sold and the strategic firebreak described above. The standard of the building protection zone is detailed in Section 6.6.
- Fire hydrants are to be installed within each stage with hydrant marked as detailed in Appendix B.

6.2 FIRE PROTECTION IN AREAS ADJOINING PUBLIC OPEN SPACE.

6.2.1 Areas within the development area.

- In the public open space with retained natural vegetation a strategic firebreak is to be installed (See strategic firebreak standards Section 6.4) separating the POS from the developed areas.
- A building protection zone (See details Section 6.6) is to be installed between any buildings and the edge of remnant natural vegetation. The building protection zone can comprise the building setback from the lot boundary to the strategic firebreak (as detailed above) or and public roads as part of the internal road system.

It may be necessary for a low fuel area to be established in the POS to ensure compliance with the Building Protection Zone. The Shire of Gingin/Developer will be responsible for the maintenance/compliance of the building protection zone within the POS. New landowners will be responsible for the building protection zone within their property.

6.2.2 Fire Protection in areas on the interface with development.

The interface with developed and undeveloped areas are to have fire protection measures implemented to adequately protect the adjoining urban development in the event that these areas will at some stage be affected by wildfire.

The fire protection requirements for the interface areas are as follows.

- A road is to be constructed around the outside of the housing area to separate the housing development from the bush areas.
- Where no road separates housing development from the bush areas a 4 metre wide trafficable surface (road base) access way is to be installed. These can be multi purpose pathways/access ways.
- A 20metre building protection zone is to be established between the housing area and bush area to consist of public open space and/or road reserve/access way. See Section 6.6 for Building Protection Zone Standards.
- Fire hydrant's are to be located as detailed in Section 7.0.

6.3 ROAD SYSTEM- EMERGENCY EGRESS

The proposed development along the northern boundary of the urban area has four (4) entrances to the proposed development. Old Ledge Point Road along the western and southern boundary forms the predominant access in and out of the development.

There has been several link roads allowed for in the layout design if further development occurs in the future along the eastern boundary.

The following Emergency Access is required:-

From the southeast corner of the development a two (2) wheel drive access (cleared to 6 metres wide, 4 metre trafficable surface, unlimited vertical clearance and passing bays to 6metres wide every 200 metres) is required eastwards to the Lancelin Road and southward along the alignment of Old Ledge point Road. The final location and standard of this emergency access is to be agreed to by the Developer and the Shire of Gingin. The emergency access may be gated to restrict day to day traffic. The gates should have sign place on them with wording *Fire Emergency Access Only* or wording required by the Shire of Gingin.

6.4 STRATEGIC FIREBREAK SYSTEM STANDARDS

A Strategic Firebreak is to provide access for fire fighting equipment. This firebreak must be 6metres wide, 4metre vertical clearance and have a 4m trafficable surface for fire fighting equipment. In some places road base material will be required due to heavy sand conditions as large fire trucks may use these firebreaks. Passing bays are required every 200 metres and turn around areas every 500 metres.

6.5 DWELLING CONSTRUCTION STANDARDS

Individual dwellings on each lot adjoining Bushland areas shall be designed and built to conform with:

- Homeowners Bush Fire Survival Manual Guidelines
- The Shire of Gingin Specification and Requirements
- Australian Standards AS 3959

Building houses adjoining the remnant coastal heath to the Australian Standard AS 3959 “Construction of Buildings in Bush Fire Prone areas” provides residents better protection against wildfires. Provided building protection zones over public land between the edge of coastal heathlands and Lot boundary comply with Section 6.6 then building of houses to Australian Standard AS3959 is optional.

Memorials are to be placed on Certificates of Title for those Lots directly adjacent to coastal heathland advising future landowners of the potential bush fire risk.

Copies of the Homeowners Bush Fire Survival Manual or other suitable documentation will be issued to each property owner adjoining coastal heathland areas by the developer at the sale of an allotment.

6.6 BUILDING PROTECTION ZONE STANDARDS

The aim of the Building Protection Zones is to reduce bush fire intensity close to dwellings, and to minimise the likelihood of flame contact with buildings.

The building protection zone is a low fuel area immediately surrounding a building.

Non flammable features such as driveways, roads, firebreaks, lawn, or landscaped gardens (including deciduous trees) should form part of building protection zones. Isolated trees and shrubs may be retained within building protection zones. A building protection zone of 20 metres wide is required. It must fulfil the following conditions:

- Bush Fire fuels must be maintained below a height of 50mm in height.
- The spacing of trees should 15 metres apart to provide for a 5 metre separation between crowns.
- All leaves, tall grass, logs, branches fallen on the ground and clearing slash of trees must be removed from within the building protection zone area.
- Dry Grass is be trimmed and maintained to no more than 50mm
- The aim must be to maximize the area of non-flammable ground cover, especially the area abutting the buildings.
- Building Protection Zone is to be installed prior to any dwelling construction commencing.

Definition. Bush fire fuels. Under the Bush Fire Act “bush” is defined to include “trees, bushes, plants, stubble, scrub, and undergrowth of all kind whatsoever whether alive or dead and whether standing or not standing”

7.0 FIRE FIGHTING FACILITIES

7.1 Water for Fire Fighting.

The site is to have mains water installed and fire hydrants are to be installed at 200metre intervals in the residential areas and 100 metres in the light industrial areas and are to be identified by standard pole and/or road markings by the Developer. See Appendix B for Hydrant Markings.

Fire hydrants are to be installed in strategic place around ovals that may be used as helicopter landing site for the filling of Heli-tankers. These sites are to be agreed to by the Developer and the Shire of Gingin. A site should be allocated in Stage 1 of the development.

7.2 Fire Service

The Lancelin Fire Service is located in the Lancelin townsite and a Bush Fire Brigade is located at Seaview Park. With the planned development of Lancelin South there will be a need to review the fire resources at Lancelin and Seaview Park and there may need to be an increase in resources and/or the relocation of resources to a more central area. This review will need to be under taken by the Shire of Gingin and FESA. The Developer may need to provide land for a new Fire Station.

8.0 SUMMARY

8.1 Developer's Responsibility

As a condition on subdivision approval, the Western Australian Planning Commission shall be require the works described in Section 6 and 7 of this Fire Management Plan to be carried out.

The Developer will be required to maintain these works until the development is complete or the ownership changes or as detailed in the development agreements with the Shire of Gingin.

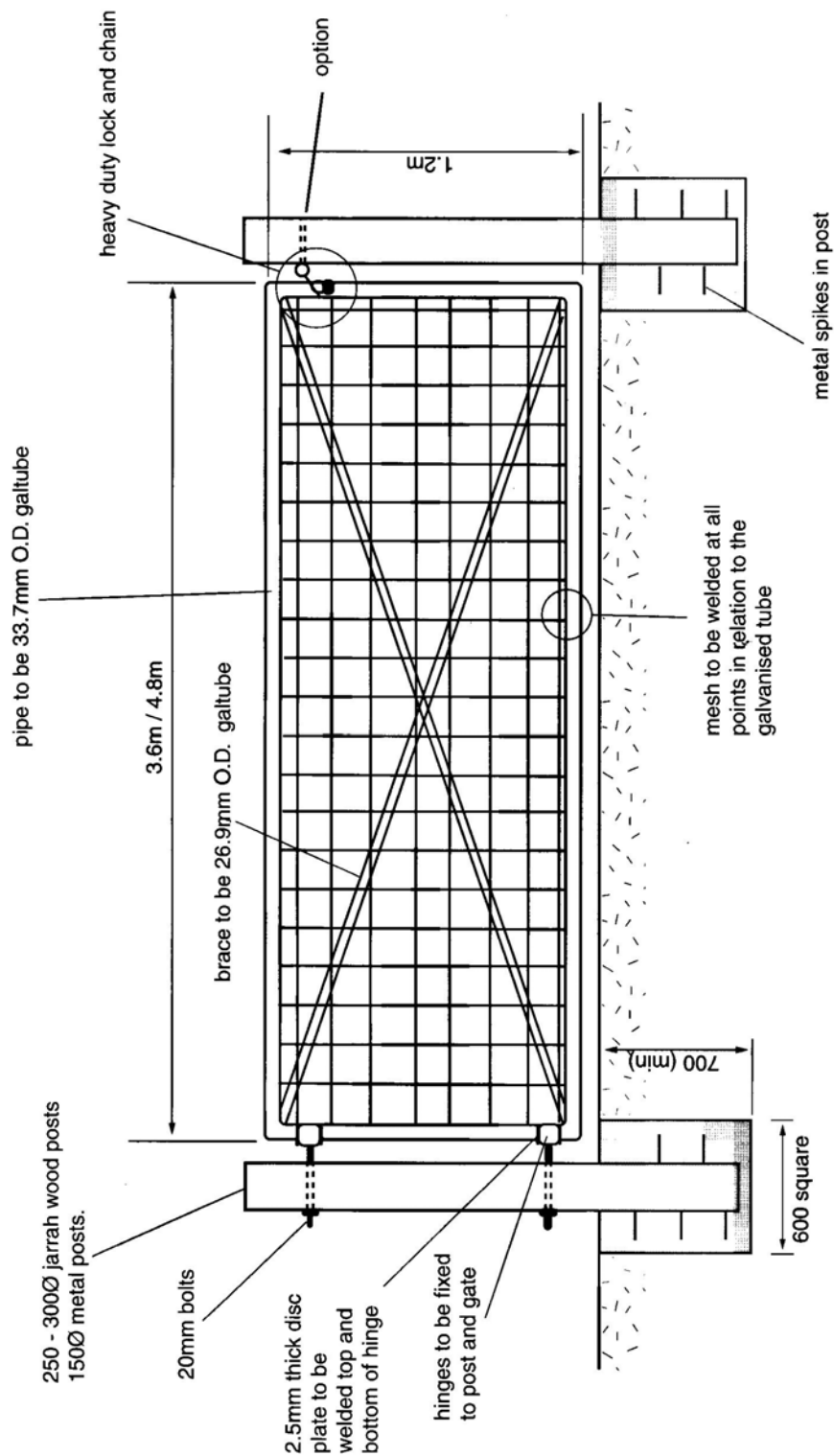
8.2 Shire of Gingin Responsibilities

The responsibility for compliance with the law rests with individual property owners and occupiers and the following conditions are not intended to unnecessarily transfer some to the responsibilities to the Shire of Gingin.

The Shire of Gingin shall be responsible for:

- Developing and maintaining District Fire Fighting Facilities
- Maintaining in good order the condition equipment and apparatus for fire fighting purposes.

Appendix A Gate Design.

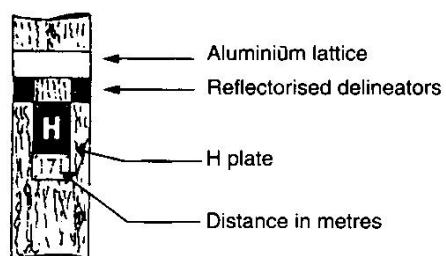
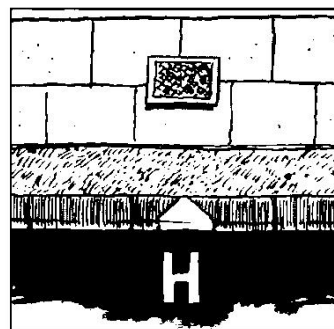
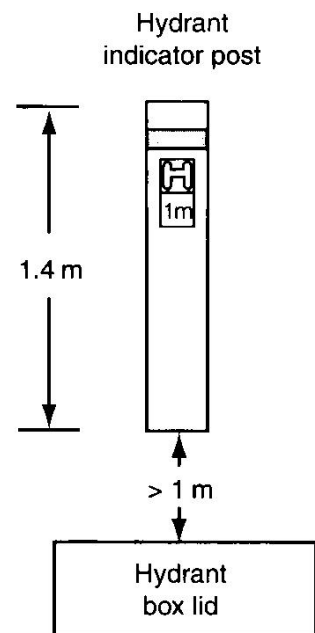


Note: Mesh to be metric mesh 46G5 and galvanised finish complete with fittings.

Appendix B Fire Hydrant Markings



Hydrant indicators post.



Indicates that the hydrant is on the same side of the street as the pole



Indicates that the hydrant is on the opposite side of the street as the pole

BLUE RAISED RETROREFLECTIVE PAVEMENT MARKER & HYDRANT INDICATING GUIDLINES

The implementation of the blue raised retro reflective pavement marker (RRPM's) and new hydrant indicating regime is designed to provide greater ability for fire fighters to readily identify fire hydrant locations, particularly at night or where smoke affects visibility.

