



VOLUME 1

ENVIRONMENTAL ASSESSMENT STATEMENT

FOR A PROPOSED INTEGRATED ECO-RESIDENTIAL, COMMUNITY TITLE SUBDIVISION DEVELOPMENT, WITH SUPPORT BUSINESS, COMMERCIAL, RECREATIONAL AND COMMUNITY FACILITIES COMBINED WITH REHABILITATION, ENHANCEMENT, ONGOING MAINTENANCE AND MANAGEMENT OF THE SENSITIVE RECEIVING ECOLOGICAL ENVIRONMENT.

Seven Mile Beach

LOTS 103, 142 AND 178 DP 753168
THE LAKES WAY, SOUTH FORSTER.

PROPONENT: SEVEN MILE BEACH PTY LTD - ACN 112 160 719

DECEMBER 2006

DRAFT ENVIRONMENTAL ASSESSMENT STATEMENT

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LOTS 103, 142 AND 178 DP 753168, THE LAKES WAY, SEVEN MILE BEACH SOUTH FORSTER.

This Part 3A application consists of the following related volumes of documents:

Volume One: Environmental Assessment (EA);
Volume Two: Specialist reports;
Volume Three: Reference and Common set of base drawings;
Volume Four: Phase development drawings;

Prepared for

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CERTIFICATION: I Christopher John Oliver, author of this Environmental Assessment certify that the information contained within the assessment is neither false or misleading.

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1.0 EXECUTIVE SUMMARY

This Environmental Assessment (**EA**) has been prepared in support of the proposed development of land at Seven Mile Beach, identified as Lots 103, 142 and 178 DP 753168 the Lakes Way, South Forster (**Project Site**), containing a total area of 69 hectares.

The proposal involves an integrated eco-residential/conservation, community title subdivision development, incorporating 317 dwellings and apartments, with support business, commercial, recreational and community facilities combined with rehabilitation, enhancement, ongoing maintenance and management of the sensitive receiving, scenic and ecological, natural environment (**Proposed Project**) within a recognised “sensitive coastal location”.

The proposed residential and support components of the development are situated upon that part of the site previously sand mined and on other parts of the land where the development will not unreasonably compromise the ecological values. The balance of the land consisting of 38 hectares is identified and proposed for environmental protection. The application incorporates enhancement and maintenance measures with the ongoing management forming part of the proposed community title management regime, which also includes validation obligations.

The subject land is within the “coastal zone” and a “sensitive coastal location” as it adjoins the Booti Booti National Park and is therefore subject to the provisions of *State Environmental Planning Policy No. 71 - Coastal Protection*, (**SEPP 71**).

In addition the proposed project is development of a kind described within *Schedule 2 of State Environmental Planning Policy (Major Projects) 2005 (SEPP (MPs) 2005)*, in that it involves some buildings and structures that are greater than 13 metres in height and subdivision of residential land, into more than 25 lots. The recently sanctioned Part 3A provisions of the Environmental Planning & Assessment Act 1979 (**EP&A Act**) allow for the Minister administering the Act, to form the opinion that the Proposed Project is a Major Project to which Part 3A applies, thereby making the Minister the consent authority.

The proposal was declared to be such a project on, 20 December 2005, with the Director General of the Department of Planning (**DoP**) advising on 4 January 2006, of the requirements for the preparation of an EA, pursuant to *Section 75(F)(2)* of the EP&A Act. Copies of the Department's correspondence have been reproduced at **Appendix A** and the following Table provides a reference to the consideration of the requirements as part of this EA.

TABLE ONE – REFERENCE TO EA REQUIREMENTS

TOPIC	REQUIREMENTS	EA SECTION AND PLAN REFERENCES
GENERAL REQUIREMENTS	EXECUTIVE SUMMARY	SECTION 1.0 OF EA
	DESCRIPTION OF PROPOSAL, INCL CONSTRUCTION, OPERATION AND STAGING	SECTION 2.0 AND VOLUMES THREE AND FOUR
	ASSESSMENT OF ENVIRONMENTAL IMPACTS WITH FOCUS ON KEY REQUIREMENTS STATED BELOW	SECTION 6.0
	JUSTIFICATION OF THE PROJECT WITH CONSIDERATION OF BENEFITS AND IMPACTS	SECTION 6.6
	STATEMENT OF COMMITMENTS DETAILING MEASURES FOR ENVIRONMENTAL MITIGATION, MANAGEMENT AND MONITORING	SECTION 4.0
	CERTIFICATION BY AUTHOR	SECTION 1.0 OF EA
KEY ASSESSMENT REQUIREMENTS		
DEVELOPMENT CONTROL	ADDRESS LEGISLATION & PLANNING PROVISIONS APPLYING TO THE SITE AND THE NATURE, EXTENT AND JUSTIFICATION FOR ANY NON-COMPLIANCE. CLEARLY DELINEATE STAGING	SECTION 6.1
ECOLOGICAL IMPACTS	ADDRESS SECTION 5A OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 AND THREATENED BIODIVERSITY SURVEY AND ASSESSMENT GUIDELINES PREPARED BY DEC. PROVIDE OBJECTIVES AND PERFORMANCE CRITERIA FOR CONTROL OF FERAL AND PEST FLORA AND FAUNA; REHABILITATION AND RE-INTRODUCTION OF INDIGENOUS FLORA AND FAUNA; AND ONGOING MANAGEMENT OF CONSERVATION AREAS.	SECTION 6.2
BUSHFIRE	DEMONSTRATE COMPLIANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF PLANNING FOR BUSHFIRE PROTECTION	SECTION 6.3
IMPACTS ON THE WATERWAYS	DEMONSTRATE COMPLIANCE WITH THE REQUIREMENTS OF NSW STATE AND RIVER ESTUARIES POLICY INCLUDING OF NATIVE VEGETATIONS RIPARIAN ZONES ADJACENT TO WATERCOURSES OR WETLANDS	SECTION 6.4
TRAFFIC	DEMONSTRATE COMPLIANCE WITH RELEVANT COUNCIL AND RTA TRAFFIC AND CAR PARKING CODES. IMPACTS ON EXISTING ROAD NETWORK.	SECTION 6.5
SOCIAL AND ECONOMIC	PROVIDE SOCIAL AND ECONOMIC IMPACT ASSESSMENT INCLUDING DEMOGRAPHIC IMPACTS ON THE LOCALITY, ACCESSIBILITY, MIX OF HOUSING OPPORTUNITY, PROVISION OF COMMUNITY INFRASTRUCTURE, CATERING FOR CULTURAL DIVERSITY	SECTION 6.6
DESIGN, AMENITY AND SUSTAINABILITY	ADDRESS STATE ENVIRONMENTAL PLANNING POLICY NO 65 – DESIGN QUALITY OF RESIDENTIAL FLAT DEVELOPMENT; NSW RESIDENTIAL FLAT DESIGN CODE; BASIX; COSTAL DESIGN GUIDELINES FOR NSW, ACCESS APPEARANCE OF ALL BUILDINGS ON SITE AND FROM AREAS SURROUNDING THE SITE; OVERSHADOWING; SAFETY; RELATIONSHIP TO SURROUNDING AREAS,	SECTION 6.7

	INCLUDING VISUAL IMPACTS FROM PROMINENT AND PUBLIC COASTAL LOCATIONS; SITE PERMEABILITY AND PEDESTRIAN AND BICYCLE MOVEMENT TO, WITHIN AND THRU THE SITE	
ABORIGINAL HERITAGE	ADDRESS DRAFT GUIDELINES FOR ABORIGINAL CULTURAL HERITAGE IMPACT ASSESSMENT AND COMMUNITY CONSULTATION.	SECTION 6.8
KEY ASSESSMENT REQUIREMENTS		
IMPACT ON ADJOINING NATIONAL PARKS	ADDRESS IMPACTS ON WILDLIFE CORRIDOR VALUES; IMPACTS FROM EROSION, SEDIMENTATION, RUNOFF AND FIRE; VISUAL IMPACTS; BOUNDARY ENCROACHMENTS; AND MANAGEMENT IMPACTS AND IMPLICATIONS	SECTION 6.9
SEWAGE TREATMENT PLANT	ADDRESS DEPARTMENT CIRCULAR NO E3 – GUIDELINES FOR BUFFER AREAS AROUND STP'S AND DEPARTMENT OF ENVIRONMENT AND CONSERVATION RECOMMENDATIONS REGARDING THE PRESERVATION OF BUFFER ZONE AROUND STP'S.	SECTION 6.10
WATER QUALITY	ADDRESS: CAPACITY OF FORSTER SEWAGE TREATMENT SYSTEM TO SERVICE THE DEVELOPMENT; WATER SENSITIVE URBAN DESIGN PRINCIPLES; COMPLIANCE WITH THE 1 IN 100 YEAR ARI EVENT FOR THE SITE; IMPACTS ON THE WALLIS LAKE ESTUARY AND GROUNDWATER IMPACTS.	SECTION 6.11
GENERAL ENVIRONMENTAL RISK ANALYSIS	NOTWITHSTANDING THE ABOVE KEY ASSESSMENT REQUIREMENTS, THE ENVIRONMENTAL ASSESSMENT MUST INCLUDE AN ENVIRONMENTAL RISK ANALYSIS TO IDENTIFY POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROJECT (CONSTRUCTION AND OPERATION), PROPOSED MITIGATION MEASURES AND POTENTIALLY SIGNIFICANT RESIDUAL ENVIRONMENTAL IMPACTS AFTER THE APPLICATION OF PROPOSED MITIGATION MEASURES. WHERE ADDITIONAL KEY ENVIRONMENTAL IMPACTS ARE IDENTIFIED THROUGH THIS ENVIRONMENTAL RISK ANALYSIS, AN APPROPRIATELY DETAILED IMPACT ASSESSMENT OF THESE ADDITIONAL KEY ENVIRONMENTAL IMPACTS MUST BE INCLUDED IN THE ENVIRONMENTAL ASSESSMENT.	SECTION 6.12
CONSULTATION REQUIREMENTS	- GREAT LAKES SHIRE COUNCIL - NSW DEPT OF NATURAL RESOURCES - NSW DEPT OF ENVIRONMENT AND CONSERVATION - NATURAL RESOURCES COMMISSION - DEPT OF LANDS - DEPT OF MINERAL RESOURCES - MID COAST WATER - NSW RURAL FIRE SERVICE - NSW ROAD AND TRAFFIC AUTHORITY - TELSTRA - AGL - COUNTRY ENERGY - NSW DEPT OF HEALTH - NSW POLICE - COMMONWEALTH DEPT OF ENVIRONMENT AND HERITAGE - THE LOCAL COMMUNITY	SECTION 7.0 and APPENDIX G

The permitting statutory framework for assessment of the application will be *Part 3A* of the EP&A Act, SEPP (MPs) 2005 and the Great Lakes Council Local Environmental Plan 1996 (**LEP**) (Amendment No 45) as far as it relates to the permissibility of the project. The LEP along with site specific Development Control Plan No 40 (**DCP**) both of which are currently draft documents, have recently completed the amending LEP, *Section 62 - 68* consultation, exhibition and consideration process requirements of the Act.

This resulted in the Council (at its meeting of 23 May 2006) resolving pursuant to *Section 69* of the EP&A Act to request the Minister to make the plan, however withhold gazettal until such time as a Voluntary Agreement (**VA**) (prepared pursuant to *Section 93F* of the EP&A Act) has been executed. Both the LEP and DCP have been taken into consideration in this EA and the VA is currently with legal representatives for finalisation. A copy of the Draft Planning Agreement has been included and addressed within this EA. Along with an Explanatory Note, this agreement will be exhibited concurrently with this proposed project application.

The primary issues of state and regional significance relate to the development of land in a "sensitive coastal location" within the "coastal zone" and "the protection of land of ecological and scientific value". The main issues which are addressed in the Local Environmental Study (**LES**) supporting the amending LEP, include flooding, drainage, water quality management, threatened species and habitat assessment, innovative housing design and construction, lot sizes, residential density, traffic management and bushfire protection.

Over the past three years there have been considerable negotiations and discussions between Seven Mile Beach Pty Ltd (**the Proponent**), Council and government agencies as to an appropriate development/conservation outcome for the land. All parties have agreed that the land is not suitable for general development purposes and that an innovative response will be required that is "tailor made" to the subject site. That is, the site can only be developed if it responds to and respects the significant features of the site and which provides for an integrated solution.

Although a previous development consent of 1996 vintage, for an extensive tourist complex and golf course over the land, remains current, a rezoning of the land from 1(c) Future Urban Investigation would be required (consistent with the adopted Forster Tuncurry Conservation and Development Strategy) in order to accommodate the new innovative development approach.

Council initiated this process at its meeting of 10 February 2004 when it resolved to prepare a *draft* Local Environmental Plan (**dLEP**) for the subject land. The Department of Planning subsequently advised Council that a LES was required to be prepared in accordance with the EP&A Act, 1979 and NSW Coastal Policy.

Council subsequently engaged Bennell & Associates in July 2005 to prepare the LES. This followed the proponents agreement to fully fund the cost of preparing the LES/LEP. The primary purpose of the LES was to provide comprehensive information on the constraints and opportunities to develop the land and to provide the justification for the rezoning of the land for a combination of low/medium density residential and other associated purposes.

The LES considered the following specific comprehensive environmental assessment reports relating to the land and proposed development;

1. Bushfire Protection Assessment and plans;
2. Aboriginal Heritage Impact Assessment;
3. Social Impact Assessment;
4. Landscape Design Report;
5. Odour Monitoring and Modelling report;
6. Traffic Assessment;
7. Stormwater Management Plan;
8. Geotechnical Assessment;
9. Groundwater Monitoring Report;
10. Acid Sulphate Soils Assessment;
11. Hollow-bearing Tree Assessment;
12. Species Impact Statement Based on the Director-General's requirements;
13. Environmental Validation Report; and
14. Conservation and Land-use Management Plan.

Council subsequently considered a report on the LES/LEP and resolved at its meeting of 27 September 2005, to adopt the LES for the Seven Mile Beach site, seek a *Section 65* certificate from the Department of Planning for the exhibition of *draft* Amendment No 45 to the Great Lakes Local Environmental Plan 1996.

Council also resolved to adopt, for exhibition purposes, the *draft* Development Control Plan and upon receipt of a *Section 65* certificate, exhibited these documents concurrently for a period of six (6) weeks, commencing 15 December 2005.

When issuing the Section 65 Certificate to enable exhibition of the dLEP, the DoP required Council to consult with the Catchment Management Authority (**CMA**) and resolve any issue with the Department of Conservation (**DEC**), with respect to the adjoining Booti Booti National Park, during the exhibition period. Extensive dialogue with these authorities and the proponent has resulted in each authority generally supporting the proposed project and amending dLEP.

The amending LEP has the objective of providing for an innovative form of development whilst at the same time ensuring the balance of the land that is of high environmental value, is protected and properly managed in perpetuity. To achieve this, the amending LEP proposes to create a new E4 Environmental Living zone, over that part to contain the built development, with clear objectives that state the desired outcome of integrating sensitively designed development with the natural features of the land.

In summary, the amending LEP aims to:

- introduce a new E4 Environmental Living zone to the parts of site where appropriate residential and other associated uses can be supported;
- apply a 7(a1) Environmental Protection zone to the balance of the land (about 38 ha or 55%);

- introduce the same provisions for the 7(a1) zone as previously adopted by Council;
- require the development on the land to be consistent with the comprehensive DCP;
- prohibit the erection of any dwellings within the 7(a1), zone as dwellings should be restricted to the area deemed suitable by the LES;
- enable a maximum of 1,000m² of retail and commercial floor space to be developed on the land; and
- require all subdivisions to be under the Community Land Development Act 1989.

The amending LEP also calls up a DCP which specifically identifies mechanisms to only permit subdivision under the *Community Land Development Act, 1989*, to require rehabilitation of degraded areas, and to undertake numerous other measures to integrate development with the natural values of the land.

It is also intended that the development be integrated so that the buildings and subdivision are undertaken concurrently as dictated by the design component of the DCP.

An interlinked series of management plans are required by the Conservation and Landuse Management Plan (**CLUMP**) and are tested at prescribed intervals by the proposed Environmental Validation (**EV**) and Auditing system ensuring environmental values of the site are protected and enhanced in perpetuity.

Regarding the requirement for a DCP to be adopted under *clause 18* of SEPP 71, prior to *approval of the Proposed Project*, the DCP was adopted by Great Lakes Council at its meeting of 24th October 2006.

2.0 DEVELOPMENT PROPOSAL

2.1 OVERALL DESCRIPTION

The proposed project is reflected in the **Development Plan** at **Figure 1.1**, and is best described as an Integrated Eco-Residential, Community Title Subdivision Development, with support Business, Commercial, Recreational and Community Facilities, combined with rehabilitation, enhancement, ongoing maintenance and management of the sensitive receiving ecological environment.

The residential components of the development consist of a total of 317 dwellings made up of a combination of 199 attached and detached, two and three storey dwellings and six, five storey apartment buildings containing a total 118 dwelling apartments.

All of the dwellings contain an individual building design framework, generally reflective of the various clearly defined precincts within the project site, which have been named after the derived character of the particular vegetation evidenced, together with the introduced architectural built form and/or natural site features. These precincts are described below and identified on the **Precinct Plan** at **Figure 1.2**.

Northern Conservation Precinct

A managed bushland precinct in the northern portion of the site, abutting the sewer works and Booti Booti National Park, with bushfire trails for walking and cycling. Occasional shelters for relaxation and refuge from the weather, are designed to blend into the surrounding natural environment. Paths connect precincts and landscape elements within the site whilst providing emergency fire trail access and egress.

Southern Conservation Precinct

A managed bushland precinct in the southern portion of the site, abutting Booti Booti National Park with bushfire trails for walking and cycling. Occasional shelters for relaxation and refuge from the weather together with outdoor work-out areas, are designed to blend into the surrounding natural environment. Paths connect precincts and landscape elements within the site whilst providing emergency fire trail access and egress.

The Boardwalk

Located at the site entrance, this precinct has general public access including bus stop and shelter and car parking and comprises maintenance facilities, possible future bushfire shed as required by RFS, the administration, retail and community centre with cafe and outdoor seating, recreation facilities, a local shop, conference centre, commercial suites, playground, gymnasium, day spa and a future childcare facility.

The Crest

In close proximity to The Boardwalk, this precinct offers a mix of attached and detached housing adjacent community parkland. A variety of accommodation is provided in the housing, including adaptable living solutions.

The Forest

In the North Western corner of the site, this precinct offers detached houses with attached and detached garages and carports nestled into a managed "forest" like environment with centralised community parks and pool.

The Palms

This precinct is a unique and small enclave of detached housing connected to The Boardwalk precinct by bridges and raised walkways over a natural overland swale. It is situated in the south western portion of the site, amidst the tall Paperbarks and Cabbage

Tree Palms. The dwellings predominantly focus around a small lagoon style pool and parkland central to the precinct.

The Dunes

Central to the site, this precinct provides a series of on ground, detached dwellings with some adaptable housing solutions focused on maximising thermal massing and true north solar gain. The housing backs onto the natural bushland peripheries at its extremities whilst focusing on a unique pool winding through the centre of the precinct enabling a choice of bushland or waterfront living.

The Fronds

Situated in the north eastern portion of the site, adjacent to the amenities of The Dunes and The Cove, the precinct offers secluded living with private plunge pools or spas looking into the surrounding managed Northern Conservation Precinct. The Fronds comprises of predominantly attached dwellings separated by natural site features and community parkland. Some on ground adaptable living options are available.

The Cove

This precinct comprises of two apartment buildings, of maximum five stories in height plus basement parking, with a small ground floor shop, a café and first- floor restaurant, gymnasium and private recreation facilities wrapping around a community "rock" pool at the eastern boundary of the site. A bushfire tower sits to the east of the apartments.

The Point

In the south eastern portion of the site, this precinct comprises four apartment buildings, of maximum five stories in height plus basement parking, located around private pools and recreation areas. A pair of tennis courts are located adjacent to this group of buildings.

2.2 SUMMARY OF DEVELOPMENT COMPONENTS

The overall proposal incorporates the following development components:

RESIDENTIAL BUILDINGS (317 DWELLINGS AND APARTMENTS)

- 171 x Detached two storey dwelling houses.
- 22 x Attached two storey dwelling houses.
- 7 x Detached three storey dwelling houses.
- Two individual apartment blocks of five stories (The Cove) containing 39 units of 1 to 4 bedrooms with podium retail, restaurant, café, gym and pool.
- Four individual apartment blocks of five stories (The Point) containing 79 units of 1 to 4 bedrooms.

SHOPS AND COMMERCIAL BUILDINGS

(CONSISTING OF A MAXIMUM OF 1000 m² FLOOR SPACE)

- Retail, business, recreation and administration centre
- One restaurant and 2 café's.

OTHER BUILDINGS

- Child Care facility
- Storage and maintenance sheds
- Bushfire facilities shed
- Bushfire/Surf-watch tower
- Gymnasiums
- Cabanas and pool equipment structures, and
- Small rest shelters and outdoor work out areas located on walking tracks/cycleways.

SUBDIVISION AND ENGINEERING COMPONENTS

- Community title subdivision creating development lots complementary to the proposed built development form in a phased fashion, in addition to strata lot subdivision of the proposed apartments and commercial components with a substantial land area held by the community association which includes 38 ha of conservation area land.
- A combination of public and private roads incorporating ancillary parking and bus stops, delivery access ways, cycleways and pedestrian pathways.
- Extensive internal passive and active recreational areas in the form of swimming pools, tennis courts, playgrounds and parklands.
- State of the art water management (including stormwater), sediment and nutrient controls.

CONSERVATION COMPONENTS

- Two distinctly, clearly defined conservation areas to be rehabilitated, enhanced and maintained.
- Re-establishment of wildlife corridors and maintenance of existing and rehabilitated corridors.
- Identification, protection and maintenance of identified Aboriginal scar tree.
- Establishment of a bushfire protection regime in the form of asset protection zones and fire trails, maintained under a Bushfire Management Plan.
- Approximately 10 hectares of the adjoining Booti Booti National Park is to be rehabilitated under the Eastern Habitat Corridor Regeneration Plan.

PLANS

The plans for the Proposed Project are reflective of the phasing of the development and form volumes three and four to this application.

SPECIALIST REPORTS

Table one lists the specialist reports (which are included in volume two to this application) which have been integral in both the assessment of the development constraints of the site and the formulation of the proposed project.

TABLE TWO – LIST OF SPECIALIST REPORTS

NAME OF THE REPORT	AUTHOR	DATE	APPENDIX REFERENCE
Bushfire Protection Assessment Updated as per RFS	Conacher Travers Pty Ltd;	Jul-06	1
Bushfire Fuel Management Plan Updated as per RFS	Conacher Travers Pty Ltd;	Jul-06	2
Bushfire Contingency Plan Updated as per RFS	Conacher Travers Pty Ltd;	Jul-06	3
Bushfire Emergency Response Plan	Conacher Travers Pty Ltd;	Jul-06	4
Aboriginal Heritage Impact Assessment	Andrew Roberts, ARC Consulting;	Nov-04	5
Aboriginal Heritage Addendum	Andrew Roberts, ARC Consulting;	Jun-06	
Landscape Design Report	Site Image Pty Ltd;	May-06	6
Social Impact Assessment -	Key Insights Pty Ltd;	Dec-04	7
Odour Monitoring and Modelling Report	GHD Pty Ltd;	Dec-04	8
Traffic Assessment	GHD Pty Ltd;	Jul-05	9
Traffic Assessment Updated Advice	GHD Pty Ltd	Dec-05	
Internal Traffic Assessment Updated Advice	GHD Pty Ltd	Jun-06	
Further Internal Traffic Assessment Updated Advice	GHD Pty Ltd	Dec-06	
Stormwater Management Plan	Boyden & Partners Pty Ltd;	Jan-06	10
Geotechnical Assessment	Coffey Geosciences Pty Ltd;	Jun-04	11
Ground Water Monitoring Results	Coffey Geosciences Pty Ltd;	Nov-04	12
Ground Water Monitoring Results	Coffey Geosciences Pty Ltd	Oct-05	
Acid Sulphate Soils Assessment	Coffey Geosciences Pty Ltd;	Dec-04	13
Geotechnical Assessment; -Building Foundations & Design Parameters	Coffey Geosciences Pty Ltd;	Dec 05;	14
Species Impact Statement	Ecotone Ecological Consultants P/L	May-03	15
The addendum to the Species Impact Statement	Ecotone Ecological Consultants P/L	Sep 05;	
Hollow-bearing Tree Assessment	Conacher Travers Pty Ltd;	Jul-06	16
Squirrel Glider Tracking Report	Conacher Travers Pty Ltd;	Nov-05	17
Squirrel Glider Habitat Management Plan	Conacher Travers Pty Ltd;	Jul-06	18
Pest Species Management Plan	Conacher Travers Pty Ltd;	Jul-06;	19
Tree Management Plan	Conacher Travers Pty Ltd;	Jul-06	20
Eastern Habitat Corridor Restoration Plan	Conacher Travers Pty Ltd;	Jul-06;	21
Bushland Management Plan	Conacher Travers Pty Ltd;	Jul-06	22
Ecological Site Management Plan	Conacher Travers Pty Ltd;	Dec-06	23
Environmental Validation Report	Conacher Travers Pty Ltd;	Dec-06	24
Signage Masterplan	Diadem	May 06;	25
Access Report	Accessibility Solutions (NSW) P/L	May 06;	26
Waste Management Report	URS Australia Pty Ltd	Dec 05;	27
7 Part Test Of Significance	Conacher Travers Pty Ltd;	Aug 06	28



FIGURE 2.1 Development Plan

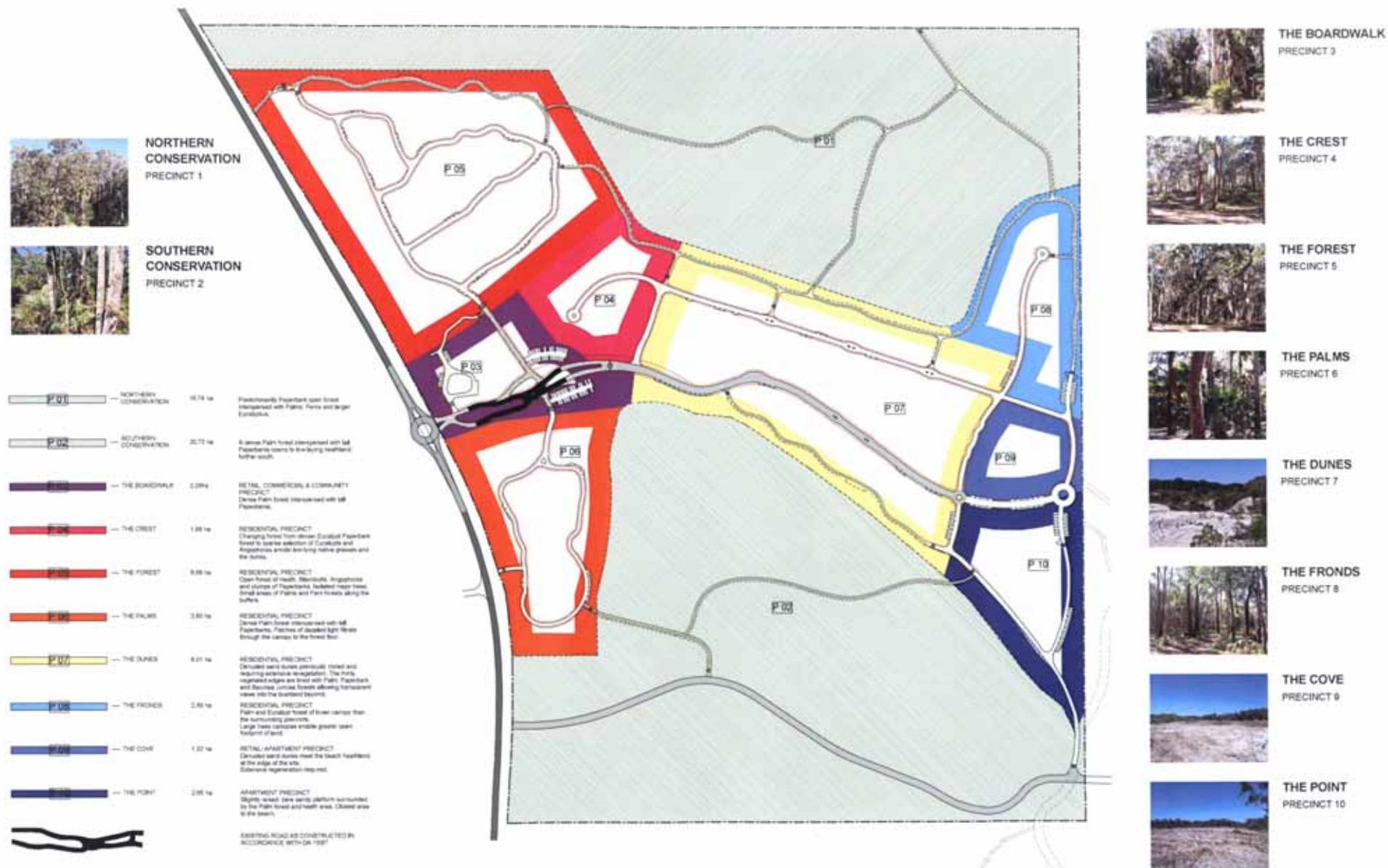


FIGURE 2.2 Precinct Plan

2.3 SUMMARY OF PHASE COMPONENTS.

The following phase component plans and table (Table Three) describe the works applicable to each construction phase of the proposed project and states the proponents objectives.

In summary the project contains 7 Precincts, 2 of which are broken into 2 parts creating 9 specific development/construction areas. The size of these areas is related to what is perceived as the sales demand in the market place for those dwellings.

Each specific area will generally contain 2 phases of construction work: civil/subdivision and building, thus creating 18 construction phases in all. Generally odd numbered phases contain the civil works and even numbered phases contain the building works.

The exceptions are:

Phase 1 - containing a combination of works to establish the site and includes in part :

- Environmental works
- Bulk earthworks
- Civil works
- The Major Pool

Phase 15A - containing both civil works and the building of the basement car park for The Cove apartments in that Precinct.

Phase 15B - contains the building of the remainder of the apartments in that The Cove Precinct.

Phase 16A - containing both civil works and the building of half the basement car park for the apartments in The Point Precinct.

Phase 16B - contains the building of the remainder of the apartments in The Point Precinct.

Table 3 is to be read in conjunction with the drawings listed as follows:

- Construction Phasing Precincts
- Environmental Works
- Civil Works
- Common area Pools
- Building Works
- Landscaping, Irrigation & Signage Works
- Subdivisions

The colours in the Phase margin of the Table relate directly to the colours used on the drawings. This clearly identifies the works required to be completed in each construction phase to enable the release of the plan of subdivision or strata plan.

The proposed order in which will be undertaken is as follows: -

- Phase 1
- Phase 2 & 15A, 15B & 16A Concurrently
- Phase 3
- Phase 4
- Phase 5
- Phase 6
- Phase 7
- Phase 8
- Phase 9
- Phase 10
- Phase 11
- Phase 12
- Phase 13 + 16B Concurrently
- Phase 14

2.4 PHASE COMPONENT PLANS.



TO BE READ IN CONJUNCTION WITH TABLE 3
THE SCHEDULE OF WORKS APPLICABLE
TO EACH PHASE

FIGURE 2.3 - PRECINCTS

THE LAKES WAY SEVEN MILE BEACH FORSTER NSW

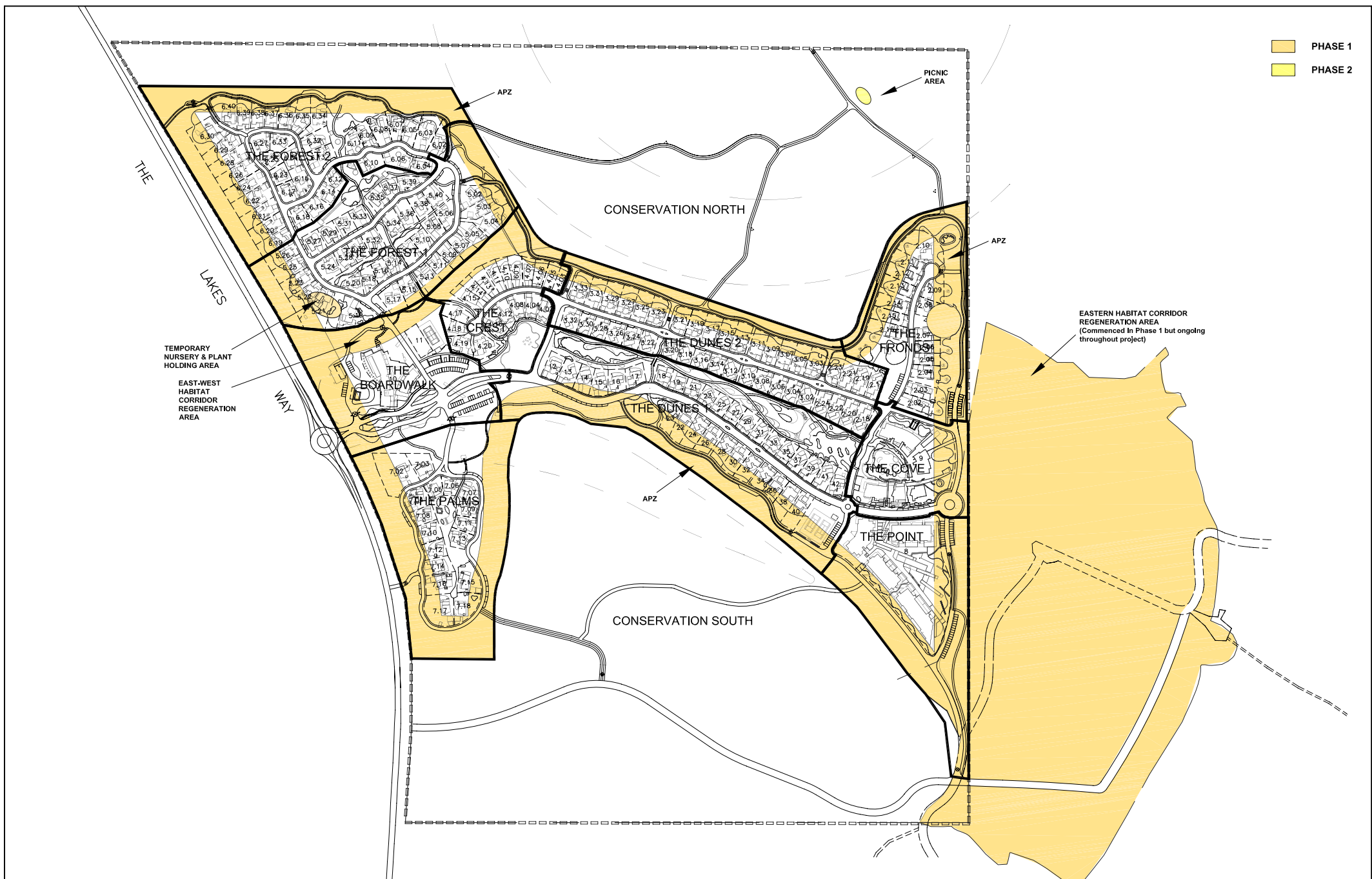
PROPOSED PROJECT
PHASE COMPONENT PLANS



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13

DATE
DEC. 2006



TO BE READ IN CONJUNCTION WITH TABLE 3
THE SCHEDULE OF WORKS APPLICABLE
TO EACH PHASE

FIGURE 2.4 - ENVIRONMENTAL WORKS

THE LAKES WAY SEVEN MILE BEACH FORSTER NSW

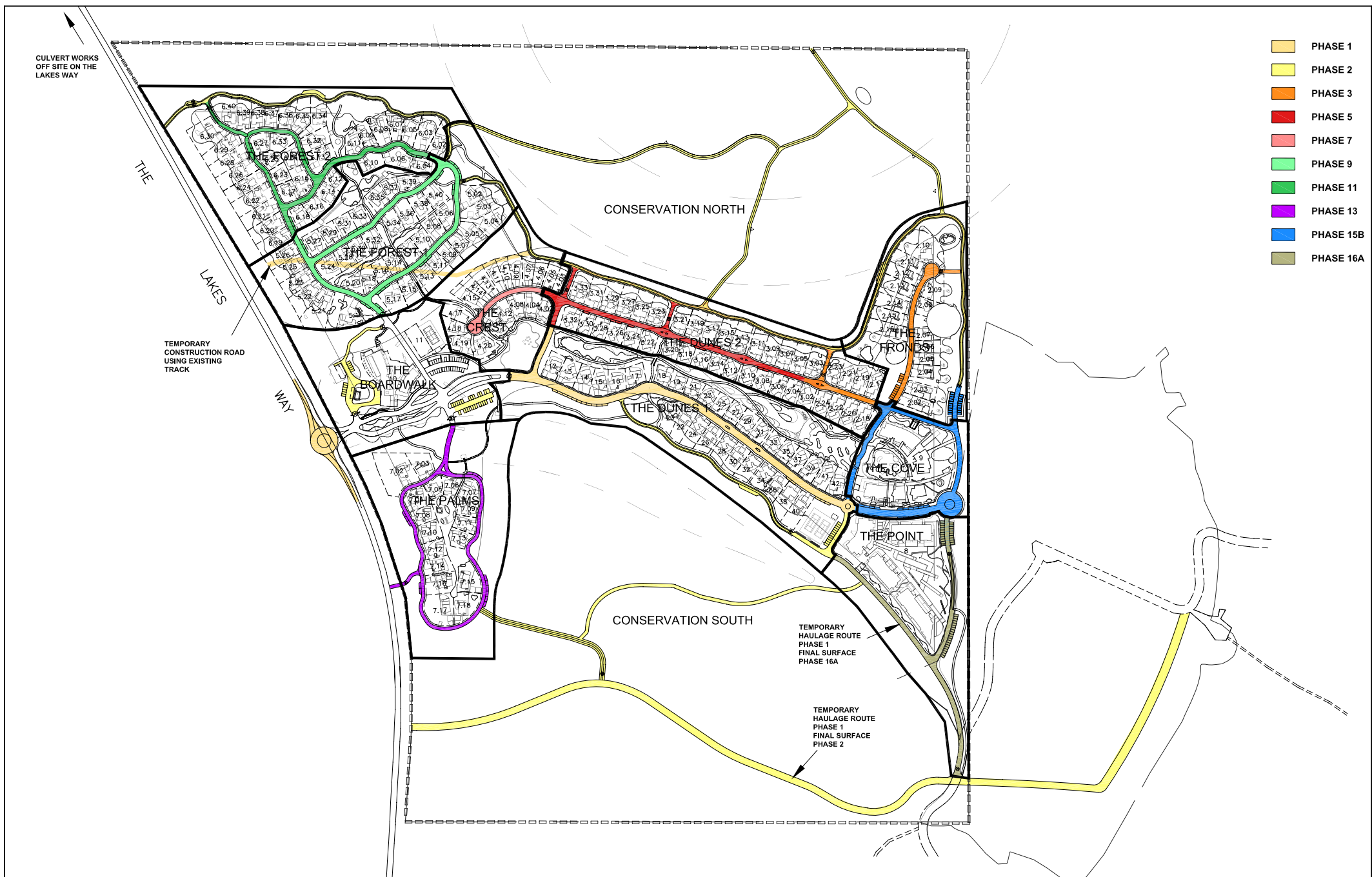
PROPOSED PROJECT
PHASE COMPONENT PLANS



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TO BE READ IN CONJUNCTION WITH TABLE 3
THE SCHEDULE OF WORKS APPLICABLE
TO EACH PHASE

FIGURE 2.5 - CIVIL WORKS

THE LAKES WAY SEVEN MILE BEACH FORSTER NSW

PROPOSED PROJECT
PHASE COMPONENT PLANS



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TO BE READ IN CONJUNCTION WITH TABLE 3
THE SCHEDULE OF WORKS APPLICABLE
TO EACH PHASE

FIGURE 2.6 - COMMON AREA POOLS

THE LAKES WAY SEVEN MILE BEACH FORSTER NSW

PROPOSED PROJECT
PHASE COMPONENT PLANS



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TO BE READ IN CONJUNCTION WITH TABLE 3
THE SCHEDULE OF WORKS APPLICABLE
TO EACH PHASE

FIGURE 2.7 - BUILDING WORKS

THE LAKES WAY SEVEN MILE BEACH FORSTER NSW

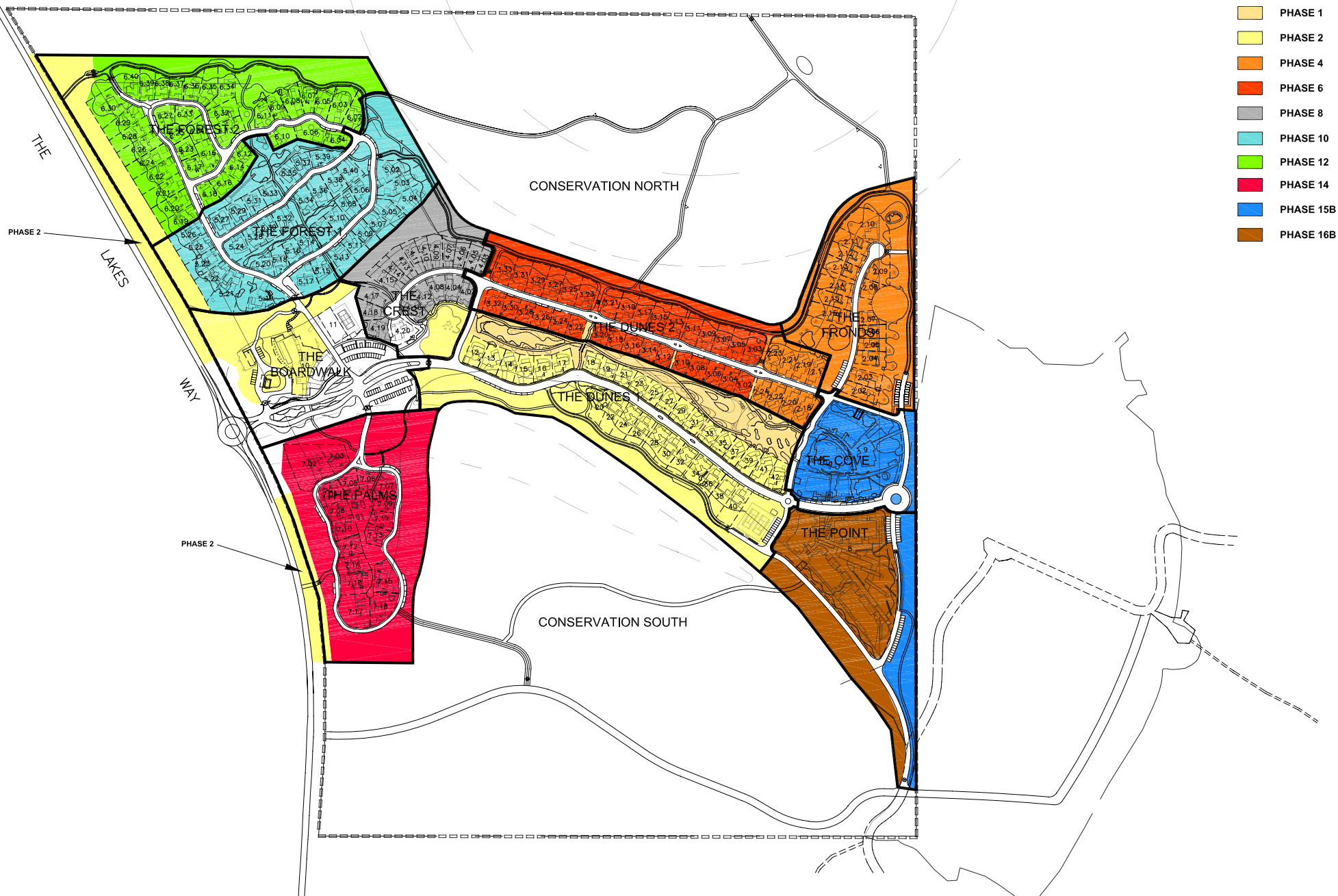
PROPOSED PROJECT
PHASE COMPONENT PLANS



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TO BE READ IN CONJUNCTION WITH TABLE 3
THE SCHEDULE OF WORKS APPLICABLE
TO EACH PHASE

FIGURE 2.8 - LANDSCAPING, IRRIGATION, SIGNAGE

THE LAKES WAY SEVEN MILE BEACH FORSTER NSW

PROPOSED PROJECT
PHASE COMPONENT PLANS



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TABLE THREE
SCHEDULE OF WORKS APPLICABLE TO EACH CONSTRUCTION PHASE

PHASE	WORKS	PROPOSERS PHASE OBJECTIVES
PHASE 1	ENVIRONMENTAL WORKS Undertake works as set out in Ecological Site Management Plan for this phase: Create and issue Environmental Induction Manual to all personnel . Initiate all Environmental protection measures . Install Protection to Scar Tree in The Fronds. Creation of Picnic Area in Northern Conservation Area . Creation of all APZ's. Creation of temporary Nursery / Plant Holding Area.	(COMMUNITY AREAS & ROADS IN THE BOARDWALK & DUNES 1), SUPER LOTS 2 TO 11 INCLUSIVE & LOTS 12 TO 42 INCLUSIVE
PHASE 1	BULK EARTHWORKS Entire Site Sediment Control to all areas that will be disturbed. Regrading of site as necessary, Removal of Trees approved to be removed. The Palms and The Forest 1 & 2 Drainage swales to The Lakes Way frontage. The Palms to The BoardwalkThe Dunes 1 & 2 Transplanting of Palms marked "to be relocated" from the Palms Precinct to The Dunes Precinct	
PHASE 1	CIVIL WORKS The Lakes Way Roundabout - Entry. Construction of culvert north of the site. The Dunes 1 Roads, Drainage, Services, excl. works west & north of Community Center Building. Bio-Retention to southern edge of The Dunes 1. The Forest, Dunes 1 Lead in Sewer Lines, Pump Stations 1 & 2. The Forest 1, The Crest, The Dunes 2 & The Fronds Temporary Construction Road (at completion of Bulk Earthworks).	
PHASE 1	COMMON AREA POOLS The Dunes Dunes Community Pool, Plant Rooms and Amenities Buildings.	
PHASE 1	BUILDING Temporary Display Apartment located on tennis court slab on Part of Lot 1.	
PHASE 1	IRRIGATION The Boardwalk, The Dunes 1 Irrigation to landscaped areas in these Precincts.	
PHASE 1	SIGNAGE Generally Identification Signs for Project. Traffic Control Signs. The Fronds Interpretive Signage for Scar Tree.	
PHASE 1	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Boardwalk & The Dunes 1), Super Lots 2 to 11 & Lots 12 to 42.	

PHASE	WORKS	PROONENTS PHASE OBJECTIVES
PHASE 2	ENVIRONMENTAL WORKS Undertake environmental works as required for this phase. Creation of Picnic Area in Northern Conservation Area .	
PHASE 2	CIVIL WORKS Conservation Areas North & South Cycle & Pedestrian Paths in Conservation Areas except construction haulage trails. The Point Mechanical Security Gate to replace temporary gate at southern end of this precinct. The Point Temporary gate to road at the southern end of this Precinct The Boardwalk Southern Car Park. Roads, Drainage & Services west & north of Community Center. Mechanical security gates to the Maintenance Area, 2 (off) Pool chemical top up lines and spill isolation area. Entire site Perimeter Fire Roads Hard Base only & Gates to external boundaries except to eastern edge of site. Southern Conservation Area Construct a new sealed Public Access road from The Lakes Way to the eastern boundary of the site. Continue the Public Access Road using compacted hardbase from the eastern boundary of the site through the National Park to meet the existing road at the disused parking area and a construction of a new National Park carpark. Construct base & fence & install LP Gas tanks	
PHASE 2	COMMON AREA POOLS The Boardwalk Pool & Plant Room (within Community Centre western building).	
PHASE 2	BUILDING The Boardwalk Community Centre Complex western building incl. decks & pathways. Maintenance Shed. Remove Temporary Display Apartment toward the end of this Phase. The Dunes 1 Houses on Lots 12 to 42. Conservation Areas All Shelters.	
PHASE 2	IRRIGATION The Boardwalk, The Dunes 1 All Irrigation in these Precincts.	
PHASE 2	LANDSCAPING The Lakes Way Remainder of landscaping to The Lakes Way Frontage on western boundary. Landscape Manuals. Security Fencing to Western boundary incl. returns North and South. Scar Tree Buffer Zone and Fence. Dunes Community Pool & Park Softworks, Hardworks, All Tennis Courts, Shelters, Bridges, Boardwalk Playground and all Planting. The Park in southern side of The Crest . The Dunes 1 Landscape House Lots 12 to 42, including adjacent nature strip. Perimeter Fire Roads and Gates completed. Landscaping of APZ within this Precinct.	
PHASE 2	SIGNAGE Part of The Crest & The Dunes 1 All Signage for these Precincts.	

PHASE	WORKS	PROPOSERS PHASE OBJECTIVES
PHASE 3	ENVIRONMENTAL WORKS Undertake environmental works as required for this phase.	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN THE FRONDS & PART DUNES 2) & LOTS 2.02 TO 2.24 INCLUSIVE
PHASE 3	CIVIL WORKS The Fronds & Part of The Dunes 2 Roads, Drainage, Irrigation main, Services & Bio Retention.	
PHASE 3	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Fronds & Part Dunes 2 precincts) & House Lots 2.02 to 2.24.	
PHASE 4	ENVIRONMENTAL WORKS Undertake environmental works as required for this phase.	RELEASE OF BUILDING OCCUPATION CERTIFICATE FOR LOTS 2.02 TO 2.24 INCLUSIVE
PHASE 4	BUILDING The Fronds & Part of The Dunes 2 Houses on Lots 2.02 to 2.24. Common Area Shelters.	
PHASE 4	IRRIGATION The Fronds & Part of The Dunes 2 All Irrigation in these Precincts.	
PHASE 4	LANDSCAPING The Fronds & Part of The Dunes 2 Landscape for House Lots 2.02 to 2.24, including adjacent nature strip. Softworks, Hardworks & Planting in these Precincts. Fitness stop. Perimeter Fire Roads and Gates completed. Landscaping of APZ in this Precinct.	
PHASE 4	SIGNAGE The Fronds & Part of The Dunes 2 All Signage for these Precincts.	
PHASE 5	CIVIL WORKS Remainder of The Dunes 2 Complete Roads, Drainage, Services, Irrigation main & Bio Retention.	
PHASE 5	SUBDIVISION Creation of Part Lot 1 (community areas & roads in the remainder of The Dunes 2 precinct) & House Lots 3.02 to 3.33.	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN REMAINDER THE DUNES 2) & LOTS 3.02 TO 3.33 INCLUSIVE
PHASE 6	BUILDING Remainder of The Dunes 2 Houses on Lots 3.02 to 3.33.	
PHASE 6	IRRIGATION Remainder of The Dunes 2 All irrigation in this Precinct.	
PHASE 6	LANDSCAPING Remainder of The Dunes 2 Landscaping for House Lots 3.02 to 3.33, including adjacent nature strip. Complete all Softworks, Hardworks & Planting in this Precinct. Perimeter Fire Roads and Gates completed. Bio Retention to northern edge of Precinct. Landscaping of APZ within this Precinct.	
PHASE 6	SIGNAGE Remainder of The Dunes 2 All Signage for this Precinct.	
PHASE 7	CIVIL WORKS The Crest Roads, Drainage Irrigation main, & Services.	
PHASE 7	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Crest Precinct) & House Lots 4.02 to 4.20.	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN THE CREST) & LOTS 4.02 TO 4.20 INCLUSIVE

PHASE	WORKS	PROPONENTS PHASE OBJECTIVES
PHASE 8	BUILDING The Crest Houses on Lots 4.02 to 4.19. Fire Equipment Building if required by RFS.	RELEASE OF BUILDING OCCUPATION CERTIFICATE FOR LOTS 4.02 TO 4.20 INCLUSIVE
PHASE 8	IRRIGATION The Crest All irrigation in this Precinct	
PHASE 8	LANDSCAPING The Crest Landscaping for House Lots 4.02 to 4.19, including adjacent nature strip. Softworks, Hardworks & Planting in this Precinct. Perimeter Fire Roads and Gates completed. Landscaping of APZ within this Precinct.	
PHASE 8	SIGNAGE The Crest All Signage for this Precinct.	
PHASE 9	CIVIL WORKS The Forest 1 Roads, Drainage, Services Irrigation main & Bio Retention. Mechanical security gates to The Forest.	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN THE FOREST 1) & LOTS 5.02 TO 5.40 INCLUSIVE
PHASE 9	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Forest 1 Precinct) & House Lots 5.02 to 5.40.	
PHASE 10	COMMON AREA POOLS The Forest 1 Pool, its Plant room, and Shelter over Plant room.	RELEASE OF BUILDING OCCUPATION CERTIFICATE FOR LOTS 5.02 TO 5.40 INCLUSIVE
PHASE 10	BUILDING The Forest 1 Houses on Lots 5.02 to 5.40. Common area Shelters.	
PHASE 10	IRRIGATION The Forest 1 All irrigation in this Precinct.	
PHASE 10	LANDSCAPING The Forest 1 Landscaping for House Lots 5.2 to 5.40, including adjacent nature strip. Softworks, Hardworks & Planting in this Precinct. Perimeter Fire Roads and Gates completed. Landscaping of APZ within this Precinct.	
PHASE 10	SIGNAGE The Forest 1 All Signage for this Precinct.	
PHASE 11	CIVIL WORKS The Forest 2 Roads, Drainage Irrigation main Services & finalise fire road access to The Lakes Way.	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN THE FOREST 2) & LOTS 5.02 TO 5.40 INCLUSIVE
PHASE 11	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Forest 2 Precinct) & House Lots 6.02 to 6.40.	

PHASE	WORKS	PROPONENTS PHASE OBJECTIVES
PHASE 12	BUILDING	RELEASE OF BUILDING OCCUPATION CERTIFICATE FOR LOTS 6.02 TO 6.40 INCLUSIVE
	The Forest 2 Houses on Lots 6.02 to 6.40. Common area Shelters.	
PHASE 12	IRRIGATION	
	The Forest 2 All irrigation in this Precinct.	
PHASE 12	LANDSCAPING	
	The Forest 2 Landscaping for House Lots 6.02 to 6.40, including adjacent nature strip. Softworks, Hardworks & Planting in this Precinct. Perimeter Fire Roads incl. Gates completed and Bio Retention. Landscaping of APZ within this Precinct.	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN THE PALMS) & LOTS 7.02 TO 7.18 INCLUSIVE
PHASE 12	SIGNAGE	
	The Forest 2 All Signage for this Precinct.	
PHASE 13	CIVIL WORKS	
	The Palms Roads, Drainage Irrigation main & Services & finalise fire road access to The Lakes Way. Mechanical security gates to The Palms.	
PHASE 13	COMMON AREA POOLS	RELEASE OF BUILDING OCCUPATION CERTIFICATE FOR LOTS 7.02 TO 7.18 INCLUSIVE
	The Palms Pool, its Plant room and Shelter over Plant room.	
PHASE 13	SUBDIVISION	
	Creation of Part Lot 1 (community areas & roads in The Palms Precinct) & House Lots 7.02 to 7.18.	
PHASE 14	BUILDING	
	The Palms Houses on Lots 7.02 to 7.18. Common area Shelters.	
PHASE 14	IRRIGATION	
	The Palms All irrigation for this Precinct.	
PHASE 14	LANDSCAPING	
	The Palms Landscaping for House Lots 7.2 to 7.18, including adjacent nature strip. Softworks, Hardworks & Planting in this Precinct. Fitness stop. Perimeter Fire Roads incl. Gates completed and Bio Retention. Landscaping of APZ within this Precinct.	
PHASE 14	SIGNAGE	
	The Palms All Signage for this Precinct.	

PHASE	WORKS	PROPONENTS PHASE OBJECTIVES
PHASE 15A	BUILDING The Cove Apartment Blocks A & B Basement Car Park only (including ground floor slab in this Phase only).	RELEASE OF PLAN OF SUBDIVISION FOR PART LOT 1 (COMMUNITY AREAS & ROADS IN THE COVE) & STRATA LOTS 1 TO 37 INCLUSIVE IN THE SUBDIVISION OF LOT 9
PHASE 15B	BUILDING The Cove Apartment Blocks A & B.	
PHASE 15B	COMMON AREA POOLS The Cove All pools, spas, associated plant rooms & associated Shelters.	
PHASE 15B	CIVIL WORKS The Cove & Part The Fronds Roads, Drainage, Irrigation main & Services in The Cove incl. the car park in the south east corner of the Fronds. Pool chemical top up lines and spill isolation area.	
PHASE 15B	IRRIGATION The Cove All irrigation in this Precinct.	
PHASE 15B	LANDSCAPING The Cove & The Point Softworks, Hardworks & Planting in The Cove & the eastern APZ of The Cove & The Point.	
PHASE 15B	SIGNAGE The Cove All Signage in this Precinct.	
PHASE 15B	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Cove precinct) & 42 Strata Lots.	

PHASE	WORKS	PROPONENTS PHASE OBJECTIVES
PHASE 16A	BUILDING The Point Apartment Blocks D & C Basement Car Park only (including ground floor slab in this Phase only).	& STRATA LOTS 1 TO 80 INCLUSIVE IN THE SUBDIVISION OF LOT 8
PHASE 16B	BUILDING The Point Apartment Blocks E & F Basement Car Park. Apartment Blocks C, D, E & F.	
PHASE 16B	COMMON AREA POOLS The Point All pools, spas & associated plant rooms.	
PHASE 16B	CIVIL WORKS The Point Roads, Drainage Irrigation main & Services. Pool chemical top up lines and spill isolation area.	
PHASE 16B	IRRIGATION The Point All irrigation in this Precinct.	
PHASE 16B	LANDSCAPING The Point Softworks, Hardworks & Planting in this Precinct. Perimeter Fire Roads incl. Gates completed. Conservation Area South Perimeter Fire Roads incl. Gates completed. Landscaping of APZ within the south west of this Precinct.	
PHASE 16B	SIGNAGE The Point All Signage in this Precinct.	
PHASE 16B	SUBDIVISION Creation of Part Lot 1 (community areas & roads in The Point precinct) & 80 Strata Lots.	

3.0 SUPPORTING BACKGROUND INFORMATION

3.1 PROPERTY DESCRIPTION AND LOCATIONAL CONTEXT

The topographical & cadastral features of the site are illustrated on Figure 3.1

The subject project site is described as Lots 103, 142 and 178 DP 753168, The Lakes Way, Seven Mile Beach, South Forster, NSW and has an area of approximately 68 ha.

The site is situated on the periphery of the urban South Forster release area. To the north is the Forster Sewerage Treatment Works and Booti Booti National Park adjoins the land to the east and south. The Lakes Way forms the western boundary. The **Site Context Plan** at **Figure 3.1** illustrates the locational context of the project site, with the significant aspects summarized as:

- o The area capable of sustaining development has been defined with regard to existing site disturbance, past approvals and ecological management recommendations.
- o The Booti Booti National Park surrounding the project site from north of the adjacent sewer works, tertiary treatment plant, to the eastern and southern edges of the site.
- o A natural wetland conservation area (SEPP 14) adjacent to Wallis Lake
- o Two proposed areas of future residential development.
- o Public access to Seven Mile Beach which is located off The Lakes Way just south of the proposed project. The road, known as Scenic Way, is within the National Park, with the exception of one portion encroaching on the project site.
- o The general relationship of the project site to the surrounding coastal environment.

3.2 HISTORICAL APPROVALS

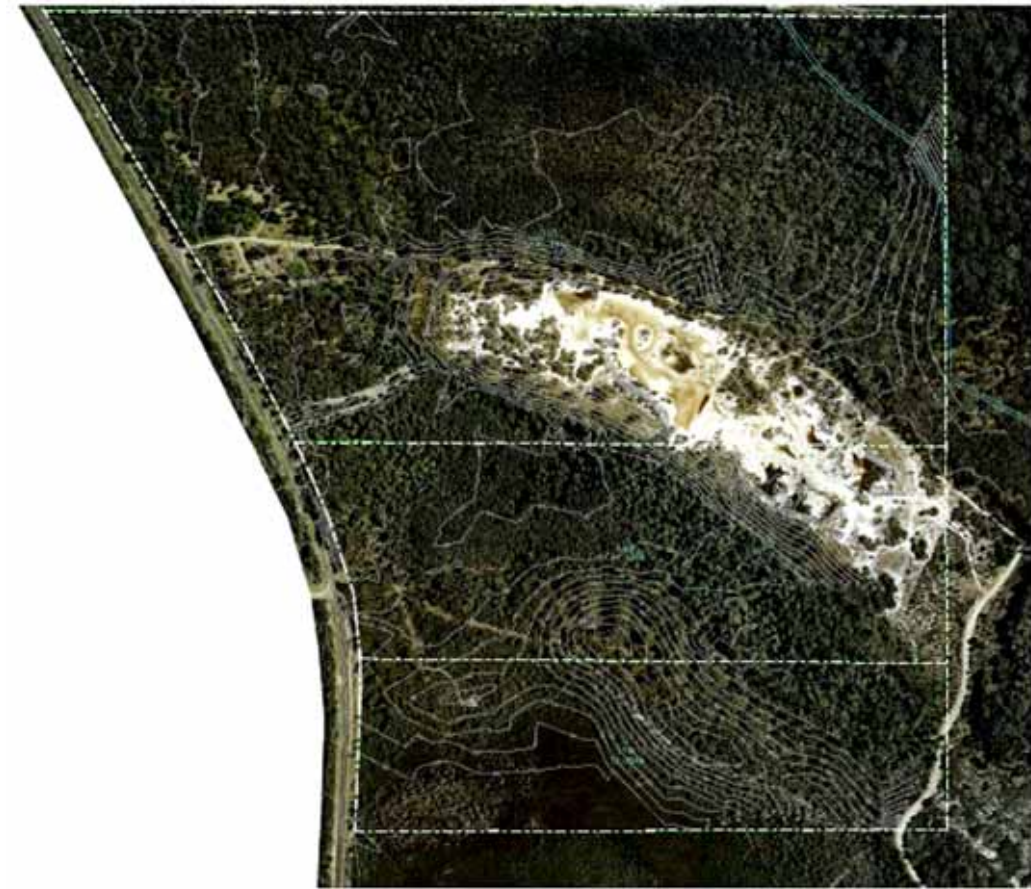
The site has a previous history of sand extraction which was carried out in the central portion of the site, as is evident by examination of **Figure 3.2**. Sand extraction occurred close to the water table resulting in periodic inundation of the quarry following heavy rainfall.

This quarry was abandoned many years ago and regular use by 4Wd vehicles and trail bikes plus the dumping of cars and rubbish has resulted in limited revegetation within and around the quarry. Further the quarry access road has been used as a shortcut to the beach following closure of the quarry. It is an area recognized as requiring rehabilitation and restoration which will be a positive outcome from the proposed project.

It is relevant to note that in 1996, development consent was granted to a tourist facility, which has commencement and comprised the following approved elements on the land:

- 364 lodges;
- administration and restaurant facilities;
- bowling green;
- 9 hole golf course;
- 4 storey 400 x bed motel; and
- associated recreation facilities.

Figure 3.3, illustrates is a **Comparison of the Previous Approval to the Current Proposal**, Examination identifies that the current proposal represents a 30% reduction in the gross development area of the previously approved proposal, from 45.27 hectares to 31.35 hectares.



SITE DATA

Seven Mile Beach site is under 3 separate titles.

Lot 103: 40.46 Ha

Lot 142: 16.11 Ha

Lot 178: 12.20 Ha

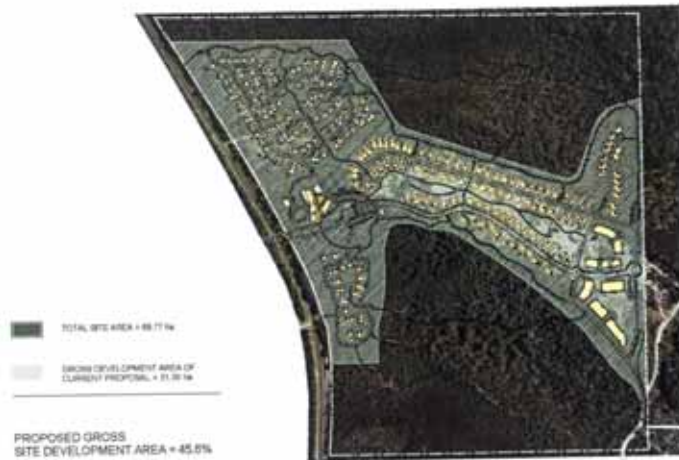
TOTAL: 68.77 Ha

Figure 3.1 Contour Survey of Existing Site



FIGURE 3.2 Site Context Analysis Plan

CURRENT DEVELOPMENT PROPOSAL



The site is bounded by Boots Boots National Park to the east and south, a tertiary treatment sewer works to the north, and The Lakes Way to the west.

The site has a previous history of sand extraction which was carried out in the central portion of the site, as is evident on the site photos. Sand extraction occurred close to the water table resulting in periodic inundation of the quarry following heavy rainfall.

This quarry was abandoned many years ago and regular use by 4WD vehicles and trail bikes plus the dumping of cars and rubbish has resulted in limited revegetation within and around the quarry area.

The original road from The Lakes Way to the quarry was used as a shortcut access to the beach following the closure of the sand mining quarry. This caused extensive degradation across this path and in the National Park area adjacent the site, where many tracks were made to the beach via Scenic Drive.

A development application for tourism purposes was approved in 1997 consisting of administration, activity and restaurant facility, 364 lodges with associated swimming pool, tennis court and playground facilities, a bowling green, 9 hole golf course and 4 storey, 400 bed hotel.

The 4 storey height limit was determined suitable following survey work between the site and beach to ensure development was below site lines from the beach, as noted in the original section below right.

EXISTING DEVELOPMENT APPROVAL

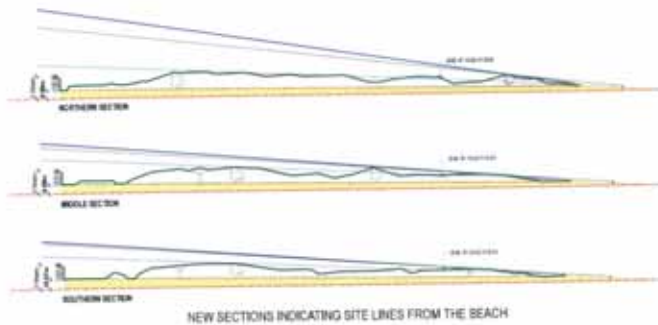


FIGURE 3.3 Comparison of Previous Approval to Current Proposal

4.0 STATEMENT OF COMMITMENTS

One of the DG's EA requirements is the inclusion of a draft Statement of Commitments detailing measures for environmental mitigation, management and monitoring for the project and certification by the author of the EA that the information contained in the Assessment is neither false nor misleading. The certification is provide at the beginning of the Ea and the following table provides details of the proponents commitments

TABLE FOUR – DRAFT STATEMENT OF COMMITMENTS

Seven Mile Beach
Statement of Commitments
Contents

1. Hours of Operation
2. Site Security
3. Appointment of Project Ecologist
4. Induction Manuals, Training and Contract Management
5. Site Construction Plans
6. Not Used
7. Approvals and Licenses
8. Bushfire Prevention and Hazard Reduction
9. Vegetation Protection
10. Tree Protection
11. Fencing
12. Weed Control
13. Pest Species Management
14. Squirrel Glider Management
15. Bush Regeneration
16. Habitat Management
17. Landscaping
18. Foundations/ Footings
19. Pets
20. Erosion and Sediment Control
21. Groundwater
22. Stormwater and Nutrient Control
23. Cut and Fill Management
24. Monitoring / Auditing & Reporting
25. Park Works

- 26. Heritage
- 27. Community Extension Program
- 28. Waste Management

Definitions:

AHIA means the November 2004, Andrew Roberts & Forster Local Aboriginal Land Council, Aboriginal Heritage Impact Assessment

AR means the May 2006, Accessibility Solutions (NSW) Pty Limited, Access Report

ASSA means the December 2004, Coffey Geosciences Pty Limited, Acid Sulphate Soils Assessment

BCP means the December 2004 (amended July 2006), Conacher Travers Pty Limited, Bushfire Contingency Plan

BERP means the December 2004 (amended July 2006), Conacher Travers Pty Limited, Bushfire Emergency Response Plan

BMP means the December 2005 (amended July 2006), Conacher Travers Pty Limited, Bushland Management Plan

BPA means the December 2004 (amended July 2006), Conacher Travers Pty Limited, Bushfire Protection Assessment

Deed means the Deed for the carrying out of works, Lake Way Forster between SMB Developments Pty Ltd, Director-General of the National Parks and Wildlife Service and the Minister for the Environment

EHCRP means the December 2005 (amended July 2006), Conacher Travers Pty Limited, Eastern Habitat Corridor Restoration Plan

ESMP means the May 2006 (amended December 2006), Conacher Travers Pty Limited, Ecological Site Management Plan

EVR means the November 2005 (amended December 2006), Conacher Travers Pty Limited, Environmental Validation Report

FMP means the December 2004 (amended July 2006), Conacher Travers Pty Limited, Bushfire Fuel Management Plan

GA means the June 2004, Coffey Geosciences Pty Limited, Geotechnical Assessment

GTA means the November 2005, Coffey Geosciences Pty Limited, Geotechnical Assessment- Building Foundations and Design Parameters

HBTA means the August 2005 (amended July 2006), Conacher Travers Pty Limited, Hollow-bearing Trees Assessment

LDR means the May 2006, Site Image Pty Limited, Landscape Design Report

PSMP means the December 2005 (amended July 2006), Conacher Travers Pty Limited, Pest Species Management Plan

SGHMP means the December 2005 (amended July 2006), Conacher Travers Pty Limited, Squirrel Glider Habitat Management Plan

SGRTR means the November 2005, Conacher Travers Pty Limited, Squirrel Glider Radio Tracking Report

SMS means the January 2006, Boyden & Partners, Stormwater Management Strategy

TMP means the December 2005 (amended July 2006), Conacher Travers Pty Limited, Tree Management Plan

WMP means the December 2005, URS Australia Pty Limited, Waste Management Plan

Draft Statement of Commitments

The Director-General has requested pursuant to section 75F(6) of the *Environmental Planning and Assessment Act 1979* that Seven Mile Beach Pty Ltd include a Draft Statement of Commitments in the EAR. If approval for the proposed project is granted, Seven Mile Beach Pty Ltd will commit to the following environmental management and mitigation measures for the proposed project:

<i>No.</i>	<i>Commitment</i>	<i>Source of Commitment</i>	<i>Applicable Phase</i>
1.	<i>Hours of Operation</i>		
	Construction works for the project will be limited to the hours of 7am to 7pm Monday to Saturday.		<i>All phases</i>
	<i>Site Security</i>		
	To prevent the unauthorised entry of people into the construction site and prevent damage to the environment, security for the construction site(s) will include: • Lockable security gates; • A security fence around the perimeter; • security lighting within the site; and • controlled access to the site through the site control office, visitor reception area and site management personnel.	<i>LDR 2.10</i>	<i>All phases</i>
	<i>Appointment of Project Ecologist</i>		
	A Project Ecologist shall be appointed for the development. The Project Ecologist will be a professional ecologist.	<i>SGHMP 2.3</i>	<i>Phase 1</i>
	The Project Ecologist will supervise and monitor activities on site during periods of construction works being undertaken.	<i>ESMP 5.1.1, EVR 6.0</i>	<i>All phases</i>
	<i>Induction Manuals, Training and Contract Management</i>		
	The proponent, in consultation with the Project Ecologist, will prepare induction manuals in accordance with section 5.1.1 of the ESMP.	<i>ESMP, 5.1.1</i>	<i>All phases</i>
	All employees and contractors involved with the development shall undergo an induction and training program to reinforce the ecological objectives of the development in conjunction with the induction manual. The Project Ecologist will be involved in the preparation and implementation of the induction program.	<i>ESMP, 5.1.1, EVR 6.0</i>	<i>All phases</i>
	All contracts for construction works are to require contractors to comply with all performance criteria listed in section 4.4 of the ESMP.	<i>ESMP 5.1.1</i>	<i>All phases</i>
	All contractors will be responsible for rectifying damage or paying fees for damage they have caused to trees identified for retention.	<i>TMP 4.4</i>	<i>All phases</i>

	Site Construction Plans		
	Prior to the commencement of construction works a site construction plan is to be prepared and approved by the Project Ecologist. The site constructions plans must not be inconsistent with the ESMP and any of the development consent conditions.	ESMP, 5.1.1, ESMP 5.2, EVR 6.0	All phases
	Not Used.		
	Approvals and Licenses		
	Approvals will be sought from the Department of Environment and Conservation and/or National Parks and Wildlife Service to undertake vegetation regeneration works identified in 3.2.1 of the EHCRP within Booti Booti National Park.	EHCRP 4.0, SGHMP 2.3, ESMP 5.5, TMP 3.10	Phase 1
	Approvals will be sought from the NPWS to undertake pest fauna species control within Booti Booti National Park	PSMP, 4.2	All phases
	Approvals will be sought from the Department of Environment and Conservation for a seed collection licence	EHCRP, 3.5 and 4.0	Phase 1
	If approval is granted, the proponent will undertaken the works approved by DEC/NPWS.	EHCRP, 3.3 and 3.5	Phase 1
	Bushfire Prevention and Hazard Reduction		
	Asset Protection Zones shall be provided in accordance with Tables 25-32 and Schedule 1 of the BPA.	BPA, 6.2 and Schedule 1, BERP 2.1	Phase 1
	Fire Management Zones to be provided in accordance with Figure 4 of the <i>Fuel Management Plan</i> and maintained in accordance with the Operational Works Schedule contained at Annexure 1 of the <i>Fuel Management Plan</i> .	FMP section 4.1, 6.0, Figure 4	All phases
	The proponent shall manage the fuel levels within the Asset Protection Zones in accordance with Figure 4 and section 5.2 of the Bushfire Fuel Management Plan until such time as the Community Subdivision is registered and the Community Association has jurisdiction.	BPA 5.2, Figure 4, Schedule 1	All phases
	Known Squirrel Glider denning sites as depicted in Figure 1 of the <i>Squirrel Glider Tracking Report</i> will be protected from destruction or damages from bushfire hazard reduction in accordance with the recommendations in Table 4 of the FMP.	FMP, Table 4 and SGHMP, 2.1, 2.5	All phases
	Hazard reduction is to avoid creating canopy separation greater than 10 metres to protect Squirrel Glider canopy movement.	SGRTR 5.0	All phases
	The buildings shall be constructed in accordance with the prevention strategies identified in Schedule 1 to the BPA, by Conacher Travers Pty Limited, July 2006.	BPA 5.2	Phases 1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	The proponent will provide the following fire fighting infrastructure prior to issue of the first occupation certificate for a residential or commercial building on the site: - external manoeuvring area capable of allowing 6 motor vehicles and 2 trucks to park - series of public swimming pools throughout the site.	BCP 4.2	Phases 1
	The proponent will provide water hydrants connected to town water for a precinct prior to issue of an occupation certificate for that precinct, as depicted in Schedule 1 to the <i>BERP</i>	BCP 4.2, BERP 2.1	All phases
	A telephone land line will be installed in each dwelling.	BERP 2.1	All phases
	Perimeter private roads will comply with 'NSW Rural Fire Services Planning for Bushfire Protection, 2001'.	BPA 6.2, 5.3.2	Phases 1, 2, 3, 5, 7, 9, 11, 13, 15A, 15B, 16B
	Fire trails will be located in accordance with Schedule 1 of the BPA and constructed to a formed width of 4 metres within a 6 metres wide by 6 metres high corridor clear of all vegetation and overhanging branches.	BPA 5.3.2, 6.2, BERP 2.1	Phases 1, 2, 4, 6, 8, 10, 12, 14, 16B

	metres high corridor clear of all vegetation and overhanging branches.		
	Proponent to undertake fire trail maintenance in accordance with Operational Works Schedule contained at Annexure 1 of the <i>Fuel Management Plan</i> prior to occupation of precincts by residents.	<i>FMP 7.8, Annexure 1</i>	<i>All phases</i>
	Bushfire activity within the Site will be mapped and recorded including the extent, intensity and dates using the fuel reporting form attached at Annexure 4 to the <i>Fuel Management Plan</i> .	<i>SGHMP 2.9, FMP 5.4-3, 7.5</i>	<i>All phases</i>
	Emergency access links to be provided by the proponent from the northern and southern most roads to link with The Lakes Way in accordance with Schedule 1 of the approved BPA.	<i>BPA 6.2</i>	<i>Phase 2</i>
	Proponent to prepare a Bushfire Incident and Evacuation Plan to provide a procedure in the event of fires threatening the development complex.	<i>BPA 6.2</i>	<i>Phase 2</i>
	Proponent will prepare performance assessment criteria for the future monitoring of fuel management activities.	<i>FMP, Annexure 1, p. 2</i>	<i>Phase 2 – prior to occupation certificate for first residential precinct.</i>
	Vegetation Protection		
	The proponent will ensure there is no residential development, clearing, slashing, harming, cutting, removal or disturbance of vegetation (other than weeding or bush regeneration) carried out within Precincts 1 (Northern Conservation Precinct) & 2 (Southern Conservation Precinct) unless otherwise approved.	<i>ESMP 5.5.1, SGHMP 2.1</i>	<i>All phases</i>
	The proponent will clearly mark areas to be cleared and areas to be protected before and during development / construction / regeneration works.	<i>BMP 3.2</i>	<i>All phases</i>
	Tree Protection		
	All canopy vegetation not impacted by building envelopes and roads is to be retained unless <i>approved by Project Ecologist</i> . Trees directly affected by the building envelope are to be removed, however trees that overhang or will touch buildings are to be retained in accordance with DCP 40, page 08 and 08a.	<i>EHCRP, 2.1.2, TMP 4.1, BMP 3.1</i>	<i>All phases</i>
	All trees will be retained on site as identified in the Tree Survey Plan No. 13 in DCP No. 34. Any planned retained trees may be removed if determined by a qualified arborist in consultation with the Project Ecologist as being dangerous. If removal is required, the tree must be inspected by the Project Ecologist prior to removal for identification of hollows.	<i>TMP Schedule 2; EVR 6.0</i>	<i>All phases</i>
	All trees removed will be replaced within the development site or conservation precincts at a ratio of 2:1 with the same species propagated from locally collected (indigenous) native plant seed stock or cuttings.	<i>EVR 1.5.13, SGHMP 2.3</i>	<i>All phases</i>
	The proponent will implement the Tree Protection Guidelines and Tree Protection Zones (TPZ) for all retained trees within the developable portions of the site as described in section 3.10 of the TMP as reasonably practicable.	<i>TMP, 3.9, 3.10, 3.11, BMP 2.9, ESMP 5.1.1, 6.2 and EVR 6.0</i>	<i>All phases</i>
	The Project Ecologist will inspect the site prior to, during and post construction to ensure trees designated for exclusion zones are adequately marked and other appropriate protection procedures are being maintained and to perform the duties listed in section 5 of the <i>TMP</i> .	<i>TMP 3.9, 5.0, BMP 2.9, ESMP 5.1.1</i>	<i>All phases</i>
	The following tree clearing techniques will be implemented: Tree Protection Zones will be avoided. If any tree to be removed is a hollow-bearing tree and occupied by native fauna, the tree will be lowered by a machine after the tree has been	<i>SGHMP 2.1, TMP 3.6, 3.7, 3.8, 4.2, EHCRP 2.3, 2.4, BMP 2.8, 3.2, ESMP 5.1.3, 5.1.7, EVR 6.0, 6.22</i>	<i>All phases</i>

	shaken to evict sheltering fauna. Once lowered, the Project Ecologist will examine all hollows for fauna occupation. If fauna are sheltering within a felled hollow, the hollow with the fauna still inside will be relocated to the Conservation Zones to allow the fauna to escape. Cleared vegetation will be mulched or wood chipped and used in nominated landscape beds; Removal of weeds and destruction or removal of all weed propagules, will be undertaken in accordance with appropriate Weed Management Techniques as provided in Appendix 2 of the EHCRP; Undertake weed control, bush regeneration methods and revegetation works as stipulated in Appendices 1 and 2 of the <i>BMP</i>; Regeneration of cleared surfaces via seeding, planting of native species, mulching and the installation of biodegradable blankets in accordance with the ESMP; implementation of water control measures including construction of earth banks, catch drains, detention and sediment ponds, grassed and armoured waterways, rock earth and sand bag dams and outlet protection systems; and All Cabbage Palm Trees required to be removed must be transplanted elsewhere within the development under the direction of the Project Ecologist. Transplantation of palms must be undertaken according to a pre trialled method and no more than 30% of fronds to be removed.		
	Tree protection will be installed around trees containing hollows or dens at least 1m beyond the canopy drip line.	<i>EVR 6.0</i>	<i>All phases</i>
	If filling occurs around the trunk of a species of tree listed below, blue metal will be placed around the base of each tree to separate the sand from the lower trunk and where possible, sandfill will be graded to approximately 100mm around the base of each tree: Angophora costata; Eucalyptus robusta; Eucalyptus pilularis; and Eucalyptus tereticomis.	<i>EVR 5.19</i>	<i>All phases</i>
	The proponent will provide Council with a Tree Protection Bond of \$60,000. This bond (or a proportion of the bond as applicable) will be reimbursed upon the completion of the development if no damage is caused to a hollow bearing tree that is to be retained. Council will retain \$5,000 from the bond for each negligent or deliberate damage caused to a hollow bearing tree that is to be retained.	<i>TMP 4.4</i> <i>(no bond req.)</i>	<i>Phase 1</i>
	All unintended damage to retained trees will be reported to the Project Ecologist who will recommend appropriate remedial measures if required.	<i>TMP 4.4.1</i>	<i>All phases</i>
	No on ground refugia (logs, rocks and dense understorey) is to be destroyed, moved, stockpiled, burnt or modified without the approval of the Project Ecologist.	<i>TMP 4.4.1</i>	<i>All phases</i>
	<i>Seed collection and propagation of locally endemic species to be used in restoration/regeneration to occur in accordance with Appendix 5 of the EHCRP</i>	<i>EHCRP 3.2.1</i>	<i>All phases</i>
	<i>Trees killed or damaged during the pre-construction, construction or post-construction phases that were to be retained, will be replaced with locally collected provenance seed propagated tubestock at a ratio of 3 to 1 planted at the location of the original tree</i>	<i>TMP 4.5</i>	<i>All phases</i>
	Fencing		

	All pre-existing internal fencing will be removed from the development area.	SGHMP 2.2	Phase 1
	All lengths of barbed wire on all existing boundary fences will be replaced with plain wire with the exception of the security fence to The Lakes Way on completion of each phase of the works.	SGHMP 2.2, BMP 3.2	All phases
	All areas outside the development areas will be fenced to control vehicle and pedestrian access and boundary fencing along The Lakes Way to be constructed adjacent to precinct gateways	LDR 2.10, BMP 3.2	Phase 2
	Access gates and fencing will be installed to each management area to allow vehicle access to land management personnel (where required).	LDR 2.10, SGHMP 2.2, BMP 3.2	All phases
	Through-site walkways will be constructed so that they are external to the pool areas or strictly controlled by secure pool fencing.	LDR 2.10	All phases
	Weed control		
	Weeds are to be progressively removed in accordance with the techniques recommended by the National Trust, NSW National Parks and Wildlife Service and the Australian Association of Bush Regenerators	BMP 2.4, Appendix 2	All phases
	All weed control measures will be undertaken by or under the supervision of a qualified Bushland Regenerator and in accordance with section 2.4 of the BMP.	TMP 4.1, BMP 2.4	All phases
	Noxious weed control will be undertaken across the whole development area in accordance with section 2.4 of the BMP.	EVR 6.0	All phases
	Targeted weed control will be undertaken throughout the retained bushland areas which is to include but not be limited to the following species: - <i>Tradescantia albiflora</i> (Wandering Jew) - <i>Lantana camara</i> (Lantana) - <i>Chrysanthemoides monilifera ssp Rotundata</i> (Bitou Bush) - <i>Rubus ulmifolius</i> (Blackberry) - <i>Ligustrum sinense</i> (Small Leaved Privet) - <i>Ligustrum lucidum</i> (Large Leaved Privet) - <i>Ipomea indica</i> (Coastal Morning Glory) - <i>Lonicera japonica</i> (Japanese Honey Suckle)	PSMP 3.7	All phases

	The impacted periphery areas of the Northern and Southern Conservation Precincts will be subject to weed control to facilitate the natural regeneration of native vegetation from the existing propagules present in the soil.	<i>BMP 2.5</i>	<i>All phases</i>
	Native species as contained in Appendix 3 of the <i>BMP</i> will be considered for any replacement planting once weeds removed.	<i>BMP 2.5</i>	<i>All phases</i>
	Pest Species Management		
	The proponent will implement a program using cage traps for trapping of foxes and stray cats in accordance with approvals from the Department of Agriculture and Rural Lands Protection Board biannually or as otherwise recommended by relevant authorities.	SGHMP 2.7, PSMP 4.3.1	All phases
	Baiting for wild dogs and foxes will be undertaken in accordance with approvals from the Rural Lands Protection Board, Department of Agriculture, (as applicable) the Department of Environment and Conservation and the Community Association and/or Council biannually or as otherwise recommended by local authorities.	SGHMP 2.7, PSMP 4.3.4	All phases
	Pest species monitoring and control programmes will be undertaken in accordance with Section 4.0 of the PSMP.	PSMP 4.0	All phases
	Bees occupying naturally occurring hollows within all hollow bearing trees will be removed by qualified a tree climber skilled in dealing with feral honey bees prior to removal of tree in accordance with section 4.0 of the PSMP. All other feral pests found in hollow-bearing trees will be removed.	PSMP 4.3.6; SCHMP 2.3	All phases
	<i>The proponent will undertake ongoing liaison with local rangers, other control authorities, community groups and adjacent landholders for advice, coordination and educational purposes relating to pest fauna management.</i>	<i>PSMP 4.1, 6.0</i>	<i>All phases</i>
	Squirrel Glider Management		
	The known Squirrel Glider denning sites depicted in Figure 1 of the Squirrel Glider Tracking Report are to be retained.	<i>SGHMP 2.1, 2.5</i>	<i>All phases</i>
	An artificial nest box design as shown in Appendix 1 of the Squirrel Glider Management Plan (<i>Conacher Travers Pty Limited 2005e</i>) is to be prepared to the satisfaction of Great Lakes Council and installed within the Conservation Zones at a rate of 2 nest boxes per hollow tree removed from the development area.	<i>HBTA, SGHMP 2.1, 2.3, 2.4, Appendix 1, TMP 3.11, EVR 6.0</i>	<i>All phases</i>
	The proponent will replant endemic species of trees and shrubs (as identified in Table 7 of the <i>SGHMP</i>) in habitat corridors and restored habitat areas where Squirrel Glider foraging habitat resources are considered by the Project Ecologist to be lacking to supplement the habitat and provide ongoing seasonal foraging resources throughout the year.	<i>SGRTR 5.0, SGHMP 2.3</i>	<i>All phases</i>
	Arboreal bridges will be installed where the Project Ecologist decides tree removal is likely to interrupt or exceed the average glide distance of	<i>HBTA, SGHMP 2.1, EHCRP</i>	<i>All phases</i>

	Squirrel Gliders particularly between denning and foraging resources.	2.1, ESMP 6.2	
	Regular (annual) distribution of pamphlet to residents will occur to provide information relating to the Squirrel Glider within the local area.	SGHMP 2.8	All phases
	Bush Regeneration		
	The proponent will engage a suitably qualified bush regenerator to supervise all regeneration works.	SGHMP 2.3, ESMP 5.1.1	Phase 1
	Suitable nursery grown tubestock will be replanted into designated restoration areas as shown in Figure 1 of the ESMP and appropriate ongoing management implemented to ensure continued growth, vitality and replacement of these plantings.	SGHMP 2.3	All phases
	The recruitment / augmentation of plantings within areas to be slashed for bushfire hazard management will be restricted unless significant dieback occurs.	BMP Sch A1	All phases
	Bush regeneration works will be undertaken in the Conservation Zones and Habitat Corridors in a manner generally in accordance with Appendix 1 of the BMP. Native vegetation will be rehabilitated in the Western Habitat Corridor linking Precinct 1 and The Lakes Way by supplementary planting with endemic species.	SGHMP 2.3	All phases
	Mulching is not to be used where <i>Hydrocotyl bonariensis</i> (Pennywort – Environmental Weed) is present or adjacent to a revegetation site. Woodchip or other mulch is to be placed at a depth of 75-100mm covering any areas of tree replanting or landscape areas. Areas surrounding the stems / trunks of plants are to be kept free from mulch to reduce the incidence of collar rot.	TMP 3.9, BMP 2.9, ESMP 5.1.1	All phases
	No mulch will be spread or stockpiled within Asset Protection Zones or within lot habitat areas.	ESMP 5.1.4, BMP	All phases
	Habitat Management		
	Habitat corridors will be established in accordance with Schedule 5 of the ESMP and restored in accordance with the requirements in section 5.5.2 of the ESMP	ESMP 5.5.2	All phases
	Exotic weeds and invasive species as listed in Table 4 of the BMP will be removed from the whole of the site including all conservation precincts, Eastern Habitat Corridor restoration Area and the Canopy Restoration Area.	EHCRP 2.1	All phases
	The hollow-bearing trees marked in green on Figure 1 to the HBTA are to be retained as reasonably practicable.	HBTA(Impacts on Squirrel Glider Population and Amelioration Measures)	All phases
	All areas of fallen timber identified by the Project Ecologist as fauna habitat prior to construction, will be protected and retained if appropriate. Any nests or roosts located during development works to be relocated to nearby retained trees by an experienced fauna ecologist.	EVR 6.0	Phase 1

	All felled hollows and affected fauna will be removed from the tree and relocated to suitable trees within the development areas or conservation zones.	HBTA, SGHMP 17.2	All phases
	Restoration or planting of native vegetation in highly disturbed areas will occur within the Eastern Habitat Corridor Restoration Area in accordance with the methods identified in Appendix 1 of the BMP. For works within the Booti Booti National Park, no works are to occur unless prior approval from DEC has been obtained.	EHCRP 2.1	All phases
	Supplementary planting of suitable endemic native tree species will occur within the Canopy Restoration Area, as shown in Figure 1 of the EHCRP, to provide canopy connectivity.	EHCRP 2.1	All phases
	Prior to vegetation clearance, a search for the following species will be undertaken and if located, the Site Construction Plan will be amended in consultation with the Project Ecologist to ameliorate any potential impacts: (a) Squirrel Glider (b) Common Blossom Bat (c) Wallum Froglet (d) Masked Owl (e) Little Bentwing-bat (f) <i>Asperula asthenes</i> (g) <i>Allocauarina defungens</i> (h) <i>Allocauarina simulans</i> (i) <i>Melaleuca biconvexa</i>.	ESMP 5.1	All phases
	Boundaries of the conservation areas, habitat corridors, landscaped beds and regeneration zones where they adjoin the development areas will be clearly marked-out on site.	EVR 6.0	All phases
	Landscaping		
	A visual screen will be maintained along The Lakes Way to screen the western precinct developments from travellers heading south and north along The Lakes Way.	LDR 2.10	Phase 2
	Swimming pools will be designed in accordance with Australian Codes and Council Codes prior to building.	LDR 2.10	Phases 1, 2, 10, 13, 15B, 16B
	Maintenance Manuals will be prepared by the proponent to assist in guiding ongoing maintenance of the landscaping of the site.	LDR 2.12	All phases
	Locally endemic native species will be used in all landscaping.	TMP 4.2, BMP 3.2	All phases
	Foundations/ Footings		
	After completing filling and prior to placement of footings, the proponent will cause penetrometer testing to be undertaken through the sand fill to	GTA 5.3.1	Phases 1, 2, 4, 6, 8,

	confirm an adequate degree of compaction.		10, 12, 14, 15A, 15B, 16A, 16B
	Footings for the proposed development will be designed and constructed in accordance with Australian Standard AS2870, 'Residential Slabs and Footings', if applicable.	GTA 5.3.1	1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	The Proponent will arrange a further investigation of Precinct 6 to define extent of soft clay layers and areas required for preloading.	GTA 5.3.2	Prior to phase 14
	Appropriate deep foundation method to be chosen and implemented in accordance with the geotechnical strength parameters contained in Table 6 of the GA dated 25 November 2005.	GTA 5.3.3	Phases 1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	Excavation will be carried out in accordance with the requirements in section 5.4 of the GA, dated 25 November 2005.	GTA 5.4	Phases 1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	Retaining walls will be constructed in accordance with specifications provided in section 5.5 of the GA dated 25 November 2005..	GTA 5.5	Phases 1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	Pets		
	Ownership of cats and dogs (other than "Assistance animals" as defined under in the <i>Disability Discrimination Act 1992</i> for people with disabilities) by residents will not be permitted within the development.	SGHMP 2.7, PSMP 4.1	All phases
	The proponent will erect and maintain pet control / restraint signage.		All phases
	Erosion and Sediment Control		
	Environmental protection fences/ sediment control fences will be installed prior to the commencement of any works in a precinct.	ESMP 6.2	All phases
	An Erosion and Sediment Control Plan will be submitted to the Council for approval prior to the commencement of construction which is to take into account the measures to be implemented listed in section 2.8 of the <i>BMP</i> and matters listed in sections 5.1.1 and 5.1.2 of the <i>ESMP</i> .	TMP 4.1, BMP 2.8, 3.1, ESMP 5.1.1, 5.1.2	Phase 1
	Proponent to draft and implement Acid Sulfate Soils Management Plan for excavations to be carried out below the water table prior to commencing building works in that precinct.	ASSA 5.7	All phases
	Groundwater		
	All residential development will be built on building platforms at RL 7.0 AHD in the sand ridge/borrow pit area and RL 4.0m AHD in the lower lying western portions of the site and designed to be formulated in accordance with maximum groundwater levels contained in Drawing No TA01483/01-2 attached to the GA dated 25 November 2005.	GA 5	Phases 1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	The Proponent will measure water quality before, during and after the development to ensure that ground and surface water quality is maintained.	EVR 6.0	All phases
	Stormwater and Nutrient Control		

	Stormwater management and nutrient control devices must be implemented in accordance with the approved Site Construction Plans and the Stormwater Master Plan contained at Attachments A and B to the SMS. These plans may be amended with approval from Council.	SMS 7.0, Attachment A and B	Phases 1, 2, 3, 5, 7, 9, 11, 13, 15A, 15B, 16B
	Stormwater flows are to be diverted through gross pollutant control and nutrient filter devices.	SMS	All phases
	Overflow from rainwater tanks and runoff from other hardstand areas must be conveyed either by the stormwater drainage system or swales to the biofiltration basins/detention systems located in accordance with the Stormwater Master Plan included as Attachments A and B to the SMS. Overflows from the basins must be directed to the culverts under The Lakes Way.	SMS 5.2.6	All phases
	Areas of managed grass in overland flow drains will be maintained to assist in providing protection for dispersing Wallum Froglets and other amphibians.	ESMP 4.2	All phases
	No high phosphate household chemicals are to be used on the site.	BMP 2.8	All phases
	No soil improvements may include pH adjusting additives.		All phases
	Reuse of collected stormwater runoff should be undertaken for non-potable purposes including toilet flushing, washing machines, garden irrigation and car washing.		All phases
	All taps connected to rainwater tanks are to be identified as 'RAINWATER' with a sign complying with AS 1319. The rainwater tanks can be backed up with mains water in case of dry weather.	SMS 23.9	Phases 2-14
	Leaf guards are to be provided on all gutters of the buildings.		Phases 1, 2, 4, 6, 8, 10, 12, 14, 15A, 15B, 16A, 16B
	Vegetation is only to be cleared within the building, driveway, services corridors and roadway footprints	SMS 5.2.3	All phases
	Buffer strips used for treatment of overland stormwater runoff to be either native vegetation or grassed areas	SMS 5.2.4	Phases 1, 2, 3, 5, 7, 9, 11, 13, 15A, 15B, 16B
	Cut and Fill Management		
	All cut and fill works will be carried out in accordance with Section 4.4.2 "Bulk Earthworks" of the ESMP.	TMP 4.3, BMP 3.1	All phases
	Where appropriate, fill will be graded down around the bole of trees. In cases where the level of fill is too high for this method to be practical, other measures such as the installation of blue metal fill surrounding the trunks of trees or the relocation of trees that are to be retained to the filled ground level may be done.	TMP 4.3	All phases
	Excavation, re-compaction of existing sand and placement of imported fill to be undertaken so that at least the upper 1m of sand is reused and has a density index of 70%.	GTA 5.3.1	All phases

	Pavement thickness to be designed and constructed in accordance with section 5.6 of the GA dated 25 November 2005 and the Pavement Thickness design Summary Sheets attached to the Assessment or as further amended by a geotechnical engineer or a structural engineer.	<i>GTA 5.6.1</i>	<i>Phase 1, 2, 3, 5, 7, 9, 11, 13, 15A, 15B, 16B</i>
	Site preparation to be carried out in accordance with section 5.7 of the GA, dated 25 November 2005	<i>GTA 5.7</i>	<i>Phase 1, 2, 3, 5, 7, 9, 11, 13, 15A, 15B, 16B</i>
	Monitoring / Auditing & Reporting		
	The Project Ecologist will conduct the audits and certification as required under Appendix 5 of the <i>ESMP</i> .	<i>SGHMP 2.3, 2.9, ESMP 5.3, EVR 6.0</i>	<i>All phases</i>
	Project Ecologist to review all activities relating to works in the habitat corridors every year for 10 years with a major plan review to occur every 5 years.	<i>SGHMP 3.5</i>	<i>All phases</i>
	An Annual Environmental Management Report will be prepared for the 12 month period from the date of commencement of construction and for each 12 month period thereafter until the final occupation certificate is issued for the site detailing the proponent's performance in relation to these commitments.	<i>ESMP 5.1.7</i>	<i>All phases</i>
	The site manager will maintain a daily logbook identifying the location, contractor and description of all earthworks, construction and environmental management activities undertaken. The logbook which will be made available to the Community Association upon request, with a summary of the logbook included in the annual report to Council.	<i>SGHMP 2.9, ESMP 5.2</i>	<i>All phases</i>
	The proponent will establish standard locations for monitoring (once yearly for 10 years and every 2 years thereafter) vegetation growth and weed control in the Squirrel Glider management areas.	<i>SGHMP 2.9</i>	<i>Phase 1</i>
	Squirrel Glider nest boxes will be monitored for glider use and condition annually for the first 10 years then every 2 years in perpetuity to assess occupancy rates of fauna, for condition and replacement as required. Monitoring will also include detection of the use of nest boxes by feral bees. Any exotic species will be removed.	<i>SGHMP 2.4</i>	<i>All phases</i>
	The Squirrel Glider monitoring is to include a minimum of 15 quantitative plot based (20m x 20m) surveys of vegetation floristics and structure in the Squirrel Glider management areas once every 5 years in perpetuity. Each report is to include a cumulative analysis of the results and data recorded in previous annual monitoring reports.	<i>SGHMP 2.9</i>	<i>All phases</i>
	The health and condition of the trees within the habitat corridors is to be monitored and all necessary steps taken to restore and replace any large trees lost since the previous monitoring period.	<i>SGHMP 2.3</i>	<i>All phases</i>
	An annual report will be prepared for submission to Council on the results of the monitoring and recording program along with details of work to be undertaken in the next monitoring program.	<i>SGHMP 2.9</i>	<i>All phases</i>
	The Proponent will comply with the measures, and the Project Ecologist will conduct an audit, identified in Appendix 7 of the <i>EHCRP</i> .	<i>EHCRP 3.5</i>	<i>All phases</i>
	Proponent to prepare an annual report summarising all fires that have occurred on site or on the immediate border of the site to be provided to Great Lakes Council until the final occupation certificate issued.	<i>FMP 7.1</i>	<i>All phases</i>

	Proponent shall review annually Chapter 6 (Managing the Environment) and all figures and annexures of the <i>Fuel Management Plan</i> until the final occupation certificate is issued.	<i>FMP 7.9</i>	<i>All phases</i>
	Proponent to monitor bushfire risk in accordance with checklist provided in Table 3 of the BCP until the final occupation certificate is issued.	<i>BCP 6.3, Table 3</i>	<i>All phases</i>
	Site landscape maintenance outcomes as contained in the <i>LDR</i> to be audited by the proponent on a regular basis to ensure all requirements set out in the <i>Conservation Land Use Management Plan</i> are met.	<i>LDR 2.12</i>	<i>All phases</i>
	The Proponent will implement a maintenance program which will include: • target noxious and environmental weed control • waste control • watering and revegetation maintenance • repairs to protection and sedimentation fencing; and • cleaning of any permanent anti-sedimentation structures or traps. to occur on a monthly basis during the construction phase.	<i>ESMP 5.1.6</i>	<i>All phases</i>
	Restoration works will be monitored by the Project Ecologist on a biannual basis during the construction phase. Project ecologist to submit a report to Council detailing the performance restoration works upon completion of the construction phase.	<i>ESMP 5.17</i>	<i>All phases</i>
	Communication protocol between Site Manager, project Ecologist and Contractors to be established to ensure compliance with the <i>ESMP</i>	<i>ESMP 6.2</i>	<i>Phase 1</i>
	Regular inspections and reports by the Project Ecologist on native vegetation protection and vegetation management measures to be undertaken at 6 months, 1 year and 2 years post construction with regular inspections at 1 year intervals thereafter.	<i>TMP 3.7, 4.2, BMP 2.6, 3.2, ESMP 5.1.7</i>	
	Park Works		
	The proponent is to construct a carpark within Booti Booti National Park and clear the land opposite the carpark to allow for vehicle manoeuvring approximately 150 metres from the northern termination of Scenic Drive within the National Park .	<i>Deed, Schedule 1</i>	<i>Phase 2</i>
	The proponent is to remove fencing along site of existing car park in Booti Booti National Park and carry out regeneration works in accordance with the EHCRP.	<i>Deed, Schedule 1</i>	<i>Phase 2</i>
	The proponent is to carry out works within the Booti Booti National Park in accordance with the EHCRP.	<i>Deed, Schedule 1</i>	<i>Phase 2</i>
	The proponent is to construct a two coat bitumen seal public access road extending from the Lakes Way to the south eastern corner of the proponent's site.	<i>Deed, Schedule 1</i>	<i>Phase 2</i>
	The proponent is to construct a compacted hardcore surface road within the Booti Booti National Park from the end of the road on the south eastern corner of the proponent's site to link with the Scenic Drive.	<i>Deed, Schedule 1</i>	<i>Phase 2</i>
	The proponent is to install signage and traffic management devices on the new road within Booti Booti National Park.	<i>Deed, Schedule 1</i>	<i>Phase 2</i>
	Heritage		
	In accordance with the AHIA (Andrew Roberts Consulting 2004), a representative of Forster Local Aboriginal Land Council (FLALC) shall monitor resurfacing activities on the main dune to ensure the protection of Aboriginal artifacts.	<i>ESMP 2.8, AHIA 6.3</i>	<i>Phase 1</i>
	If any Aboriginal objects are uncovered during resurfacing of the main dune and construction of site features, they shall be transferred into the existing pit marked orange on plan No. 14 in DCP No. 34 and reburied in consultation with the FLALC in accordance with any approvals from the DEC/NPWS.	<i>ESMP 2.8 AIHA 6.3</i>	<i>All phases</i>

	The scarred tree located within Precinct 8 - The Fronds will be retained and a buffer zone of 20 metres be put in place around the feature. Interpretive signage will be erected and the FLALC consulted as to its content. No controlled burns are to take place within 20 m of this aboriginal feature.	<i>ESMP 2.8, AIHA 6.3</i>	<i>Phase 1</i>
	Community Extension Program		
	The proponent will prepare the fact sheets described in section 4.26 of the ESMP excluding the sheet relating to 'Your Community Association'.	<i>EVR 6.0</i>	<i>Phase 2</i>
	Waste management		
	A final Waste Management Plan will be submitted to Council for approval prior to commencement of building works.	<i>WMP</i>	<i>Phase 2</i>
	Cabbage Tree Palms to be transplanted from Palms Precinct to Dunes Precinct, surplus waste to be taken to Tuncurry Management Centre for composting.	<i>WMP</i>	<i>All phases</i>

5.0 STATUTORY PLANNING FRAMEWORK

5.1 CURRENT ZONING AND RELEVANT PLANNING REGIME

The land is currently zoned 1(c) Future Urban Investigation, under Great Lakes Local Environmental Plan 1996 (as amended). The objective of the zone is to restrict development to that which is unlikely to:

- (a) lead to the premature and sporadic subdivision of land which would render the economic provision of public utilities and community facilities unreasonably more difficult or expensive once urban development takes place; or
- (b) inhibit, in a significant manner, the potential for urban expansion in selected areas, particularly the urban fringe; or
- (c) generate significant additional traffic or create or increase ribbon development on any road, relative to the capacity and safety of the road; or
- (d) prejudice economic development; or
- (e) significantly detract from the scenic quality of the land within the zone; or
- (f) compromise existing significant environmental attributes of land within the zone; or
- (g) have a significant adverse impact on the quality of water resources within the area; or
- (h) be unreasonably subject to risks from natural hazards. (*Amendment No. 25*)

The amending dLEP has now been referred to the Minister pursuant to Section 69 of the Act by Great Lakes Council under delegated authority with a request to make the plan, however the Amendment is not expected to be gazetted until January 2007. Accordingly, current zoning and its objectives are somewhat redundant to the consideration of the current project. Particularly, having regard to the timing of the likely gazettal and that this project is prohibited under the current zoning and it should be considered and determined under the new zoning regime and Part 3A of the EP&A Act.

5.2 SECTION 79C

The provisions of *Section 79C(1)* of the *EP&A Act 1979 (as amended)* normally determine the matters that a consent authority is to take into consideration in assessing a development application. Under *Part 3A* this provision strictly does not apply, however have been considered in this EA. The comments provided below are in response to the provisions, which are:

(1)(a) *the provisions of:*

- (i) *any environmental planning instrument, and*
- (ii) *any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the draft instrument has been deferred indefinitely or has not been approved), and*
- (iii) *any development control plan, and*
- (iiia) *any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and*
- (iv) *the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,*
- (b) *the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,*
- (c) *the suitability of the site for the development,*

(d) *any submissions made in accordance with this Act or the regulations,*

(e) *the public interest.*

5.2.1 CURRENT AND DRAFT ENVIRONMENTAL PLANNING INSTRUMENTS

With respect to *Section 79C(1)(a)(i)(ii)(iii) and (iiia)* the relevant environmental instruments and draft environmental planning instruments for consideration in the EA are:

Hunter Regional Environmental Plan 1989
State Environmental Planning Policy (Major Projects)2005
State Environmental Planning Policy No 71
State Environmental Planning Policy No 65
State Environmental Planning Policy No 55
State Environmental Planning Policy No 44
State Environmental Planning Policy No 11
Draft State Environmental Planning Policy No 66
Great Lakes LEP 1996
Great Lakes LEP 1996 (Amendment No 45)

5.2.2 DRAFT DEVELOPMENT CONTROL PLANS.

Draft DCP No 40 (Although this document is a draft document and would not normally be considered under *Section 79C(1)(a)(ii)*, it is however specifically referred to in the amending LEP via specific development provisions of *clause 32*, and therefore is considered to be a relevant matter to be assessed).

5.2.3 DRAFT PLANNING AGREEMENT.

Draft Planning Agreement between the proponent and Great Lakes Council.

Notwithstanding that environmental planning instruments do not strictly apply under Part 3A, the Director-General's requirements have required such an assessment to be carried out for this proposal. Accordingly, these instruments and their relevance to the proposed project are detailed within the following sub sections.

5.2.4 REGULATIONS.

For the purpose of *Section 79C(1)(a)(iv)*, *clause 92(1)(a)(ii)* of the *EP&A Reg 2000* identifies the Government Coastal Policy as a matter to be taken into consideration by a consent authority in determining a development application for development within Great Lakes LGA (which is a LGA listed in the table of *clause 92(1)(a)(ii)*).

The "Government Coastal Policy" is defined as:

"the publication entitled NSW Coastal Policy 1997: A Sustainable Future for the New South Wales Coast, as published by the Government (and including any maps accompanying that publication and any amendments to those maps that are publicly notified".

The application of this policy to the proposed project is also detailed within the following sub-sections.

5.2.5 LIKELY IMPACTS OF THE PROPOSED DEVELOPMENT.

With respect to *Section 79C(1)(b)* relating to the likely impacts of the proposed project, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality, the most significant aspect of the proposed project is the "tailor made" innovative development response to the identified environmental features. The integrated solution to development impacts including an ongoing site management regime of controls, responds to the identified environmental impact of both the natural and built environment. Furthermore the Social Impact Assessment (SIA) (reproduced at **report 7** of the Specialist Reports, **Volume Two**) confirms the positive social and economic impacts with the proposed project incorporating provisions to

mitigate identified negative impacts. The above elements are further addressed within The Key Assessment Requirements of *Section 6* of this EA.

5.2.6 THE SUITABILITY OF THE SITE FOR DEVELOPMENT.

The suitability of the site for the proposed development, an issue required to be addressed under *Section 79C(1)(c)* has been addressed by the integrated building design framework, which assimilates the design with the character of the individual precincts. The setting aside of ecological and environmentally sensitive land, with proposed rehabilitation and enhancement works within and beyond the project site, is a testament to the proponents commitment to ensuring compatibility of both the built and natural environment of the site.

5.2.7 SUBMISSIONS MADE IN ACCORDANCE WITH THE ACT OR THE REGULATIONS.

Section 79C(1)(d) and (e) requires consideration of any submissions and the public interest. Although the proposed project will be exhibited pursuant to the provisions of *Section 75H(3) of Part 3A of the EP&A Act 1979*, the DG's Requirements for the EA required the proponent to undertake an appropriate level of consultation with relevant stakeholders. *Section 6* of this assessment covers this obligation.

Furthermore, in addition to the exhibition process for the LES, dLEP and draft DCP, the proponent held an information day for the local community, the result of all of the above being one public submission. This submission raised issues which were the subject of extensive investigations and review by government authorities and the Council prior to determining to proceed with the amending dLEP.

5.2.8 THE PUBLIC INTEREST.

Therefore it is reasonable to conclude that the proposed project will not result in any detrimental impacts in relation to public interest. The proposal is also considered to give effect to the attainment of the objects of *clause 5(a)(ii)* of the EP&A Act, in promoting and co-coordinating the orderly and economic use and development of land.

5.3 NSW COASTAL POLICY 1997

This policy provides a guide to management and planning of the coastal zone through a series of "goals" and "strategic actions" that will provide a more sustainable future for the coast. When assessing development applications, consideration of the design and locational principles contained in the Coastal Policy (Appendix C Table 3) is required.

These design and locational principles relating to the natural environment, natural processes, aesthetic qualities, cultural heritage, ESD, public access and use and land management are now incorporated within the draft DCP No 40 applying to the land. Specific responses to the issues of the Coastal Policy are contained within *Sections 5.6 and 6.1*.

5.4 HUNTER REGIONAL ENVIRONMENTAL PLAN 1989

The subject project site falls within the Northern Hunter sub-region of the REP and in the event of any inconsistency with a SEPP the later prevails (*clause 4(2)*). The aims of this Plan are:

- (a) *to promote the balanced development of the region, the improvement of its urban and rural environments and the orderly and economic development and optimum use of its land and other resources, consistent with conservation of natural and man made features and so as to meet the needs and aspirations of the community,*
- (b) *to co-ordinate activities related to development in the region so there is optimum social and economic benefit to the community, and*
- (c) *to continue a regional planning process that will serve as a framework for identifying priorities for further investigations to be carried out by the Department and other agencies*

In so far as development control is concerned, the aims of the Plan are outlined in a number of regional policies. In respect to the proposed project the following clauses and responses are considered relevant;

CLAUSE 10: Councils should not consent to development for residential, unless they have made an assessment of the need for health, education and welfare facilities and services and the availability of existing facilities and services to serve additional residences.

The SIA (reproduced at **report 7** of the Specialist Reports, **Volume Two**) represents a suitable assessment of the above requirements, details of which are included in section 6.6. In summary the project site has good access to public health, education and general community services and facilities.

Other facilities, such as children's playground, child care centre and local business and retail space form part of the proposed project.

In addition the Draft Planning Agreement (see **Appendix C**) includes contributions reflective of current and draft *Section 94* Plans, with an additional \$1 Million for major enhancement projects in the area.

CLAUSE 34: A council should not grant consent to the carrying out of development on land having frontage to a main or arterial road unless, all vehicular access to the land is from a road other than a main or arterial road, where practicable, or the council is satisfied that the applicant has demonstrated that there will not be an adverse effect on traffic movement in the area as a result of the development.

The Lakes Way is a classified arterial road under the authority of the RTA who have granted concurrence under *Section 138* of the Roads Act 1993, for the round-about intersection with the project site. This roundabout will also serve as the marker for the southern edge of the Forster township.

CLAUSE 47: A council should not grant consent to any development unless it is satisfied that,

- (a) there is adequate provision for setbacks between the development and existing watercourses,
- (b) an adequate vegetation cover is maintained or reinstated so as to minimise soil erosion,
- (c) where necessary, adequate retardation basins, grassed floodways, sedimentation pits and trash collection facilities are established and maintained, and
- (d) adequate measures are provided to control soil erosion during construction of the development.

CLAUSE 53: in determining applications for consent to development for urban, councils should consider the likelihood of erosion, land slip, flooding, coastal erosion or storm damage, bushfire hazards, mine subsidence and cumulative catchment-wide impacts, together with the means of controlling and managing such impacts. In assessing the likely extent of the hazard, the council should:

- (a) ensure that due recognition is paid to the principles of personal safety and property protection as outlined in the Department's Circular No C.10—Planning in Fire Prone Areas and Chapter 5 of the Department's "Rural Lands Evaluation Manual" (revised edition dated 1988), and
- (b) take into account the requirements of the Department of Public Works and Service's NSW Government Coastline Management Manual 1990 and Floodplain Development Manual 1986.

The consent authorities should give consideration to arrangements under which a developer enters into a bond to ensure that erosion control works and restoration works are carried out in accordance with an approved development or management plan.

CLAUSE 58: A council shall not, without the concurrence of the Director, consent to any development application for the erection of a building over 14 metres in height and in deciding

whether to grant concurrence to a development application in respect of such a development, the Director shall take into consideration the likely regional implications of the development as regards its social and economic effect and the effect which it will or is likely to have on the amenity of the area.

height, in relation to a building, means the maximum height of a building measured vertically from the natural ground level to the topmost point of the building.

The height provisions of this clause are considered to have been superseded by the comparable provisions of SEPP (MP) 2005 and SEPP 71, which are dealt with below.

5.5 STATE ENVIRONMENTAL PLANNING POLICY (MAJOR PROJECTS) 2005

The proposed project is development of a kind described within *schedule 2 of State Environmental Planning Policy (Major Projects) 2005*, in that it involves buildings and structures that are greater than 13 metres in height and subdivision of residential land, the subject of creation by a DLEP, into more than 25 lots. Height under this SEPP is defined as:

"height of a building or structure means the greatest height measured from any point on the building or structure to the natural ground level (being the ground level of the site as if the land comprising the site were undeveloped) immediately below that point."

The recently sanctioned *Part 3A* provisions of the *EP&A Act 1979* allow for the Minister administering the Act, to form the opinion that the proposed project is a project to which *Part 3A* applies, thereby making the Minister the consent authority.

The proposal was declared to be such a project on, 20 December 2005, with the Director General of the Department of Planning (**DoP**) advising on 4 January 2006, of the requirements for the preparation of an EA, pursuant to *Section 75(F)(2)* of the *EP&A Act*. Copies of the Department's correspondence have been reproduced at **Appendix A**, with Table One providing reference to the consideration of the requirements.

The issue of height in so far as it relates to the proposed apartment buildings as depicted in the project plans is dealt with in detail by the **Design Verification Report** prepared by Morris Bray architects and produced at **Appendix B**, and canvassed within *Section 6.7* of this EA.

5.6 STATE ENVIRONMENTAL PLANNING POLICY NO 71

State Environmental Planning Policy No 71 – Coastal Protection (**SEPP 71**) aims to ensure that development in NSW coastal zone is appropriate and suitably located, that there is a consistent and strategic approach to coastal planning and management and to ensure there is a clear development assessment framework for the coastal zone. The policy identifies State significant development in the coastal zone and aims to further implement the Government's coastal policy. Under this SEPP, the project site falls within the "coastal zone" and a "sensitive coastal location", as it adjoins the Booti Booti National Park (see **Figure 3.1**) and is therefore subject to the provisions of the SEPP. As stipulated under *sub-clause 2(2)* applications to carry out development in "sensitive coastal locations" are required to be referred to the Director-General for comment.

5.6.1 MATTERS FOR CONSIDERATION

Clause 7 of SEPP 71 requires the consent authority to take into consideration the matters set out in *Clause 8* when it determines a development application. These matters, along with obligations under other relevant policies and publications that, have influenced the formulation of the proposed project are dealt with in the **Design Verification Report**, prepared by project architects Morris Bray and incorporated at **Appendix B** of this EA. The following summary comments are felt to be relevant to the proposed project and the matters for consideration under this Policy.:

(a) *The aims of this policy as set out in clause 2, being .*

2 (1)(a) to protect and manage the natural, cultural, recreational and economic attributes

of the New South Wales coast,

(b) *to protect and improve existing public access to and along coastal foreshores to the extent that this is compatible with the natural attributes of the coastal foreshore,*

(c) *to ensure that new opportunities for public access to and along coastal foreshores are identified and realised to the extent that this is compatible with the natural attributes of the coastal foreshore,*

(d) *to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge,*

(e) *to ensure that the visual amenity of the coast is protected,*

(f) *to protect and preserve beach environments and beach amenity,*

(g) *to protect and preserve native coastal vegetation,*

(h) *to protect and preserve the marine environment of New South Wales,*

(i) *to protect and preserve rock platforms,*

(j) *to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6 (2) of the Protection of the Environment Administration Act 1991),*

(k) *to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and*

(l) *to encourage a strategic approach to coastal management.*

The proposed project is considered consistent with these aims, particularly once regard is had to the following major aspects:

- The areas of the project site identified as having the most significant ecological attributes have been set aside for conservation purposes, complementary to the surrounding coastal zone containing the National Park. These areas are proposed to be managed under a sophisticated reporting regime, at no cost to the State Government, Great Lakes Council or local community.
- The proposed re-routing and improvement of the existing coastal beach access road (partly utilising the existing fire trail routes within the project site), together with the construction of a new car park, in accordance with the agreement reached between the proponent and the DEC (see detail within *Section 6.9* of this EA and **Appendix E**) reflects the achievement of aims envisaged under *clause 2 (1)(b)&(c)* of the Policy.
- The aim to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge, is also reflected in the proposed project by the protection and establishment of a buffer around the identified scarred tree, in accordance with the recommendations of the heritage consultant and representations of the Forster Local Aboriginal Land Council (**FLALC**).
- The rehabilitation measures for the adjacent Booti Booti National Park by the proponent in an integrated fashion with the proposed project, in addition to improving the beach access (as outlined above), is considered consistent with the aims to protect and preserve the visual amenity, beach environments and amenity and native coastal vegetation.
- The aims of ecological sustainable development and development appropriate to the location are considered to be adequately addressed in subsequent sections of this EA and in particular the **Design Verification Report** incorporated at **Appendix B**.

- In this instance, having regard to the aim of encouraging a strategic approach to coastal development, it is acknowledged that , the project site is not suited to general purpose development. However, the innovative “tailor made” development response proposed under this proposed project is seen as an appropriate method of realizing a preferred more suitable alternative to the previous approval, consistent with the overall aims of the Policy.

(b) *Existing public access to and along the coastal foreshore for pedestrian or persons with disability should be retained and, where possible access to and along the coastal foreshore for pedestrians or persons with a disability should be improved.*

(c) *Opportunities to provide new public access to and along the coastal foreshore for pedestrians and persons with a disability.*

Although the site is located adjacent Seven Mile Beach it is set back from the shore line some 500 meters to the site boundary. The existing public access to the beach and to Janie’s Headland is via Scenic Drive which is a gravel road within the surrounding and adjoining National Park and which commences some distance to the south of the project site, where it intersects with The Lakes Way.

This existing beach access road, currently crosses the south eastern portion of the project site and is not defined by any legal easement. It also is within the identified southern conservation area and surrounded by natural vegetation that screens the project and currently severs an area of National Park identified for embellishment by re-generation by the proponent.

Following negotiations with NPWS, the proponent proposes to enter into an agreement with the DEC concerning works relating to improving and maintaining the public access within this immediate coastal area. Briefly these works, which are dealt with in Section 6.9 of this EA and **Appendix E** include:

- The proponent to construct of a new carpark and remove fencing and revegetate the existing disused carpark.
- The proponent to construct a new road from The Lakes Way, majoritively within the confines of an existing fire trail within the project site (which is to be maintained by the proponent) and then within the National Park. An easement in favour of the DEC is to be registered on the title of the project site. This re-routing will then enable the DEC to regenerate the redundant section of Scenic Drive.

The new access road will be sealed with pedestrian access from the new car park to the beach provided.

These measures are considered to represent that envisaged under the considerations for these components of the Policy.

(d) *The suitability of development given its type, location and design and its relationship with the surrounding area.*

The development is located well within the body of the site, surrounded by substantial conservation buffers and the surrounding Booti Booti National Park. The development precincts of the project involve maintaining natural vegetation with complementary additional native landscape plantings. The development precincts only occupy 46% of the total site with the balance integrated with the surrounding natural areas.

(e) *Any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore.*

(f) *The scenic qualities of the New South Wales coast, and means to protect and improve these qualities.*

The development will have no significant impact on the foreshore environment, as it will be set back from the waters edge by some 500 meters. Views from the beach to the site will not be altered due to the rising, vegetated land form and natural sand dunes situated between the beach and the development. In addition, further regeneration of the coastal zone between the project site (within the National park) is proposed to further ensure the development is well screened.

There will be no overshadowing of the coastal environment of public access to the foreshore as indicated on the architectural drawings, where the shadows from the project are mainly contained within the project

(g) *measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995) and plants (within the meaning of that Act), and their habitats,*

(h) *measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats*

(i) *existing wildlife corridors and the impact of development on these corridors,*

The proponent, has set out to preserve the qualities of the coastal environment and maintain and enhance the quality of this environment through thoughtful master planning, detail building and siting design, with minimal impact on the ecology of the animals, and plants and their habitats.

Fauna corridors will be created along the northern edge of the development area, in an east-west direction across the site and in a north-south direction along the eastern edge of the site. In addition significant further movement opportunities will be created by the regeneration works within the National Park which abuts the eastern boundary of the project site.

Existing glider access is being maintained with proposed minor regeneration within the project site and major regeneration within the adjoining National Park. The retention of a significant number of existing trees within the site together with supplemental planting will ensure arboreal connectivity is maintained and enhanced. Most particularly the replanting of the currently denuded duneal area will create new linkages across the site. The CLUMP, various management plans and validation and verification reporting regimes are considered appropriate environmental management tools to achieve this component of the Policy considerations.

The water runoff from the site will be controlled and maintained with rainwater harvesting in minimum 5000 litre tanks for each dwelling house and the discharge of excessive stormwater through filtered absorption trenches and pits and through controlled bio swales and ponds. Stormwater from this site will not impact upon the surrounding waterways.

(j) *the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,*

(k) *measures to reduce the potential for conflict between land-based and water-based coastal activities,*

The project site is an isolated site and does not interface directly with the coastal waterways as the nearest site boundary is some 500 meters from the beach. The development components are centred around the borrow pit of an historical sand quarry which has never been and is in need of rehabilitated and is a reduction of the footprint of previous approved tourist development which was commenced but not completed Signage will reflect that the beach is potentially dangerous to swimmers and is not patrolled.

In this instance no conflict impacts on the coastal process or hazards occur or conflicts with water based coastal activities. Water based activities are provided on site to reduce the need or desire for residents to use the coastal zone.

(l) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,

The identified scarred tree, is proposed to be protected from development with an appropriate buffer in accordance with the recommendations of the heritage consultant and representations of the Forster Local Aboriginal Land Council (**FLALC**).

(m) likely impacts of development on the water quality of coastal waterbodies,

The water runoff from the site will be controlled and maintained with the harvesting of rainwater tanks in 5000 liter tanks for each dwelling house and the discharge of excessive stormwater through filtered absorption trenches and pits and through controlled bio swales and ponds. The site is engineered to ensure that there is no change to the existing water quality and quantity with post development flows being no greater than pre-development flows and water balance to the surrounding conservation areas are maintained..

(n) the conservation and preservation of items of heritage, archaeological or historic significance,

Discussions with local indigenous groups and archaeological studies on the site have led to agreements on how any artefacts which may be uncovered during excavation shall be conserved. The preservation of a known Aboriginal scar tree is ensured through provision of an ample buffer and fencing as part of the proposal.

(o) only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,

Local neighbourhood retail, health, commercial and childcare and recreation facilities are proposed as integral components of the proposed project, thereby reducing car dependency, and thereby contributing to the compact towns and cities objectives. The proposed project also forms the first part of the South Forster Release area.

(p) only in cases in which a development application in relation to proposed development is determined:

The total site area is 69 Ha and the proposed development uses only 46% of the total site. This creates a village centre with the grouping of 199 predominately two storey residential dwellings into 5 precincts and 118 apartments, located in 6 five storey residential apartment buildings grouped into 2 precincts. These are grouped around communal courtyards and are supported by a central community centre and other supporting recreational facilities such as tennis courts, swimming, running and cycling tracks.

(i) the cumulative impacts of the proposed development on the environment, and

The development has been modelled around current ESD principles which determines not only the outcome and use of materials but also the treatment of stormwater and other waste materials to ensure there will be no conflict with the environmental quality of the area. Cumulative impacts have been considered and are reflected in the assessment, conclusions and recommendations of the various **Specialists Reports** contained with **Volume 2** to this EA.

(ii) measures to ensure that water and energy usage by the proposed development is efficient.

The development has been based upon current ESD principles which determines not only the outcome and use of materials but also the treatment of stormwater and other waste materials. All

residences are to comply with BASIX to ensure a minimum of 40% reduction in water usage and a 25% reduction in energy usage. In addition all buildings are to utilise solar energy and grey water recycling where possible to ensure highest level of water and energy efficiency across the site.

5.7 STATE ENVIRONMENTAL PLANNING POLICY NO 65

This policy (Design Quality of Residential Flat Development) is normally a matter for consideration in the assessment of development applications for residential flat buildings (**RFBs**) made under *Part 4* of the *EP&A Act* and strictly, does not normally apply to *Part 3A* applications. However, in this instance the DG 's Guidelines issued under *Part 3A* for the proposed project stipulated that the EA must address this SEPP. Therefore the policy applies to the apartment component of the proposed project.

This policy aims to improve the design quality of residential flat development in NSW and recognises that the design quality is of significance for environmental planning for the State due to the economic, environmental, cultural and social benefits of high quality design. The policy applies to RFBs that consist or include 3 or more storey's and 4 or more self contained dwellings, whether or not other purposes such as shops are included. Within the proposed project such buildings are proposed for "The Cove" (39 apartments) and "The Point" (79 apartments) precincts.

The policy outlines a set of "*Design Quality Principles*" in relation to context, scale, built form, density, resources, energy and water efficiency, landscaping, amenity, safety and security, social dimensions and aesthetics. Additionally *clause 50* of the *EP&A Regulation 2000* requires a qualified designer to direct the design of a RFB for the purpose of SEPP 65 and the application must be accompanied by a design verification statement in which the designer verifies:

50(1A) (a) that he or she designed, or directed the design, of the residential flat development, and

(b) that the design quality principles set out in Part 2 of *State Environmental Planning Policy No 65 -Design Quality of Residential Flat Development* are achieved for the residential flat development.

50(1B) If a development application referred to in sub-clause (1A) is also accompanied by a BASIX certificate with respect to any building, the design quality principles referred to in that sub clause need not be verified to the extent to which they aim:

(a) to reduce consumption of mains-supplied potable water, or reduce emissions of greenhouse gases, in the use of the building or in the use of the land on which the building is situated, or

(b) to improve the thermal performance of the building.

Architects for the proposed project Morris Bray have addressed the Design Quality Principles and Basix certificate requirements of the SEPP and Regulation, in addition to matters of relevance from other policies and publications which have been relevant to the formulation and design considerations of this project. Details of these considerations have been incorporated within the **Design Verification Report** which includes the statutory **design verification statement** and has been produced at **Appendix B** to this EA. The Design Quality Principles are also canvassed within *Section 6.7*.

5.8 STATE ENVIRONMENTAL PLANNING POLICY NO 55

This SEPP (Remediation of Contaminated Land) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. "contaminated land" is defined under Part 7A of the EP&A Act 1979 as meaning:

"land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment"

The policy is considered not to apply to the project site, although there is an area of historical environmental damage that will be remediated during the development process of the proposed project. This area is the abandoned sand borrow pit, situated within the main dunal sand ridge. Detailed **geotechnical, acid sulphate soil assessment and ground water monitoring** has been undertaken by consulting engineers Coffey Geosciences Pty Ltd (**Coffey**) (see **reports 11-14** of Specialist Reports, **Volume 2**) with recommendations considered in the design of the proposed project. The key conclusions and recommendations being summarized below:

- A groundwater mound exists beneath the sand ridge / borrow pit area. If the perched groundwater levels in this area can be lowered and maintained to that of the surrounding areas, then the recommended level of building platforms for residential development in this area may be adjusted by the equivalent amount. (see pages 4-5 of **Geotechnical Assessment** report of June 2004, **report 12** of Specialist Reports, **Volume 2**).
- Areas of lower elevation surrounding the sand ridge / borrow pit area comprise clayey layers which likely act as low permeability barriers, effectively retarding groundwater movement away from the ridge. These barriers may be breached by connecting the sand ridge / borrow pit area to the surrounding lower lying areas through a series of adequately sized and designed stormwater pipes / drainage works, effectively draining this area and lowering the existing perched groundwater level. Following installation of such works, groundwater levels should be monitored over a period of time to confirm permanent groundwater levels beneath the sand ridge / borrow pit area have been lowered and are stable. An ongoing inspection and maintenance program for the drainage works should be adopted to ensure they continue to effectively drain the area. (see pages 4-5 of **Geotechnical Assessment** report of June 2004, **report 12** of Specialist Reports, **Volume 2**).
- On the completion of such works, it is recommended that areas for residential development be constructed on building platforms a minimum 1.0m above the maximum measured groundwater levels. (see pages 4-5 of **Geotechnical Assessment** report of June 2004, **report 12** of Specialist Reports, **Volume 2**).
- Based on the results of the investigation, it is considered that the alluvial clay soils encountered below the water table should be considered potential acid sulfate soils. Some of these soils may be disturbed and exposed to acid producing conditions during excavation. An Acid Sulfate Soils (ASS) Management Plan is therefore considered necessary for excavations carried out below the water table (see page 4 of **Acid Sulphate Soils Assessment** report of December 2004, **report 13** of Specialist Reports, **Volume 2**).

5.9 STATE ENVIRONMENTAL PLANNING POLICY NO 44

This State Policy (Koala Habitats) commenced on 13 February 1995, applies to Great Lakes LGA and is aimed to encourage the proper conservation and management of the areas of natural vegetation that provided habitat for koalas to ensure permanent free living population over their present range and reverse the current trend of koala population decline. The policy places an obligation to consider whether land having an area in excess of 1 hectare and is subject to a development proposal or a draft LEP to identify whether the land firstly is a potential koala habitat. Should this be established then a management plan is required to establish whether or not the land is a core koala habitat.

The subject parcels have a total area of 68 hectares and therefore falls within the ambit of this State Policy. Ecotone Ecological Consultants Pty Ltd, undertook a detailed **Species Impact Statement (SIS)** (see **report 15** of Specialist Reports, **Volume 2**). Part of this assessment included investigation for the presence of Koalas in accordance with the requirements of the SEPP.

This assessment identified that the project site contained the following koala food trees as listed under Schedule 2 of the policy, Swamp Mahoganies (*Eucalyptus robusta*) and Forest gums (*Eucalyptus tereticomis*). The SIS made the following observations:

"There is only an old record of koalas to the north east of the study area. No evidence of koalas was found despite targeted searches within the study area"

It is considered that the proposed conservation precincts contained within the proposed project and the retention of larger trees in other areas will ensure the protection of any local population, consistent with the objectives of the SEPP.

5.10 STATE ENVIRONMENTAL PLANNING POLICY 11

This SEPP applies to Traffic Generating Developments with the aims, objectives, policies and strategies to ensure that the Roads and Traffic Authority (**RTA**) is made aware of and given the opportunity to make representations in respect to developments referred to in *Schedule 1* or *2* of the policy.

The proposed project falls within development defined within part (a) & (g) of *Schedule 2*; namely:

- (a) the erection of, or the conversion of a building into, a residential flat building comprising 75 or more dwellings or the enlargement or extension of a residential flat building by the addition of 75 or more dwellings,
- (g) subdivision of land into 50 or more allotments,

The provisions within *clause 7* of the SEPP place an obligation on the consent authority to consult with the Roads and Traffic Authority (**RTA**) as part of the EA process of the proposed project.

Correspondence from the RTA to Council as part of the *Section 66* of the EP&A Act consultation process for the draft LEP has been included at **Appendix G**. This response reveals:

- The Lakes Way (MR 111) is a classified regional road and concurrence is required for connections to this road.
- Concurrence has been granted under *Section 138* of the Roads Act 1993, subject to:
 - o The proposed intersection at The Lakes Way being designed and constructed in accordance with the RTA's Road Design Guide, to the RTA's and Council's satisfaction.
 - o The secondary access proposed to the north and south of the main intersection, are for emergency access only. Access at these locations shall be restricted by locked gate that is secured at all times to prevent public and resident access to/from the site.

The RTA also required the following issues to be addressed:

- Road and transport infrastructure required as a direct result of the proposal should be fully funded by the proponent or through s 94 contributions plan.
 - Proponent to fund required upgrading works & any land acquisition costs.
- The Draft Planning Agreement (see **Appendix C**) which has been negotiated between Council and the proponent provides for the proponent to construct the roundabout at the intersection of The Lakes Way, the cost of which is to be borne as to 75 percent by the proponent and 25 percent by Council.

Additionally, the proponent is contributing an amount of \$1,088,585.55 pursuant to the Draft Planning Agreement which has been calculated as being equal to the roads contribution component of the proposed *Section 94* contribution that would apply to the development once the draft amendments to the Forster wide Contributions Plan come into affect. The current contribution plan is substantially below this Figure.

A culvert which passes under The Lakes Way to the north of the site is also to be upgraded at the proponents cost and is also the subject of the Draft Planning Agreement.

- Provision of pedestrian & cyclist pathways along The Lakes Way.

The proponent has also agreed with Council to make an additional monetary contribution via the Draft Planning Agreement which is not reflective of any current *Section 94* requirements but is to be used by council for major enhancement projects in and around Forster, such as foreshore walking tracks, the continuation of the timber promenade area to the lakes edge behind the main shopping centre etc.

It has also been agreed that a proportion of this additional contribution is to be applied to the construction of the continuation of the cycleway along The Lakes Way which currently terminates approximately one kilometre north of the site, such that it links up to the proposed cycleway network within the site at its north western boundary.

- Proponent to address DIPNR's Integrated Land Use & Transport Planning Policy in relation to the provision of adequate access to public transport, especially for the elderly, and opportunities for pedestrian and cyclists connections to the surrounding area.

In respect to this policy, traffic engineering consultants **GHD** prepared an **addendum** report to the **Traffic Assessment report** (January 2006 – see **report 17** of the Specialists Report **Volume 2**) addressing this policy. A detailed response to the objectives of this policy can be found within *Section 6.5* the consultants summary of the assessment stated:

The proposed development will form part of an emerging development area in South Forster. Currently, this precinct is somewhat isolated from the main urban area. However, with the development of land identified in the Forster-Tuncurry Traffic Study, the environment will become increasingly urbanised.

This assessment has considered the provision for non-car related transportation, specifically addressing bus servicing and the future walking and cycling environment.

As a small community in a regional location, the majority of external trips will be likely to be via private car travel. However, it can be seen that the development provides for access by bus, walking and cycling. As the South Forster area further develops, these modes of transportation would be expected to become more attractive as trip destinations become close and more frequent bus services are provided.

5.11 DRAFT STATE ENVIRONMENTAL PLANNING POLICY 66

This draft SEPP is titled – *Integration of Land Use and Transport* and it aims to ensure that urban structure, building forms, land use locations, development designs, subdivision and street layouts help achieve the following objectives:

- improving accessibility to housing, employment and services by walking, cycling, and public transport,
- improving the choice of transport and reducing dependence solely on cars for travel purposes,
- moderating growth in the demand for travel and the distances travelled, especially by car,
- supporting the efficient and viable operation of public transport services,

- providing for the efficient movement of freight.

The draft policy does not apply to the Great lakes LGA and the transitional provisions of *Clause 14* clearly state that the policy does not apply to;

- a draft Local Environmental Plan for which a certificate has been issued under Section 65 of the Environmental Planning and Assessment Act 1979 before the commencement of this Policy, or
- a development application that has been made but not finally determined before the commencement of this Policy.

Despite these exclusion provisions listed above the RTA in commenting at the *Section 66* draft LEP consultation stage, required the proponent to address the draft SEPP in relation to the provision of adequate access to public transport, especially for the elderly, and opportunities for pedestrian and cyclists connections to the surrounding area.

As the DG, under the *Part 3A* requirements has required the proponent to address issues raised by the RTA, despite the exclusion provisions the Traffic Consultant has canvassed these requirement in the Traffic Assessment report (January 2006) and addendum of June 2006, which is dealt with at *Section 6.5* of this EA.

In addition to the consultants assessment response to the Integrated Land Use & Transport Planning Policy, dealt with above, a significant aspect of the proposal is the network of cycleway and pedestrian pathways which are evidenced throughout the project site and provide linkages both within and beyond the site.

The local bus company has confirmed (see **attachment to report 17** of the Specialists Reports **Volume 2**) that they will provide an on demand service initially to the project which will be expanded to a full service including school buses once a reasonable level of occupation of the site is reached.

5.12 GREAT LAKES LEP 1996 (AMENDMENT NO 45)

The amending draft LEP (see **Appendix D**) proposes to rezone parts of the land that are considered environmentally sensitive land to Zone 7(a1) (Environmental Protection Zone) and the remaining land considered suitable for managed development to a newly created Zone 2(g) (Integrated Eco-residential Conservation Zone).

The existing LEP requires proposed development on the land to be consistent with at least one objective of the zone applying to the land. In the case of this land, the objectives of Zone 7(a1) seek to restrict development to that which will protect the ecological, scientific, educational and aesthetic values of the terrestrial or aquatic ecosystems, and have been specifically created with a view to protecting the habitat of the Squirrel Glider.

The proposed objectives of the Zone 2(g) seek to acknowledge the ability of land possessing aesthetic and conservation values to accommodate sympathetic innovative residential and ancillary development in an integrated and managed fashion, without compromising the values of the adjacent Zone 7(a1), 8(a) or 8(b) land. The objectives also recognise that development proposals need to result in rehabilitation and conservation and ongoing management of this adjacent environmentally important land, whilst providing the community with realistic expectations about future development patterns.

The proposed project is considered to be consistent with the amending draft LEP zone objectives and specific development provisions outlined in amending *clause 32*, relating to consistency with draft DCP 40 and floor space restrictions on the retail and commercial components.

5.13 DRAFT DCP NO 40

The aims of this draft plan is to set out the type, form and location of development that can be undertaken on the land so that the development respects and integrates with the significant natural features of the land and which will provide a cohesive and pleasant living environment based on sound urban design principles.

In achieving the overall aims the plan:

- (a) broadly describes the environmental and cultural values and features of the land and identifies the features that are to be managed and protected,
- (b) describes the urban design principles that have been applied when determining the built form for the land,
- (c) describes the character to be achieved for each development precinct on the land,
- (d) sets out the architectural and built form controls for the land and the materials palette that is to be used,
- (e) identifies the specific layout of the development, the servicing and infrastructure that will be installed and the landscape treatment,
- (f) identifies the environmental enhancement and rehabilitation activities that are to be undertaken as part of the development, and
- (g) prescribes the ongoing environmental performance and monitoring requirements.

A detailed assessment of the requirements of the draft DCP is reflected within Section 6.0 of this EA.

5.14 DRAFT PLANNING AGREEMENT

A Draft Planning Agreement (under *Section 93F* of the EP&A Act) has been negotiated between Council and the proponent which is now subject to final perusal by Councils appointed legal representatives. The Draft Agreement provides for both monetary contributions and construction of various works as set out in *Section 5.10* above. The monetary components of the agreement are reflective of the contributions which would have been levied in respect of the project based on both Councils current section 94 Plan as well as the draft amendments thereto which are yet to be adopted.

Furthermore, the draft Planning Agreement includes an additional amount of \$1 million which has been pledged by the proponent, to be used by the Council for major enhancement projects in the area. This is the first such additional contribution to be received by Council from a developer and it is hoped that it will set a precedent to be followed by others wishing also to demonstrate a broader social obligation. The **Draft Planning Agreement** is attached as **Appendix C** hereto.

6.0 KEY ASSESSMENT REQUIREMENTS

The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality, together with the suitability of the site for the development is addressed in the specialist reports accompanying this submission and summarized below:

1. Bushfire Protection Assessment Updated as per RFS 13.7.05, Conacher Travers Pty Ltd;
2. Bushfire Evacuation Plan, Conacher Travers Pty Ltd;
3. Bushfire Contingency Plan Updated as per RFS 13.7.05, Conacher Travers Pty Ltd;
4. Bushfire Fuel Management Plan Updated as per RFS 13.7.05 Conacher Travers Pty Ltd;
5. Aboriginal Heritage Impact Assessment, Andrew Roberts, ARC Consulting;
6. Landscape Design Report, Site Image Pty Ltd;
7. Social Impact Assessment, Key Insights Pty Ltd;
8. Odour Monitoring and Modelling Report, GHD Pty Ltd;
9. Traffic Assessment, GHD Pty Ltd;
10. Stormwater Management Plan, Boyden & Partners Pty Ltd;
11. Geotechnical Assessment, Coffey Geosciences Pty Ltd;
12. Groundwater Monitoring Results, Coffey Geosciences Pty Ltd;
13. Acid Sulphate Soils Assessment, Coffey Geosciences Pty Ltd; and
14. Hollow-bearing Tree Assessment within Conservation Reserves; Conacher Travers Pty Ltd.
15. the results of substantial consultation with government authorities such as the Council, Rural Fire Service and the Department of Environment and Conservation in relation to the environmental assessment required for the Proposed Project;
16. 14 specialist reports (as identified above) contained within the LES;
17. the draft DCP and CLUMP addresses the issues identified in the LES and outlines the environmental and bushfire issues which must be specifically assessed as part of any application for development, being:
 - i. groundwater and stormwater;
 - ii. water sensitive urban design;
 - iii. soil erosion and sedimentation;
 - iv. bushland management;
 - v. bushfire protection;
 - vi. conservation management;
 - vii. pest species management;
 - viii. management of visual values;
 - ix. urban infrastructure management;
 - x. management of odour; and
 - xi. community association framework.
- b. The environmental assessment conducted by the applicant addresses each of the above issues as well as providing a Community Management Statement.
18. an eight part test under section 5A of the EP&A Act has been conducted with respect to endangered ecological communities and a Species Impact Statement has been prepared (the Species Impact Statement and Addendum are also enclosed);
19. six management plans such as the Squirrel Glider Management Plan, Bushland Management Plan, Eastern Habitat Corridor Restoration Plan, Pest Species Management Plan, Tree Management and Waste Management;
20. Environmental Validation Report, Conacher Travers Pty Ltd (enclosed).
21. an executive summary;
22. a description of the proposal including the phasing of the construction of the residential development;
23. an assessment of the environmental impacts of the proposal;
24. assessment of the project and the suitability of the proposed site;
25. assessment of road transport implications and access plan;
26. assessment of surface water management and runoff;
27. irrigation and signage masterplans;
28. geotechnical investigation to establish foundation design parameters;
29. water quality testing; and
30. outline of conservation and rehabilitation measures proposed including a Statement of Commitments.

6.1 DEVELOPMENT CONTROL

For this issue, the EA must include assessment of relevant legislation and planning provisions applying to the site and the nature, extent and justification for any non compliance and clearly delineating proposed staging. *Sections 5* addresses the Statutory Framework applicable to the proposed project with *Sections 5.12 and 5.13* dealing with the relationship of the Great Lakes LEP 1996 (Amendment No 45) and Draft DCP No 40. The staging or phases of the project are setout within *Section 2.3* and *Table Three*.

Due to the inter-relationship between the dDCP and the dLEP it is appropriate to assess the project against the provisions contained within Draft DCP No 40. In particular, the *“Built Form Controls”* of *clause 9* (as setout in Table 5 below), which create a framework for building design within the site and complement the specific objectives of each precinct as setout in the Architectural and Landscape Plans and Conservation and Landuse Management Plan (CLUMP). They do not comprise of a prescriptive *“deemed to comply”* solution and are to be read in conjunction with other DCP objectives. It is also noted that this dDCP has been prepared having regard to the relevant considerations contained in *clause 20(2)* of SEPP 71, and is reflective of a masterplan reference in that document.

TABLE FIVE – ASSESSMENT OF DRAFT DCP No 40

BUILT FORM CONTROLS	REQUIREMENTS	COMMENTS	
9.1 GENERAL	Specifies building design envelopes provided for the respective precincts. Design work to be undertaken only by suitably qualified architectural firms.	See individual assessment comments below.	N/A
	Maximum number of dwellings/units permissible per Precinct Site area which includes associated buffers. Specifies the minimum lot area for dwelling houses.	Morris Bray (project architects) are a suitably qualified architectural firm	✓
• Density		See individual assessment comments below.	N/A
	Specifies maximum footprint as a % of precinct, excluding decks, courtyards and basement parking.	See individual assessment comments below.	N/A
• Site Coverage		See individual assessment comments below.	N/A
	Specifies maximum number of stories for dwellings, commercial facilities and apartments.	See individual assessment comments below.	N/A
• Height		See individual assessment comments below.	N/A
	Specifies front and side setbacks and setbacks from Visual, Wildlife, Overland Flow and Bushfire Buffers and for the Aboriginal Scar and habitat trees.	See individual assessment comments below.	N/A
• Setbacks		See individual assessment comments below.	N/A
	Specifies off street parking requirements for dwellings, retail facilities, apartments and additional on street visitor parking	See individual assessment comments below.	N/A
• Carparking		See individual assessment comments below.	N/A
	Specifies that all dwellings are to take advantage of views of surrounding natural bush, regeneration areas, landscaped open spaces including pools, parks and playground areas.	Integrated design of the total development ensures this objective is met.	✓
• Views and Privacy			

BUILT FORM CONTROLS	REQUIREMENTS	COMMENTS	
	All areas of visual privacy is to be protected with particular attention to private open spaces and windows to habitable rooms.	Integrated design of the total development ensures this objective is met.	✓
	Living room windows are to be separated a min of 9m at ground level and 12 m at all other levels.	Integrated design of the total development ensures this objective is met.	✓
	Outdoor living zones to be visually screened by landscaping, a fence of max height of 1.8m or fixed screen of max 25% aperture when within 12m of another window or public outdoor space.	Integrated design of the total development ensures this objective is met.	✓
	Acoustic privacy to be optimized through siting window location and adequate construction to limit noise transmission to habitable rooms, in particular bedrooms. All shared walls and floors to be constructed to minimize noise transmission.	Integrated design of the total development ensures this objective is met.	✓
	Opening of adjacent dwellings to be staggered and bedroom windows to be protected from service areas and active recreation areas via separation and landscaping.	Integrated design of the total development ensures this objective is met.	✓
9.2 THE BOARDWALK			
• Density	Comprises of, recreation, retail, community, admin and maintenance facilities, with provision for bushfire shed and child care facility.	Components provided with future allowance for child care facility and bushfire shed (on demand). Requirements considered to be met	✓
• Site Coverage	Building footprint not to exceed 25% of precinct area.	Refer to Appendix I for detailed calculation	✓
• Height	Maximum of two stories	Requirements met	✓
• Setbacks	Side – N/A Front – 30m/wall to bdy Buffer-only decks, pools, maintenance and bushfire facilities to extend into visual, bushfire and wildlife buffers.	Requirement met.	✓
• Carparking	Parking provided, for retail and café areas at 1 space per 20m ² for ground level uses and 1 space per 30m ² for first floor uses, however no requirement for community functions.	Requirements met, Refer to Appendix J for detailed calculation.	✓

BUILT FORM CONTROLS	REQUIREMENTS	COMMENTS	
9.3 THE CREST - Density - Site Coverage - Height - Setbacks - Carparking	- Maximum of 19 attached and detached 2 storey dwelling houses with minimum lot area of 400m² - Dwelling footprint 40% of lot area. - Maximum of 2 storey plus loft. - Side- zero lot lines and min setbacks - Front- Min 1m to bdy , preferred 4m, relaxed with natural site features and bushfire buffer. - Buffer- Only decks, pools and detached non-habitable structures permitted within bushfire and wildlife buffers. - Min 2 covered spaces per dwelling and where adaptable a min 1 garaged disabled space.	- Requirement met. - Requirement met. Refer to Appendix I for detailed calculation - Requirement met. - Requirement met. - Requirement met. - Requirement met. - Requirement met	✓ ✓ ✓ ✓ ✓ ✓ ✓
9.4 THE FOREST - Density - Site Coverage - Height - Setbacks - Carparking	- Maximum of 78 detached 2 storey dwelling houses with separate garages and carport structures on a minimum lot area of 400m² - Dwelling footprint 40% of lot area. - Maximum of 2 storey plus loft. - Side- zero lot lines and min setbacks - Front- Min 4m from front bdy, relaxed to minimise impact on existing trees. Min 1 m from wall of garage/carport. - Buffer- Only decks, pools and detached non-habitable structures permitted within bushfire and wildlife buffers. - Min 2 spaces per dwelling to be provided on site with at least one covered space.	- Requirement met. - Requirement met. Refer to Appendix I for detailed calculation - Requirement met. - Requirement met. - Requirement met. - Requirement met. - Requirement met	✓ ✓ ✓ ✓ ✓ ✓ ✓

BUILT FORM CONTROLS	REQUIREMENTS	COMMENTS	
9.5 THE PALMS - Density - Site Coverage - Height - Setbacks - Carparking	- Maximum of 17 detached 2 & 3 storey dwelling houses with separate carport structures on a minimum lot area of 400m² - Dwelling footprint 40% of lot area. - Maximum of 3 storey - Side- zero lot lines prohibited and min setbacks as per BCA. - Front- Min 4m from dwelling wall to front bdy. Min 1 m from wall of garage/carport. - Can be relaxed to cater for natural features and bushfire buffer. - Buffer- Only decks, pools and detached non-habitable structures permitted within bushfire and wildlife buffers. - Min 1 covered spaces and 1 hardstand space per dwelling to be provided on site . 2 covered spaces to be provided where possible.	- Requirement met. Refer to Appendix I for detailed calculation - Requirement met. - Requirement met. - Requirement met. - Requirement met. - Requirement met. - Requirement met	✓ ✓ ✓ ✓ ✓ ✓ ✓
9.6 THE DUNES - Density - Site Coverage - Height - Setbacks - Carparking	- Maximum of 71 detached 2 -storey dwelling houses some with separate carport/garage structures on a minimum lot area of 400m² - Dwelling footprint 40% of lot area. - Maximum of 3 storey - Side- zero lot lines prohibited and min setbacks as per BCA. - Front- Min 1m from any structure wall to front bdy. Preferred setback is 4m, relaxed with natural site features and bushfire buffer. - Buffer- Only decks, pools and detached non-habitable structures permitted within bushfire and wildlife buffers. - Min 2 covered spaces per dwelling and where adaptable a min 1 garaged disabled space. Additional on street visitor parking to be provided at the rate of 3 spaces per tennis court.	- Requirement met. - Requirement met. Refer to Appendix I for detailed calculation - Requirement met. - Requirement met. - Requirement met. - Requirement met. - Requirement met	✓ ✓ ✓ ✓ ✓ ✓ ✓
9.7 THE FRONDS Density	Maximum of 15 attached & detached 2 storey dwelling houses on a minimum lot area of 340m²	Requirement met.	✓

BUILT FORM CONTROLS	REQUIREMENTS	COMMENTS	
- Site Coverage - Height - Setbacks - Carparking	- Dwelling footprint 45% of lot area. - Maximum of 2 storey - Side- zero lot lines permissible and min setbacks as per BCA. - Front- Preferred min 2m from dwelling wall to front bdy. Can be relaxed to cater for impact on existing trees. - Buffer- Only decks, pools and detached non-habitable structures permitted within bushfire and wildlife buffers. No building structure is to extend into the 20m dia scar tree buffer. - Min 2 spaces per dwelling to be provided on site.	- Requirement met. Refer to Appendix I for detailed calculation - Requirement met. - Requirement met. - Requirement met. - Requirement met. - Requirement met	✓ ✓ ✓ ✓ ✓ ✓
9.8 THE COVE			
- Density - Site Coverage - Height - Setbacks - Carparking	- Two individual apartment blocks of 5 storey's, incl roof decks and podium retail, restaurant, café, gym and pool, plus basement parking. Maximum of 50 apartments. - Footprint not to exceed 35% of precinct area. - Maximum of 5 storey - Buffer- Only decks, pools and detached non-habitable structure, incl basement parking permitted within bushfire buffers. <u>Provided at min 1 space per 1 bed flat, 1.2 spaces per 2 bed flat, 1.5 spaces per 3 bed flat plus 0.2 visitor spaces per flat and 0.125 trailer parking per flat.</u>	- Requirement met. - Requirement met. Refer to Appendix I for detailed calculation - Requirement met. - Requirement met. - Requirements met see car parking assessment of report 9 of Volume 2	✓ ✓ ✓ ✓ ✓
9.9 THE POINT			
- Density - Site Coverage - Height - Setbacks - Carparking	- Four individual apartment blocks of 5 storey's, incl roof decks plus basement parking. Maximum of 79 apartments. - Footprint not to exceed 35% of precinct area. - Maximum of 5 storey - Buffer- Only decks, pools and detached non-habitable structure, incl basement parking permitted within bushfire buffers. <u>Provided at min 1 space per 1 bed flat, 1.2 spaces per 2 bed flat, 1.5 spaces per 3 bed flat plus 0.2 visitor spaces per flat and 0.125 trailer parking per flat.</u>	- Requirement met. - Requirement me Refer to Appendix I for detailed calculation - Requirement me - Requirement met. - Requirements met see car parking assessment of report 9 of Volume 2	✓ ✓ ✓ ✓ ✓

6.2 ECOLOGICAL IMPACTS

A comprehensive conservation and development strategy has been undertaken for land south of Forster at Seven Mile Beach. Situated between the waters of Wallis Lake and the Pacific Ocean the Seven Mile Beach landscape contains areas of high conservation value and scenic amenity given its proximity to Booti Booti National Park.

Subsequently the site has undergone significant assessment in the areas of environment, ecology, open space, landscape design, water sensitive urban design and bushfire protection management in the pursuit of an appropriate development strategy.

Extensive preliminary investigations, studies and discussions with Great Lakes Council have led to the acknowledgement that with innovative design, conservation agreements, environmental enhancement works and retention of crucial wildlife corridors, a proportion of this site would be suitable for residential development in an integrated managed fashion.

Primary to this integrated approach is the use of community title and its inherent ability to undertake day to day management of the landscape and other development infrastructure.

In conjunction with the need to ensure the effective sustainability of this landscape and development infrastructure, a number of statutory planning initiatives have been undertaken including the preparation of a:

- Local Environmental Study (LES)
- Local Environmental Plan (LEP)
- Conservation and Land Use Management Plan (CLUMP)
- Development Control Plan (DCP)

These planning outcomes are supported by specialist reports and investigations produced by various specialists in their field. The Environmental Validation Report provides the validation of the DCP in terms of the above planning instruments. The Environmental Validation Report made 30 recommendations to ensure that all ecological issues were addressed in the DCP and recommended the preparation of an Ecological Site Management Plan (ESMP).

The ESMP provides an onsite management framework for the implementation of all protective and mitigative measures within a construction context. Most significantly the ESMP identifies a restoration area of 12 ha of habitat within Booti Booti National Park and another 12 ha of Canopy Restoration Area within the development area thus providing major conservation outcomes to compensate for any potential adverse ecological impacts that the development may cause. This is in addition to the 37 ha of conservation areas set aside within the Northern and Southern Conservation Precincts.

There also existence of extensive potential foraging habitat within adjacent areas namely 30.5 hectares within the Booti Booti National park and 2,177 hectares within the eastern portion of the Great lakes LGA and wider Great Lakes LGA. These conservation measures ensure that a net positive outcome will be achieved for the secure protection of Squirrel Glider Habitat.

Under the DG's *Part 3A* Key Assessment Requirements, ecological impacts must address *Section 5A* of the *EP&A Act 1979* and Threatened Biodiversity Survey and Assessment Guidelines prepared by the DEC. The assessment must also provide objectives and performance criteria for control of feral and pest flora and fauna; rehabilitation and re-introduction of indigenous flora and fauna; and ongoing management of conservation areas.

Section 5A of the *EP&A Act 1979* list factors , which must be taken into account by a consent authority entertaining a development application under *Part 4* or an activity under *Part 5*, when deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats. and include the following:

5A(1) For the purposes of this Act and, in particular, in the administration of sections 78A, 79B, 79C, 111 and 112, the following must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats:

- (a) each of the factors listed in subsection (2)
- (b) any assessment guidelines.

The following assessments of ecological impacts have been undertaken to satisfy the requirements of the EP&A Act 1979 and TSC Act.

- Species Impact Statement (Ecotone)
- Seven Part Test (Conacher Travers)

In addition the proposal has been assessed by the Hunter Central Rivers CMA under the Native Vegetation Act (2003) and Native Vegetation Regulation (2005).

A detailed ecological assessment of Flora and Fauna was conducted by Ecotone Ecological Consultants Pty Ltd (**Ecotone**) as part of the LES considerations for the dLEP. This included an **SIS**, (refer **report 15** of Specialist Reports **Volume 2**).

The SIS was prepared in accordance with the EP&A Act 1979 having regard to the guidelines provided by the Director General of DEC. The DEC requires consent authorities to be satisfied that proposals are not likely to cause impacts on areas of native vegetation, with special reference to threatened or regionally significant flora and fauna species, populations and ecological communities. Here the emphasis is not only on threatened species, populations and communities, but also on significant regional flora and fauna.

The site has a high diversity of vegetation communities with thirteen communities being identified, refer Figure 7 (Ecotone, 2003). Within these communities approximately 200 plant species have been identified (Ecotone, 2003, p37). The communities range from Low Closed Heathland to Blackbutt Open Forest. There are 2 large disturbed areas; one area is adjacent to the road entry from The Lakes Way and the other is the area used for sand mining that extends through the centre of the site. Weed species have been identified where the land has been disturbed. The disturbed areas include the bush tracks, mining area and boundary adjacent to the Sewerage Treatment Plant. There is also evidence of bushfire disturbance with a number of trees showing burn marks.

The flora and fauna study conducted by Ecotone, of the project site did not identify any plant species listed under the Threatened Species Act, 1995 as rare or endangered (Ecotone, 2003 p12). Moreover, this study concluded that while the ecological communities of 'Lowland Rainforest or Floodplains' and 'Hunter Gum Forest' are Endangered Ecological communities in this locality, neither of these are present on subject lands (Ecotone, 2003, p21).

Subsequent to the above study final determinations have been made to the Endangered Ecological Communities list within the North Coast Bio-region to include:

- Freshwater Wetlands on Coastal Floodplains
- Swamp Oak Floodplain Forest
- Swamp Sclerophyll Forest

In September 2005 Ecotone undertook a review of the SIS and prepared an addendum report (refer **report 15** of Specialist Reports **Volume 2**) and advised that the following vegetation communities previously identified as occurring within the subject site, could well correspond with one of the listed Endangered Ecological Communities above:

- Broad-leaved Paperbark Open Forest (Communities 1a, b, c)
- Cabbage Palm Closed Forest (Community 3b)

- Tall Open Heathland (Community 5)
- Low Closed Heathland (Community 6)

Accordingly, while no listed threatened species of plants have been found on the land, as much of the vegetation as possible should be protected by zoning or development controls to protect regionally significant plants. This SIS was used to determine the presence of threatened species that are known to occur within the locality. In relation to the proposed project Great Lakes Council have concurred with the conclusions of the SIS (submitted as part of the draft LEP consideration) for threatened species as listed under the Threatened Species Conservation Act 1995 and EPBC Act (1999).

This assessment concluded that the development would have no significant impact. However, for the purpose of the Part 3A application a seven part test as setout under *Section 5A of the EP&A Act 1979* has been undertaken by Conacher Travers (refer **report 28** of Specialist Reports **Volume 2**), the results of which are dealt with at Section 6.2.1.

In respect to Fauna values the range in vegetation communities provides a varied habitat for an equally diverse range of fauna. In 2003, further surveys were conducted by Ecotone in order to fully comply with the requirements of the then NPWS and to address any survey limitations of the 1994 surveys (Ecotone, 2003 p22).

The Masked Owl (*Tyto novaehollandiae*) and Osprey (*Pandion haliaetus*) have been recorded in the adjacent Booti Booti National Park, but have not been identified on the subject land (Conacher Travers, 2004 p15 and Great Lakes Council, 2003 p29).

Of the bird, reptile and amphibian species recorded, none are listed as vulnerable or threatened species under the Threatened Species Conservation Act, 1995. However, three of the mammal species are listed as vulnerable under the Threatened Species Conservation Act, 1995 as follows:

- Squirrel Glider (*Petaurus norfolcensis*)
- Common Blossom Bat (*Syconycteris australis*)
- Little Bent-wing Bat (*Miniopterus australis*)

The SIS concluded that the Squirrel Glider is the only threatened species that is likely to be affected by the development.

A Squirrel Glider Habitat Management Plan was prepared to implement strategies throughout the development landscape and the adjoining conservation areas to conserve the local population, enhance movement opportunities throughout the site, prevent the keeping of cats or dogs (except companion dogs), the removal of barb wire fences, installation of arboreal fauna bridges (if required), relocation of hollows (if required) and installation of artificial nest boxes. A monitoring program was also specified including a benchmark population survey involving squirrel glider radio tracking to identify in residence hollows and the limits of movement of individual gliders. The results subsequently resulted in the retention of previously unidentified hollows and den sites.

The location of the Den sites can be found on Figure 6.1 appearing here after.

A detailed survey was required to be carried out to identify all the hollow bearing trees within the site (see **report 16** of Specialist Reports, **Volume 2**). This assessment along with a **Squirrel Glider tracking investigation** (see **report 17** of the Specialist Reports, **Volume 2**) has also led to the preparation of a series of management plans, the details of which are identified within Table Two of this EA. This approach has enabled a land use strategy to be prepared to guide future development around the significant hollow bearing trees thereby maintaining arboreal connectivity to facilitate Squirrel Glider movements as well as protecting denning opportunities.

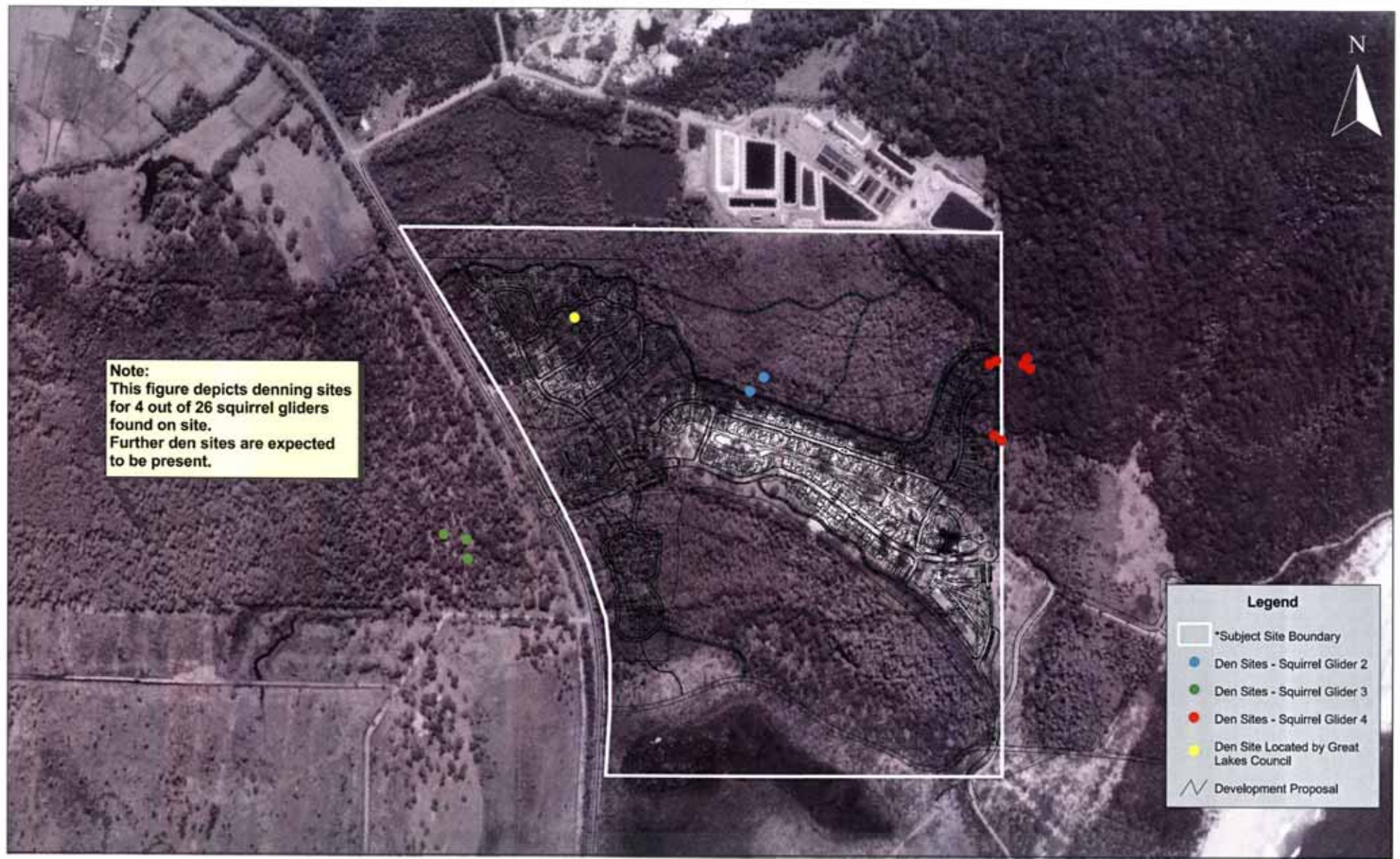


FIGURE 6.1 Den Locations for Squirrel Glider

The tree hollow retention and loss plan confirms that adequate natural and existing tree hollows shall be preserved across the subject landscape and that aggregations of hollows will be retained, even within the more densely developed portions of the land. This appears to be a sustainable and positive planning outcome.

The land use management implications for protection of the habitat of the Squirrel Glider involves the conservation / enhancement of native vegetation on the site, locating development within the disturbed areas on the site as much as possible, delineating corridors and protecting as many hollow-bearing trees as possible.

In respect of the potential impact of the development on the overall fauna values and for the purpose of the assessment of the Part 3A application the Seven Part Test undertaken by Conacher Travers (refer **report 28** of Specialist Reports **Volume 2**), the results of which are dealt with at Section 6.2.1, also deals with these fauna values.

In the DoP published Guidelines under Part 3A /Guiding principles for threatened species assessment, the objective of the assessment process is to provide information to enable decision makers to ensure that developments deliver the following environmental outcomes:

1. *Maintain or improve biodiversity values (ie. there is no net impact on threatened species or native vegetation).*
2. *Conserve biological diversity and promote ecologically sustainable development.*
3. *Protect areas of high conservation value (including areas of critical habitat).*
4. *Prevent the extinction of threatened species.*
5. *Protect the long-term viability of local populations of a species, population or ecological community.*
6. *Protect aspects of the environment that are matters of national environmental significance.*

The assessment should be designed to provide information and analysis to demonstrate that feasible alternatives have been considered, that the project has been designed to be consistent with the principles outlined above, and where there are impacts, that adequate mitigation measures are implemented.

The development application provides justification of the preferred option based on the following tests:

- *whether or not the proposal, including actions to avoid or mitigate impacts or compensate to prevent unavoidable impacts will maintain or improve biodiversity values.*
- *whether or not the proposal is likely to reduce the long-term viability of a local population of the species, population or ecological community.*
- *whether or not the proposal is likely to accelerate the extinction of the species, population or ecological community or place it at risk of extinction.*
- *whether or not the proposal will adversely affect critical habitat.*

The proposed conservation areas, compensatory habitat restoration and within development restrictions on tree removal, hollow bearing tree protection, cat and dog ownership restrictions, native plant specification for landscaping, provision of habitat corridors, restoration of canopy, retention and enrichment planting of key foraging species, monitoring and auditing regimes are all aimed at providing a long term improvement in biodiversity values supported by community title arrangements.

The Seven Part test concludes that due to the large area (66%) of the subject site to be retained within conservation precincts and the connectivity of the subject site to the adjoining Booti Booti National Park, it is considered that the proposed development is not likely to have a significant effect

on any threatened flora or fauna species, endangered populations or endangered ecological communities.

The plethora of ecological assessments undertaken over the project site, emanating from the earlier tourist resort proposal and approval, to the more recent and comprehensive SIS, Seven Part Test of Significance, specialist studies and management plans, coupled with the sensitive integrated designed development, will ensure that the proposal delivers the environmental outcomes as stipulated in the above objectives.

Furthermore the planned protection, enhancement, mitigation and compensatory ecological measures, both within and external of the site which are setout in the comprehensive Ecological Site Management Plan (refer **report 23** of Specialist Reports **Volume 2**), will also ensure that biodiversity values are maintained and or improved for the entirety of the development as demonstrated in Figure 6.2 appearing hereafter.

6.2.1 SEVEN PART TEST OF SIGNIFICANCE - SECTION 5A EP&A ACT (1979)

In August 2006 Conacher Travers, environmental consultants undertook a seven part test of significance (refer **report 28** of Specialist Reports **Volume 2**) and considered that the project site provides potential habitat for the following threatened species, endangered ecological communities and endangered populations and made an assessment in accordance with the Act:

Flora species

- *Allocasuarina defungens*
- *Allocasuarina simulans*
- *Asperula asthenes*
- *Cynanchum elegans*
- *Melaleuca biconvexa*
- *Lindernia alsinoides*
- *Syzygium paniculatum*
- *Thesium australe*

Fauna species

- Wallum Froglet
- Green-thighed Frog
- Pale-headed Snake
- Black-necked stork
- Osprey
- Square-tailed Kite
- Bush Stone-curlew
- Wompoo Fruit Dove
- Superb Fruit-dove
- Rose-crowned Fruit-dove
- Glossy Black-Cockatoo
- Gang-gang Cockatoo
- Powerful Owl
- Barking Owl
- Masked Owl
- Sooty Owl
- Swift Parrot
- Regent Honeyeater
- Spotted-tailed Quoll
- Koala
- Squirrel Glider
- Eastern Chestnut Mouse
- Common Blossom-bat
- Grey-headed Flying-fox
- Eastern Freetail-bat
- Little Bentwing-bat
- Eastern Bentwing-bat
- Greater Broad-nosed Bat
- Large-footed Myotis

Endangered Ecological community

- Swamp Sclerophyll Forest on Coastal Floodplain
- Lowland Rainforest in NSW North Coast

Endangered Population

Flora species

- *Eucalyptus seeana*

Fauna species

- Emu
- Broad-toothed Rat

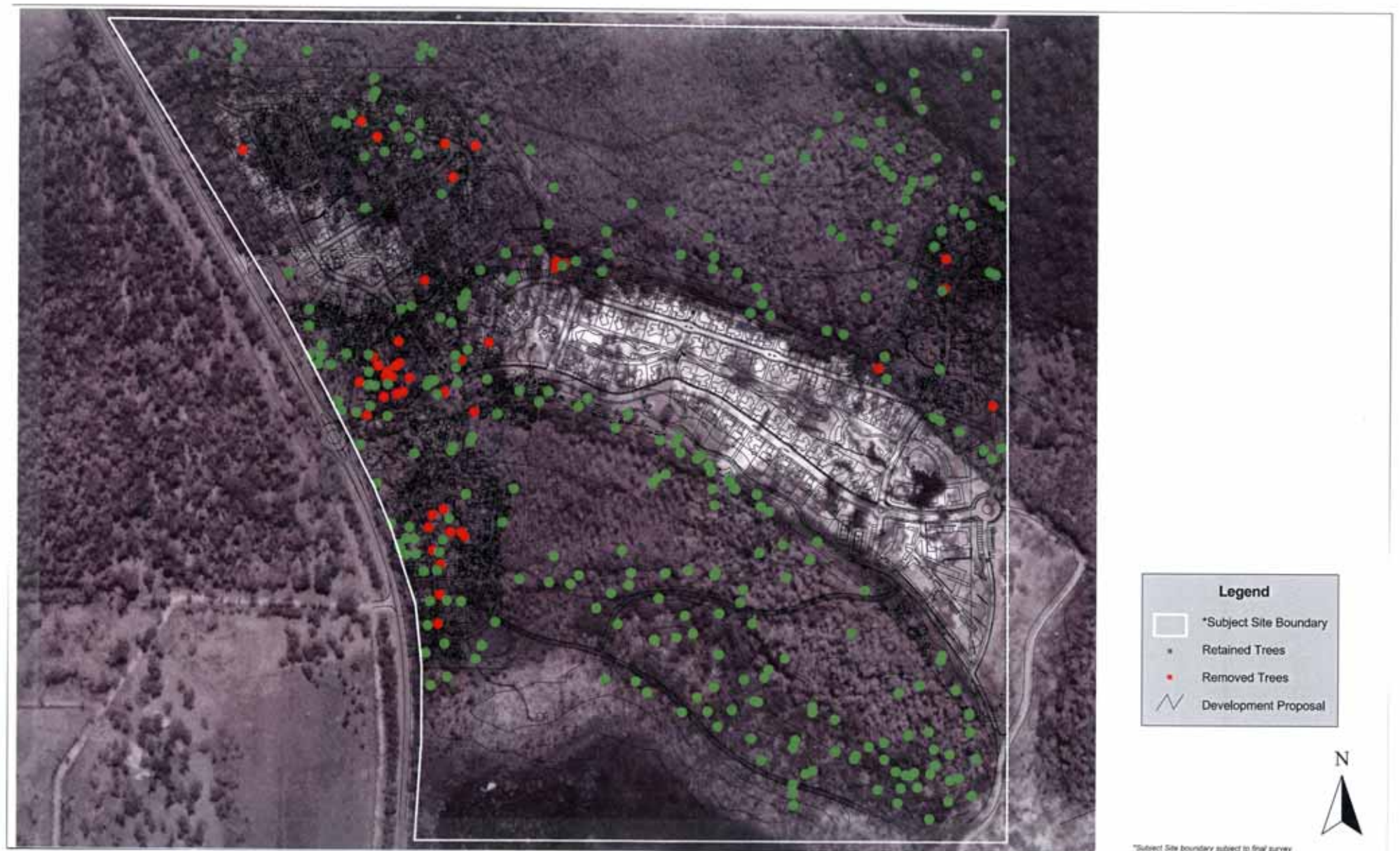


FIGURE 6.3 Hollow Bearing Trees Plan

Based on the seven (7) part test of significance this assessment concluded that:

- i. *The subject site consists of important habitat for threatened flora and fauna species an endangered population and endangered ecological communities. The majority of this habitat will be protected within the proposed northern and southern conservation precincts.*
- ii. *No threatened flora species, no endangered populations and two (2) endangered ecological communities, Swamp Sclerophyll Forest and Lowland Rainforest, were recorded within the subject site*
- iii. *Five (5) threatened fauna species - Squirrel Glider, Little Bentwing Bat and Grey-headed Flying-fox, Common Blossom-bat and Masked Owl were detected within the subject site and adjoining lands.*
- iv. *Due to the large area (66%) of the subject site to be retained within conservation precincts and the connectivity of the subject site to the adjoining Booti Booti National Park, it is considered that the proposed development is not likely to have a significant effect on any threatened flora or fauna species, endangered populations or endangered ecological communities.*
- v. *A Species Impact Statement (SIS) should not be required for the proposed development*

6.2.2 ISSUES RAISED BY THE DEC

Consultation with the DEC on this proposed project and the project site has been extensive, with a range of issues raised during the preparation of the LES to the more recent comprehensive negotiated agreement associated with the adjoining Booti Booti National Park. **Appendix E** includes copies of communications and consultation details involving the Department. The main issues and summary of results from this consultation process can be summarised under the following categories:

IMPACT ON NATIONAL PARK, ACCESS THROUGH THE PROJECT SITE AND BEACH PARKING IMPROVEMENTS.

Issues under this category related to input from the Department of National Parks and Wildlife (**NP&W**) on the Plan of Management (**PoM**) for the Park, including the offer of rehabilitation of 12ha adjacent to the project site within the National park, revision of access to the beach from The Lakes Way through the project site and formalization of beach car parking and bushfire asset protection matters.

The results of consultation and negotiation on this issue is reflected in the comments under Section 6.9 and the communications reproduced at **Appendix E**, which includes details of the draft tripartite agreement between the proponent, the Minister for Environment and the Director General of NP&W.

WILDLIFE CORRIDOR AND EASTERN HABITAT REGENERATION.

As setout above consultation and negotiation has resulted in a substantial enlargement of the proposed compensatory regeneration area within the National Park (area identified on plans for the project and at **Figure 1.1**). As a consequence the widening of the east west wildlife corridor is no longer required (see letter dated 22 May 2006 at **Appendix E**).

VEGETATION CLEARING ISSUES.

The Department initially was concerned with possible inappropriate clearing, which was also an issue raised by the DoP as part of the Section 65 consultation for the dLEP. The DoP sought the addressing of the Governments commitment to end broad scale land clearing of remnant vegetation. This was an emerging issue with the resulting introduction of the Native Vegetation Act legislation and consultation was recommended to be undertaken with the authority responsible for

administration of this Act, the Hunter Central Rivers Catchment Management Authority (**CMA**), details of which are dealt with in Section 6.2.3.

SCARRED TREE AND CONSULTATION WITH THE FLALC.

This issue and consultation with the Local aboriginal community have been addressed under section 6.8 and the related specialist report (refer **report 5** of Specialist Reports **Volume 2**)

6.2.3 ISSUES RAISED BY THE CMA

Following consultation with Council it was agreed that the CMA would apply the "Improve and Maintain" principle of the NVA through assessing of the proposal utilizing the PVP Developer and associated tools. The proponent and ecological consultants *Conacher Travers* were engaged in detailed assessment of the vegetation, including extensive analysis of some 342 hollow bearing trees within the project site (see Conacher Travers letter dated 19 May 2006 at **Appendix F**).

This assessment concluded that the proposed development has been carefully configured to take into consideration the ecological values of the site including breeding, foraging and roosting habitat of threatened species.

Modification to the layout have been made to eliminate unnecessary removal of threatened species breeding and foraging habitat.

- Ninety one percent (91%) of hollows are to be retained across the site see Figure 6.3.
- Ten (12) hectares of compensatory high quality habitat will be restored within the Booti Booti National Park which will enhance potential breeding habitat within a secure conservation reserve see fig 6.2, and

In addition the proposed development is considered unlikely to have a significant impact on the potential foraging habitat of the Swift Parrot, Grey-headed and Black Flying foxes and the potential breeding habitat of the Grey-headed and Black Flying foxes for the following reasons:

- Ninety eight (98%) of Swamp mahoganies are to be retained across the site) see Figure 6.4;
- Ten (12) hectares of compensatory high quality habitat will be restored within the Booti National Park which will enhance potential breeding habitat within a secure conservation reserve, and
- The existence of extensive potential foraging habitat within adjacent areas namely 30.5 hectares within the Booti Booti National park and 2,177 hectares within the eastern portion of the Great lakes LGA and wider Great Lakes LGA..

The following amelioration measures are proposed to offset the impact of the proposed development of threatened species breeding and foraging habitat:

- Nest boxes will be placed in suitable habitat within the site to compensate for any losses in tree hollows.;
- Any tree hollows to be removed within there site will be relocated, where practicable to areas of suitable habitat within conservation precincts;
- Approximately one thousand (1000) swamp mahoganies will be planted as part of the rehabilitation works in the 12 hectares regeneration area adjacent to the Eastern Habitat Corridor in the Booti Booti National Park;
- An additional one hundred and sixty (160) Swamp mahoganies will be included in landscape plantings within the developed landscape; and
- Approximately 12 hectares of Canopy Restoration Area will be created within the developed footprint. This area will be a managed landscape, designed to improve canopy connectivity within the site.

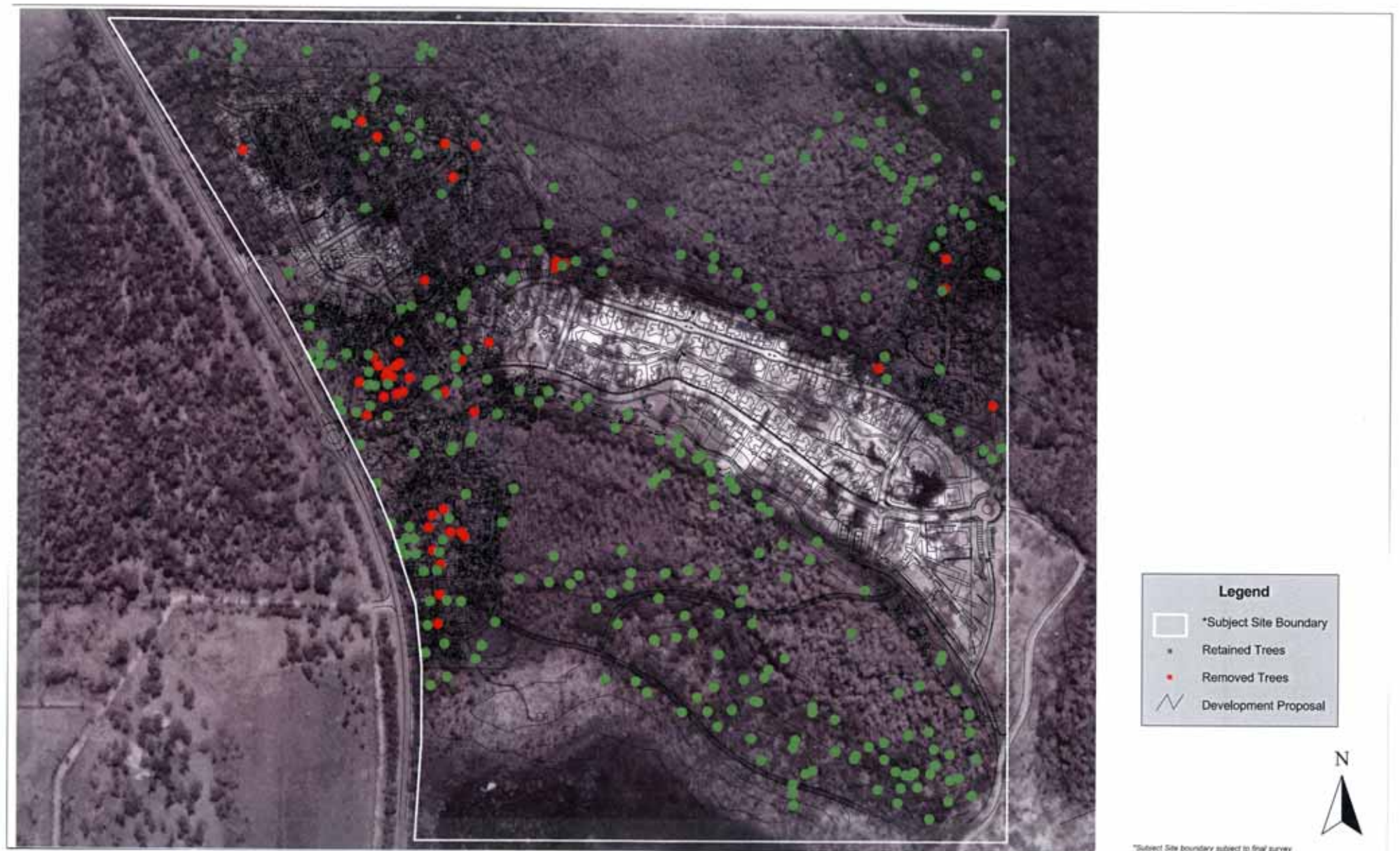


FIGURE 6.3 Hollow Bearing Trees Plan

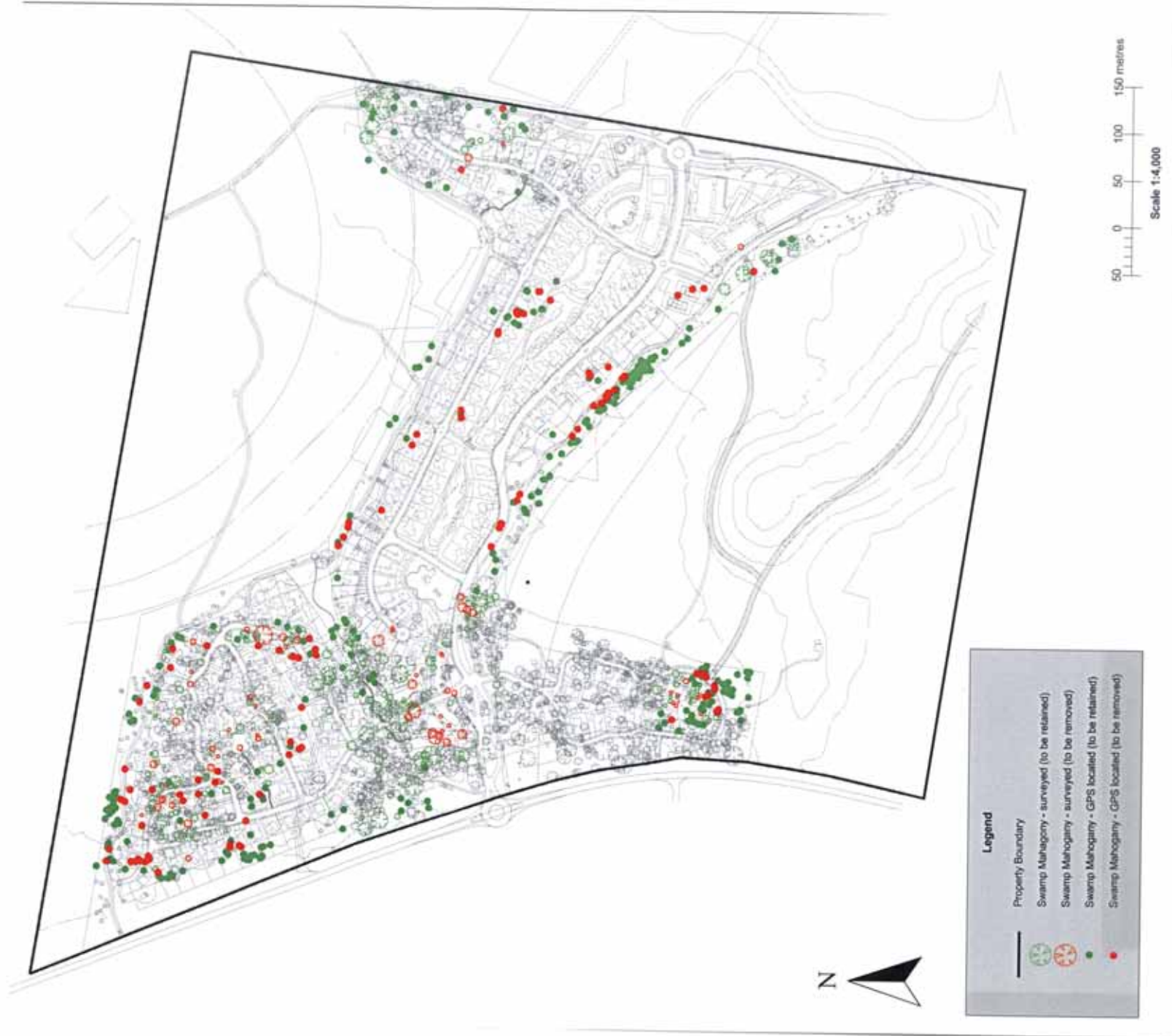


FIGURE 6.4 Retention/Removal Of Swamp Mahoganies Plan

6.3 BUSHFIRE

Environmental Consultants **Conacher Travers** were commissioned to undertake a **Bushfire Protection Assessment** (see *Report No.1 of Specialist Reports Volume2*) as the proposed project is classified as residential development within a Bushfire Prone Area, and normally requiring referral to the NSW Rural Fire Services (**RFS**) for approval and issue of a “*Bushfire Safety Authority*” from the Commissioner of the RFS under *Section 100B* of the *Rural Fires Act 1997*.

The Rural Fire Service needs to be satisfied that a Class 1, 2 or 3 residential development, a rural residential development, or a special protection purpose (eg. SEPP Seniors Living, Hospital, Nursing Home, Schools, etc) comply with *Planning for Bushfire Protection (2001)* before the granting of a development consent.

In this instance, *Section 75U(g)* of *Part 3A* of the EP&A Act 1979 provides that a “*Bushfire Safety Authority*” under *Section 100B* is not required for an approved project, such as the current proposal. However the EA requirements issued by the Director General of the DoP for this proposed project required the assessment to demonstrate compliance with the requirements of *Planning for Bushfire Protection (2001)*.

This document was prepared by the NSW Rural Fire Service and Planning NSW. The document provides concepts for building in bushfire prone areas and guidance on the planning and development control processes in relation to bushfire protection measures. The Bushfire Protection Assessment Report (Conacher Travers Ref: 4154 - Amended May 2006) provides an assessment of the bushfire protection requirements in accordance with the methodology setout under this publication for the proposed project.

The bushfire assessment began in the early detailed design phase for this project, where *Conacher Travers*, in conjunction with building Architects, Landscape Architects, Engineers and the proponent, agreed on a number of specific recommendations. These involved identifying land ownership responsibilities, asset protection zones, strategic fuel management, construction standards, building protection mechanisms, access arrangements and education programs for the residents and their management through the provisions of a community title regime. Such a scheme will allow perpetual management of the excess fuels from retained vegetation.

The responsibility for fuel management will initially be with the proponent. Upon development of lands and the on-selling of lots, fuel management will then devolve to the Community Association and individual land owners. Community Title arrangements will ensure that fuel management will be undertaken in a structured and ongoing manner by the Community Association comprising all owners in the Community Title Scheme. At some time in the future, the proponent will cease to become an owner and the Community Association will take over the bushfire management responsibilities.

In the undertaking of the bushfire protection assessment for the proposed project, it was necessary to prepare other documentation to assist in the management of the lands owned by the proponent, in order to provide an integrated approach to bushfire management on a landscape-wide basis. These additional documents are management plans and are allied to the outcomes recommended in the bushfire protection assessment report and include;

- *Fuel Management Plan* – This plan is the specific guidelines for the managers of the landscape have to protect life and property in an ecological sensitive manner.
- *Bushfire Contingency Plan* – This plan reviews the immediate responsibilities of the developers as owners of the land and their responsibilities to protect the landscape pre development, during and post development.
- *Bushfire Emergency Response Plan* – This plan provides emergency response and evacuation procedures for residents, visitors, employees and contractors of the proposed project.

The validation of the proposed project to the strategies outlined in the *Conservation and Land Use Management Plan (Conacher Travers, December 2004)* has been undertaken, and is provided as part of the Environmental Validation report prepared by Conacher Travers (November 2005).

Conacher Travers together with the proponent, compiled these documents, following numerous discussions, negotiations and exchanges of information, both in the head office of the RFS and on site. The above reports were modified in accordance with these discussions, prior to finalisation. Accordingly, in consultation with the RFS as part of the *Section 62* of the EP&A Act, consultation process for the LES and dLEP, the RFS supported the progression of the LEP (see copy of consultation responses at **Appendix C**).

The aims of the Bushfire Protection Assessment are stated as:

- *Review the bushfire threat to the property;*
- *Review the capability of the property to provide a safe development;*
- *Review the potential to carry out hazard management over the landscape;*
- *Provide advice on mitigation measures including the provision of asset protection zones (APZ's) and construction standards, in accordance with "Planning for Bushfire Protection 2001";*
- *Advise on specific fire management issues.*

The consultants assessment noted the following points with respect to fire history, bushfire Behaviour and availability of services:

- o The first recorded fire in 1981, swept from the western side of the Lakes Way at Tiona, encircling Green Point village before continuing north into a clear paddock in the Forster town area.
- o A severe fire (October 1991) burnt through most of the landscape west of The Lakes Way. The property has also been subject to a fire in 1995 on the roadside margins which caused extensive scorching to the tree canopy. This fire did not carry into the central core of the site and was limited to the Open Forest and Swamp Forest communities.
- o In January 1997 a fire started in the area east of the Lakes Way, called Janies Corner. The fire travelled quickly, cutting the Lakes Way and Green Point Road. The fire was controlled within 24 hours and burnt an area of approximately 250 hectares.
- o There is no visual evidence to suggest that wildfire has impacted upon the site or surrounding lands in more recent years.
- o The factors that influence bushfire behaviour are primarily the type of vegetation that surrounds a site, the slope gradient that affects a site as well as wind direction, wind speed, relative humidity and fuel dryness. It is these latter factors which contribute to the hazard achieving maximum intensity levels and therefore excessive fire behaviour.

The nature of the potential fire behaviour can vary depending on climatic indices at the time. However, the following provides an indication of the likely fire behaviour that would occur in the National Park area and the proposed development areas.

- The vegetation at the common boundary of the National Park is Heath. Fire behaviour can therefore achieve maximum intensity if fire fighting operations are not able to gain access to suppress fires and achieve early extinguishment. The existence of the fire trails in this southern landscape allow potential for extinguishment if fire detection surveillance is effective. Extinguishment of fires could be expected to occur in that scenario.
 - Under worst case scenarios, conditions could potentially see a significant fire occur through the heath areas to the south and potentially a crown fire occurring in the forested areas within the site, giving little chance of fire suppression operations being successful.
 - The Booti Booti National Park extends into the northeastern, eastern and southern landscape. A well constructed access track runs through the National Park to the east and south of the site. The track links The Lakes Way with Seven Mile Beach and is the only access proved through the National Park for a considerable distance.
 - Apart from this track, there will be little opportunity for undertaking hazard management operations in the National Park. Therefore, all access capability for effective fire suppression will need to occur on the proposed development site.
- o There is a Rural Fire Service Brigade located at Green Point approximately 3.5 kilometres to the south on Green Point Drive. The Rural Fire Brigade would have a response time of approximately 10-20 minutes to service the proposed project if they are not assisting elsewhere.
 - o There is a New South Wales Fire Brigade located at Forster approximately 6.5 kilometres to the north. The NSW Fire Brigade would have a response time of approximately 10-15 minutes to service the proposed project if they are not assisting elsewhere.
 - o The NSW Fire Brigades are responsible for the urban areas of cities and larger regional towns. They also play a role in bushfire fighting in some areas where they have the available expertise and physical resources to undertake that role. The prospective fire fighting authority to manage the Seven Mile Beach development may be the NSW Fire Brigade some time in the future, but is likely that the Rural Fire Service will be the interim agency.
 - o The proposed project will be connected to town reticulated water, with the provision for hydrant points strategically located throughout the development. This will ensure that the development is adequately serviced. Additionally, a series of swimming pools located throughout the site will provide additional drafting opportunities for emergency services.

The consultants report which were prepared to assist the LES included several conclusions and recommendations that have been addressed in the amending LEP and project plans and management plans, such as::

CONCLUSIONS

- The report provides an assessment of the bushfire protection requirements required for the proposed project to guard against the potential impact of bushfires to the specifications and requirements of *Planning for Bushfire Protection (2001)*. **Figure 6.5** illustrates the proposed **Bushfire Protection Measures** from the assessment. This plan and report clearly demonstrates compliance with the requirements of *Planning for Bushfire Protection (2001)*, a specific item in the DG's EA requirements and the criteria has been reflected in the development and building plans of the application.
- In the undertaking of this protection assessment for the proposed project, it has been necessary to prepare other documentation to assist in the management of the subject lands. These additional documents are management plans and are allied to the outcomes recommended in this bushfire protection assessment report. These management plans are called up in the CLUMP and ESMP, in addition to being referenced in the Community Management Statement.
- This land will be managed under the provisions of Community Title, which will allow perpetual management of the hazardous fuels that will potentially remain in the development area. The amending LEP incorporates this as a mandatory provision.

The following recommendations were provided to ensure that the proposed project is safe and in accordance with, or greater than, the requirements of Planning for Bushfire Protection 2001 and are incorporated into the project which will ensure that the project complies with this publications requirements and the DG's requirements.

RECOMMENDATIONS

- 1 - The future development will be sited as indicated on the site concept proposal and depicted in Schedule 1.
- 2 -The entire development area will be maintained by regular maintenance of the landscaped areas/mowing of lawns in accordance with the example guidelines provided in Appendix 1. Asset Protection Zones will be provided to the proposed development. They will take the form of Inner Protection Areas, measured from the extremities of the buildings. The Asset Protection Zones will be as nominated in Tables 25-32 and also as depicted in Schedule 1.
- 3 - Areas within the boundaries of the development area will be maintained as managed curtilage and meet the requirements of an Inner Protection Area as per '*Planning for Bushfire protection, 2001*'. See Schedule 1.
- 4 - Level 1 and 2 construction standards of the Australian Standard AS3959 '*Construction of Buildings in Bush Fire Prone Areas*', in accordance with Part 2.3.4 of the '*Building Code of Australia*', will apply to peripheral dwellings as identified in Tables 15- 21 and Schedule 1.
- 5 - Access will be in accordance with '*Planning for Bushfire Protection 2001*'.
- 6 - Emergency access links will be provided from the northern and southern most roads to link with The Lakes Way in the west (see Schedule 1).
- 7 - Private roads will be provided as indicated on Schedule 1. These roads/trails will link to the internal road network and provide access to the adjoining bushland for fire fighting units.

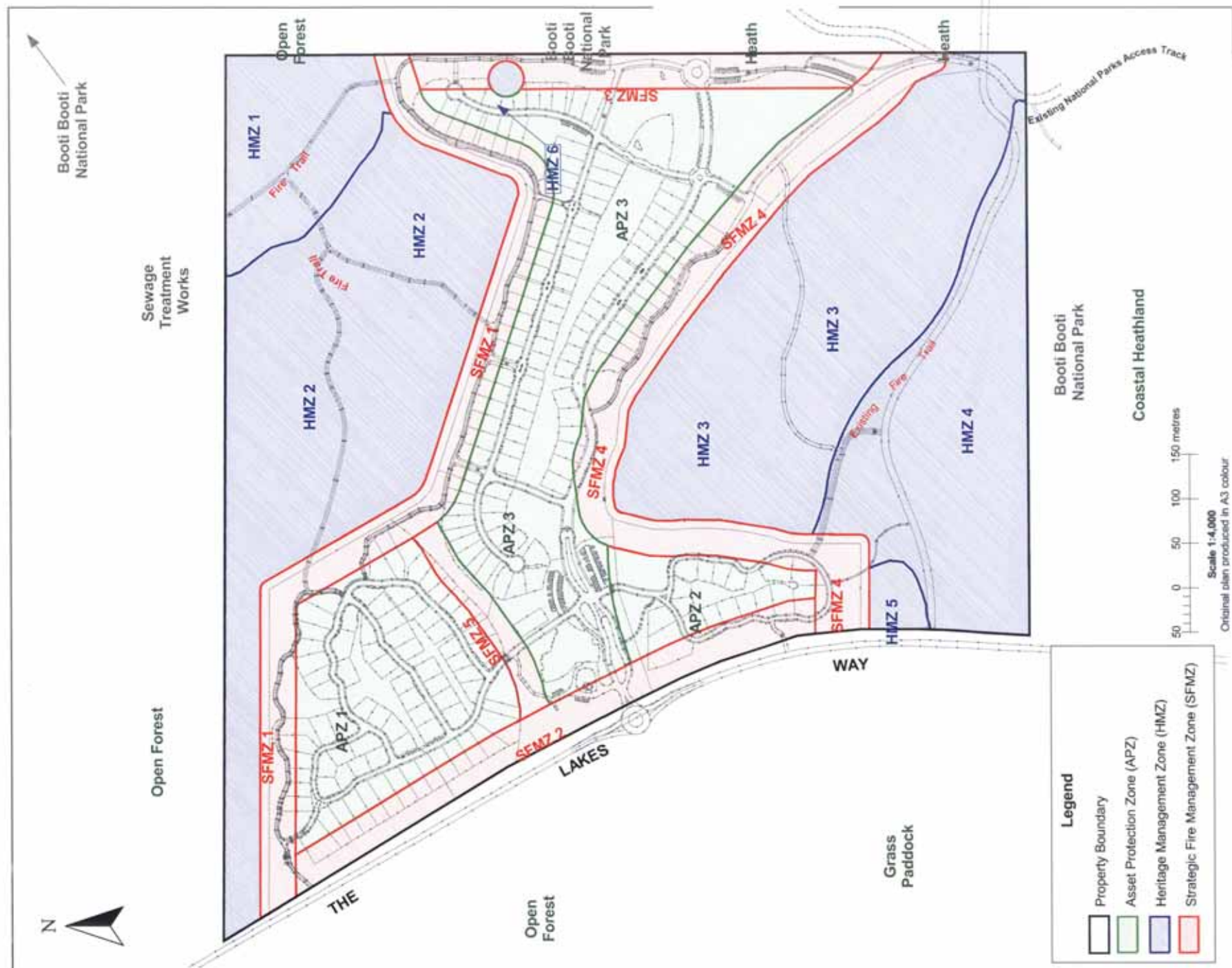


FIGURE 6.5 Bushfire Protection Measures Plan

- 8 - Fire access trails will be constructed to a formed width of 4 metres within a 6 metre wide by 6 metre high corridor clear of all vegetation and over hanging branches.
- 9 - A Bushfire Incident and Evacuation Plan has been prepared. This plan will provide a procedure in the event of fires threatening the development complex, thus allowing the managers of the site to provide an orderly and well-trained approach to the use of fire protection equipment and the evacuation of the residents / visitors.

In respect to the additional management plans documents, the following overview is provided:

BUSHFIRE FUEL MANAGEMENT PLAN

This plan (*see report No. 2 of Specialist Report Volume 2*) was also prepared by Conacher Travers for the proposed project to facilitate management of the bushfire hazard that occurs within the project site, with the scientific theory being derived from the practical experience of *Conacher Travers* and from the peak fire management agencies in NSW (i.e. *National Parks & Wildlife Service* and *State Forests of NSW*).

This Plan (*Conacher Travers Ref: 4154- Amended May 2006*) brings together various policies, guidelines and instructions relevant to the fire management of the Seven Mile Beach property and proposed project, and has been designed to be used as a constant reference by the current and future land managers. As stated by the consultant it is a living document that evolves as the development of the Seven Mile Beach project unfolds or as new knowledge comes to hand or new technologies are developed. It is not a replacement for a fire fighting service.

This plan focuses on:

- Land that is intended for imminent development;
- Land where there is an ongoing requirement to manage hazard levels due to neighbouring responsibilities; and
- Land that is subject to prescription burning requirements to maintain a desired level of habitat diversity.

The implementation of this fuel management plan will be the responsibility of *the proponent* for the foreseeable future. However at an appropriate time in the future, the responsibility, will fall to the Community Association, under the legal umbrella of the Community Title legislation.

The consultants report states that;

"One of the aims of the fire management plan is to provide for the conservation of plant and animal species by maintaining biodiversity. The implementation of this aim will require the protection of habitat and the retention of trees and shrubs generally outside the dwelling footprints

The over use of fire as a management tool and the high frequency of unplanned fire will lead (over time) to the simplification of the habitat. This will ultimately impact upon the carrying capacity of that habitat for the full mixture of wildlife (plants and animals)".

In respect to fuel management strategies the plan makes the following specific points:

- o In areas adjacent to high value assets and where life and property are at risk, the objective of strategic fuel management is to maximise fire suppression options in the event of a wildfire. Fuel management in these zones aims to allow a direct method of wildfire suppression under most weather conditions.

- o Hazard reduction burning is the most efficient and cost effective method of fuel management, allowing protection of a broad range of assets. In determining the frequency and intensity of proposed burning, the primary consideration is the value of the asset to be protected and the range of wildfire suppression options required to protect that asset. Some areas of the site will require physical works to manage fuel levels.
- o Across the Seven Mile Beach Property, objectives will be met by establishing a mosaic of fire regimes in priority zones to reduce fuel levels. These priority zones include limited strategic burning around population areas and valuable assets, variable frequency broad area burning, and burning for species management or ecological purposes.
- o In some areas, hazard reduction burning will be excluded. These will be identified as no burning zones and include some riparian zones.
- o In the broader forest area, where life and property are not directly at risk, fuel management aims to provide a mosaic of burnt and un-burnt areas. This allows an indirect fire suppression effort in the event of a wildfire and maintains biodiversity in the long-term.
- o Uncontrolled wildfires, particularly crown fires in unmanaged fuels, are unacceptable. Fuel management aims to protect all natural resource values, so that in the event of a wildfire, a range of fire suppression options is available.

The management of the Asset Protection Zones (**APZs**) is an important element of the management plan and it is relevant to note the consultants comments:

The major mitigating factor that limits the effects of wildfire is the amount of fuel available to burn. By reducing the amount of fuel there will be a reduction in the intensity of the fire.

The area in which the fuel reduction occurs for protection of an asset is referred to as an Asset Protection Zone. The Asset Protection Zone can be further classified into two sub-zones with each having a specific role. These sub-zone areas are called the Inner Protection Area (IPA) and the Outer Protection Area (OPA).

The IPA is managed as a fuel free zone while the OPA is managed as a fuel reduced zone. This means that the fuel free zone has little fuel available to be consumed in the event of a fire whilst the fuel reduced zones has less than normal fuel levels that could be consumed in the event of a fire.

Conacher Travers Pty Ltd has developed performance standards (Conacher Travers 1997) for managing both these areas.

The Fuel Management Plan identifies the division of the project site into a number of fire management zones which are utilized to facilitate broad and specific fire management objectives. These zones are illustrated in **Figure 6.6** which is **A Fuel Management Zones Plan** and is an extract from the management plan.

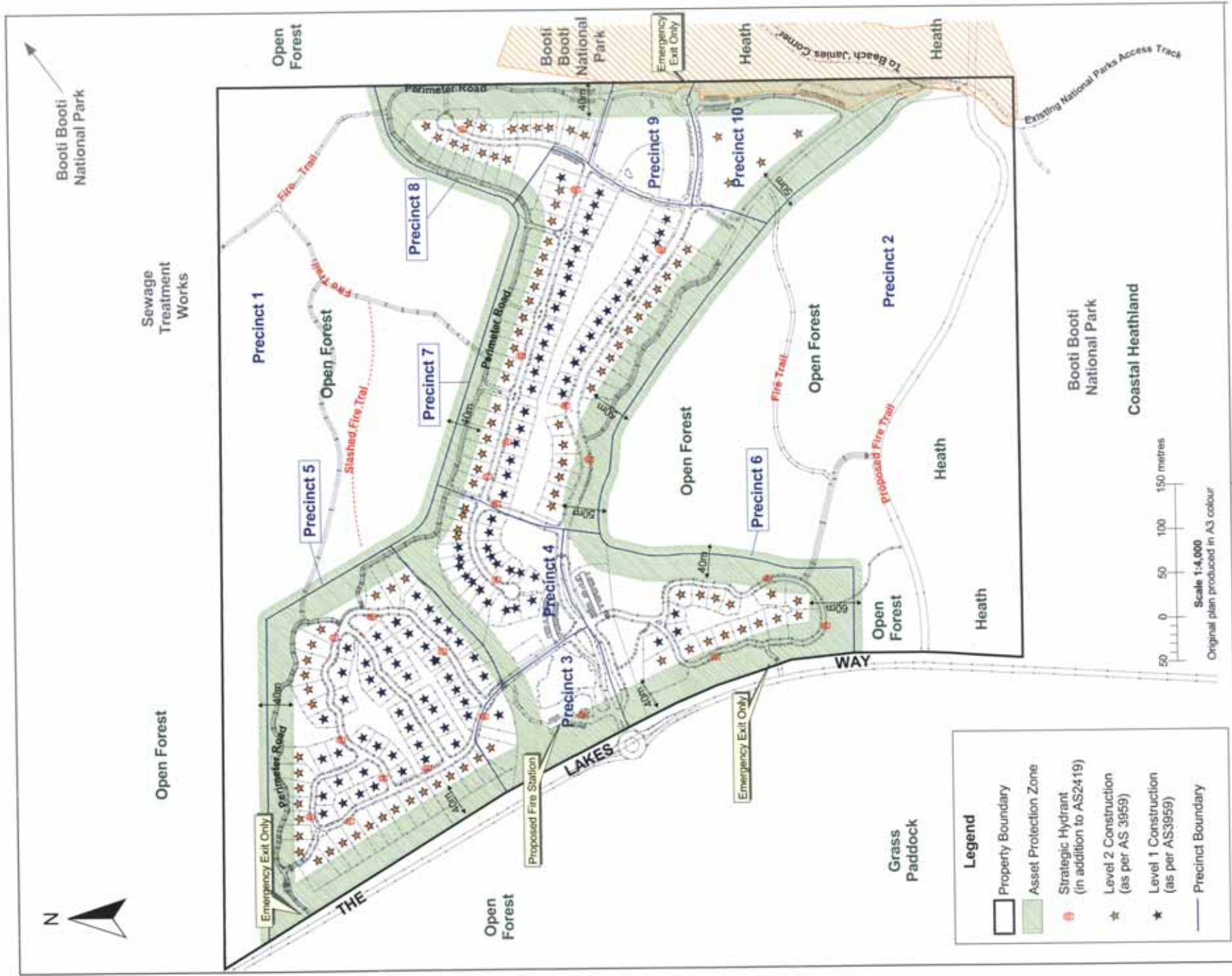


FIGURE 6.6 Fuel Management Zones Plan

The fire management zones are based on areas of similar environmental, cultural and social characteristics within the boundaries, is typically delineated by strategically located roads, trails, or tracks or by natural fire barriers such as creeks and water bodies. Bushfire risk and bushfire behaviour also tend to be similar within each zone. Zone descriptions provide information on assets that need protecting and guidelines that need to be considered during bushfire suppression operations. The consultant recommends that the objectives for the management zones be reviewed annually as additional phases of the proposed project are developed.

Three major categories of fire management zones are used in the plan, these are:

- Strategic Fire Management Zones (SFMZ)
- Asset Protection Zones (APZ)
- Heritage Management Zones (HMZ)

Each zone has fire management objectives, strategies, actions and performance criteria specific to the area within its boundary. For example, HMZ's with fire sensitive communities such as Palm Forest will have fire exclusion objectives and a SFMZ on the fire prone side of the residential development will have objectives that integrate management to ensure ecological health and the protection of assets.

It should be noted that threatened species issues for each zone have been identified according to records for particular species within each zone. However, potential habitat for the Squirrel Glider exists throughout most of the forested portions of the property with connectivity maintained by a proposed habitat corridor extending through the overall development area. All vegetated zones should be treated as potential habitat for such species, and management objectives designed to accommodate these issues.

An important element of the fuel management plan is its administration and some of the principal areas that the consultant has addressed are:

- **MANAGEMENT OF WORKS** - The works programmed for the initial five years will be managed by the proponent before shifting to the Community Association. An annual report on the works will be completed, which will be submitted to the RFS.:
- **ENVIRONMENTAL ASSESSMENT OF SCHEDULED WORKS** - A Review of Environmental Factors (REF) will be prepared for the activities listed in the proposed annual works schedules. The REF will be forwarded to the Great Lakes Rural Fire Service for determination in accordance with the requirements of the Rural Fire Act, six months prior to the intended date of the burn. This time is necessary for the RFS to process the plan
- **APPROVALS WILL BE REQUIRED TO UNDERTAKE FUEL MANAGEMENT WORKS** – Fuel management works, which control impacts from bushfires, include prescription burning for ecological conservation, fire trail construction and maintenance, and hazard reduction to lessen burn intensity.

Once Consent has been granted to the proposed project, further consents for bushfire management (consistent with this management plan) should not be required. Although approval of the RFS, consistent with the RFS hazard reduction code will be necessary prior to any burn to reduce hazard and/or fuel loads.

- **MONITORING FUEL** - Fuel sampling will be required to occur pre and post fuel reduction activities and recorded into a database for future reference.
- **MONITORING FIRE REGIMES AND CHANGES TO BIODIVERSITY** - Mapping of all fires, both planned and unplanned, will be required and undertaken to ensure that information is available for effective analysis of fire regimes and or changes to biodiversity.

- **OPERATIONS WORKS SCHEDULE** - An operational works schedule specifies the proposed activities in hazard management for strategic management, asset protection and heritage management. The plan includes an Operational Works Schedule for 2005 – 2009.
- **PLAN REVIEW** - There may be need to review fire management strategies as further information and research into the management of flora and fauna develops. To ensure that regular reviews are undertaken, this fire plan has an operational life span of 5 years until the year 2009. At the completion of this time period, the plan will be formerly reviewed. However, given the expected development programme for the Seven Mile Beach development this Plan should be reviewed annually during the initial development stages of the project.
- The review will include:
 - o The evaluation of the effectiveness of this plan.
 - o The achievement of the objectives for Life and Property Protection; and
 - o The achievement of the objectives for maintenance of biodiversity.

BUSHFIRE CONTINGENCY PLAN

This Plan (*see report No.3 of Specialist Report Volume2*) was also prepared by Conacher Travers (in consultation with the RFS) for the proposed project, in response to the specific requirements of the Conservation Land Use Management Plan (CLUMP). It outlines procedures that aim to minimize the possibility of major bushfire events occurring, mitigate their impact upon the environment and the community and identifies appropriate responses to particular events, reflective of the different construction and occupation phases of the proposed project.

The aim of this Plan (*Conacher Travers Ref: 4145 – Amended May 2006*) which provides for monitoring strategies for the period 2004-2009, is to ensure that Seven Mile Beach landscape is adequately considered and managed for bushfire protection, whilst recognizing the Booti Booti National Park as being a substantial part of the bushfire management planning of the overall landscape.

The objectives of this plan are to provide strategies to manage the landscape for the foreseeable future. The strategies are centered on:

- Hazardous fuel management
- The need for fire management infrastructure
- Fire suppression capability; and
- Environmental and ecological protection needs.

With respect to bushfire management of the Booti Booti National Park, the NSW National Parks and Wildlife Service (**NPWS**) has prepared a Plan of Management. This plan examines landuse management issues within the National Park, including bushfire management. The relationship between the protection of environmental assets and the development outcomes in adjacent lands.

As a consequence of negotiations undertaken between the proponent and National Parks a series of additional fire trails have been established both within the subject site and the adjacent National Park. It has also been agreed that a regular review will be undertaken between the parties of their respective Bushfire management Plans such that a coherent approach to bushfire management can be achieved. This approach will be manifested by actions such as fuel reduction activities which will be undertaken currently on both properties together with the maintenance of fire trails along mutual boundaries.

The NPWS will maintain fire trails, undertake fuel management and respond to all fires within the national park with the assistance from the RFS, in accordance with their respective memorandum of agreement. The fire trails within the National Park connect to the network of existing (and proposed) system of fire trails within the development area of the proposed project.

In respect of the strategies, it is worthy to note the following aspect from the Bushfire Contingency Plan:

- The Fuel Management Plan facilitates the *management of the bushfire hazard*.
- *Bushfire management infrastructure* is a term that refers to the buildings and other permanent installations associated with the various bushfire management operations. Within the context of the Seven Mile Beach project, there are three broad types of infrastructure that is proposed.
 - o Mitigation or passive infrastructure refers to access and management installations such as roads, fire trails, management tracks, emergency accessways and other instalments not directly involved in fire combat.
 - o Suppression or active infrastructure refers to installations that aid in fire combat and suppression operations such as the construction of an operational fire station, hydrants and water tanks.
 - o Adequate and effective detection and communication links, such as radio repeater stations.

A substantial existing fire trail network currently traverses the project site and many of these trails will be retained and maintained. The strategic placement of fire trails along the urban / bushland interface areas of the proposed project are paramount to the protection of any development in the vicinity, because of both the protection value a fire trail offers in itself, but also the accessibility it creates for effective fuel management in those areas.

- *Bushfire suppression capability* refers to the ability of both the personnel and the infrastructure to manage and deal appropriately with the various types and sizes of emergencies, and fires that could occur within the development. For the proposed project to have an appropriate fire suppression capability, it must be provided with appropriate infrastructure and equipment, and adequately trained and qualified personnel.

In a landscape and vegetation environment such as the project site, a range of fire types will be experienced, and it is essential that the appropriate equipment (ie. Fire appliances) and experienced personnel are able to respond effectively to that emergency.

It is currently proposed to construct a fire station within the project site. This station will form the basis for fire suppression activities within Seven Mile Beach and be run by the Community Association. Alternatively, an upgrade to the Green Point Station may be considered subject to negotiation between the Rural Fire Service and the proponent. The provision of such facilities are also considered under the Statement of Commitments and Voluntary Agreement documents associated with the proposed project.

Infrastructure that would be needed for the proposed project, will provide the necessary infrastructure prior to occupation of the development and will include:

1. A Fire Station capable of housing equipment such as:
 - Quick response fire appliance (such as a Category 7 or Category 9 Tanker)
 - Associated fire suppression equipment such as hoses, reels, small tools, chainsaws etc.
 - Tractor, slasher and specialised front mounted 6 ft cut deck mower (vertical adjustment to 300mm off ground).
 - Spare room for meetings training, showers / toilets, and kitchen area

- Associated furniture fit-out

2. Water hydrants connected to town water (Additionally; a series of public swimming pools located throughout the site will provide additional drafting opportunities for emergency services).

3. Radio Tower for communications

4. External manoeuvring area capable of allowing 6 motor vehicles and 2 trucks to park on grass surface or similar.

The proponent will have the responsibility of providing both the fire station and the associated equipment as specified above.

It is envisaged, that any of the machinery proposed above, may be suitable for weed eradication / grass mowing etc, and other landscape type management works required in the development of the project site.

- Strategies for maintaining the *ecological diversity and the protection of threatened species* within Seven Mile Beach, from a bushfire perspective have been identified as being:

- Limit the potential of all unplanned fires by responding quickly to all fire events with sufficient suppression resources.

- Encourage and assist where possible, fuel mitigation in privately owned areas, to allow effective property protection.

- Where possible, initiate burning regimes that allow ecological fire thresholds to be maintained for each vegetation community and/ or species.

- Use fire, To maintain a complex diversity of vegetation communities and age structures, prevent species extinctions and protect specific natural or cultural assets.

- Where fuel reduction is required at more frequent intervals than the indicated fire thresholds, mechanical methods should be used.

- Monitor weed occurrences within riparian and peripheral zones after fire events.

- Assess the potential environmental impact/s prior to any fire management activity.

- Monitor vegetation regeneration following a prescribed burn where appropriate.

- Emphasise fuel reduction along boundary areas to allow for ecologically sustainable fire regimes within the habitat corridors

- Monitor vegetation regeneration following a prescribed burn where appropriate.

- Ensure the conservation of habitat type and variation.

- Maintain the fire regimes of each plant community within the appropriate thresholds, for ongoing maintenance of biodiversity. Basically this requires the management of fire to retain all native species known to occur.

BUSHFIRE EMERGENCY RESPONSE PLAN

This Plan (see report No. 4 of Specialist Report Volume 2) was also prepared for the proposed project by Conacher Travers (in consultation with the RFS), in line with Australian Standard AS3745 'Emergency Control Organisation and Procedures for Buildings'. The aim being to provide a bushfire emergency response plan for the residents, visitors, employees and contractors.

This Plan (Conacher Travers Ref: 4145 – May 2006) provides a simple yet planned approach for the orderly evacuation of residents or others during a fire or similar emergency incident. It also provides information to enable residents to understand the risks in respect of evacuating or not during a bushfire emergency. The Plan includes four policies which are provided to enable an understanding of the matters regarding an appropriate response by the residents to a bushfire emergency. These policies are:

- *Policy 1 – Responsibility for Overall Fire Safety*

The implementation of the Bushfire Emergency Response Plan shall rest with the Community Association who shall ensure:

- Emergency plans are updated annually.
- Residents are issued with a copy of the plan.
- Evacuation procedures are tested annually.
- Deficiencies in the fire and evacuation management systems are changed.
- Safe refuge areas are maintained.
- Maintenance of the asset protection zones as identified in the Bushfire Protection Assessment (Conacher Travers, 2004) and on the attached plan. (NOTE: This responsibility may be delegated to the Managing agent).
- Maintenance / replacement of equipment listed in the section 'Emergency and Safety Systems Used' is carried out without delay.
- A copy of the current plan is distributed to the relevant Emergency Services Agency.

- *Policy 2 – Responsibility for Evacuation*

The statutory responsibility for evacuation rests with the Police. However during major fire events residents may wish to self evacuate to the identified safe refuge areas, or other safe areas of their choosing.

Those staying within their dwelling must be prepared for the stress caused by the possible noise and general confusion generated by the fire as it approaches and passes.

- *Policy 3 – Residents Awareness of Safety Plans*

All residents will be given a copy of the plan and will receive training once in every year in the evacuation procedures to be used. Normally this will be carried out via a practical drill. The annual training will be the responsibility of the Community Association.

A resident's training register should be initiated and maintained by the Community Association so that all trained and untrained residents are known and listed.

- *Policy 4 – Management of Safety Equipment and Other Safety Provisions*

Responsibility for ensuring the regular maintenance and checking of safety equipment and / or safety provision rests with the Community Association. The Community Association may also obtain assistance in this regard from consulting professionals in their respective fields.

Other aspects of the Plan include:

- o Identification of all emergency and safety systems used.
- o Identification of the Primary Safe Refuge Area, which is the Forster High School (to the northwest off The Lakes Way).
- o Identifying of matters to be considered and regularly assessed in preparation for the bushfire season and a bushfire emergency.
- o Outlining actions to be taken by residents during the following bushfire events:
 - ❖ As the bushfire approaches;
 - ❖ During the approach of the bushfire;
 - ❖ When the bushfire is close;
 - ❖ As the bushfire passes over; and
 - ❖ After the bushfire has passed.
- o Provision of a checklist for planning an evacuation for scenarios facing residents planning to go or stay.
- o Outlining of the steps in the evacuation procedure.

The Plan also includes appendices referencing, contact list, evacuation routes & safe refuge areas, shutdown instructions for power and other services, list of residents trained in fire incident / evacuation plan and other skills (e.g. first aid), names of fire wardens, estate layout plan, fuel management plan, bushfire protection measures and sample evacuation procedure for each dwelling

6.4 IMPACTS ON WATERWAYS

Under the DG's Part 3A Key Assessment Requirements, the assessment must:

"demonstrate compliance with the requirements of NSW State Rivers and Estuaries Policy including the provision of native vegetation riparian zones adjacent to watercourses or wetlands."

In undertaking a **Stormwater Management Strategy** for the proposed project, Civil and Environmental Engineers, Boyden & Partners (see report 10 of Specialist Reports **Volume 2**) described the project site (see pages 4-5) as consisting of:

The site comprises of a parcel of land with a site area of approximately 68.7ha in size consisting of a combination of mixed native forests and sparsely vegetated sand dunal areas. There is also an abandoned sand borrow pit previously utilised for sand mining activities. The site consists of predominantly low-lying areas between RL3.0 to RL5.0. There is also a forested knoll towards the southern boundary of the site and an elevated sand dunal ridge in the centre of the site, which rises to approximately RL10.0. Slopes range from the low-lying areas adjacent to The Lakes Way on the western boundary to approximately 10% in the dunal areas.

The site can be separated into three catchments approximately correlating with the area to the north of the sand borrow pit (30.6ha), between the sand borrow pit and the southern knoll (26.4ha) and a small catchment to the south of the knoll (7.1ha). These catchments have been designated the northern, central and southern catchments. The borrow pit (4.7ha) drains into the northern catchment via an existing pipeline. An external catchment

area of approximately 64ha, incorporating a portion of Booti Booti State Recreation Area drains toward the northern catchment from the north-east and an area of approximately 5ha drains into the central catchment from the east.

Low-lying areas to the north and south of the dunal area are subject to periodic inundation due to water table fluctuations and downstream drainage conveyance constraints.

Coffey Geosciences have previously documented a groundwater mound that exists beneath the sand ridge/borrow pit area. The recent maintenance of the pipeline that drains the borrow pit, however has resulted in a lowering of the water table within the pit.

Stormwater runoff generated on the site is routed westwards into Wallis Lake via a series of culvert crossings underneath The Lakes Way. Flows in excess of the capacity of the 375mm diameter culvert, which drains the central catchment, are conveyed north via a flat open grass swale into three 2.4m wide x 0.9m high reinforced concrete box culverts (RCBC), which drain the northern catchment.

The Boyden's report clearly establishes that there are no rivers or streams evidenced on the subject site and as such the NSW State Rivers and Estuaries Policy does not apply.

6.5 TRAFFIC

The DG's requirements for the Part 3A, EA on traffic, requires the assessment to demonstrate compliance with relevant Council and RTA traffic and car parking codes and impacts on the existing road network. Also relevant are the comments addressing SEPP 11 –Traffic Generation Developments and Draft SEPP 66 – Integration of Land Use Transport which are dealt with at Section 5.7 and 5.8 of this E.A.

With respect to the traffic impacts on the existing road network Traffic Engineering Consultants **GHD**, prepared a traffic reporting July 2005 (see report 9 of the Specialist Reports Volume 2 of this EA) which followed on from an earlier assessment in September 2004 and included:

- a review of the existing road environment in the vicinity of the site and the traffic conditions on that road network (Section 2);
- provided information on the proposed development proposal (Section 3);
- identified the traffic generation potential of the proposal with respect to the surrounding road network in terms of road network capacity (Section 4);
- examined the traffic implications of the proposal with respect to the external road network in terms of traffic efficiency, residential amenity and road safety (Section 5);
- examined the internal traffic circulation based on the Australian Model Code for Residential Development (AMCORD) (Section 6); and
- summarised the findings of the report (Section 7).

The key traffic conditions of this assessment can be summarized as:

- The Lakes Way is a classified major road (ie; arterial road) providing secondary inter-regional links between Bulahdelah, Smiths Lake, Pacific Palms, Forster, Tuncurry and Hallidays point. The Lakes Way near the subject site has a 7 metre wide carriageway incorporating two undivided lanes.

The Lakes Way forms part of the principal road network for Foster/Tuncurry and is a critical road element for the efficient transport of people, goods, and services through and around Forster/Tuncurry.

- Existing posted speed limit along the Lakes Way is 100km/hr. Speed limits reduce to 80km/hr approximately 180 metres north of the main entrance to the proposed development. The speed limit reduces to 70km/hr prior to intersection of Cape Hawke Street and Lakes Way.
- Public transport in the Great Lakes LGA is provided via the Forster Bus Service and the following service pass the site.

Route 307 – Forster – Coomba Park via Green Park, Pacific Palms and Smiths Lake (2 services per day); and

The report assessed the traffic generation potential based on the RTA "Guidelines to Traffic Generating Developments" taking into account Projected Future Traffic Volumes, Traffic Safety and Future Intersection Performance and made the following recommendations and conclusions

RECOMMENDATIONS

It is clearly evident that both access options operate at a peak satisfactory level of service during the AM and PM peak periods. Given that the proposed access location is situated in a semi rural location, it is recommended that the Austroads Type "C" intersection be used to provide access control to the subject development site because:

- The Austroads Type "C" intersection allows for the separation of mainline traffic flows, and Accommodates turning movements through the use of right turn auxiliary lanes. This minimises conflicts and delays to all vehicles;
- The Lakes way incorporates a high speed limit (100 km/hr) in the vicinity of the development site, which can be adequately controlled by Austroads Type "C" intersections. Roundabouts require vehicles to slow down significantly, causing safety issues, due to lack of driver expectation and high traffic speeds. It is also recommended to reduce the sign posted speed limit along the frontage of the development site to 80 km/hr. This speed reduction measure will ensure safe and optimal operation of the proposed access point.

CONCLUSION

The following conclusions are made based on the above investigations:

- The proposed development has no unacceptable traffic implications in terms of road network capacity with projected peak hour traffic volumes within acceptable limits.
- The proposed access driveway to the development provides a satisfactory level of traffic safety and meet the minimum Approach Sight Distance (ASD) and Safe Intersection Sight Distance (SISD) based on the criteria outlined in Austroads;
- The proposed development has no unacceptable traffic implications in terms of road network capacity with projected peak hour traffic volumes within acceptable limits;
- The additional traffic on the Lakes Way as a result of the proposed development will not adversely effect on the level of traffic activity on the Lakes Way;
- The results indicate that roundabout option operates at a good level of service during the AM and PM peak periods.
- Traffic operation in Austroads Type "C" option at the intersection of Lakes Way and Access Driveway is within the acceptable degree of saturation;
- Austroads Type "C" intersection has been proposed at the access point to the proposed development;
- It has been recommended to reduce the speed limit in the vicinity of the proposed development site to 80 km/hr to increase the safety. If the speed limit is reduced before the horizontal curve on the Lakes Way, south of the proposed development, then a roundabout would be the preferred option
- The internal road network has been designed to accommodate the turning paths of a bus and garbage truck.

In January 2006, the above traffic study was re-evaluated as a result of changes to the numbers of residential dwellings within the project site. This re-evaluation is also included with report 9 in the Specialist Reports Volume 2 to this EA and included:

- *Estimate additional traffic generated by the proposed development using RTA guidelines as a result of the recent changes.*

- *Undertake an intersection operational performance assessment of the proposed roundabout using SIDRA to confirm if a proposed roundabout (as opposed to the previous proposed Type C intersection) is capable of accommodating the revised post development traffic demand.*

- *Examine the ability of the internal road network to accommodate buses and garbage trucks. This section of the evaluation will also test the planned internal parking areas ability to accommodate garbage truck movements using "Auto Turn" software packages; and*

- *Undertake preliminary review of the design for a proposed roundabout in The Lakes Way, which includes verifying vehicle swept paths and making recommendations on any design changes.*

This re-evaluation investigation concluded:

- *The changes of dwelling numbers will increase the total number of trips generated by some three vehicles per hour during peak periods.*
- *The proposed roundabout operates at a good level of service during the AM, MD and PM peak periods with development traffic up to the year 2024.*
- *The pick up zone has been designed to accommodate the turning paths of a bus.*
- *The internal road network can accommodate garbage truck movement.*
- *The proposed roundabout can accommodate movements of vehicles up to a semi trailer size.*

With respect to DIPNR's Integrating Land Use and Transport Planning Policy and Draft SEPP 66 – Integration of Land Use and Transport and the assessment of car parking in accordance with Council and RTA traffic and car parking codes, an addendum report was prepared in June 2006 by GHD and is include with report 9 of the Specialist Reports Volume 2 of this EA The consideration of the policy and draft SEPP resulted in the following assessment:

The proposed development will form part of an emerging development area in South Forster. Currently, this precinct is somewhat isolated from the main urban area. However, with the development of land identified in the Forster-Tuncurry Traffic Study, the environment will become increasingly urbanised.

This assessment has considered the provision for non-car related transportation, specifically addressing bus servicing and the future walking and cycling environment.

As a small community in a regional location, the majority of external trips will be likely to be via private car travel. However, it can be seen that the development provides for access by bus, walking and cycling. As the South Forster area further develops, these modes of transportation would be expected to become more attractive as trip destinations become close and more frequent bus services are provided.

The following detail aspects, leading to the above assessment result are worthy to note:

- The proposed project is for a small residential community in an eco-living environment, approximately 5 km south of Forster township.
- The site will become part of the emerging South Forster urban area and will contribute to the Forster/Tuncurry and a possible future neighbourhood centre in the area, as identified within the Forster Tuncurry Traffic study of April 2005.
- The proponent has engaged in discussions with the Forster Bus Service with a view to serving the proposed project with an extension of Route 306. Forster Bus Service have indicated that the service will be initially run to the new development on a system of advance booking requests. As demand grows, the service would run more regularly and it would serve the both new development and other surrounding future urban developments in South Forster. A copy of

correspondence confirming these proposed arrangements is included as an attachment to the Specialist report 9 within Volume 2.

This bus service would be likely to be of most assistance to school children, the elderly, and those without access to a car. It would be beneficial to provide services from the early stages of delivery of the proposed development.

A dedicated bus zone is proposed to be located near the main entry/exit to the site. A bus shelter will be provided in this location, with bus service timetable and route map information available.

Footpaths will provide easy access for pedestrians to reach the bus stop from surrounding residential streets. In future years, as the South Forster area further develops, it would be expected that the bus stop could be relocated to the Lakes Way to allow for efficient servicing of the development en-route to other residential areas..

- Internal access streets have been designed based on the Australian Model Code for Residential Development (AMCORD). Streets within the development are designed to carry traffic at a maximum speed of approximately 40km/h, which will aid road safety, residential amenity and the movements of pedestrians and cyclists.
- The collector and access streets within the development will provide for pedestrians and cyclists via footpaths and provision for on-street cycling. All paths and kerb ramps should comply with AS2890.1 to allow for disabled access.

The layout of the development will allow for efficient pedestrian and cycling trips to the main community centre, bus stop and site entrance, which will encourage local walking and cycling trips. Longer distance cycle trips to Forster will be possible with a future provision of a cycleway extension along The Lakes Way, from the Lakes Estate development to the Seven Mile Beach development. This will be provided by Great Lakes Council with the aid of a contribution from the Seven Mile Beach development.

With respect to compliance with relevant car parking policies and codes of both the RTA and Council the addendum report established the following:

- A dedicated bus zone is proposed to be located near the main entry/exit to the site. A bus shelter will be provided in this location, with bus service timetable and route map information available. Footpaths will provide easy access for pedestrians to reach the bus stop from surrounding residential streets. In future years, as the South Forster area further develops, it would be expected that the bus stop could be relocated to the Lakes Way to allow for efficient servicing of the development enroute to other residential areas.

- Vehicular access to the proposed development is via a combined entry/exit driveway off the Lakes Way. The site also incorporates two emergency fire access to the site along the Lakes Way and two east of proposed development site. Each of these access points should be available for use by pedestrians and cyclists. Internal access streets have been designed based on the Australian Model Code for Residential Development (AMCORD). The road network within the proposed development will adopt the following key elements:
 - » Collector Street Two lane street with 7.07.5 metre carriageway width or 6.06.5 metre plus indented parking, 1.2 metre wide footpath on both sides of the road and an onstreet cycleway;
 - » Access Street Two lanes of traffic with 5.57.0 metre carriageway width, parking provision on carriageway, 1.2 metre wide footpath and shared onstreet cycleway with vehicles;
 - » Access Place One lane traffic with 3.53.7 metre wide carriageway, no footpath provision and shared onstreet cycleway with vehicles.
 - » An extensive cycle and pedestrian network is also proposed, including dedicated offroad shared paths, a footpath along the main access road, and a network of low speed access streets where pedestrians and cyclists will be able to share the carriageway with a limited number of vehicles.

The most recent updated assessment (15 Dec 2006) confirmed the following:

- The traffic generating potential of the development has decreased slightly by 2 trips during both peak periods. Therefore, the future impacts outlined in Chapter 4 of the Traffic assessment final report are still relevant for the currently proposed development and no further analysis is required.

- The parking provision required by Council's Parking Code for the apartment buildings and ancillary services proposed as part of the development is 230 spaces.

Streets within the development are designed to carry traffic at a maximum speed of approximately 40km/h, which will aid road safety, residential amenity and the movements of pedestrians and cyclists.

Furthermore, it can be seen that the collector and access streets within the development will provide for pedestrians and cyclists via footpaths and provision for onstreet cycling. All paths and kerb ramps should comply with AS2890.1 to allow for disabled access.

The layout of the development will allow for efficient pedestrian and cycling trips to the main community centre, bus stop and site entrance, which will encourage local walking and cycling trips. Longer distance cycle trips to Forster will be possible with a future provision of a cycleway extension along The Lakes Way, from the Lakes Estate development to the Seven Mile Beach development. This will be provided by Great Lakes Council with the aid of a contribution from the Seven Mile Beach development.

- The proposed development will form part of an emerging development area in South Forster. Currently, this precinct is somewhat isolated from the main urban area. However, with the development of land identified in the *Forster Tuncurry Traffic Study*, the environment will become increasingly urbanised.

This assessment has considered the provision for noncar related transportation, specifically addressing bus servicing and the future walking and cycling environment.

As a small community in a regional location, the majority of external trips will be likely to be via private car travel. However, it can be seen that the development provides for access by bus, walking and cycling. As the South Forster area further develops, these modes of transportation would be expected to become more attractive as trip destinations become close and more frequent bus services are provided.

- Standards for provision of car parking for tall buildings at new developments are set out in Great Lakes Council's Development Controls Plans No. 21 – 1998 and Car parking Policy 1991. The relevant parking requirements from Great Lakes Council's parking code are provided in **Table 1**.

Table 1 Parking Requirements

Reference	Land Use Category	Prescribed Parking Requirement	Required Parking Provision
Great Lakes Council DCP No. 21	Residential	1 space per dwelling containing one bedroom	201
		1.2 spaces per dwelling containing two bedrooms	
		1.5 spaces per dwelling containing more than two bedrooms	
		0.2 of a space per dwelling for visitor parking	
		0.125 of a space per dwelling for trailer parking	
Great Lakes Council Car Parking Policy	Gym	1 space per 25m ² of gross floor area	5
	Retail/Cafe	1 space per 20m ² of gross floor area	33
Total			239

As shown in the **Table 1** above, the parking provision of Council's Parking Code provides on-site parking requirements of 239 spaces.

Based on the information provided by the Wise Property Group, the proposed development includes a total of 331 on site car spaces. The proposed number of parking spaces is higher than the parking requirements stipulated in the Great Lakes Council DCP (239 spaces) and meets Council's parking code requirements.

6.6 SOCIAL AND ECONOMIC IMPACT

Consultant firm **Key Insights Pty Ltd** were commissioned to investigate and assess the social opportunities and constraints for the proposed project by the preparation of a Social Impact Assessment (**SIA**) (see *Report 7 of Specialist Report Volume2*). This assessment meets the key Part 3A requirements of the DG in that it provides an assessment of the social and economic impacts including demographic impacts on the locality, accessibility, mix of housing opportunities, provision of community infrastructure, catering for cultural diversity.

The following key points are extracted from the consultants assessment and are seen as representing a summary of the demographic profile:

- Great Lakes population has grown by 20% over the ten years to 2001 compared to 8% for whole of NSW. The Population is expected to increase steadily over the next 20 years, increasing 29% to 40 500 by 2021. This compares to projected increase of 17% for population of NSW. Population growth so far has not occurred as a result of strengthening and diversifying local economy, but through the injection of retirement incomes.*
- Great Lakes LGA has a relatively mature population, which is getting older. This is partly a reflection of national trends, but also due to the influx of retirees and the outward migration of the area's youth. In 2001, 28% of the population was aged 60 and over.*
- Great Lakes LGA has relatively fewer residents in their prime working age (ie, between 20 - 59). Only 7% of residents are aged between 20 - 29, compared to 14% for NSW, reflecting limited local education and employment opportunities for young adults.*
- Great Lakes has relatively fewer people aged between 30-39, suggesting that there are fewer young families relative to the state average.*
- In 2002, Great Lakes had a significantly higher unemployment rate (14.9%) than NSW (6.1%) and Australia as a whole (6.8%). During 2001- 02, unemployment rose at an increasing rate. This is largely due to structural economic reform and a declining agricultural sector.*
- The dominant sectors of economic activity are retail trade, accommodation, cafes and restaurants, construction, and health and community services. Retail trade is the highest employer, employing 19% of the resident population (compared to 14% for NSW).*
- Seven Mile Beach has a statistically insignificant population. It does not attach to Forster-Tuncurry at present, but it is close enough to probably adhere to it in future.*
- Forster-Tuncurry is a major Urban Centre, with a population of 17,939 (plus 57 overseas visitors) at the Census of 2001 and has one of the oldest populations of any major centre, with a median age in 2001 of 51 – that is, almost 9,000 of its residents were over 51.*
- The percentage of residents over 54 in Forster-Tuncurry compared with the State average is substantially high. Conversely, there is a significantly lower proportion of residents under 54. This deficit is most pronounced in the 15-24 age group; the transition from school to work, due to the trend of leaving regional centres – all around Australia - in pursuit of wider social, employment and educational opportunities in bigger cities.*
- The population of Forster-Tuncurry increases in almost every age cohort from 24 to 74. More than one resident in five in 2001 was over 70 years of age.*
- The Great Lakes, with its high proportion of older residents, has lower participation at all levels of education.*
- The striking feature of Forster-Tuncurry, however, is the low rate of participation in the labour force, a third lower than the State average. This is clearly related to the age of the population. It reflects the issue of dependency: a high proportion of the Forster-Tuncurry population is dependent on others for the provision of goods and services, and unemployment exacerbates the situation.*

- The urban centre of Foster-Tuncurry has employment above the State average in Construction; Retail Trade; Accommodation, Cafes & Restaurants; and Health & Community Services. It falls below the NSW average in Manufacturing, and in Property & Business Services.
- The dominant sector of employment is clearly Retail Trade, which employs 21 per cent of the working population. This is the largest sector of employment nationally, but nationally it accounts for only 15 per cent of jobs. In Forster-Tuncurry it is the largest sector of employment for men (556 jobs or just under 20%) as well as women (560 or 23.15%).
- The greatest percentage of people in the Great Lakes area at the 2001 Census earned less than \$300 a week.
- Against this background of an older population, low participation rate in the labour force, high unemployment and low wages, Foster-Tuncurry and the surrounding region is undergoing a transformation from a rural based economy to a retirement and lifestyle economy. Whether **Seven Mile Beach** is considered as a southern "suburb" of Forster-Tuncurry, or as a northern neighbour of Pacific Palms, it also **falls into the lifestyle category**.

With respect to Potential Social Profile and Contribution to the Foster Area the SIA found:

- o That residents from the proposed project will be making a lifestyle choice. Some years ago it would probably have been a retirement choice. Now it could be a choice to be part of an expanding economy as other "lifestylers" stimulate economic growth through spending and generate employment; or it could be a creative choice, to locate to an attractive part of the coast while still remaining plugged in to a knowledge economy.
- o There is good reason to expect that new residents will not fit the age profile that Forster-Tuncurry has established over the past five years as the number of residents over 50 came to exceed the number of residents under 50. Lifestyle regions have recorded growth in all age groups over the past seven years. They attract people over 55, it says, who require services (particularly in construction and health care) that are provided by people 25 to 54
- o The region does not need another development that replicates the existing community and the challenge is to attract new, younger, skilled arrivals with some urgency. Whether new arrivals make a contribution to the local economy through consuming or providing goods and services, the essential qualities they bring are relative youth, broader skills, and a diversification of the economy and the community.

A key element of the SIA was the Supply and Demand of Service and Facilities to cope with the population growth generated by the proposed project. The main findings are summarized as:

Schools

Discussions with schools indicate that it should not be difficult in accessing the local Forster high school. Forster Primary school is always full but they are required to meet the demand and therefore would do so, making a request for more teachers if required. The Department of Education has said that potential students from the proposed development would be accommodated at Forster Primary School and Great Lakes College Foster Campus.

Day Care/Preschool

Access to under 3yr old care particularly under 2 years will be difficult as there are currently only 2 centres which cater for this age group and waiting lists are usual. According to discussions with 2 care providers, access to over 3yr old care should be achievable. It is difficult to predict what proportion of new residents will require such services.

Health

Given the information obtained from Dr Wayne Halpin, former Area Director of GP's, the capacity of current medical services to meet the health needs of the population requires investigation. It would be desirable for the

proposed development to intentionally attract an interested GP to run a practice from the development site in the commercial centre; particularly given the proportion of semi-retired persons that move into the Great Lakes area and given the type of resident the proposed development is likely to attract.

Recreation

There is a range of recreational, cultural and social facilities in the Forster area that has a strong senior focus and caters well for this demographic. The proposed development is likely to have some recreational facilities accessible to the general public and internal facilities sufficient to meet the needs of residents of the new development. If the demographic attracted to the development is families with young children it would be appropriate to consider the inclusion of a child friendly space with play equipment.

Cultural facilities

In discussions with members of the local community comments were made that there seems to be a lack of community meeting room space and performance spaces for arts activities such as concerts and plays. The proposed development brings opportunities to provide a forum to promote local artists and possibly provide space for local community groups to meet including providing performance spaces. This will be price sensitive for local community groups

Public Transport

Currently the only form of public transport is a school bus that runs along Lakes Way. It is recommended that the proponent begin discussions with the bus provider regarding establishing a bus route to and from Forster. Other residential developments in the area may also benefit from including Lakes Way in a local bus route. The development of public transport options will be subject to demand and while government authorities and community groups want to promote public transport the reality is that a cultural shift is needed whereby people make a choice to use public transport.

Youth

Youth support services would be sought from Tuncurry where the local youth service is based. If an influx of young people were to occur a review of current youth services would need to take place. Given the current trend and future projections of an ageing population for Forster, combined with the style and modest scale of this development, the proposal is unlikely to attract large numbers of families with young people or independent young people.

Seniors

Seniors are well catered for. There are a variety of services for seniors based at the Community Centre and the Community Health Centre along with a variety of social clubs and recreation aimed at the seniors market. There are also extensive informal social network based around interest and values operating within the Forster-Tuncurry area.

ECONOMIC IMPACTS

Limited economic value is currently provided from the project site to the local community. Its value as a sand mine has diminished, although the lands natural setting does offer some tourism and recreational value. The proposed project will therefore deliver economic benefits to the local and regional community.

These benefits include the creation of construction and post construction employment opportunities and multiplier benefits from household expenditure. Abs figures indicate that 9 jobs will be created per \$1M spent in construction. The project will generate approximately 1000 construction jobs and an annual overall household expenditure of \$7-\$9M from the development phase.

The operational phase will generate 12-18 full time job equivalents in the early stages, depending upon the success of the commercial activities.

The economic impacts of a residential subdivision typically revolve around the effects of an increased population on the inputs and outputs of a town and this project will provide land for

housing, which will increase Forster's capacity for population growth particularly as Seven Mile is located relatively close to the economic activity of the Forster township.

The SIA noted that given the attention to design and quality associated with this proposal, combined with the uniqueness of the site, it is unlikely that any of the available new housing would fit the definition of affordable housing. There is however a link between population growth and economic growth, regardless of the affordability of the housing provided.

The SIA considered that the establishment of this proposed project will provide:

- **Employment** during the building construction stage, and on going employment in the commercial, retail, recreation and conference facilities.
- **Stimulus to the local real estate sector** who will market and sell the subdivision.
- **Stimulus to the building and housing industry across a range of trades** during the housing construction stage, with flow-ons to all sectors of the economy.
- **Stimulus to local businesses** in Forster and the surrounding areas through increased population with disposable incomes.
- **Stimulus to tourism** with the inclusion of short term high quality accommodation (some apartments), commercial, retail, recreation and conference/event facilities.
- **Potential stimulus to the arts community** attracting an "artist in residence" and networking with the local arts community including professional artists.

The SIA documented the social and economic impacts as:

POSITIVE IMPACTS INCLUDE:

Employment during the building construction stage, estimated at 9 full time jobs per \$1M in construction costs, and on going employment in the commercial, retail, recreation and conference facilities.

Stimulus to the local real estate sector who will market and sell the subdivision.

Stimulus to the building and housing industry across a range of trades during the housing construction stage, with flow-ons to all sectors of the economy.

Stimulus to local businesses in Forster and the surrounding areas through increased population with disposable incomes.

Potential to attract a younger demographic than the current population. New residents will act both as consumers and providers of new skills and services to the local economy.

Stimulus to tourism with the inclusion of conference/event facilities.

Stimulus to the local conference and functions market.

Potential extension of the local knowledge economy.

Potential stimulus to the arts community attracting an "artist in residence" and networking with the local arts community (Arts Network), including professional artists.

Opportunities for youth training (hospitality) and youth employment.

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Redevelopment of a currently degraded piece of land (the sand-mined area of the site) into an attractive and environmentally appropriate lifestyle destination.

A pedestrian friendly site with a mix of walkways and cycleways promoting minimal disturbance to the existing forest.

POTENTIAL NEGATIVE IMPACTS INCLUDE:

Infrastructure demands on the local service system particularly in the areas of GP health provision, public transport and childcare for the under-2 year olds.

The SIA makes the following recommendations to enhance the potential positive impacts and mitigate the potential negative impacts

- The proponent explores an artistic theme for the development through ongoing consultation with the Great Lakes Arts Network.
- The proponent explores opportunities with Tuncurry TAFE for training and work placement for local students.
- The proponent includes child care facilities in the commercial complex. (This recommendation has been enacted in the course of this research)
- The philosophy of maintaining control over the built environment through high quality design and construction in a style appropriate to the local context is valuable and should be encouraged.
- The proponent explores targeted functions markets such as weddings (bundling accommodation with catering), video conferencing and learning facilities, and "lifestyle conferences".
- Landscaping and cycleways be empathetically designed to preserve the natural features of the location.
- That the commercial area is packaged in a way that is attractive to professionals operating either in the knowledge economy or in a high-need area such as general medical practice. Incentives may include a rent-free start-up period or "house and commercial space packages" for new professional residents. and Services and social) Cultural and Community structure and identity)

6.7 DESIGN, AMENITY AND SUSTAINABILITY

The DGs Part 3A, EA Requirements for this issue stipulated that the EA must:

"address State Environmental Planning Policy No 65 – Design Quality of Residential Flat development; NSW Residential Flat Design Code; BASIX; Coastal Design guidelines for NSW, Assess appearance of all buildings on site and from areas surrounding the site; overshadowing; safety; relationship to surrounding areas, including visual impacts from prominent and public coastal locations; site permeability and pedestrian and bicycle movement to, within and thru the site'.

Section 5.5 outlines the requirements of SEPP 65, which aims to improve the design quality of residential flat development in NSW and recognises that the design quality is of significance for environmental planning for the State due to the economic, environmental, cultural and social benefits of high quality design.

The policy which applies to RFBs that consist or include 3 or more storey's and 4 or more self contained dwellings, whether or not other purposes such as shops are included. Within the proposed project such buildings are proposed for "The Cove" (39 apartments) and "The Point" (79 apartments) precincts.

The SEPP includes the obligation for a Design Verification Statement (**DVS**), which has been prepared for the proposed project by Morris Bray Architects and forms part of the **Design Verification Report** at **Appendix B**. This report reflects the multi disciplinary involvement of various specialist consultants, their investigations, reports and recommendations, together with the

consideration of the various government policies and statutes, that have influenced the final design and layout of the apartment precincts.

The Design Verification Report includes specific reference to the consideration of relevant SEPPs and REPs in addition to addressing the NSW Residential Flat Design Code and importantly the Coastal Design Guidelines for NSW. Many of the issues identified in these publications are interrelated and the comprehensive nature of this report is considered to satisfactorily address the DGs requirements, with respect to design, amenity and sustainability.

6.8 ABORIGINAL HERITAGE

A detailed Aboriginal Heritage Impact Assessment (November 2004) was undertaken by ARC, Andrew Roberts Consulting and Robert Yettica of the Forster Local Aboriginal Land Council (FLALC) (See **report 5** of Specialist Report, **Volume 2**). This assessment revealed that two Aboriginal tribes occupied the Great lakes district, namely the "Biripi" tribe which occupied land between Tuncurry, Taree and Gloucester and the "Worimi" tribe who occupied land stretching from Barrington Tops and Forster to Maitland and the Hunter River.

This assessments states that *"Seven mile beach remains important to contemporary Aboriginal people of the Lakes region who regard the area as being indicative of their culture, signifying intertribal relationships through its use as a camp site and thoroughfare. The area continues to be used for fishing, recreational, educational and other cultural activities and provides a tangible (and continuous) link to the past"*

The assessment revealed that site contained an disturbed open campsite with a scattered shell midden, stone artifacts and a scarred tree. Most of the materials have been disturbed by historical sand mining which occurred upon the midden that was located on the main dunal area. The site is registered with the NPWS (38-3-28). According to the assessment *"Although significant to the aboriginal community the site has limited spatial or temporal integrity"*.

The Forster Local Aboriginal Land Council made the following recommendations in relation to the cultural material found and registered on the site:

- All excavated material to be monitored by representatives of the Cultural and Heritage Unit;
- Artefacts or relics brought to the surface be redeposited into excavation; and
- A 25-30m buffer be provided around the scarred tree.

In response to these recommendations the proponent has made an application to the NPWS under Section 87(1) of the National Parks & Wildlife Act 1974 to disturb and remove artifacts as recommended by the FLALC and this consent should be issued prior to the commencement of any site works. Additionally as is evident by perusal of the development drawings for Precinct 8 *"The Fronds"* recommendations concerning the scar tree have been incorporated into the proposed project.

The DG's Part 3A Requirements sought the EA to address the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (a document published one month after completion of the initial Aboriginal Heritage Impact Assessment) to which ARC Consulting has addressed in an addendum report (also include with **report 5** of **Volume 2**) which addresses the requirements and actions taken in respect of the draft guidelines. No matters concerning the cultural heritage were raised during the consultation workshop or subsequent conversations with the FLALC.

6.9 IMPACTS ON THE ADJOINING NATIONAL PARK

We understand that Seven Mile Beach Pty Ltd ('SMB') is currently negotiating with the Department of Environment and Conservation ('DEC') to undertake a variety of works within the SMB land and the Booti Booti National Park if and when approval is granted for the eco-residential project on SMB's land.

Proposal with DEC

We are informed that the works proposed can be summarised as follows:

13. SMB to construct a carpark (and to clear some land opposite for vehicle manoeuvring) approximately 150 metres from the northern termination of Scenic Drive within the National Park.
14. SMB to replant and remove the fencing along the site of the existing car park.
15. SMB to carry out works within part of the National Park consistent with the Eastern Habitat Corridor Regeneration Plan which is to be agreed with DEC.
16. SMB to construct a new road within the SMB land running in an easterly direction from the Lakes Way to link with an existing fire trail within the property. It will then continue to the south-eastern corner where it will join the National Park. SMB will continue construction of the road within the National Park in an easterly direction to the agreed location. The road within the SMB land is to be the subject of an easement in favour of DEC and is to be maintained by SMB.
17. SMB to provide agreed signage and traffic management devices such as gates and intercom systems.
18. DEC to install a gate across Scenic Drive and appropriate fencing to prevent vehicular access onto the remaining 150 metres of Scenic Drive and to the beach.
19. DEC to construct, fence and maintain a fire trail from the new public road within the Park.
20. DEC will regenerate the redundant section of Scenic Drive.

Proposed Legal Mechanism

We advise that the above proposal can be implemented by way of a tripartite written agreement with the Director-General of National Parks and Wildlife (being the 'park authority' within the meaning of the *National Parks and Wildlife Regulation 2002* ('**Regulations**')) and the Minister for Environment. This agreement can be subject to a condition precedent to the effect that the agreement does not operate until an approval is granted with respect to the eco-residential project and works commence pursuant to that approval.

The Director-General must be a party to the agreement because any application to carry out the works within the National Park must be approved by the Director-General. The Minister must be a party to the agreement in order for SMB to apply for a licence to use the land within the National Park to carry out the works. The agreement will provide that upon the conditions precedent being satisfied:

- SMB will grant a right of carriageway over its land under section 88A of the *Conveyancing Act 1919*, that is, an easement in gross for the benefit of a public

authority being the Minister administering the *National Parks and Wildlife Act 1974* (**NP Act**). A form for the draft section 88A is attached for your consideration;

- SMB will construct the works within its land as agreed;
- SMB will apply to the Minister for a licence under the NPW Act, and if granted, use the land pursuant to the licence issued under the Act within the National Parks for the construction of the road and carpark and to conduct the regeneration works within the Eastern Habitat Corridor Regeneration area; and
- SMB will apply for authority from the Director-General under the Regulations, and if granted, carry out works within the National Park including the use of vehicles and erection of structures in accordance with the Regulations.

6.10 SEWER TREATMENT PLANT

The project site is located adjacent to the Forster Waste Water Treatment Plant and the DG's, *Part 3A EA Requirements* stipulated that the EA must address, Department Circular No E3 – Guidelines for Buffer Areas Around STP's and DEC recommendations regarding preservation of buffer zones around STP's. The relevant aspects of the Circular are:

- A buffer area is an area of land or water near a sewerage treatment plant which, together with pollution control measures, reduces odour, noise, visibility, or other adverse environmental impact to more acceptable levels.
- The design of buffers should be based on the best engineering practice and design available.
- Ideally buffer areas should be at least 400 metres wide but this may vary to suit local conditions.
- Meteorological advice should be obtained to establish the most likely movement of air.
- Buffer areas should be used for compatible purposes such as flora and fauna reserves.
- Council's should avoid rezonings that permit more intensive development and take advantage of opportunities to extend the buffer area.
- For development proposals near STP's, Council's should aim to limit structures to the minimum required for acceptable uses. And consult with relevant authorities or the Department of Commerce.

An Odour Modelling Assessment report was prepared by GHD consulting engineers to determine the extent of odour emissions upon the subject lands (see **report 8** of the Specialist Reports, **Volume 2**). The report states that sampling of odours was generally carried out by NSW EPA approved methods (e.g. flux chamber for collection of odours from liquid surfaces), and subsequent analysis also by NSW EPA methods (i.e. dynamic olfactometry).

The objectives of the this investigation were as follows:

- o *Measure odour emission rates from all significant odour sources at the Forster WWTP under normal operating conditions;*
- o *Compile all available odour emission rate data into a database with which to;*
 - (i) *determine the relative contribution of each source to total WWTP odour emission, and*
 - (ii) *use as model input for conducting odour dispersion modeling;*
- o *Conduct odour dispersion modeling to predict the degree of off-site odour impact for both the existing plant and after the proposed plant upgrade; and*

- o *Assess the implications of the model results on the existing buffer zone of the Forster WWTP.*

The report concluded:

- *The major sources of odour emissions identified at the Forster WWTP were the inlet works and the EAT's. These sources currently account for approximately 55% and 11% of the total odorous emissions from the WWTP under normal operating conditions;*
- *The results of the meteorological modeling indicates that the direction of poorest dispersion can be seen to be to the south-southeast of the WWTP (i.e. highest incidence of stable flows from the north) which is indicative of the influence of the hills to the east and north of the plant which act to channel the stable flows from the west around to heading southwards, over the site, then eastwards away from the proposed development towards the coast; and*
- *The results of the dispersion modeling indicates that the odour criterion of 2.5 OU (99%ile, 1-second average) criterion will be met at all residential allotments in the currently proposed residential development.*

The Site Constraints and Opportunities Plan contained within the Draft DCP reflects consideration of the findings and of this assessment.

6.11 WATER QUALITY

Under the DG's *Part 3A Key Assessment Requirements*, the assessment must:

"address: capacity of Forster sewerage treatment system to service the development; water sensitive urban design principles; compliance with the 1 in 100 year ARI event for the site; impacts on the Wallis Lake Estuary; and ground water impacts."

In respect to capacity of the Forster sewerage treatment system, the local authority, MidCoast water has been consulted and advised that the project site has been included in its current strategy for the Forster Sewerage Scheme and the proposed project can be serviced by an extension of the sewerage system (see copy of response within **Appendix G**).

Civil and Environmental Engineers, Boyden & Partners, have completed a **Stormwater Management Strategy** (see **report 10** of Specialist reports, **Volume 2**) and detailed **geotechnical, acid sulphate soil assessment and ground water monitoring** has been undertaken by consulting engineers Coffey Geosciences Pty Ltd (**Coffey**) (see **reports 11-14** of Specialist Reports, **Volume 2**). In response to the Key Assessment Requirements, the following summary represents the findings from the Specialist Reports.

- The site consists of predominantly low-lying areas between RL3.0 to RL5.0. There is also a forested knoll towards the southern boundary of the site and an elevated sand dunal ridge in the centre of the site, which rises to approximately RL10.0. Slopes range from the low-lying areas adjacent to The Lakes Way on the western boundary to approximately 10% in the dunal areas.
- Stormwater runoff generated on the site is routed westwards into Wallis Lake via a series of culvert crossings underneath The Lakes Way. Flows in excess of the capacity of the 375mm diameter culvert, which drains the central catchment, are conveyed north via a flat open grass swale into three 2.4m wide x 0.9m high reinforced concrete box culverts (RCBC), which drain the northern catchment (see **pages 4-5 of Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- Great Lakes Council's current on-site detention (OSD) policy requires all developments to ensure that there is no net increase in peak flowrates from the post-developed to the pre-

developed case in the 5-year Average Recurrence Interval (ARI) design storm event. Council has, however, as part of a previous Development Application for the site conditioned that there be no increase in flows up to and including the 100-year ARI event and have indicated that the policy will be amended to this criteria in the future.

- The 'Stormwater Quality Management Report' (2001) prepared by Jelliffe Environmental Pty Ltd on behalf of Great Lakes Council, recommends that a 'no worsening' criteria be applied to future developments with respect to the total stormwater pollutant export into the receiving waters of Pipers Bay (Wallis Lake) (see pages 5-6 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- The consultant recommended OSD storage volumes sufficient to maintain flows to within existing limits for all events up to the 100-year ARI event and adopted a 'no worsening' criteria as the basis of our approach to stormwater quality treatment for the proposed development. Therefore the objective of the stormwater quality management strategy is to restrict post development pollutant export loads to existing levels (see pages 4-5 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- A hydrological analysis of the catchment was undertaken to understand the extent and characteristics of the catchment drainage system. A computer model was Developed for this purpose using the RAFTS-Rainfall Runoff Routing computer model (see page 7 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- The RAFTS analysis has estimated a developed peak flow rate of 4.9m³/s for the 5-year ARI event and 10.1m³/s for the 100-year ARI event. The critical storm duration was found to be the 90-minute event for all storm durations analysed from the 1-year ARI event through to the 100-year ARI event.
- In order to meet the adopted criteria of maintaining flows to within existing limits for all design storm events up to the 100-year ARI event and to maintain the existing split of flows between the two areas north and south of the borrow pit, it will be necessary to provide on-site detention facilities as part of the development. It is proposed to utilise a series of communal landscaped biofiltration basins that will encourage infiltration of runoff into the groundwater rather than as surface flow into Council's downstream stormwater system, whilst also improving the quality of stormwater runoff from the developed site (see page 10 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- A detailed hydraulic assessment of the conveyance capability of the triple 2400mm wide x 900mm high box culverts (RCBC) that drain the northern catchment was undertaken, however it is the consultants opinion that they would be incapable of conveying the total peak runoff from both catchments of approximately 15m³/s without overtopping the Lakes Way. This would have a significant result in backwater effects and flooding in the site immediately upstream of the culvert and within the northern swamp areas.
- It is therefore proposed to upgrade the capacity of this RCBC to the 100-year ARI event to ensure that conveyance constraints from the culvert will not impact on the developed site. Furthermore it is proposed to undertake conveyance works along the northern boundary of the site to provide an improved overland flowpath from the low lying areas during periods of inundation (see page 23 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- The 'Model for Urban Stormwater Conceptualisation' (MUSIC) was used for estimating the pollutant export from the site under both pre-development (forested and agricultural) and developed (urban) scenarios and for estimating the effectiveness of the stormwater treatment measures. MUSIC has been developed by the CRC for Catchment Hydrology and can be used

to simulate both the quality of runoff from a catchment and the effects of a wide range of treatment facilities on runoff water quality.

MUSIC was used to simulate the pollutant generation for Total Suspended sediment (TSS), Total Phosphorous (TP), Total Nitrogen (TN) and Gross Pollutants (GP) and to assess the effectiveness of the stormwater management treatment techniques proposed to improve the quality of the developed site runoff.

The MUSIC model for the existing site scenario was developed to provide a base- low measurement of the existing mean annual loads for the pollutants described above (see pages 13-14 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).

- The development will utilise, wherever practical and relevant, current best practice Water Sensitive Urban Design (WSUD) principles to reduce the impact of the developed site on existing hydrological and hydraulic processes.
- All roof water will be conveyed via down-pipes to in-ground infiltration drainage cells which will be located in the rear yard of each dwelling. This will therefore help maintain the natural flows of rainwater into the ground thus replicating the natural existing flow patterns which exist on the site in its undeveloped state.
- Rainwater tanks whilst considered in the original Boydens strategy are no longer required as a recycled water line is being provided from the adjacent Foster Sewerage Treatment Plant. As no detention capacity was assigned to the individual rainwater tanks in the modelling of the required bio-retention areas the outcomes of the model remain correct.
- Runoff from driveways, car parking areas and other impervious areas will be dispersed over landscaped areas, where appropriate, to encourage groundwater recharge and removal of pollutants by filtration through the vegetation, with overflows being directed to the downstream stormwater drainage system and basins.
- All drainage systems will be designed to convey the 100-year ARI design storm event. The proposed road drainage system will convey all stormwater runoff from paved areas to communal biofiltration basins. Overflows from basins will be controlled by a weir that will discharge runoff into the existing swamp areas within the low-lying areas of the site. Biofiltration basins will be sized and detailed in accordance with Australian Rainfall Quality, 2004 (Draft).
- A 500mm freeboard between habitable finished floor levels and the 100-year design storm top water level of the adjacent swamp, biofiltration basins and overflow paths will be maintained at all times (see page 6 of **Stormwater Management Strategy** report of January 2006, **report 10** of Specialist Reports, **Volume 2**).
- The Strategy concludes:
 - o The stormwater quantity and quality modelling undertaken using the RAFTS and MUSIC computer models indicates that the proposed stormwater management system would achieve the objective of limiting flowrates and pollutant export loads from the development to below existing levels.
 - o The prepared stormwater strategy is based on our evaluation of best management practices for stormwater quantity and quality control in regard to the site constraints of the development, Great Lakes Council requirements and the recommendations of the Stormwater Quality Management Report (2001) regarding water quality within Wallis Lake.

- o The stormwater quantity assessment indicates that the provision of communal biofiltration basins will reduce the developed flows released into the downstream drainage system to less than existing levels for all design storm events up to and including the 100-year ARI event.
- o The analysis of the proposed stormwater quality measures predicts that the proposed stormwater management system would reduce the mean annual pollutant load exported from the development, discharging into Wallis Lake (see page 25 of **Stormwater Management Strategy** report of January 2006, **report 10** of *Specialist Reports*, **Volume 2**).
- pH results indicate that the groundwater beneath the site is slightly acid (pH results in the three bores were between 4.6 and 5.5). This was only found however at depths which are not being reached as a result of the development. This is common in the area due to the production of organic acids from the breakdown of organic matter in low lying areas (see page 3 of **Groundwater Monitoring Results** report of November 2004, **report 12** of *Specialist Reports*, **Volume 2**).
- Electrical conductivity results (EC results were between 68us/cm and 420us/cm respectively) indicate that the groundwater sampled beneath the site is fresh and as such is likely to be representative of the actual groundwater beneath the site and not tidal groundwater areas (see page 3 of **Groundwater Monitoring Results** report of November 2004, **report 12** of *Specialist Reports*, **Volume 2**).
- Total Dissolved Solids, Suspended Solids and turbidity results are very low and considered to be indicative of background groundwater quality in this area (see page 3 of **Groundwater Monitoring Results** report of November 2004, **report 12** of *Specialist Reports*, **Volume 2**).
- OCs and OPs and alkalinity indicators were either not detected above the laboratory limit of reporting or were detected at very low levels in the samples analysed. Heavy metals were detected below the site investigation criteria in all groundwater samples analysed (see page 3 of **Groundwater Monitoring Results** report of November 2004, **report 12** of *Specialist Reports*, **Volume 2**).
- Groundwater analytical results indicate groundwater in the area of the site to be typical of the area. It is considered that groundwater quality is appropriate for the proposed site development. (see page 3 of **Groundwater Monitoring Results** report of November 2004, **report 12** of *Specialist Reports*, **Volume 2**).

6.12 GENERAL ENVIRONMENTAL RISK ANALYSIS

The DG's Part 3A Key Assessment Requirements, include an obligation to identify potential environmental impact and mitigation measures associated with the proposed project. In this instance, for the project site, proposed project and surrounding receiving environment the environmental risks and hazards are considered to mainly relate to the areas of bushfire, acid sulphate soils, air and water quality. These issues are dealt with by Specialist investigation and assessment reports (see **Volume 2**) in the respective and associated fields and have been canvassed within Sections 6.3, 5.8, 6.10 and 6.11 of this EA. The following summary outlines the main analysis and mitigation measures for these identified risk and hazards.

BUSHFIRE.

- The 'Planning for Bushfire Protection' guidelines prepared by the NSW Rural Fire Service requires an assessment on the level of hazard posed and how that hazard may change as a result of development
- The subject lands constitute an area that can support a bushfire or is likely to be subject to bushfire attack and as such the land is defined as bushfire prone land under the Rural Fires Act,

1997. Under the guidelines an Asset Protection Zone (APZ) is required to provide a buffer zone between any development and the bushfire hazard.

- The hazards for the subject land include the existing onsite vegetation and the vegetation within the Booti Booti National Park.
- Environmental Consultants, Conacher Travers has prepared the following documents (refer to **Volume 2**) in relation to bushfire hazard and mitigation measures for the project site and proposal;

Bushfire Protection Assessment

Bushfire Evacuation Plan

Bushfire Contingency Plan

Bushfire Fuel Management Plan

- The bushfire protection assessment and recommended management and mitigation plans for the various precincts form an integral part of the proposed project.
- The bushfire protection assessment also makes recommendations regarding the level of construction for buildings, emergency access arrangements and the need for Bushfire Incident and Evacuation Planning.
- An annual consultation and review process has been set up with the appropriate representatives of the adjoining National Park, such that all bushfire management and mitigation is coordinated between the two parties.

ACID SULPHATE SOILS

- Sulfuric acid can occur when soils with significant concentrations of pyrite are oxidised when exposed to air. Excavation works and creation of drain can expose acid sulfate soils directly or indirectly by lowering the water table. This can result in high salinity which can detrimentally affect vegetation growth, aquatic life and can impact upon concrete and steel structures. Acid sulfate soils are usually found in low lying coastal areas including wetlands, salt marshes and other estuarine environments (i.e. coastal creeks and rivers).
- An assessment of Acid Sulfate Soils (by Coffey Geosciences Pty Ltd) found that the acid sulfate potential appeared to be confined to the fine grained alluvial silts and clays and that these soils located below the water table should be considered as acid sulfate soils.
- The assessment recommended an Acid Sulfate Soils Management Plan be required for excavations below the water table.
- All structures and services are to be situated above the water table with only foundation peering and one well for the Sewerage Pumping Station intercepting or passing through the water table.
- In this circumstance, acid sulfate soils are a limiting, as opposed to prohibiting, factor to the proposed project because of the low risk and because soils are able to be managed during the operational phase of any development.

AIR QUALITY

- The subject lands are located adjacent the Forster Waste Water Treatment Plant which is a source of odour emissions. Unpleasant odours can impact upon the enjoyment of life for residents and can, in turn lead to demands for modification or removal of the odour source, in this case, the Treatment Plant.

- The Department of Planning specifies a generic buffer of 400m for residential development to be setback from Sewerage Treatment Plants.
- An odour Modelling Assessment Report was prepared by GHD Pty Ltd to determine the extent of odour emissions upon the subject lands, This report indicated that the major sources of odour emissions at the Plant were the inlet works and the extended aeration tanks.
- The report recommended that preference should be given to development in the western and north-western sections of the site because the area to the south and south-east of the Plant has the poorest dispersion of odours.
- The NSW Department of Environment and Conservation (DEC) Draft Odour Policy includes recommendations for odour criteria of 2 odour units for urban environments where the population is greater than 2000.
- As the population estimate for this land is in the order of 1000, the criteria can be expressed as 2.5 odour units (99 percentile, 1 second average). The report by GHD indicates that all the proposed residential allotments will meet this criterion.

WATER QUALITY

- The site consists of low-lying areas between RL3.0 to RL5.0. , as well as a forested knoll towards the southern boundary of the site and an elevated sand dunal ridge in the centre of the site, which rises to approximately RL10.0.
- Stormwater runoff generated on the site is routed westwards into Wallis Lake via a series of culverts crossings underneath The Lakes Way
- Great Lakes Council's current on-site detention (OSD) policy requires all developments to ensure that there is no net increase in peak flowrates from the post-developed to the pre-developed case in the 5-year Average Recurrence Interval (ARI) design storm event. Council has, however, as part of a previous Development Application for the site conditioned that there be no increase in flows up to and including the 100-year ARI event and have indicated that the policy will be amended to this criteria in the future.
- Civil and Environmental Engineers, Boyden & Partners, completed a Stormwater Management Strategy (refer **Volume 2**) which recommended OSD storage volumes sufficient to maintain flows to within existing limits for all events up to the 100-year ARI event and adopted a 'no worsening' criteria as the basis of our approach to stormwater quality treatment for the proposed development. Therefore the objective of the stormwater quality management strategy is to restrict post development pollutant export loads to existing levels
- In order to meet the adopted criteria of maintaining flows to within existing limits for all design storm events up to the 100-year ARI event and to maintain the existing split of flows between the two low lying areas north and south of the borrow pit, it will be necessary to provide on-site detention facilities as part of the development. It is proposed to utilise a system of rain water tanks which will overflow at peak times into local infiltration for each dwelling together with a series of communal landscaped biofiltration basins that will deal with runoff from the road system and encourage infiltration into the groundwater rather than as surface flow into Council's downstream stormwater system. This will also improving the quality of stormwater runoff from the project site.
- The development will utilise, wherever practical and relevant, current best practice Water Sensitive Urban Design (WSUD) principles to reduce the impact of the developed site on existing hydrological and hydraulic processes.

- All proposed downpipes on dwellings will be routed to rainwater tanks, which will be utilised for toilet flushing and irrigation of landscaped areas. Tanks will be sized based on a BASIX assessment, with a minimum of 5,000 litres to be provided for each dwelling.
- Runoff from driveways, car parking areas and other impervious areas will be dispersed over landscaped areas, where appropriate, to encourage groundwater recharge and removal of pollutants by filtration through the vegetation, with overflows being directed to the downstream stormwater drainage system and basins.
- The road system has been designed such that the use of kerb and gutter has been minimized with many roads having a one-way cross-fall that simply sheets water off to the surrounding landscape areas. The road system has also been divided up into a series of very small catchments thus minimizing the concentration of water at any one point.
- All drainage systems will be designed to convey the 100-year ARI design storm event. The proposed road drainage system will convey all stormwater runoff from paved areas to communal biofiltration basins. Overflows from basins will be controlled by a weir that will discharge runoff into the existing low-lying areas of the site. Biofiltration basins will be sized and detailed in accordance with Australian Rainfall Quality, 2004 (Draft).
- A 500mm freeboard between habitable finished floor levels and the 100-year design storm top water level of the adjacent low-lying areas, biofiltration basins and overflow paths will be maintained at all times .
- The Strategy concludes that:
 - o The proposed stormwater management system would achieve the objective of limiting flowrates and pollutant export loads from the development to below existing levels.
 - o The prepared stormwater strategy is based on our evaluation of best management practices for stormwater quantity and quality control in regard to the site constraints of the development, Great Lakes Council requirements and the recommendations of the Stormwater Quality Management Report (2001) regarding water quality within Wallis Lake.
 - o The provision of communal biofiltration basins will reduce the developed flows released into the downstream drainage system to less than existing levels for all design storm events up to and including the 100-year ARI event.
 - o The analysis of the proposed stormwater quality measures predicts that the proposed stormwater management system would reduce the mean annual pollutant load exported from the development, discharging into Wallis Lake.

As an additional safeguard an interlinked series of management plans have been prepared to ensure that the environmental values of the project site and the surrounding receiving environment are protected and enhanced in perpetuity. These plans will be administered by the Community Association via the Community Management Statement, which outlines the obligations to comply with the Environmental Site Management Plan (**ESMP**). The **Community Management Statement** forms **Appendix H** and the **ESMP** is considered at **Section 9.0** and included as **report 23** of the **Specialist Reports, Volume 2**.

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7.0 CONSULTATION WITH AUTHORITIES

The Director-General's EA requirements under *Part 3A* of the *EP&A Act* required the proponent to undertake an appropriate and justified level of consultation with relevant Government Authorities and Agencies and clearly indicate issues raised by these stakeholders and how these matters have been addressed in the EA. For the current proposal extensive consultation occurred during the formulation of the initial concept of the proposed project and as part of the LES and dLEP consultation and exhibition obligations.

Although some of these functions were undertaken by the Council, the proponent actively participated in attending to issues as they arose and a negotiated solution developed and or agreed upon. When necessary additional investigations or assessment were undertaken and the authority or agency satisfied as to the matters raised or an appropriate amendment to the proposal implemented. In addition to specific reference to the stakeholders issues or requirements within other sections of this EA the following table provides a summary of the results of consultation with relevant stakeholders, (the relevant individual responses are reproduced at **Appendices E, F and G**).

TABLE SIX - RESULTS OF CONSULTATION WITH AUTHORITIES

STAKEHOLDER / ISSUES	RESPONSE OR ACTION
GREAT LAKES COUNCIL	The proponent has continually been involved in detailed communication with the Council, during the investigation, assessment and project formulation stages, with all matters addressed to the Council's satisfaction prior to continuing along the statutory path required to implement the draft LEP and adoption of the draft DCP.
DEPT OF PLANNING^{*(1)} In issuing the Section 65 Certificate to enable exhibition of the draft LEP the Dept requested that Council: - Address the implications of the Govt's commitment to broad scale land clearing of remnant vegetation. - Consult with the Hunter Central Rivers Catchment Management Authority (CMA) to address land clearing issue. - Resolution of clearing offset agreement between CMA, Council & proponent. Surrender of the existing Consent. Further consult with the RFS, and Undertake consultation with DEC regarding Booti Booti National Park impacts & agreement for future management works.	- The requirements evolve from the Native Vegetation Act 2005, for which the proponent has been communicating with the relevant authority (CMA). Details of final assessment and resolution which are canvassed within <i>Section 6.2.2</i> and specific submissions and relevant correspondence included within Appendix F of this EA. - The proponent has obtained legal advice with respect to the surrender of the existing consent (see copy attached at Appendix G following the Department's correspondence) and is agreeable to an appropriately worded condition for surrender of this consent in any <i>Part 3A</i> determination. - This was under-taken to Council's satisfaction as part of the <i>Section 66</i> consultation process. Bushfire issues are also addressed as part of <i>Section 6.3</i> of this EA. - The proponent has satisfied the DEC regarding this National Park and agreement has been reached as to future management works. Details of which are contained within <i>section 6.2.1</i> and Appendix E of this EA.
NSW DEPT OF NATURAL RESOURCES	Consulted by Council via DIPNR office under the previous Government structured regime with no specific response received.

STAKEHOLDER / ISSUES	RESPONSE OR ACTION
NSW DEPT OF ENVIRONMENT & CONSERVATION - Impact on Booti Booti National Park with formal agreement between proponent and DEC required under NP&W Act 1974. - East west wildlife corridor with a preference for widening. - Vegetation clearing issue limitations for existing consent under SEPP 46. - Views of Aboriginal community be obtained for the future management of the scarred tree.	Consultation confirmed that the current proposal considered a significant improvement over original tourist development. - The proponent was satisfied the DEC regarding this National Park and agreement has been reached as to future management works. Details of which are contained within <i>section 6.2.1</i> and Appendix E of this EA including a draft agreement. - The proponent was engaged in a detailed assessment of the site by CMA over a period of five months which has clearly identified the extent of any proposed clearing. As a result the Draft DCP has been amended to include an exact plan of all proposed clearing on page 8. - DEC does not require any further widening of the East West corridor see letter 22 May 2006 Paragraph 2. - The report of the FLALC addressed this issue. Further direct consultation by council confirmed their original advice.
NATURAL RESOURCES COMMISSION	Consulted by Council via DIPNR office under the previous Government structured regime with no specific response received.
DEPARTMENT OF LANDS	No consultation undertaken. As they have no interest in this matter.
DEPT OF MINERAL RESOURCES	Department now incorporated in NSW DEPARTMENT OF PRIMARY INDUSTRIES (see response above).
MID COAST WATER - Trunk water main located adjacent to project site in The Lakes Way. - The project site is included in current strategy for the Forster sewerage scheme.	- The proposed project can be serviced by water supply and sewerage services. There is adequate capacity in the MDWSS to accommodate the project. - There is satisfactory treatment capacity in Forster STW to accommodate the project.
NSW RURAL FIRE SERVICE In response to the Section 66 consultation the RFS advised Council that the Service supports the draft LEP and acknowledged that a S 100B & s 79BA approval would be obtained as part of the development approval process.	As detailed within <i>Section 6.3</i> of this EA, such approvals are not required under <i>Section 75U (g)</i> of <i>Part 3A</i> of the <i>EP&A Act</i> , however as required by the DGs requirements the assessment was obligated to demonstrate compliance with the requirements of <i>Planning for Bushfire Protection (2001)</i> . Such requirements were met and are detailed within <i>Section 6.3</i> of this EA.
NSW ROADS & TRAFFIC AUTHORITY - RTA gives concurrence under <i>S 138 Roads Act 1993</i>, for connection to The Lakes Way subject to technical conditions. - Road and transport infrastructure required as a direct result of the proposal should be fully funded by the proponent or through <i>Section 94</i> contributions plan. - Proponent to fund required upgrading works & any land acquisition costs. - Provision of pedestrian & cyclist pathways along The Lakes Way. - Proponent to address DIPNR's Integrated Land Use & Transport Planning Policy in relation to the provision of adequate access to public transport, especially for the elderly, and opportunities for pedestrian and cyclists connections to the surrounding area. - SEPP 11 may apply.	- Issue of funding road works addressed within <i>Section 5.10</i> of this EA and the draft Planning Agreement canvassed at <i>Section 5.14</i> and included at Appendix C. - No land acquisition required. - Canvassed within <i>Section 5.10</i> of this EA and the draft Planning Agreement canvassed at <i>Section 5.14</i> and included at Appendix C. - Requirement canvassed at <i>Section 5.11</i> and report 17 of Volume 2. - SEPP 11 applies and canvassed within <i>Section 5.10</i> of this EA

<u>STAKEHOLDER / ISSUES</u>	<u>RESPONSE OR ACTION</u>
AGL	Natural Gas not available to the project site. However Origin Energy are to be contracted to install and supply reticulated LPG network and central storage facility.
COUNTRY ENERGY	Advised that the project will be able to be connected to the distribution network upon finalization of construction and payment of capital contributions. A consultant has been engaged to design the internal network.
NSW DEPT OF HEALTH	No direct consultation with Department undertaken. SIA (see full report 7 of Volume 2) canvassed current level of services which are also dealt with at <i>Section 6.6</i> of this EA.
NSW DEPT OF EDUCATION	No direct consultation with Department undertaken. SIA (see full report 7 of Volume 2) canvassed current level of services which are also dealt with at <i>Section 6.6</i> of this EA.
NSW DEPT OF HOUSING ^{*(1)} Consider the issue of affordable housing.	The Council has accepted that the unique nature & site specific development response denies opportunities for provision of affordable housing. This issue is addressed in the Forster/Tuncurry housing strategy which specifically excludes the subject land and identifies that other land closer to the main urban areas is more suitable.
NSW POLICE	Consultation with Great Lakes Council regarding the need to evaluate the project under the Safer By Design Evaluation Process resulted in a referral to the Manning Great Lakes Crime Management Unit located in Taree. Meetings with the unit have confirmed that subject to final detailed analysis of currently being undertaken by the unit they have no issues with the proposal as currently documented. Their formal written response will be forwarded within two weeks and attached to Appendix G.
COMMONWEALTH DEPT OF ENVIRONMENT & HERITAGE	As no threatened species or communities that are listed under commonwealth legislation are affected by the proposal no referral or consultation is required
ABORIGINAL GROUPS & THE LOCAL COMMUNITY	FLALC consulted as part of the Aboriginal Heritage Assessment, see <i>Section 6.8</i> and report 5 of Volume 2 .. Additionally the proponent held a community information day.

*(1) Additional to DG's Requirements of list of authorities to be consulted

8.0 ASSESSMENT OF THE SUITABILITY OF THE PROJECT SITE.

The historical sand mining land use, which left an environmental scar on the landscape in need of rehabilitation, together with the extensive development footprint of the 1996 approved tourist development (which had a recognised commencement), were matters that influenced the site's consideration in strategic studies undertaken by the Great Lakes Council.

The initial strategic investigation which included consultation with relevant government stakeholders was the Forster/Tuncurry Conservation and Development Strategy. This was followed by the Forster Housing Strategy. Within these documents the project site was identified as a suitable candidate for urban development in the form of sensitively designed housing.

The matter was also specifically dealt with as a precinct in the Draft Structure Plan for South Forster.

Subsequent more detailed investigations associated with the LES, together with the concurrent formulation by the proponent, of a compatible urban form, recognizing the findings of the various investigations, has enabled a purpose built innovative response to be developed in a *"tailor made"* fashion for this *"sensitive coastal location"*. This approach has been the catalyst for the support by the various authorities and Council, with the dLEP currently in its final stages with the DoP.

The proposed introduction of a new 2(g) Integrated Eco-Residential/Conservation zone and the use of the recently newly created 7(a1) Environmental Protection zone, reflect an outcome where the least sensitive and previously disturbed sand mining areas are proposed for sensitively designed housing. The balance, approximately 55% of the site is set aside in a managed conservation environment with components of the proposed project also extending beyond the project site, with the enhancement of the surrounding National Park, consistent with the objectives of the dLEP.

The project site has been accepted as being strategically located in close proximity to the Forster Town Centre and forms a logical extension of the South Forster Precinct, which is consistent with policies encouraging compact towns.

The proposed project reflects and integrates with the significant natural features of the land and is considered to provide a cohesive and pleasant living environment based on sound urban design principles, representing an economically sustainable outcome. All of this support the suitability of the project site and project as reflected in the current proposal.

9.0 OUTLINE OF CONSERVATION AND REHABILITATION MEASURES.

A significant component of the draft DCP No 40 is the inclusion of a Conservation and Land Use Management Plan (**CLUMP**) and Environmental Validation Report (**EVR**) which has been utilised to guide the development of the site and will be the tools to monitor ongoing performance. The CLUMP principally relates to ecological, conservation and bushfire values, relevant to the proposed project and the local environs. Other performance indicators, of an engineering nature (such as the Stormwater Management Strategy) are contained within the individual engineering documents. The combination of all these obligations are assembled within the proponents Statement of Commitments, detailed within *Section 4.0* of this EA.

The CLUMP identifies the specific conservation values and considerations that must be complied with for any development proposal and which must include the EVR which validates the proposal against the conservation considerations in the CLUMP and identifies management strategies to ensure those conservation values will be maintained.

The CLUMP provides for:

- The identification of detailed conservation strategies to manage the land in perpetuity.
- The identification of clear character statements.

The CLUMP also specifically deals with :

- The conservation values of the site including vegetation communities, threatened species, natural wildlife corridors, riparian matters and other natural features of the site.
- The scale of any development and its integration with existing landscape.
- The implementation of the development together with the various obligations for conservation, maintenance and protection of the environment.
- The environmental validation of any development proposal given the significance of the natural attributes of the site; and
- The verification that requirements, obligations and environmental targets and outcomes are achieved and maintained during the life of the development.

The CLUMP identified the following environmental and bushfire considerations:

Environmental Considerations

- Hydro-geological functioning of the landscape.
- Protection of ecological values.
- Ecological functioning of habitat corridors.
- Ecological functioning of Broad Leaved Paperbark Swamp Forest, Blackbutt-Angophora Open Forest, Tall and Low Open Heathlands, Forest Red Gum, Open Forest, Cabbage Tree Palm and Closed Forest.
- Connectivity with surrounding remnant vegetation and reserves.
- Ecological integrity of buffer zones.
- Protection and maintenance of the sites cultural significance.

- Protection of habitat for Squirrel Gliders (*Petaurus norfolcensis*), Masked Owls (*Tyto novaehollandiae*), Little Bentwing-bat (*Miniopterus australis*) Common Blossom Bat (*Syconycteri australis*) and the Wallum Froglet (*Crinia tinnula*) habitat (food, roost trees and shelter).
- Protection of potential habitat for *Melaleuca biconvexa*, *Allocasuarina defungens*, *Allocasuarina simulans* and, *Asperula asthenes*.
- Protection of habitat links and within lot refugia.
- Effective control of pest species.
- Visual absorption capacity and enrichment of sites visual significance.
- Integration of urban infrastructure within local social, ecological and economic context.
- Environmental impacts of urban infrastructure.
- Environmental impacts of cut and fill operations.
- Integrity of odour buffer zones adjacent to ecologically sensitive habitats.
- Performance of stormwater management systems.

Bushfire Considerations

- Implementation of impact reduction measures
- Building in a bush fire prone environment.
- Settlement design and form.
- Managing bushfire hazard.
- Providing fire suppression measures.
- Development of a bushfire contingency plan.
- Providing adequate access, egress and evacuation capability.
- Monitoring of fire protection measures.
- Protection from neighbouring land use.
- Managing hazard without compromising ecological and scenic values.
- Fuel management responsibility.
- Protecting Booti Booti National Park.
- Conservation of biodiversity values subject to hazard reduction burns.
- Protection of cultural heritage resources.
- Developing and maintaining community awareness. • Maintaining liaison with the NSW rural fire service.
- Special protection developments.

These considerations require analysis against the following 11 "primary environmental and bushfire outcomes". .

1. An ecological sustainable development which responds to ecological, cultural, bushfire and landscape constraints.
2. Retention of a northern and southern conservation zone as a development excluded zone.
3. Protection of Squirrel Glider (*Petaurus norfolcensis*) habitat (food and roost trees) and restoration of aboreal corridors.
4. Protection of Habitats for Masked Owl (*Tyto novaehollandiae*), Common Blossom Bat (*Syconycteris australis*), Little Bentwing-bat (*Miniopterus australis*) and Wallum froglet (*Crinia tinnula*).
5. Protection of Threatened plants including *Melaleuca biconvexa*; *Allocasuarina defungens*, *Allocasuarina simulans* and *Asperula asthenes*;
6. A Community Management Statement for the implementation of
 - Community facilities and services;
 - Ongoing management of the environmental and ecological values of the landscape.
 - The obligations of the owners/occupiers or lessee's of each lot;
 - Landscape maintenance.
7. Protection and maintenance of the site's cultural significance;
8. Integration of urban infrastructure within the local context;
9. Protection for the proposed development from bushfire threats and provisions of adequate facilities to defend property and infrastructure, including evacuation planning initiatives;
10. Minimising significant environmental impacts;
11. A restoration program to offset negative environmental impacts.

Environmental Consultants Conacher Travers undertook this analysis via an Environmental Validation Report (see **report 24** of **Specialist Reports Volume 2**).

A key management recommendation of the EVR is the preparation and approval by the consent authority of an Ecological Site Management Plan (**ESMP**). The ESMP (refer to **report 23** of the **Specialist Reports, Volume 2**) is the key compliance document for the management of the primary environmental and bushfire related issues on site identified in the EVR, and is linked with the issue of construction and occupation certificates. Certificates of compliance are issued by the Environmental Representative onsite as evidence of achieving the specific performance criteria stipulated within the ESMP. Furthermore the ESMP identifies the monitoring, auditing and reporting requirements to comply with the submission of compliance and review reports to relevant authorities.

The EVR concluded that in terms of the ecological issues identified in the CLUMP, the listed considerations have been appropriately considered and integrated into the planning design process for the proposed project.

The EVR, recommended that an Environmental Representative, be appointed for the proposed project to review and monitor the defined actions, to ensure that each consideration is integrated and monitored during the construction and initial occupation stage of the development.

To ensure that this occurs, the EVR makes the following recommendations:

- 1) An Environmental Representative shall be available to ensure the recommendations contained herein are implemented as required. The DCP suggests that this function should be assigned to independent professional ecologists with experience of the site. Compliance Certificates for critical actions are to be identified as part of development Consent Conditions. Compliance Certificates are to be submitted to Council with recommendations for any future corrective actions.
- 2) The boundaries of the conservation areas, habitat corridors, landscaped beds and regeneration zones where they adjoin the development areas, shall be clearly marked out on-site to ensure their protection.

- 3) All staff involved with the development shall undergo an induction and training program to reinforce the ecological and environmental objectives of the DCP. The Environmental Representative should have significant input into this program.
- 4) A Construction Plan should be prepared for each precinct. The Construction Plan is to be reviewed by the Environmental Representative to ensure that development activity will not encroach on the buffer zones and ensure compliance with the requirements of best practice Ecological Site Management Planning.
- 5) Construction activities will be supervised on-site and monitored by the Environmental Representative to ensure that the recommendations of this report are implemented.
- 6) Areas of natural vegetation retention within each proposed lot should be protected by fencing, prior to construction, to ensure that these areas are not damaged during the construction phase.
- 7) All areas of fallen timber identified as fauna habitat prior to construction are to be protected and retained where appropriate.
- 8) Potential safety issues regarding retention of some trees near building envelopes will be resolved by assessment of the tree's health nearer the time of construction. This assessment must be undertaken by a suitably qualified and experienced arborist with concurrence of the project ecologist.
- 9) A Community Extension Program must be implemented to ensure local residents are aware of conservation management issues and their responsibilities, such as in regard to the conservation purposes of buffer zones and the asset protection zones.
- 10) Given the popular misconceptions surrounding bats, the positive aspects of maintaining populations of nocturnal insectivores will be emphasised in the Community Extension program.
- 11) Water quality is to be measured before, during and after development to ensure that ground and surface water quality is maintained.
- 12) A vertebrate pest management program needs to be developed and implemented.
- 13) A weed management strategy needs to be prepared and implemented for the whole site. This strategy should incorporate information regarding the distribution and control of weeds. The weed management strategy must incorporate best practice bush regeneration and noxious weed control techniques as outlined within the Bushland Management Plan.
- 14) A Squirrel Glider Site Management Plan will be prepared to detail the ameliorative measures proposed to protect Squirrel Glider habitat, monitor the population's health and to manage any threat to the local population.
- 15) Large size hollows that are to be removed should be replaced with equivalent nest boxes as close as possible to the location of the original hollow.
- 16) A Construction Management Plan should be prepared for all nearby construction and hazard reduction works.
- 17) Threatened species recorded on-site should be monitored and the results reported in the Great Lakes State of the Environment Report.
- 18) Explanation of the value of threatened species found on-site will be included in the community extension program and addressed in relevant long-term signage erected in open space areas.
- 19) Any necessary tree-felling will be supervised by the Environmental Representative.
- 20) Any trees that need to be felled, shall as a first priority, be re-used on site.
- 21) Up to 25% of understorey vegetation is to be regenerated or replanted within all lots to provide on ground refugia and habitat linkages.

- 22) If a nest or roost is located during development works, then the animals should be relocated by an experienced fauna ecologist.
- 23) Any suitably-sized hollows for threatened species are to be salvaged from felled trees and relocated to nearby retained trees in order to increase roosting and nesting opportunities in the post-development site. This activity should be supervised by the Environmental Representative.
- 24) After salvaging tree hollows, mill-able logs, landscaping features and any other parts of felled trees for adaptive re-use, the remainder of the material will be mulched and used within the lot from which the tree was felled.
- 25) Nesting boxes for birds, mammals and microchiropteran bats be used throughout the development to enhance the carrying capacity of medium quality fauna habitat.
- 26) Tree Protection is to be installed around trees containing utilized "hollows" or dens at least 1m beyond the canopy drip line. Tree protection measures are to be detailed as part of the Ecological Site Management Plan.
- 27) These recommendations are to be implemented as part of the sites environmental management as defined by the proposed collage of ongoing management planning. These should be defined as being the following:
 1. Ecological Site Management Plan,
 2. Squirrel Glider Habitat Management Plan,
 3. Bushland Management Plan,
 4. Tree Management Plan,
 5. Eastern Habitat Corridor Restoration Plan,
 6. Pest Species Management Plan,
 7. Community Extension Program, and
 8. Site Construction Plans.
- 28) The Development Management structure is to allow for Council representation and formal comment of any plans prepared in implementing the DCP including the Squirrel Glider Management Plan, Bushland Management Plan, Ecological Site Management Plan, Tree Management Plan, Community Extension Program, Eastern Habitat Corridor Restoration Plan, Pest Species Management Plan and Site Construction Plan.
- 29) Compliance Certificates are to be produced by the Project Ecologist and verified in conjunction with a long term monitoring and review program.

The EVR also concluded that having regard to the environmental validation requirements as required within the CLUMP and the DCP, the implementation of the above recommendations are embodied within a development phasing and ecological site management program as contained within the Ecological Site Management Plan.

The ESMP is the key compliance document for the management of environmental and bushfire related issues on site, linked with the issue of construction and occupation certificates. Certificates of compliance are proposed to be issued by the Environmental Representative as evidence of achieving the specific performance criteria stipulated within the ESMP. Furthermore the ESMP identifies the monitoring, auditing and reporting requirements to comply with the submission of compliance and review reports to relevant authorities.

The ESMP (refer to **report 23** of the **Specialist Reports, Volume 2**) is to ensure that the environmental issues identified throughout the relevant management plans are implemented within the context of pre-construction, construction and post-construction works. The ESMP has the following aims and objectives.

Aims

- To provide a framework for the management of environmental aspects of the development for the Community Association,
- To inform Council, the Community and other relevant parties of the environmental considerations of the development,
- To initiate and implement measures to protect the environmental values of the site.

Objectives

- To protect and maintain habitat and connectivity for native fauna species, especially Wallum Froglet, Squirrel Glider and microbat species,
- To provide a management framework for conservation precincts habitat corridors and within - lot habitat, to maintain the quality of habitat,
- To manage adverse ecological impacts of the development including activities related hazard reduction, tree removal, trimming of palm fronds, tree limbs, translocation of palms, cut and fill works, landscaping, road construction, building, stormwater and drainage works,
- To verify the assumptions of the Species Impact Statement, Conservation and Land Use Management Plan and Environmental Validation Report,
- To provide a monitoring, auditing, reporting and review process.

The ESMP applies to all phases of the development. It is designed to provide the proponent, Council, regulatory authorities, construction personnel and the Community Association with an operational plan for the ecological management and sensitive development of the site in perpetuity.

The ESMP incorporates within one document, the short, medium and long term ecological and bushfire strategies developed within the Conservation and Land Use Management Plan, the Environmental Validation Report and supporting management plans.

A significant element of the ESMP is the Operational Works Schedule which provides a timetable for completion of conservation and restoration works required for the implementation of the Ecological Site Management Plan. The project has been designed with an initial 10 year project period reviewed every ten (10) years and continued in perpetuity. At this stage critical dates for delivery of works and assessment reports have been based on the currently known development phasing periods.

The timetable has been designed with an intensive initial works during Phase 1 followed by ongoing works addressing contingency and maintenance tasks associated with each development phase.

Whilst a framework for the effective project planning and budget control has been prepared for each of the works tasks, it is not possible to be definitive and provide a predictable process that is responsive to restoration conditions and changes in the development works. Critical program reviews are scheduled to occur at critical points to enable a review of the requirements and allocation of costs.

10.0 SUMMARY AND CONCLUSION

The proposed residential and support components of the development are situated upon that part of the site previously sand mined and on other parts of the land where the development will not unreasonably compromise the ecological values. The balance of the land consisting of 38 hectares is identified and proposed for environmental protection. The application incorporates enhancement and maintenance measures with the ongoing management forming part of the proposed community title management regime, which also includes validation obligations.

The primary issues of state and regional significance relate to the development of land in a "*sensitive coastal location*" within the "*coastal zone*" and "*the protection of land of ecological and scientific value*". The main issues which were addressed in the Local Environmental Study supporting the amending LEP, include flooding, drainage, water quality management, threatened species and habitat assessment, innovative housing design and construction, lot sizes, residential density, traffic management and bushfire protection.

Over the past three years there have been considerable negotiations and discussions between the Proponent, Council and government agencies as to an appropriate development/conservation outcome for the land. All parties have agreed that the land is not suitable for general development purposes and that an innovative response will be required that is "*tailor made*" to the subject site. That is, the site can only be developed if it responds to and respects the significant features of the site and which provides for an integrated solution.

An interlinked series of management plans are required by the Conservation and Landuse Management Plan and are tested at prescribed intervals by the proposed Environmental Validation and Auditing system ensuring environmental values of the site are protected and enhanced in perpetuity.

As outlined above the proposed development of this site has evolved from consideration of the many complex issues with an emphasis on satisfying the requirements of government agencies and the Great lakes Council. Planning investigations have included extensive environmental studies to satisfy all environmental issues which are now reflected in the detailed design plans and submissions forming the current application.

The site requires rezoning and this is well advanced with the plan making process in its final stage. It is considered that there should be no impediment to the proposed project being approved by the Minister.