

Gales-Kingscliff Pty Ltd

ABN: 75 093 540 080

Cudgen Lakes Sand Extraction Project

Socio-Economic Assessment

Prepared by

DGP Darren Gibson Planning

April 2008

**Specialist
Consultant
Studies
Compendium**

Part 11

Gales-Kingscliff Pty Ltd

ABN: 75 093 540 080

Cudgen Lakes Sand Extraction Project

Socio-economic Assessment

Prepared for: R.W. Corkery & Co. Pty Limited
1st Floor, 12 Dangar Road
PO Box 239
BROOKLYN NSW 2083

Telephone: (02) 9985 8511
Facsimile: (02) 9985 8208
Email: admin@rwcorkery.com

On behalf of: Gales-Kingscliff Pty Ltd
20 Ginahgulla Road
BELLEVUE HILL NSW 2023

Tel: (02) 9327 2481
Fax: (02) 9387 8230
Email: segals@galesgroup.com.au

Prepared by: DGP Darren Gibson Planning
3 Elouera Terrace
PO Box 68
MURWILLUMBAH NSW 2484

Mobile: 0418 482 220
Fax: 02 6672 5166
Email: dgpl@optusnet.com.au

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EXECUTIVE SUMMARY

Background:

Gales-Kingscliff Pty Ltd (“the Proponent”) together with an associated company, Gales Holdings Pty Ltd, owns substantial landholdings in the West Kingscliff, Chinderah and Cudgen areas of the Tweed Shire, on the Far North Coast of NSW. The Proponent’s landholdings have long been identified for future urban development. The *Tweed Residential Development Strategy* (1991), successive Local Environmental Plans (LEP) (*Tweed LEP* 1987 and *Tweed LEP* 2000), Tweed Development Control Plans (DCP) No. 9 – *West Kingscliff* and No.51 – *Tweed Coast Strategy*, the subsequent DCP 2007, Sections B4 – West Kingscliff and B9 – Tweed Coast Strategy and most recently, the NSW Government’s *Far North Coast Regional Strategy* (2007) (FNCRS), have each confirmed the strategic and statutory planning objective of permitting the development of the majority of the Proponent’s landholdings for urban land uses.

The Proponent is consequently involved in the management, development and release of the land for a range of urban uses. Over the course of the past decade, the Proponent has commissioned specialist environmental, engineering, planning, urban design, and economic studies in respect of the land and the locality, culminating in the preparation of a “Structure Plan” for the development of the landholdings. The Structure Plan provides for the development of a range of residential, commercial, retail, industrial, recreational and community land uses.

Among the planning and engineering considerations critical to the future development of the landholdings in accordance with the Structure Plan is that a proportion of the landholdings have traditionally been affected by flooding in larger flood events. It is therefore necessary that the land be filled in order to provide suitable flood immunity for future development.

The Proponent’s landholdings (principally Lot 1 DP 216705 and Lot 21 DP 1082482) include land identified as containing a regionally significant sand resource, which provides an opportunity to extract sand for use as fill material. An existing development consent (DA 96/518) provides for the hydraulic extraction and transportation of 400,000m³ of sand from Lot 1 DP 216705 to Lots 1 and 2 DP 828298 Tweed Coast Road, for use as fill material for an approved residential subdivision (DA S93/76). Site preparation work to allow the commencement of extraction has been undertaken, however operational dredging has not yet occurred. The Proponent intends to develop and operate an expanded sand extraction and processing operation of this regionally significant resource at Cudgen, in part, to provide the fill material for the filling of its other strategic landholdings.

The prevailing Tweed DCP 2007, Section B4 – West Kingscliff requires that the areas identified for residential development be filled to the design flood level, approximating the 1 in 100 year flood level. A number of specific investigations conducted by WBM Oceanics Pty Ltd (WBM), on behalf of the Tweed Shire Council have concluded that the land identified for filling, can be filled without adversely affecting other properties.

The Project:

The Cudgen Lakes Sand Extraction Project (“the Project”) involves the development of a sand extraction and processing operation on land at Cudgen. The land has frontage to Crescent Street, Altona Drive and Tweed Coast Road and is described as Lot 21 DP 1082482 and Lot 2 DP 216705.

The Project would involve the removal of approximately 5 million m³ of sand over a period of 15 to 20 years. The Project Site covers a total area of 67ha which includes:

- a 37ha extraction site south of Altona Drive ('southern extraction site');
- a 9ha extraction site north of Altona Drive ('northern extraction site'); and
- a processing area north of Altona Drive covering an area of 3.7ha.

The Project comprises seven main components, as described in the EA. These are as follows.

- Hydraulic extraction and transportation of up to 2.5 million m³ of sand via the defined pipeline corridors to approved fill sites.
- Hydraulic and mechanical removal, processing and production of approximately 2.6 million m³ of sand products for the regional construction industry.
- Receipt and where possible, processing of non-acid generating virgin excavated natural materials (VENM(a)) to yield additional products for the construction industry.
- Progressive backfilling of the northern extraction pond and southern extraction pond edges with VENM(a) unsuitable for processing.
- Receipt and, where possible, processing of acid generating virgin excavated natural materials (VENM(b)) to yield additional products for the construction industry.
- Receipt and internment/backfilling of VENM(b) beneath finalised sections of the extraction ponds.
- Development of a final landform consistent with the broad development strategy to be implemented by the Proponent.

The maximum annual extraction rate would not exceed 650,000m³ of sand and the processing plant would process up to 300,000 tonnes of sand and VENM annually. It is estimated that a total of approximately 30,000m³ of VENM would be received annually though volumes could potentially increase following establishment of operations.

Indicatively, the Project would directly provide five full time jobs and between an additional five and eight jobs on a campaign basis. The Project would also result in employment for approximately 14 truck drivers for delivering sand products and VENM deliveries.

The Structure Plan:

The Cudgen Lakes Sand Extraction Project is, in a sense, 'the means to the end' in terms of enabling the development of the Proponent's landholdings in accordance with the Structure Plan.

The Structure Plan is intended to identify the disposition of various land uses and key infrastructure (such as roads and open space) and by so doing, enable a better quantification of the likely planning outcomes, including social and economic impacts. The Structure Plan also allows a more accurate identification of the actual extent of the development 'envelope' and therefore the volume of filling material required.

The landholdings covered by the Structure Plan exceed 200 hectares in area and the realisation of the development envisaged by the Structure Plan would represent a significant addition to future population and employment growth in the Tweed Shire. As a key likely outcome of the Project, it is the potential social and economic impacts of that development that is relevant to this study.

The key elements and features of the Structure Plan are as follows:

A New District (Sub-Regional) Town Centre at Chinderah

The need for a District Town Centre has been identified over many years in various studies undertaken on behalf of both the Tweed Shire Council and also on behalf of the Proponent. It is proposed the Town Centre is located on approximately 40 hectares of land in the northwestern sector of the Proponent's landholdings at Chinderah.

The precise nature and scale of individual components have not been finitely determined at this stage, however, it is anticipated that the Town Centre would comprise the following key elements.

- 30,000m² (Gross Floor Area – GFA) of retail floorspace, including discount department store, supermarkets and specialty retailing.
- 5,000m² GFA of commercial (office) space and professional suites.
- 40,000m² GFA of bulky goods retailing and trade activities.
- Medical Centre.
- Tavern.
- Approximately 100 000m² of Town Centre housing.
- Community and cultural support facilities, including cinemas, community centre, library, civic square and public transport facilities.

The centre is to be developed in a pedestrian-oriented, "town centre" configuration, with major retail elements "sleeved" at the rear of shop fronts, and inter-mixing of land uses within the centre, including residential components.

It is also firmly proposed that the centre will entail a host of health, community, recreational, sporting and service activities.

New Residential Development

Approximately 62 hectares of land would be developed for mixed density housing, in three main residential precincts.

Higher density housing would occur in both the northeast sector in the vicinity south of Ozone Street (east of the main north-south Kingscliff drain) and in the central east around Turnock Street. Housing in these precincts would exclusively comprise medium density housing forms and predominantly apartments. It is expected that up to 1 100 dwellings would be constructed in these precincts.

Mixed density housing, comprising townhouses, duplex dwellings and single dwelling houses and other special housing (such as aged persons accommodation) would occur in the southwest, between Turnock Street and Crescent Street to the west of Tweed Coast Road. It is anticipated that a further 400 dwellings would occur in these areas.

Conservation Areas

Approximately 33 hectares of land would be retained for environmental conservation purposes, including habitat areas for threatened fauna species such as the critically endangered Mitchell's Rainforest Snail, as well as important flora communities.

Open Space and Recreation Precinct

An open space and recreation facilities precinct of approximately 20 hectares would be created around a large recreational lake (of approximately 37 hectares), west of Tweed Coast Road. The precinct would provide both public open space such as Council sports fields and private recreation facilities such as, a bowling club, tennis club, swimming centre, health club and other water based activities.

Transport Linkages

The Structure Plan includes the construction of two major road links into Kingscliff from the Tweed Coast Road.

A northern connection known as the 'Ozone Street Link' occurs in the northwestern sector of the landholdings and links the Tweed Coast Road with Elrond Drive at its northern end and ultimately with Pearl Street further to the east.

A southern connection road referred to as the 'Turnock Street Extension' would link the Tweed Coast Road with the existing roundabout at the intersection of Turnock Street and Elrond Drive.

As the land is relatively flat it also ideal for a network of pedestrian pathways and cycleways which have been identified for improved permeability and linkages within and between new residential areas and between residential areas and key locations such as the Town Centre and the open space areas west of Tweed Coast Road.

The Town Centre Project would incorporate public transport interchange facilities to further encourage the provision and use of alternative transport modes.

Consultation:

Various government agencies, business interests, community organisations and local residents have been consulted with respect to the Project

As the Project is also the means to the implementation of a significant urban development program involving the Proponent's extensive landholdings at West Kingscliff, Chinderah and Cudgen community group and local resident consultation has also involved information sharing regarding the Proponent's Structure Plan. This included determining the attitudes of those consulted regarding the Proponent's broader land development plans in the locality.

Consultation activities relating to the Project have occurred over a period of approximately 3 years and have included the following.

- Focus meeting with Government Agencies and Council.
- Written consultation with Government Departments and other Agencies.
- Key Resident Stakeholder interviews.
- Presentations to Group Stakeholders.

The consultations resulted in the following key issues being identified regarding the Project.

- Groundwater – concerns that a change in groundwater could impact on crops and/or livestock, be it through salinity, loss of water supply or change in water quality.
- Acid Sulfate Soils – concerns that acid sulfate problems previously experienced in the area could arise again during this development. Issues such as odour, red staining and fish kills were raised.
- Flooding and drainage – concern that raising the level of land may impact on other landowners from such things as loss of crops, flooding and impact on local waterways.

The Project has been designed to ensure that appropriate operational safeguards and mitigation measures are implemented to ensure that any potential impacts remain within accepted criteria and reasonable community expectations. The issues raised during consultation are extensively addressed in the *Environmental Assessment* and the residual impacts assessed as acceptable. Furthermore, monitoring is proposed to ascertain whether expected outcomes are being achieved and where these outcomes are not being met, practical management measures would be implemented to address any problems.

In addition to consultation relating to the Project it is relevant that consultation activities relating specifically to the Structure Plan have occurred over a longer period, more than 6 years, and have included the following.

- Public meetings and presentations.
- Meetings with Council and Government Agencies.
- Extensive community surveys by posted questionnaire.
- An Internet web site.
- Information circulars and letter box drops.

While there has been some mixed reaction to elements of the Proponent's development plans, it is noteworthy that the results of measurable and quantifiable community feedback in the form of the community surveys, show strong support for the District Town Centre components of the Structure Plan.

Socio-Economic Impacts

Demographic Analysis

The Tweed Coast, where the Project Site is situated, is one of the most rapidly growing parts of the State of NSW.

Most recently updated Census 2006 results from the Australian Bureau of Statistics (ABS) show that the estimated resident population of Tweed Shire as a whole grew from 65,052 persons in the year 1996 to 82,955 as at June 2006, representing an annual average compound rate of increase of about 2.5%. It is further estimated by the ABS that in the subsequent year to June 2007, the Shire population increased by another 1,370 persons, or 1.7%.

The Tweed Heads and Tweed Coast “urban” sections of the Shire (within which the Project Site is located) absorbed most of the increased population, and accordingly the rate of growth there was higher than for the Shire as a whole, with this trend expected to continue.

NSW Government (Department of Infrastructure Planning & Natural Resources, May 2004) population growth forecasts anticipate population growth in Part (A) of the Tweed Shire to continue at rates between 2.0 – 2.3% for the period 2006 – 2016, representing an additional 12,900 persons during the ten (10) year period.

A demographic analysis of the key characteristics of the resident population of the locality reveals that:

- population growth in the locality will continue for the foreseeable future (2006 – 2016) at a rate in the order of 2.5% – 3.0% per annum, representing an additional population of between 2750 and 3350 during that period;
- there is a rapidly ageing population, with nearly half of the local population aged 45 years and over, and a lower average household size than Tweed Shire as a whole and Balance NSW;
- there is a significantly lower proportion of separate houses in the locality and a correspondingly higher proportion of medium density housing forms (flats, units etc.);
- the area is characterised by very limited local employment opportunities, and a consequential need for employed residents to travel outside the area to workplaces;
- median household incomes are significantly lower than Tweed Shire as a whole or Balance NSW; and
- availability of, access to and use of public transport is very limited.

Economic Impact Assessment

The principal benefits arising from the Cudgen Lakes Sand Extraction Project would be:

- the productive utilisation of a regionally significant extractive material resource (FNCRS, 2007) and ancillary development; and
- the facilitation of the development of the Proponents important landholdings at West Kingscliff, Chinderah and Cudgen as a new urban village.

The key economic impacts of the Project therefore arise in respect of the following;

- Economic and employment impacts as a result of extracting the sand.
- Economic and employment impacts as a result of providing material for the construction industry.
- Economic and employment impact as a result of providing a facility to dispose of Virgin Excavated Natural Materials (VENM).
- Economic and employment impacts associated with development of the Proponent’s adjacent landholdings in accordance with its Structure Plan.

The net present value of the sand resource is estimated at approximately \$30 million (2007) dollars. About 50% of that value, or \$15 million dollars, would be realised through the commercial production of sand and sand based products for the local construction industry. A further \$0.675 to \$1.01 million turnover could be realised annually from the receipt and management of VENM.

Up to 20 permanent employment positions would be directly generated for site workers and truck drivers over the course of the operations, with further employment induced through first round and industrial support effects.

While the Project is in itself a significant undertaking, it is as the means to the development of the Proponents extensive nearby landholdings that the development would potentially lead to very significant and long-term social and economic impacts.

In economic terms, the future development of the Proponent's landholdings in 2007 dollars, based upon the Proponent's current Structure Plan would result in the following.

- Direct construction expenditures of approximately \$720 million.
- Total direct and induced expenditures (multiplier effects) of approximately \$2.07 billion.
- 4 519 Full Time Equivalent (FTE) job years in direct construction employment.
- A total of 8 587 FTE job years in direct and directly induced construction employment.
- 2 300 FTE long-term permanent employment positions in retail, commercial, industrial and recreation industries.
- A total of approximately 4 200 FTE long-term employment positions including directly induced employment positions.

Social Impact Assessment

The potential effects of the Project would be principally with respect to possible impacts on existing residential amenity. These impacts are assessed in detail in the *Environmental Assessment*), including the potential cumulative impacts of the Project with respect to existing and approved surrounding developments (i.e. adjacent sand extraction operation, wastewater treatment plant, lobster farm etc). In particular, the Project has been designed to specifically respond to issues raised by government agencies and local community members and groups consulted in relation to the Project. The *Environmental Assessment* demonstrates that potential flooding, groundwater, acid sulfate soils, water quality, noise, traffic, air quality and visual impacts would be either satisfactory or would be managed to achieve recognised and acceptable standards.

It is necessary that the recommended amelioration and management measures specified in the *Environmental Assessment* in relation to these issues be implemented and monitored to ensure effectiveness.

In terms of the key social impact indicators evaluated, the following conclusions can be drawn in relation to the Project itself:

- There are no heritage items or conservation areas on or near the Project Site (Heritage Surveys 2007). The Project would not significantly affect any item or area of cultural heritage significance.

- The Project would not result in the displacement or diminution of an existing public place, facilities or open space. Indeed, the Project would ultimately facilitate the provision of public sports fields, and passive open space areas on the site following the completion of various stages of the sand extraction process.
- The scale and character of the Project, including the nature and scale of buildings associated with the sand extraction operation, would be consistent with the scale and character of development in the immediate vicinity of the site (Kingscliff WWTP and the adjoining Hanson Tweed Sand Quarry operations). The scale of operations and buildings being balanced by the large land areas involved.
- The Project would indirectly contribute to local housing through the supply of construction sand to the construction industry for use in concrete and mortar products.
- There would be little apparent impact on access issues within the locality. The Project would, however, involve the relocation of the existing alignment of Altona Drive (per Development Consent DA 05/1450), which would ultimately serve as the main access road to the future sports fields and recreation facilities for the locality.
- The sand Project would also further reinforce the transition of the character or identity of the land in the locality (which already features large-scale sand extraction and construction of the new Kingscliff Wastewater Treatment Plant) from a principally rural or agricultural identity, to one of water-based natural resource utilisation and utility.

Not surprisingly and consistent with the assessment of economic impacts, the development of the Proponent's landholdings in accordance with the Structure Plan would potentially result in significant social impacts. In the context of the social impact indicators evaluated, the development of the Proponent's landholdings would:

- lead to improved community networks through;
 - increased opportunities for social interaction arising from the creation of new public spaces and meeting places including recreational facilities, parks and public squares and plaza areas, community and civic buildings, shopping areas and retail/commercial streets, as well as better facilities for and improved access to public transport services; and
 - removal of physical barriers and improved accessibility between existing residential areas and between those residential areas and existing and future community services and facilities;
- enhance the public realm by adopting contemporary urban design principles, and specifically through the provision of extensive public open space, cycleway and pathway networks, public and civic spaces including squares and plaza areas;
- provide additional housing in a variety of housing forms to meet the projected demand from population growth in the locality;
- provide new and additional human service infrastructure, including medical and emergency services, civic and community facilities, recreation facilities and transport services; and

- not result in any disadvantage or dislocation of any social group or social or community network. There would be no known or demonstrable impact upon cultural or Aboriginal heritage. The Proponent has been informed by the Tweed Shire Council of a proposal to list the remains of a former cane milling building on land described as Lot 3 DP 828298 east of Tweed Coast Road. This matter has not yet been resolved and would be addressed through the Structure Plan and Kingscliff Locality Plan at the appropriate time.

Project Alternatives:

A range of alternatives to the design of the Project have been considered. These include;

- alternative sources of sand fill;
- the location of the processing area;
- design of the extraction sites; and
- alternative pipeline corridors.

The option of not proceeding with the Project and utilising the land for other purposes has also been considered.

In general terms, the Project as proposed:

- offers better security of supply and greater cost control relating to the viability of the filling of the Proponent's landholdings;
- maximises the available resource for extraction while appropriately responding to environmental and geo-physical constraints, in particular, minimising impacts on residential properties in the locality;
- avoids to the extent possible, the sterilisation of an identified regionally significant resource and represents a more productive utilisation of the land than retaining the land for agricultural uses, which are of questionable viability;
- provides an ecologically sustainable approach to the existing waste management issue (ie. through the receipt and processing or internment of VENM).
- would potentially lead to long-term significant economic, social and employment benefits through the development of the Proponent's landholdings; and
- would ultimately provide an area for regional recreational and sports fields adjacent to major roads.

Summary & Conclusion:

A Socio-Economic Impact Statement has been prepared to accompany the *Environmental Assessment* of the Project in accordance with the requirements of the Director-General of the Department of Planning.

An analysis of the Socio-Economic impacts of the Project indicates that the following.

- The Project alone would:
 - result in significant capital and recurrent expenditures in the local economy,

- directly create long-term employment opportunities through both the extraction and transport operations;
- provide a high value construction material to the local construction industry to meet the anticipated demand arising from strong population growth in the locality; and
- have economic, environmental and social benefits relating to the management and productive use of VENM.
- The proposed environmental management measures are expected to achieve an acceptable environmental outcome, however, on-going monitoring of impacts is required to ensure efficacy.
- The filling of the Proponent's land thereby allowing the development of the landholdings for a range of residential, retail, commercial, industrial, civic and recreational uses that would potentially result in very significant social and economic impacts with respect to:
 - capital construction expenditures and multiplier effects;
 - direct and induced construction employment over a 10 to 15 year period;
 - direct and induced long-term permanent employment opportunities;
 - the provision of a variety of housing forms to meet the needs of the projected population growth in the locality;
 - improved community networks, human services infrastructure, accessibility and transport services; and
 - a significant contribution to the public realm through contemporary urban design and the provision of public places.

There is strong justification for the Project on social and economic grounds.

1 INTRODUCTION

Gales-Kingscliff Pty Ltd (“the Proponent”) is proposing to develop and operate a sand extraction and processing operation on land it owns at Cudgen, known as the Cudgen Lakes Sand Extraction Project, (hereafter referred to as “the Project”). The land has frontage to Crescent Street, Altona Drive and Tweed Coast Road and is described as Lot 21 DP 1082482 and Lot 2 DP 216705 (the “Project Site”). **Figure 1** illustrates the site location.

The extraction of sand is proposed for two primary purposes, namely:

1. the hydraulic delivery of sand within two pipeline corridors for use as fill on land owned by the Proponent within the local area; and
2. the supply of construction materials to the surrounding region.

The proposed extraction sites and fill sites are illustrated in **Figure 2**. A more detailed overview of the Project is contained in Section 4.0.

The Proponent, together with an associated company, Gales Holdings Pty Ltd, owns substantial landholdings in the Kingscliff / Chinderah / Cudgen area. The Proponent is involved in the management, development and release of the land for a range of urban uses. Over the course of the past decade, the Proponent has commissioned specialist environmental, engineering, planning, urban design, and economic studies in respect of the land and the locality, culminating in the preparation of a “Structure Plan” for the development of the land holdings. Sand material extracted from the Project Site would be used to fill land to enable it to be developed in accordance with the Structure Plan.

The Proponent has engaged R.W. Corkery and Co. Pty Ltd to prepare an *Environmental Assessment* (EA) for the proposed Project. Darren Gibson Planning (DGP) has been instructed by R.W. Corkery and Co. Pty Ltd on behalf of the Proponent to prepare a Socio-Economic Impact Statement (SEIS) in respect of the Project to accompany the EA.

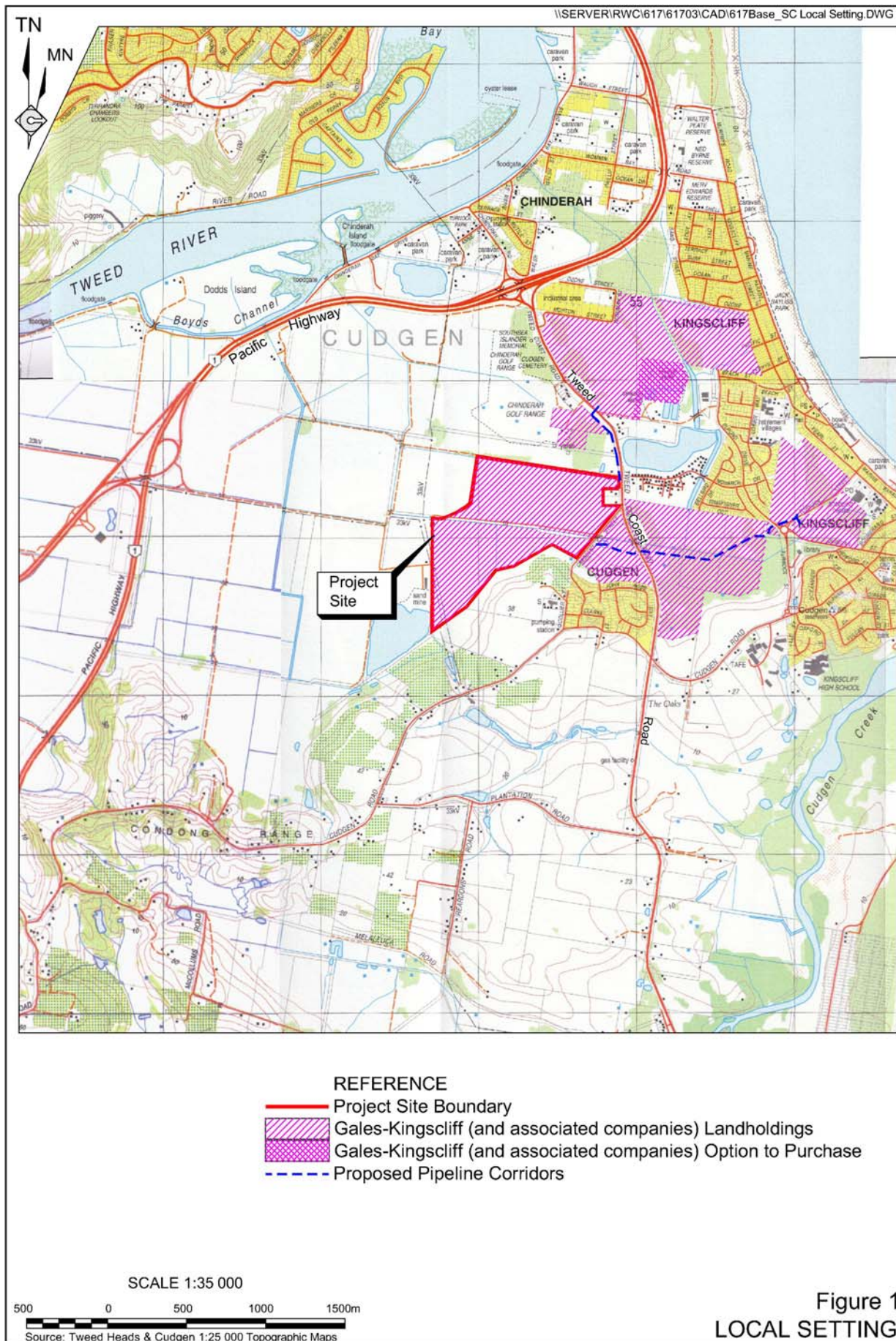
The Director-General (DG) of the Department of Planning has issued requirements in relation to the preparation of the EA, which includes among other matters, the need to carry out an assessment of the social and economic impacts of the Project (refer **Appendix 1**).

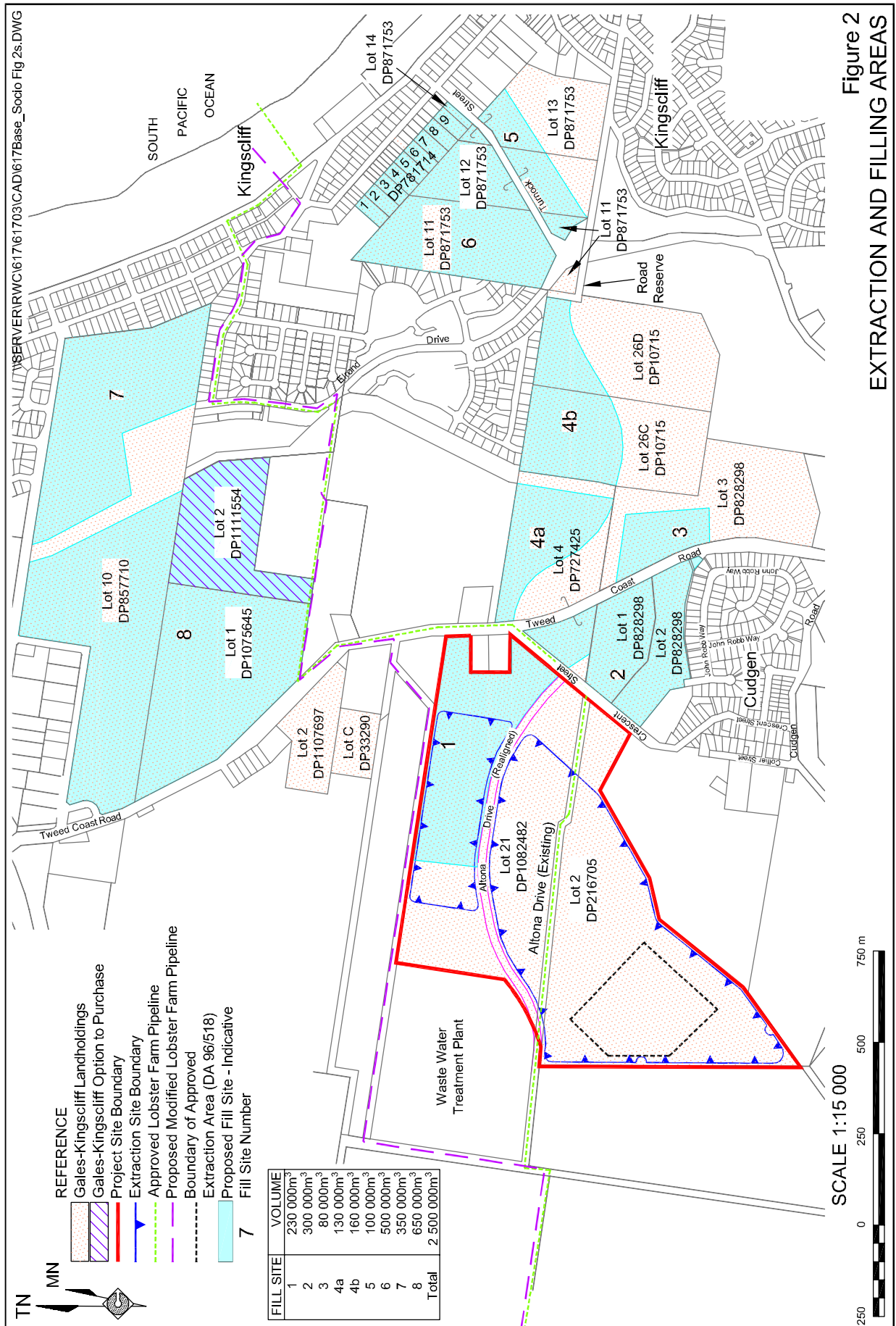
Key among those matters is the need to address the requirements of the Tweed Shire Council, which as distinct from other agency requirements (refer **Appendix 1**) has specific form and content requirements for the preparation of Socio-Economic Impact Assessments.

The principal planning instrument in the Tweed local government area is the *Tweed Local Environmental Plan* (TLEP) 2000, to which the consent authority must have regard in assessing and determining the EA.

Clause 17(2) of the TLEP 2000 provides that:

“Where the consent authority considers that a proposed development is likely to have a significant social or economic impact in the locality or in the local government area of Tweed, the consent authority may grant consent to the proposed development only if it has considered a socio-economic impact statement in respect of the proposed development.”





Further, clause 17(3) states:

“The socio-economic impact statement that the consent authority considers must at least do the following:

- *identify the likely future impacts of the development and the affected community,*
- *analyse the impacts in terms of magnitude, significance, duration, effect on current and future conditions and community services, and the like,*
- *determine if the impacts will cause a loss of amenity within the locality due to a net reduction in community services and facilities,*
- *determine and assess possible measures for the management or mitigation of likely impacts.”*

The Tweed Development Control Plan (DCP) No.45 – *Socio-Economic Impact Assessment* provides detailed guidance as to the manner in which the provisions of clause 17 of the TLEP 2000 are to be addressed. The matters required to be addressed under the DCP are substantive and adequately cover the requirements of the other government agencies (which are principally in relation to locational information and public consultation). In the absence of any other specific directions as to the form and content of the Socio-Economic Impact Statement (SEIS), the DCP provides a suitable basis for the assessment of the socio-economic impacts of the Project.

The SEIS has therefore been prepared with specific reference to the requirements of Tweed DCP No. 45 and in so doing, responds to the provisions of the TLEP 2000, the requirements of the Director-General of the Department of Planning and various other State government agencies.

The investigations undertaken as part of the preparation of the SEIS draw upon the various specialist and expert technical studies completed as part of the preparation of the EA, particularly with respect to the assessment and management of potential geophysical, environmental and amenity impacts associated with the Project. The SEIS should therefore be read in conjunction with the EA.

2 STRUCTURE

Tweed DCP No. 45 provides that the following matters that shall be included in a SEIS:

- *The objectives of the development or activity proposed.*
- *Analysis of any feasible alternatives to the carrying out of the development, including the consequences of not carrying out the development.*
- *Identification of the likely impacts of the development, their nature and extent, in terms of issues identified for the specific development.*

- *Evaluation of the social and economic impacts by:*
 - (a) *Scoping – identify issues and affected groups.*
 - (b) *Profiling – data collection, historic trends, assessing current social and economic context.*
 - (c) *Predicting – identifying possible future impacts.*
 - (d) *Assessing – analyse the impacts.*
- *Consultation with the community and other local agencies to determine the acceptable limits associated with the development.*
- *Justification for the carrying out of the development in the context of social and economic considerations.*

To address these matters, the SEIS is structured as follows:

Section 1.0 – Introduction

This section contains a brief background to the Project, an introduction of the Proponent and why the SEIS is necessary.

Section 2.0 – Structure

Sets out the format of the SEIS.

Section 3.0 – Development Context & Structure Plan

Provides an overview of the planning and development context, particularly with respect to the current statutory planning status of the, Proponent's landholdings and the Structure Plan that has been developed for the Proponents landholdings in the Kingscliff / Chinderah / Cudgen locality.

Section 4.0 – Project Overview

Provides a summarised description of the Project for which project approval is being sought.

Section 5.0 – Objectives

This section confirms the objectives of the Project.

Section 6.0 – Alternatives

Includes a description of any feasible alternatives to the Project as proposed, including the consequences of not carrying out the development.

Section 7.0 – Consultation

Includes a description of the consultation undertaken and the outcomes of this consultation.

Section 8.0 – Socio-Economic Impact Assessment

Identifies issues and affected groups, includes relevant data and an outline of the current social and economic context in which the Project Site and Project is set, identifies and analyses possible future impacts.

Section 9.0 – Evaluation & Justification

Evaluates social and economic impacts and outlines recommended mitigation measures. Also, provides justification for the Project with respect to social and economic considerations.

Section 10.0 – Summary / Conclusion

Summarises identified issues and presents conclusions based on an analysis of those issues.

3 DEVELOPMENT CONTEXT & STRUCTURE PLAN

3.1 Statutory Context

The Proponent's landholdings at West Kingscliff, Chinderah and Cudgen have long been identified for future urban development. The *Tweed Residential Development Strategy* (1991), successive Local Environmental Plans (LEP) (Tweed LEP 1987 and Tweed LEP 2000), Tweed Development Control Plans No. 9 – *West Kingscliff* and No.51 – *Tweed Coast Strategy* and most recently, the NSW Government's *Far North Coast Regional Strategy* (2007) (FNCRS), have each confirmed the strategic and statutory planning objective of allowing the development of the majority of the landholdings for urban land uses.

The Proponent's landholdings are identified in **Figure 2**. **Figure 3** illustrates the current land use zones applicable under the Tweed LEP 2000.

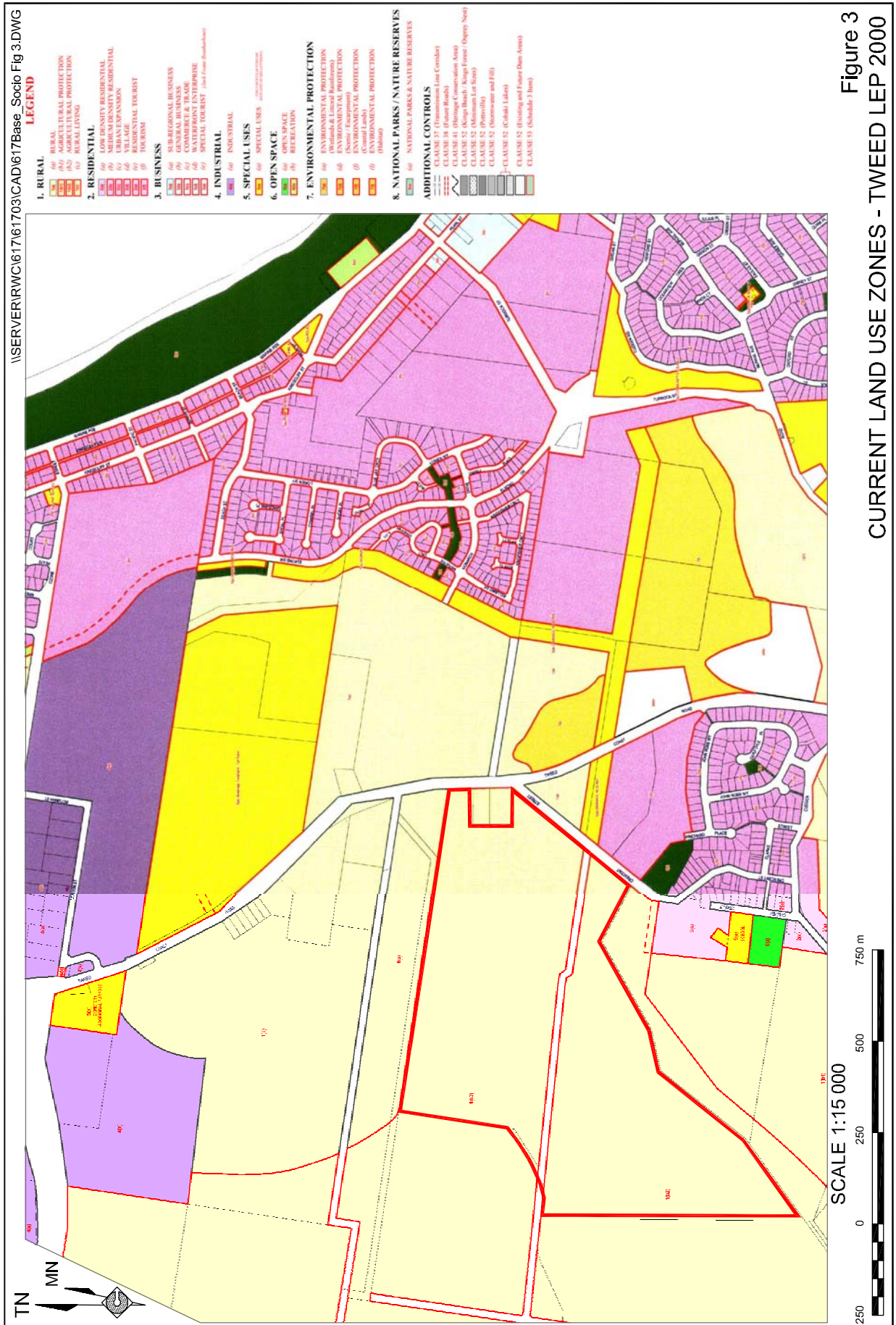
The location of the Proponent's landholdings, directly adjacent to the existing coastal villages of Kingscliff, Chinderah and Cudgen, and with a high level of accessibility through its proximity to the arterial road system, renders it ideal for both the accommodation of a substantial permanent residential population in a variety of housing forms, and for the creation of much needed employment for Shire residents on land set aside in the FNCRS for that purpose.

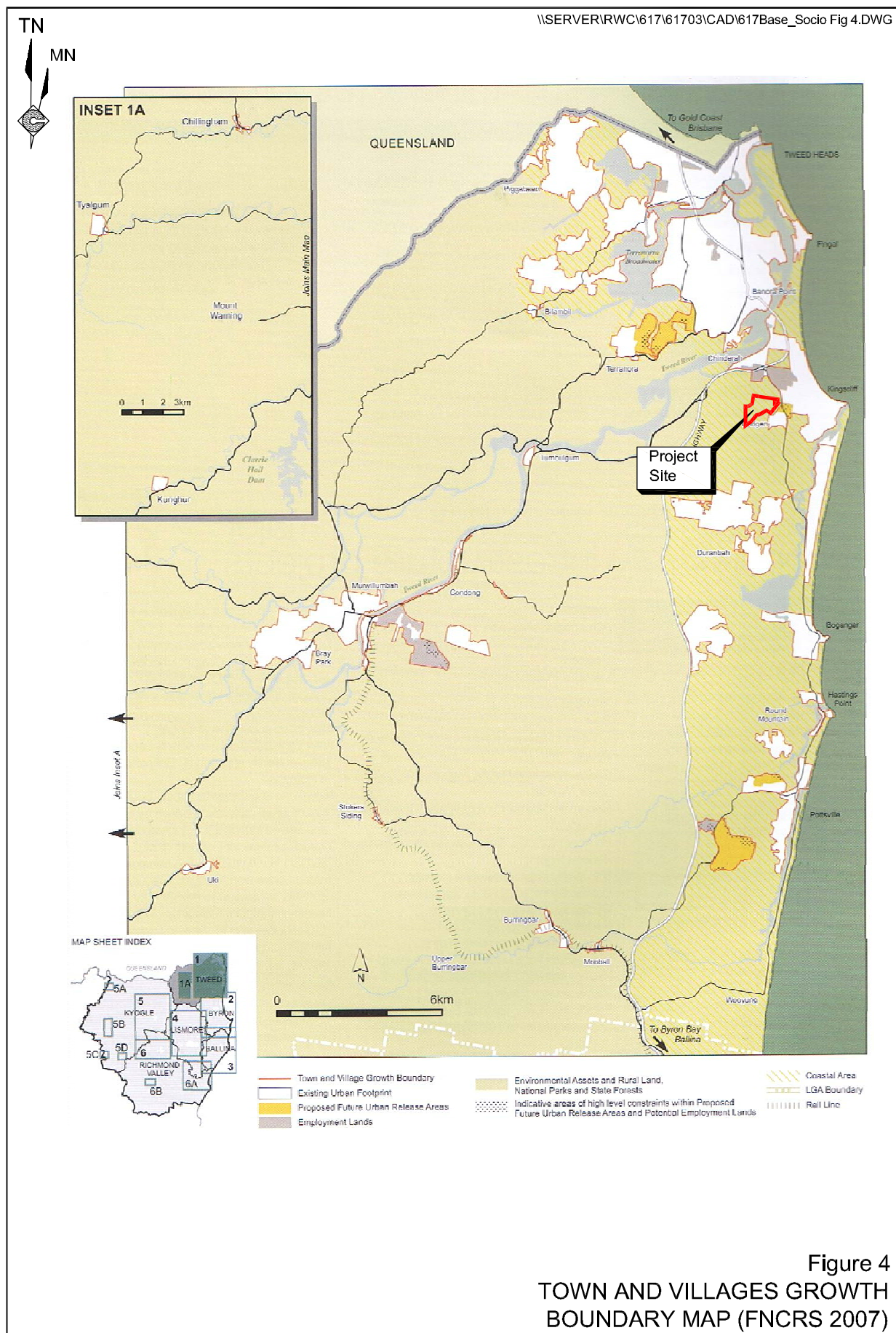
Figure 4 illustrates extracts of the Town and Village Growth Boundary Map, Employment Lands Map and Extractive Resources Maps affecting the Proponent's land under the FNCRS (2007). It is significant to note that the FNCRS identifies:

1. a large proportion of the northwestern part of the landholdings (in excess of 40 hectares), as 'Employment Lands' and as such, a significant contributor to the delivery of regional economic and employment growth; and
2. the locality within which the Project Site occurs is identified as comprising a regionally significant extractive (sand) resource.

By virtue of a Section 117 Direction (No 30) issued by the Minister for Planning on 26 February 2007, it is mandatory that any future draft Local Environmental Plan be consistent with the provisions of finalised Regional Strategies, including the FNCRS.

The FNCRS draws attention to the fact that the projected population increase of 60,400 persons for the region in the 25 years from 2006 to 2031 will potentially lead to creation of 32,500 new jobs, of which about 23,500 would be linked to the service and construction industries. The remainder would represent export-driven employment. In turn, it is anticipated that the jobs growth will translate to a need for about 156 hectares of additional industrial land in the region, and about 76 hectares of additional commercial land.





The dwelling targets set out in the FNCRS identify the need to provide not fewer than 19,100 new dwellings in Tweed Shire by the year 2031 (i.e. within 25 years). This translates to an average of about 750 new dwellings per year. As the dwelling targets are intended to make allowance for the permanent population growth over that period, the forecast number of dwellings is in addition to those that may be principally provided to accommodate tourists or as “weekenders”.

Construction of an average of 750 new dwellings per year represents an intensive development program, but numbers of dwelling completions would obviously fluctuate from year to year, as various housing estates and stages of those estates and individual multi-unit buildings proceed through approvals and dwelling construction phases.

As is identified later in this assessment, among the manifold issues facing Tweed Shire are an ageing population, poor housing affordability, unemployment, including a high level of youth unemployment, limited numbers and uneven distribution of employment opportunities, coupled with employment accessibility problems highlighted by negligible use of public transport.

The Proponent’s landholdings represent an opportunity to make available a range of types and locations of housing units in single dwelling and medium density forms. This range would be likely to result in a supply of more affordable, non-beachfront, housing suitable for younger family groups than generally prevalent in the current population profile of the locality.

The development of the employment lands for a range of retailing, bulky goods retailing and commercial activities would address several issues including: provision of a larger number of local employment opportunities (including for younger members of the workforce), a consequential reduction in endemic levels of unemployment, and the shortening of average lengths of journeys to work. As well, the retailing and commercial activities to be provided would also have considerable effect in reducing customer journeys from the growing coastal areas to various facilities which are located well removed from the coastal district to the north, and which are already suffering from the effects of over-utilisation, such as traffic congestion.

As outlined in Section 1.0, the Proponent has been engaged in an intensive strategic planning exercise for a period exceeding 10 years. That process has been aimed at identifying the development constraints and opportunities in respect of the landholdings and ultimately, at the development of a detailed Structure Plan, in consultation with the Tweed Shire Council, to guide the future development of the land for urban and associated land uses.

A key consideration in this process is the location of the landholdings at the periphery of the lower Tweed River floodplain and the fact that a proportion of the landholdings have traditionally been affected by flooding in larger flood events. It is therefore necessary that the land be filled in order to provide suitable flood immunity for future development.

The prevailing Tweed DCP No.9 – West Kingscliff (1993) requires (Section 3B) that the areas identified for residential development be filled to the design flood level, approximating the 1 in 100 year flood level.

Should project approval be granted, the Project would have the highly beneficial effect of enabling this key extension of the Kingscliff, Chinderah and Cudgen urban area to proceed, through the provision of the fill material necessary to raise the land to the required elevations.

The requirement to fill the land has subsequently been the subject of a number of specific investigations conducted by WBM Oceanics Pty Ltd (WBM), on behalf of the Tweed Shire Council (WBM 1994¹, WBM 2000²). Those investigations conclude that the land identified for filling, can be filled without adversely affecting other properties.

In summary, it is noteworthy that:

1. there is an expectation that a significant proportion of the landholdings are to be filled for urban development, including a variety of housing and employment generating development;
2. parts of the Proponent's landholdings require filling to provide suitable flood immunity; and
3. filling can occur without adversely impacting upon other property.

3.2 The Proponent's Structure Plan

The Structure Plan assembled by the Proponent is intended to more accurately identify the actual extent of the development 'envelope' and therefore the volume of filling material required, as well as the disposition of various land uses and key infrastructure (such as roads and open space), to enable a better quantification of the likely planning outcomes, including social and economic impacts.

The Structure Plan has been prepared in the context of detailed planning, engineering, environmental and scientific investigations, identifying among other things, the following key issues.

- Land use planning.
- Civil infrastructure planning (roads, services & drainage).
- Hydrology.
- Ecology
- Retail and commercial economics.
- Social infrastructure (civic, community and recreational facilities).

While the Structure Plan is not a statutory planning document, it has nonetheless been developed in light of on-going discussion with Tweed Shire Council, consultation with the community and cognisant of local and regional planning strategies. In particular, the Structure Plan is generally consistent with the 'Towns and Village Growth' and 'Employment Lands' Boundaries under the FNCRS (2007). Some anomalies exist in terms of current land-use zones under the Tweed LEP 2000, particularly in respect of the non-residential aspects of the Structure Plan.

¹ Kingscliff Drainage Strategy Plan (1994), WBM Oceanics Pty Ltd.

² Kingscliff Catchment and Drainage Management Strategy (2000), WBM Oceanics Pty Ltd.

The Tweed Shire Council's Futures 04/24 Strategic Plan proposes a locality planning exercise for the greater Kingscliff area, incorporating the Proponent's landholdings. The Tweed Shire Council has indicated that the Proponent's Structure Plan would be used as a basis to commence the Kingscliff Locality Plan, in so far as it relates to the Proponent's landholdings (refer correspondence, **Appendix 2**). While it is understood that elements of the Structure Plan may alter with development of the Council's Locality Plan, the Structure Plan represents the most contemporary thinking with respect to the future development of the Proponent's landholdings and based on studies conducted by the Proponent and the Council, reflects a reasonable expectation for the future development of the landholdings. It is therefore, a suitable basis for the identification of the development potential of the Proponents landholdings and relevantly, the possible long-term social and economic impacts of the Project.

Figure 5 illustrates the Proponent's Structure Plan whilst **Appendix 3** contains supplementary plans providing more detailed concepts for various parts of the landholdings. The key elements and features of the Structure Plan are as follows.

A New District (Sub-Regional) Town Centre at Chinderah

The 'centre-piece' of the Structure Plan is the development of a new 'mixed use' sub-regional town centre to be located on approximately 40 hectares of land in the northwestern sector of the landholdings at Chinderah,

While not currently the policy of the Tweed Shire Council, the findings of studies undertaken on the Council's behalf, and also on behalf of the Proponent in recent years, have endorsed the concept of a district town centre for the northern coastal section of the Shire in the locality of Kingscliff.

The outcome of the various studies has been to point unequivocally to the Proponent's Chinderah landholdings, as the preferred and ideal location for a centre of sub-regional scale, especially in view of these landholdings close association with the junction of the Pacific Highway with the Tweed Coast Road (Chinderah Road), the principal arterial roads serving the entire coastal part of Tweed Shire.

For example, three iterations of the report prepared for Tweed Shire Council by Core Economics³, identified the Proponent's Chinderah landholdings as the only area which is suitable for the purpose of a district town centre and meets the necessary criteria, it being noted that, at the time of those reports, the principle of establishing a coastal district town centre was a longstanding Council planning Project. In 2003, Core Economics concluded that: "*only one area in the vicinity of the Pacific Highway is apparent, being located at Chinderah Road at Chinderah*" (P.52).

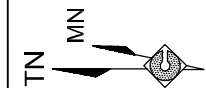
The suitability of these landholdings for development of a sub-regional district town centre, and the need and desirability for establishment of such a centre there, have also been the subjects of detailed studies carried out on behalf of the Proponent. One of Australia's foremost retail planning consultants, JHD Advisors, reported to the Proponent in the following terms in 2003:⁴

"The JHD analysis strongly supports the designation of ... the Chinderah site as a District Centre";

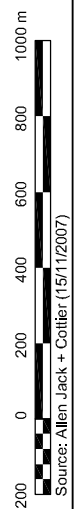
³ Core Economics, *Tweed Shire Retail and Centres Strategy*, 31 October 2003; 15 November 2003; 12 January 2004.

⁴ JHD Advisors, *Tweed Coast Strategy – Retail Assessment*, February 2003.

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SCALE 1:20 000



Source: Allen Jack + Cottler (15/11/2007)

Figure 5
STRUCTURE PLAN

“development of a District Centre at Chinderah is practical by 2008”; and

“It is therefore sound planning policy ... to designate Chinderah as a District Town Centre for development in about five years [i.e. by 2008]. This overall policy is compatible with maintaining Tweed Heads as the major commercial centre for the broader region”.

The precise nature and scale of individual components have not been finitely determined at this stage, but the successive studies which have been carried out into the need for the centre, and the logical catchment area which it would serve, have derived an overall profile for its major retail components. On this basis it is anticipated that the District Town Centre would comprise the following key elements.

- 30,000m² (Gross Floor Area – GFA) of retail floorspace, including discount department store, supermarkets and specialty retailing.
- 5,000m² GFA of commercial (office) space and professional suites.
- 40,000m² GFA of bulky goods retailing and trade activities.
- Medical Centre.
- Tavern.
- Approximately 100 000m² of Town Centre housing.
- Community and cultural support facilities, including cinemas, community centre, library, civic square and public transport facilities.

The intended purpose of the centre is as a sub-regional centre serving, principally, the coastal section of Tweed Shire, south and east of the Tweed River. The centre would be highly convenient, and a logical principal shopping destination, for all of the coastal urban section of the Shire, and beyond to the northern parts of Byron Shire (whose current major shopping destinations require extended travel distances, to Tweed Heads in the north or Ballina to the south).

As well, the centre would provide a more accessible shopping and services venue than at present for the western urban, village and rural areas of the Shire, including Murwillumbah.

The site, being located at the junction of the Pacific Highway and Tweed Coast Road (formerly Chinderah Road), the two principal arterial roads serving the whole of the sub-region, is better placed than any alternative one to conveniently and functionally serve the whole of the appropriate and logical trade area.

Operation of the centre would lead to considerably reduced travel distances and times for all major shopping trips within its applicable trade area, and bring about an overall reduction in car travel journeys. It would intercept and shorten what would otherwise be longer-distance journeys using exactly the same major road system, whatever the origins of the centre users.

It is also firmly proposed that the centre would entail a host of health, community, recreational, sporting and service activities, thus improving accessibility for the sub-regional population to those services, and again significantly reducing necessary travel times and distances for accessing the nearest locations where those services are represented at present.

The centre is to be developed in a pedestrian-oriented, “town centre” configuration, with major retail elements “sleeved” at the rear of shop fronts, and inter-mixing of land uses within the centre, including residential components.

A conceptual design and layout of the District Town Centre is illustrated in further detail in **Appendix 3**.

New Residential Development

Approximately 62 hectares of land would be developed for mixed density housing, in three main residential precincts.

Higher density housing would occur in both the northeast sector in the vicinity of Ozone Street (east of the main north-south Kingscliff drain) and in the central east around Turnock Street. Housing in these precincts would exclusively comprise medium density housing forms and predominantly apartments. It is expected that up to 1 100 dwellings would be constructed in these precincts.

Mixed density housing, comprising townhouses, duplex dwellings and single dwelling houses and other special housing (such as aged persons accommodation) would occur in the south west, between Turnock Street and Crescent Street to the west of Tweed Coast Road. It is anticipated that a further 400 dwellings would occur in these areas.

Housing areas would enjoy high residential amenity through proximity to open space and recreation areas (including the beach, golf course and future Cudgen Lakes), close proximity to shopping and dining areas, improved pedestrian and transportation networks and quality urban and streetscape design.

In aggregate, and assuming that virtually all dwellings within the Proponent’s landholdings will be used for permanent occupation, it is estimated that appropriate and sustainable development of the residential parts of the those landholdings will allow for the construction of approximately 1 500 dwellings of various types, as further detailed in this report.

In terms of the dwelling targets laid down in the FNCRS, in round figures this would represent about 2 years average supply of new housing, although new residential development will be taking place simultaneously within other Tweed Shire localities, and the Proponent’s projects would be phased over a decade or so.

Conservation Areas

Approximately 33 hectares of land would be retained for environmental conservation purposes, including habitat areas for threatened fauna species such as the critically endangered Mitchell’s Rainforest Snail, as well as important flora communities.

Open Space and Recreation Precinct

An open space and recreation facilities precinct of approximately 20 hectares would be created around a large recreational lake (of approximately 37 hectares), west of Tweed Coast Road. The precinct would provide both public open space such as Council sports fields and private recreation facilities such as, a bowling club, tennis club, swimming centre, health club and other water-based activities.

Transport Linkages

The Structure Plan includes the construction of two major road links into Kingscliff from the Tweed Coast Road.

A northern connection known as the 'Ozone Street Link' occurs in the northwestern sector of the landholdings and links the Tweed Coast Road with Elrond Drive at its northern end and ultimately with Pearl Street further to the east.

A southern connection road referred to as the 'Turnock Street Extension' would link the Tweed Coast Road with the existing roundabout at the intersection of Turnock Street and Elrond Drive.

These new road linkages would considerably improve accessibility and a better distribution of traffic generally within the Kingscliff area and reduce traffic on surrounding local streets. The roads would be designed to cater for better located and upgraded public transport services. The District Town Centre Project would incorporate public transport interchange facilities to further encourage the provision and use of alternative transport modes.

As the land is relatively flat, it is also ideal for a network of pedestrian pathways and cycleways which have been identified for improved permeability and linkages within and between new residential areas and between residential areas and key locations such as the District Town Centre and the open space areas west of Tweed Coast Road.

Initial implementation of the Structure Plan has commenced primarily through applications for development, but also through actions undertaken by Tweed Shire Council, including:

1. a development approval⁵ issued by Tweed Shire Council for the realignment of the existing Altona Drive, which currently bisects the southern extraction area of the proposed Cudgen Lakes Sand Extraction Project site (refer **Figure 2**).
2. further development applications⁶ are currently being assessed by the Tweed Shire Council relating to the filling and development of land in accordance with the Structure Plan, in the central and southern parts of the landholdings in the vicinity of Turnock Street.
3. the Tweed Shire Council has also recently adopted a Section 94 Contributions Plan⁷ that confirms the desire to provide structured open space on the Proponent's land west of the Tweed Coast Road, as originally proposed by the Structure Plan.

4 PROJECT OVERVIEW

The following is an overview of the key elements of the Project whilst a comprehensive description of the Project is contained within the EA.

⁵ Development Approval 05/1450. Tweed Shire Council.

⁶ Development Applications 04/1331 – Shopping Centre, 05/0004 - Filling and 05/0271 – Road Corridor and Sewer Infrastructure.

⁷ Section 94 Plan No. 7 – *West Kingscliff* (Adopted December 2006). Tweed Shire Council.

The Project would involve the removal of approximately 5 million m³ of sand over a period of 15 to 20 years. The Project Site covers a total area of 67ha which includes:

- a 37ha extraction site south of Altona Drive ('southern extraction site');
- a 9ha extraction site north of Altona Drive ('northern extraction site'); and
- a processing area north of Altona Drive covering an area of 3.7ha.

The Project comprises seven main components, as described in the EA. These are as follows.

- Hydraulic extraction and transportation of up to 2.5 million m³ of sand via the defined pipeline corridors to approved fill sites.
- Hydraulic and mechanical removal, processing and production of approximately 2.6 million m³ of sand products for the regional construction industry.
- Receipt and where possible, processing of non-acid generating virgin excavated natural materials (VENM(a)) to yield additional products for the construction industry.
- Progressive backfilling of the northern extraction pond and southern extraction pond edges with VENM(a) unsuitable for processing.
- Receipt and, where possible, processing of acid generating virgin excavated natural materials (VENM(b)) to yield additional products for the construction industry.
- Receipt and internment/backfilling of VENM(b) beneath finalised sections of the extraction ponds.
- Development of a final landform consistent with the broad development strategy to be implemented by the Proponent.

The maximum annual extraction rate would not exceed 650,000m³ of sand and the processing plant would process up to 300,000 tonnes of sand and VENM annually. It is estimated that a total of approximately 30,000m³ of VENM would be received annually.

Indicatively, the Project would directly provide five full time jobs and between an additional five and eight jobs on a campaign basis. The Project would also result in employment for approximately 14 truck drivers for delivering sand products and VENM deliveries.

5 OBJECTIVES

The objectives of the Project are to:

- (i) provide the necessary fill materials (approximately 2 500 000m³) required to complete the Proponent's proposed development strategy for its landholdings within the Kingscliff / Chinderah / Cudgen area;
- (ii) recover the remaining high quality fine sand resources to supply the region's construction industry;

- (iii) provide a licensed facility capable of accepting and processing both non-acid generating virgin excavated natural material (VENM(a)) and acid-generating virgin excavated natural material (VENM(b));
- (iv) create a recreational lake with surrounding parkland, walkways and sporting fields consistent with the recreational and environmental land uses of the Proponent's Strategic development plan for its landholdings.

6 ALTERNATIVES

Outline

The EA contains an extensive discussion of the alternatives examined and reasons as to why those options were adopted or not adopted (see EA Section 2.15).

The alternatives examined include the following.

- Alternative sources of sand fill.
- The location of the processing area.
- Design of the extraction sites.
- Alternative pipeline corridors.

The assessment of the alternative options is summarised in **Table 1**. In addition to these options, the alternative of not proceeding with the Project and utilising the land for other purposes needs to be discussed in the context of the social and economic considerations.

Table 1
Alternatives to Project as Proposed

Page 1 of 4

Alternative	Discussion	Reason for Adoption or Dismissal
Alternative sources of fill sand	There are a number of potential sources of fill sand, including operations run by Hanson Tweed Sand Quarry (adjacent to the site), Action Sand in Chinderah and quarries further removed from the site.	The alternatives were dismissed because Hanson Tweed Sand Quarry and Action Sands do not hold approvals to supply sand at the required rate or the quality of water transported with the sand would not be suitable for filling large areas. Other fill sources are geographically removed from the fill sites and/or would not be economical to use.
Location of processing area	Four (4) alternatives were examined: Option 1 - NW corner of Project Site adjacent new WWTP (proposed)	Option 1 is preferred as it would have least impact upon noise and visual amenity and is most practical from an operational perspective.

Table 1 (Cont'd)
Alternatives to Project as Proposed

Page 2 of 4

Alternative	Discussion	Reason for Adoption or Dismissal
	<p>Option 2 – NW side of the southern extraction site</p> <p>Option 3 – eastern side of southern extraction site</p> <p>Option 4 – within SW side of the southern extraction site</p>	<p>Option 2 would result in the temporary operational sterilisation of the sand resource.</p> <p>Option 3 would result in greater noise impacts on surrounding residents.</p> <p>As per Option 2.</p>
Design of Sand Extraction Area	<p><u>Southern Extraction Area:</u></p> <p>3 options were examined.</p> <p>Option 1 (preferred) involves removal of central power poles to allow full excavation of resource.</p> <p>Option 2 involves excavation around the power poles and leaves suitable buffer around each pole. Approximately 180,000m³ of sand would be sterilised.</p>	<p>Provides greatest access to sand resource.</p> <p>Option 2 and 3 dismissed because valuable sand resource would be sterilised.</p>
Design of Sand Extraction Area	<p>Option 3 involves exclusion of power poles from extraction area and provision of 15 m buffer from power poles and lines. Approximately 200,000m³ of sand would be sterilised.</p> <p><u>Northern Extraction Area:</u></p> <p>Option 1 (proposed) involves extraction of sand to 5m and recovery of 380,000m³ of sand.</p> <p>Option 2 involves extraction of sand to the maximum recoverable depth and results in extraction of 780,000m³ of sand.</p> <p>Option 3 involves extension of northern site further east.</p>	<p>Option 1 provides access to additional resources whilst ensuring that future land uses planned for this area can be achieved.</p> <p>Option 2 would be used if it can be shown that sufficient VENM would be available to backfill the extraction pond. Potential groundwater impacts would need to be reassessed prior to proceeding with this option.</p> <p>Option 3 would be used in the event of agreements being reached with adjoining landowners and if sufficient VENM is available to backfill the extraction pond.</p>

Table 1 (Cont'd)
Alternatives to Project

Page 3 of 4

Alternative	Discussion	Reason for Adoption or Dismissal
Alternative Corridors	Figure 2 illustrates the locations of alternative corridors to the northern and eastern fill sites.	<p>An agreement has not been reached with the landowner for the alternative northern corridor. This may be reconsidered if suitable agreement is reached.</p> <p>The alternative eastern corridor would be adjacent to a proposed road planned for construction to develop some of the Proponent's land. The development of this land and the road has not yet been approved and therefore, this corridor is not preferred.</p>
Not proceeding	<p>This option would involve not proceeding with the Project with the consequence of using the land for the following alternatives.</p> <ul style="list-style-type: none"> • Agriculture. • Extraction in accordance with the current approval. • No Use. 	<p>An analysis of the land has indicated that there are physical constraints preventing the land being used for intensive agricultural purposes (HMC, 2007).</p> <p>Extracting sand in accordance with the current approval would not provide sufficient sand to realise the development of the land in accordance with the strategies contained within the FNCRS 2007 and Tweed LEP 2000.</p> <p>The 'do nothing' approach would result in:</p> <ul style="list-style-type: none"> • a known regionally significant resource (FNCRS) not being utilised (refer to Section 3.0 for discussions on significance of resource); • loss of a high quality resource for the construction industry. • the substantial economic benefits to the region not being realised (refer Section 8.4).

Table 1 (Cont'd)
Alternatives to Project

Page 4 of 4

Alternative	Discussion	Reason for Adoption or Dismissal
Not proceeding (Cont'd)		<ul style="list-style-type: none"> The inability to deliver the Proponent's 'Structure Plan' in an economically feasible and low impact manner and the subsequent loss of new and additional services, facilities and public amenities. The development of the Proponent's West Kingscliff landholdings in accordance with the Structure Plan would give effect to the urban development strategies contained in the Tweed LEP 2000 and the FNCRS and would result in a range of community benefits (refer Section 8.3). <p>On balance it is apparent that there is considerably more to be gained in terms of social and economic development from the Project, than not proceeding. The 'do nothing' approach is not supported.</p>

The alternative agricultural use of the land within the Project Site is discussed in Section 8.4.5.

7 CONSULTATION

7.1 Overview

Government agencies, business interests, community organisations and local residents have been consulted regarding the Project. In particular, the following 'project specific' consultation has occurred:

- Government agency focus group meeting (17 October 2004), involving representatives of the Department of Planning, Tweed Shire Council and the following agencies:
 - Department of Environment & Conservation (now Department of Environment and Climate Change (DECC)).
 - Department of Water and Energy (DWE) (formerly part of the Department of Infrastructure, Planning and Natural Resources).
 - NSW Fisheries (now Department of Primary Industries (DPI (Fisheries)))
 - Department of Primary Industries (Agriculture) (DPI (Ag)).
 - Department of Mineral Resources (now DPI (MR)).
 - Roads and Traffic Authority (RTA).

- Written consultation with the Department of Planning with respect to the Director-General's requirements for the preparation of the Environmental Assessment and the associated written consultation with the following agencies and instrumentalities:
 - DPI (Ag).
 - DPI (Fisheries).
 - DPI (Mineral Resources).
 - NSW RTA.
 - Department of Environment and Conservation (National Parks) (now DECC).
 - Department of Environment and Conservation (Environment Protection Agency) (now DECC).
 - Department of Infrastructure Planning and Natural Resources (Natural Resources) (now DWE).
 - Tweed Shire Council.
- Pre 'project design' consultation with local residents and community groups.

A detailed description of the government agency and local government consultations can be found in Section 3.2.2 of the EA.

As outlined in Section 1.0, the Project is in a sense, a means to the implementation of a significant urban development program involving the Proponent's extensive landholdings at West Kingscliff, Chinderah and Cudgen. The community group and local resident consultation program has therefore also involved information sharing regarding the Proponent's Structure Plan, including the attitudes of those consulted regarding the Proponent's broader land development plans in the locality.

Community and local resident consultation is addressed in Section 7.2.

The Proponent has also been involved in on going consultation and discussion with the Tweed Shire Council and other agencies, as well as the broader Tweed Shire community for a period in excess of 10 years, relating to the preparation of its Structure Plan. A summary of the key consultations is presented in Section 7.3.

7.2 Project Consultation

Coakes Consulting was commissioned by R.W. Corkery and Co Pty Ltd, on behalf of the Proponent, to consult with residents, landowners and key stakeholder groups with respect to the Project, including the Proponent's broader vision for the development of its landholdings for a range of civic, commercial, residential, recreational and environmental projects that would result from the Project.

The consultation program undertaken comprised:

- 18 face to face interviews with residents and landowners in the area using a structured interview process and survey instrument. Details of this program are contained in the 'Preliminary Stakeholder Consultative Report' (Coakes Consulting, August 2005, refer **Appendix 4**); and

- presentations of the Project to stakeholder groups from, Kingscliff, Chinderah and Cudgen. These included the following.
 - Cudgen Progress Association
 - Chinderah Progress Association
 - Kingscliff Rotary Association
 - Chinderah Drainage Union
 - Tweed Growers Union.

A summary of the questions and issues raised by each group during the presentations is contained in the 'Key Stakeholder Group Presentations – Preliminary Feedback Summary' (Coakes Consulting, October 2005, refer **Appendix 5**).

The consultations resulted in the following key issues being identified regarding the Project:

- Groundwater – concerns that a change in groundwater could impact on crops and/or livestock, be it through salinity, loss of water supply and change in water quality.
- Acid Sulfate Soils – concerns that acid sulfate problems previously experienced in the area could arise again during this development. Issues such as odour, red staining and fish kills were raised.
- Flooding and drainage – concerns that raising the level of land may impact on other landowners from such things as loss of crops, flooding and impact on local waterways.

The Project has subsequently been designed in this context, to ensure that appropriate design and operational safeguards and mitigation measures are in place to manage these potential impacts. These issues are extensively addressed in the EA and the residual impacts following the implementation of the proposed safeguards and mitigation measures have been assessed to be within accepted criteria. Furthermore, monitoring is proposed to ascertain whether expected outcomes are being achieved and, where they are not, practical management measures have been proposed to correct the outcomes and prevent potential negative impacts..

With respect to the wider development of the Proponent's landholdings within the Kingscliff, Chinderah, Cudgen locality, it has been identified that, while there are some mixed views regarding the Proponent's development plans, there is a reasonable level of support within the community for a range of new civic, commercial, residential, recreation and environmental projects, with retail/commercial outlets and sporting fields being the priority. The 'Structure Plan', covering the Proponent's adjacent landholdings, incorporates all of these key community facilities.

Notwithstanding community views supporting the Proponent's Structure Plan or otherwise, there is a clear desire amongst the community to be consulted regarding the future development of the land at the detailed planning stages. In this regard, the public consultation undertaken as part of the EA for the Project has provided such an opportunity. Further, the community was consulted immediately prior to the lodgement of the EA for public exhibition to update those interested on the progress of the Proponent's plans. It is also noted that public

consultation has also been undertaken by the Tweed Shire Council with respect to various development applications made by the Proponent (identified in Section 3.0) to give effect to elements of the Structure Plan. The Council also intends to consult the community imminently in relation to the Kingscliff Locality Plan preparation, which would incorporate planning for the Proponent's landholdings.

7.3 Structure Plan Consultation

The Proponent has engaged in a substantial number of consultations over the course of the past decade in relation to the Structure Plan and/or specific elements of the plan. In particular, many formal meetings and workshops, as well as informal discussions have occurred between the Proponent and the Tweed Shire Council during that period.

While less numerous, the Proponent has also consulted widely with specific community and business organisations and the general public, in the form of meetings and presentations, as well as extensive community surveys (discussed below).

The Proponent has also operated an Internet web site for the past five (5) years, which contains a large catalogue of relevant information.

In the context of the Project to which this socio-economic impact assessment ultimately relates, it is of little value and unnecessary in this instance to detail the particulars of every consultative action relating to the Structure Plan. Nonetheless, given that the Project would if approved, lead to the development of the Proponent's landholdings in a manner at least reasonably reflective of the Structure Plan, it is relevant to note some of the key consultations that have occurred to indicate the nature and coverage of the Proponent's consultation activities and the opportunities afforded to the local community and wider public to be informed of the Proponent's Structure Plan Projects.

Table 2 lists and outlines key consultations with both the Council and the community.

In addition to formalised meetings and presentations, the Proponent has recently conducted two extensive community surveys in relation to the Town Centre component of the Structure Plan.

In December 2005, approximately 6500 survey questionnaires were distributed via Australia Post to all households and private post boxes in the Tweed Coast area from Fingal Head to Pottsville (postcodes 2487, 2488 and 2489). While not specifically canvassing support for a District (Sub-Regional) Town Centre on the Proponent's land, the survey did elicit strong support for such a centre to be located on the northwestern sector of the landholdings at Chinderah. The results also included meaningful feedback with respect to the nature and type of facilities sought by the community in such a centre.

In June 2006, a further survey questionnaire was distributed via Australia Post to every household in the Tweed Shire. This survey specifically canvassed the siting of a District Town Centre in the northwestern sector of the Proponent's landholdings at Chinderah. It is noteworthy that the survey questionnaire achieved a response rate of approximately 10%, with a slightly higher return rate of 12% from the Kingscliff locality. Of the responses received, an overwhelming majority (>85%) were in favour of the Proponent's District Town Centre Project, both within the Kingscliff locality and on a Shire-wide basis.

Table 2
Key Structure Plan Consultations

Date	Agency/Group	Where	Description
05.04.2001	Tweed Council	TSC	Council Workshop
04.03.2002	Kingscliff Residents and Ratepayers Assoc. (KRPA)	Kingscliff Primary School	Presentation of concept structure plan and vision for landholdings
19.03.2002	Tweed Council	TSC	Presentation of Concept Structure Plan
03.03.2003	KRPA	Kingscliff Primary School	Further presentation of development plans
10.05.2004	Tweed Coast Business Association	Cudgen Leagues Club	Presentation of Structure Plan
19.06.2004	Kingscliff Chamber of Commerce	Cudgen Leagues Club	Presentation of Structure Plan and development Projects
27.11.2004	General Public Meeting	Kingscliff Amenities Hall	Presentation and discussion relating to District (Sub-Regional) Town Centre.
17.12.2006	Noble Lakeside Park Residents	Noble Lakeside Park Community Building	Presentation of Structure Plan
19.06.2007	Kingscliff and Tweed Coast Business Association	Cudgen League Club	Presentation of Structure Plan

Further details of the surveys and the results, together with information relating to the above consultations are available for viewing at www.gales-kingscliff.com.au/SEISconsultation .

8 SOCIO-ECONOMIC IMPACT ASSESSMENT

8.1 Background

AMCORD (1995) expresses the view that the term, “ ‘*social impact assessment*’ or ‘*social impact analysis*’ refers to the process whereby the likely or possible social effects of a development Project are considered and the need for social facilities and services generated by the Project is established.”

There are many definitions of social impact. The document titled “*Social Impact Assessment for Local Government: A Handbook for Councillors, Town Planners & Social Planners*” (Government Office on Social Policy & Local Government Shires Association of NSW, 1995) states that, “*social impacts are significant events experienced by people as changes in one or all of the following (Armour 1992):*

- *Peoples way of life – how they live, work, play and interact with one another on a day-to-day basis;*
- *Their culture – shared beliefs, customs and values; and*
- *Their community – its cohesion, stability, character, services and facilities.”*

The Tweed DCP 45 provides a matrix of issues to be considered for a range of development types, which represents a more detailed or 'fine grained' interpretation of the broad impacts identified by *Armour* (1992). While 'extractive industries' are not a development type specifically contemplated in the DCP matrix, this assessment addresses all of the matters identified, which include:

- community networks (eg. opportunities for social interaction, residential amenity, impacts on disadvantaged groups etc);
- public realm (eg. impact on heritage sites or buildings, impacts on public spaces / open spaces etc);
- housing (eg. impact on housing stock, housing choice, special needs housing etc);
- access (eg. distance of homes to local facilities and services, public transport services, pedestrian access, disabled access etc);
- human services (eg. impact on health, educational, childcare and welfare services, effect on choice of local shopping facilities, impact on local recreation or leisure activities etc); and
- the economic impacts of a Project can relate to both short and long term impacts, impacts on specific groups and on the wider community. Issues of relevance to be addressed include:
 - direct and non-direct employment impacts;
 - multiplier effects to the community and specific groups; and
 - investment in public/community infrastructure.

These impacts are principally addressed in Section 8.3 (Social Impacts) and Section 8.4 (Economic Impacts).

8.2 Demographics

8.2.1 Recent Population Growth

The Tweed Coast, where the Cudgen Lakes Sand Extraction site is situated, is one of the most rapidly growing parts of the State of NSW.

Recently released statistics from the Australian Bureau of Statistics (ABS)⁸ show that Tweed Shire as a whole has grown from 65,052 persons in the year 1996, to a preliminary estimated figure of 84,325 as at June 2007, representing an annual average compound rate of increase of 2.39%. In the latest 1-year period to June 2007, the population increase of 1,370 persons at a rate of 1.7% represented one of the largest numerical and percentage increases in NSW.

⁸ ABS, *Regional Population Growth, Australia [3218.0]*, 31 March 2008.

However, within these overall statistics, there has been a significant concentration of population growth in the northern and coastal urban sections of the Shire [generally classified by the ABS as Part A of the Shire], in contrast with the southwesterly, rural and village sections of the Shire, centred on the town of Murwillumbah [Part B].

Another interesting finding of the most recently published ABS estimates (March 2008) is that Tweed Shire is now believed to have passed the 80,000 population mark in the year 2004, rather than later as had previously been assumed to be the case.

It is important to note that some fundamental variations have been made by the ABS as at July 2006 to the constituent localities of the respective parts of Tweed Shire.⁹ The 2006 Census results were published on the basis of the new breakdown. In summary, Part A – the urban and coastal sector of the Shire, has been separated into two sections – “Tweed Heads” and “Tweed Coast”, and some coastal localities formerly contained in Part B have been transferred to Part A – Tweed Coast.

The Part A - Tweed Coast classification applies to all coastal sections of the Shire southward from, and including, Casuarina and Kings Forest, to the Shire boundary. Areas northward from, and including Kingscliff and South Kingscliff (“Salt”), are included in Part A – Tweed Heads, together with the Shire’s other principal urban localities (e.g. Tweed Heads, Banora Point, etc).

The following analyses are based upon the updated or new locality classifications unless the subject matter or context otherwise indicates.

The official rate of growth for the whole of (the new) Part A of the Shire for the 10-year period from 1996 to 2006, based on Census results, is estimated by the ABS to have averaged 3.1%. Within this overall figure, there were differential average rates for “Tweed Heads” and “Tweed Coast” of 3.0% and 3.7% respectively. However, the latter was from a considerably lower base population, and significant urban growth did not occur there until about mid-way through the decade, with the first permanent residents settling at Casuarina for example in January 2002, while at the same time the rate of growth in some of the earlier developed parts of “Tweed Heads” had slowed somewhat.

Table 3 summarises population changes in the constituent parts of Tweed Shire (using the revised 2006 categorisations of Tweed Coast and Tweed Heads) for the years from 1996 to 2007, together with the annual growth rate for the combined Part A – Tweed Coast and Tweed Heads. The figures from the year 2002 onwards are not final but are based on the most recent published ABS statistics. They include a fairly significant upwards revision of previously published estimates of Shire population, while the 2007 estimate is a preliminary figure issued in March 2008.¹⁰

⁹ ABS, *Australian Standard Geographical Classification [1216.0]*, July 2006.

¹⁰ ABS, *Regional Population Growth, Australia [3218.0]*, 31 March 2008.

Table 3
Population Growth – Tweed Shire – 1986 TO 2007 (1)

Year (to June)	Tweed (A) - Tweed Heads	Tweed (A) - Tweed Coast	Tweed (A) - Tweed Hds plus Coast	Annual Change (2)	Tweed (A) Part B (3)	Total - Tweed Shire
1996	39,163	6,473	45,636	-	19,416	65,052
1997	40,964	6,756	47,720	4.6%	19,625	67,345
1998	42,409	7,133	49,542	3.8%	19,747	69,289
1999	43,664	7,375	51,039	3.0%	19,725	70,764
2000	45,673	7,632	53,305	4.4%	19,720	73,025
2001	46,962	7,815	54,777	2.8%	19,800	74,577
2002	48,324	8,081	56,405	3.0%	19,943	76,348
2003	50,042	8,382	58,424	3.6%	20,168	78,592
2004	51,290	8,704	59,994	2.7%	20,392	80,386
2005	51,863	9,019	60,882	1.5%	20,580	81,462
2006	52,756	9,303	62,059	1.9%	20,896	82,955
2007 (p)	53,650	9,606	63,256	1.9%	21,069	84,325

(1) Estimated Resident Population;

(2) "Tweed Heads" + "Tweed Coast";

(3) Excludes southern coastal section transferred to Part A – "Tweed Coast".

Source: ABS, *Regional Population Growth, Australia [3218.0]*, 31 March 2008.

The population of Part B of the Shire increased only slightly over the whole 10-year intercensal period (average 0.5% pa). However, the annual growth rate for the whole of the Shire averaged about 2.5% over the decade, due to the relatively rapid rates of increase in coastal and other urban localities in Part A. In contrast, the average growth rate for the whole of NSW for the ten years from 1996 to 2006 was just under 1%.

Annual growth rate for the urban parts of Tweed Shire has varied widely over the decade, which can be seen to be associated with a shifting focus of new housing development from one locality or estate to another. Most recently, major housing expansion has been occurring in coastal and near coastal estates – eg Salt, Casuarina and Seabreeze, with a slowing in relative terms of rates of development in longer established localities – Banora Point, etc.

For the next 5-10 years, there will inevitably be further shifts in intensity of new housing development, split between the "Tweed Heads" and "Tweed Coast" Statistical Local Areas, with continuing releases in the coastal estates, and likely commencements of new estates at Kings Forest, West Kingscliff and Cobaki Lakes.

8.2.2 Population Growth Forecasts

In view of the continuing development of new housing estates to meet demand from incoming residents as well as incrementally increased housing need brought about by gradually declining household sizes, it can be expected that there will be continuing overall growth at or about rates experienced over the last decade.

Official population projections released by the Department of Infrastructure, Planning and Natural Resources (DIPNR) in 2004,¹¹ show a forecast growth rate at an average of 2.3% between 2006 and 2011 for Part A of the Shire (before the recent changes to Part A and Part B boundaries), gradually declining to about 1.5% in the 2026-2031 period. For Part B of the Shire, an average annual growth rate of 1.0% between 2006 and 2011 is expected to reduce to 0.8% for 2026-2031.

¹¹ DIPNR, *NSW Statistical Local Area Population Projections 2001-2031*, May 2004.

DIPNR population projections for Tweed Shire for the period from 2006 to 2031 are summarised in **Table 4**. It should be noted that the DIPNR forecasts were made before the change by the ABS to the disposition of localities between Parts A and Part B of the Shire, and the introduction of a “Tweed Coast” statistical local area. The main effect of the change in relation to the table is the fact that population of coastal sections of the Shire - Casuarina to the Byron Shire border – have now been excluded from Part B, and included in Part A. This can be seen in the year 2006 estimate for Part B – shown as approximately 29,100 in the DIPNR projection, but less than 21,000 in the new ABS distribution – see Table 3 above.

Table 4
Population Forecasts – Tweed Shire – 2006 TO 2031

Year (as at June)	Tweed (A) – Part A	Annual Change	Tweed (A) – Part B	Annual Change	Tweed Shire	Annual Change
2006	53,640	-	29,110	-	82,750	-
2011	60,200	2.3%	30,580	1.0%	90,780	1.9%
2016	66,540	2.0%	32,010	0.9%	98,550	1.7%
2021	72,840	1.8%	33,490	0.9%	106,330	1.5%
2026	79,040	1.6%	34,990	0.9%	114,030	1.4%
2031	84,970	1.5%	36,440	0.8%	121,410	1.3%

Source: DIPNR, *NSW Statistical Local Area Population Projections 2001-2031*, May 2004.

With the redistribution of the Shire’s southern coastal settlements to Part A, it can be expected that the forecast annual rate of change for Part A, which consists of “Tweed Heads” and “Tweed Coast”, will be slightly higher than the DIPNR projections, with Part B commensurately slightly lower.

Increasing population over the next several decades, mainly from inward migration, will be coupled with a general ageing of the population. DIPNR predict that, for the Richmond-Tweed region as a whole, the net increase between 2006 and 2011 owing to natural increase (excess of births over deaths) will be only 900 persons for the five years (11,200 births; 10,300 deaths). Over the same period, net increase from migration is expected to be about 12,400 persons (9,600 net internal; 2,800 net international). A similar trend is likely to be experienced in Tweed Shire as for the region as a whole.

By the 2016-2021 period, it is foreshadowed that there will in fact be net negative natural change in the region, with deaths exceeding births as a consequence of ageing. Although coupled with predicted incremental increases in net annual numbers of migrants to the region, the average annual growth rate will gradually fall.

Median age of the Richmond-Tweed population is predicted to increase from 40 years in 2001 to 51 in 2031, while the proportion of the population aged 65 years and over will grow from 17.1% to 31.6%. Natural ageing of the population as well as inward migration of retirees will contribute to this phenomenon.

Overall, and in view of the nearby development prospects and estates in progress, it can be expected that population growth in the general vicinity of the Cudgen Lakes Sand Extraction Project site will grow for the foreseeable future at rates of the order of 2-3% annually, although increases in the directly adjacent precincts may be at higher rates over some periods, due to the short-medium term prospective establishment of new housing projects within the Proponent’s lands.

8.2.3 Demographic Characteristics of the Population of the Locality

The latest official statistics available for comparative review of population characteristics are contained in the 2006 ABS Census of Population & Housing.

For consistency of analysis, the statistical unit selected for analysis of demographic and socio-economic characteristics in the Kingscliff / Chinderah / Cudgen locality is the postal area (postcode) 2487. This is considered to represent an appropriate proxy for the Project Site's locality for comparative analyses.

The 2487 postcode area extends along the coast from Fingal Head to Kingscliff and South Kingscliff ("Salt"), but not Casuarina, and west to Stotts Creek embracing Cudgen and Chinderah. At the time of the 2001 Census, the area included an estimated resident population of 8,385 persons, which had risen to a preliminary figure of 9,263 by the 2006 Census, representing an average annual growth rate of 2.0%.

8.2.3.1 Age Profile of Local Population

Table 5 sets out numbers and proportions of persons in 5-year age groupings in postcode 2487 at the time of the recent 2006 Census, compared with proportions contained in those age groups in Tweed Shire as a whole and in Balance (non-Metropolitan) NSW, the population of that balance area of the State in 2006 being approximately 2.42 million people. It is seen that, as might be expected, the age profile of the population of Kingscliff and nearby localities was very similar to that for Tweed Shire.

Table 5
Demographic Profile – Age Groups – Postcode 2487 at 2006 Census

Age Group	Postcode 2487 - Number	Postcode 2487 - Percent	Tweed Shire - Percent	Balance NSW - Percent
0-4	470	5.1%	5.3%	6.2%
5-9	549	5.9%	6.2%	6.8%
10-14	601	6.5%	6.9%	7.4%
15-19	573	6.2%	6.4%	6.9%
20-24	411	4.4%	4.3%	5.5%
25-29	354	3.8%	3.9%	4.9%
30-34	468	5.1%	5.1%	5.8%
35-39	571	6.2%	5.9%	6.4%
40-44	655	7.1%	6.8%	7.1%
45-49	682	7.4%	7.5%	7.4%
50-54	661	7.1%	6.8%	6.9%
55-59	602	6.5%	6.7%	6.7%
60-64	592	6.4%	6.0%	5.6%
65-69	519	5.6%	5.6%	4.7%
70-74	513	5.5%	5.5%	4.0%
75+	1,042	11.2%	11.1%	7.8%
Total	9,263	100.0%	100.0%	100.0%

Source: ABS, *2006 Census*, Usual Residents Profiles (2487 and Tweed Shire); Basic Community Profile (Balance NSW, excluding overseas visitors).

On the other hand, there are significant differences between characteristics in postcode 2487 and those in the Balance NSW major statistical region. In non-Metropolitan NSW as a whole, there is a notably younger overall population, with higher proportions than in postcode 2487 in every age grouping up to and including the 35-39 year age group.

Conversely, the older age groups were much more strongly represented in postcode 2487. Nearly 50% of the 2487 postal area population was aged 45 years and over, compared with about 43% for Balance NSW. Median age for the 2487 postal area was 44 years, while for Balance NSW it was 40 years. The equivalent figure for Tweed Shire as a whole was the same as postal area 2487, at 44 years.

The median age for the Tweed Coast SLA, which extends southward from Casuarina to Pottsville, was 39 years in 2006, no doubt reflecting a younger age profile represented in new housing estates in that SLA. On the other hand, in the Tweed Heads SLA, which includes the Kingscliff area and generally comprises the Shire's longer established urban areas, the median age was 46 years for a total population of over 50,000 persons.

These findings obviously raise issues with regard to making provision in Tweed Shire for an ageing population, such as in housing, transport and health.

The high proportion of aged residents in Tweed Shire led to the age dependency ratio at the 2006 Census of 68.40¹², and for postal area 2487 it was 66.40. The age dependency ratio for NSW as a whole at that time was 50.80 (i.e. about 50% of the NSW population being of non-working age, compared with nearly 70% of the Tweed Shire population in the non-working age category).

8.2.3.2 Households and Dwellings

Average household size in postal area 2487 at the 2006 Census was 2.3 persons. This compared with a slightly higher 2.4 persons for Tweed Shire, and the higher still 2.5 persons for Balance NSW. These average household sizes can be seen to approximately correspond with average age groupings, with small household sizes being more predominant with higher average age profiles, with greater numbers of single-member and two-member households.

In 2006, there were 8,715 persons residing in 3,818 occupied private dwellings in postcode 2487.

Of those dwellings, 2,133 (55.9%) were in the form of separate houses, accommodating 5,678 residents, for an average of 2.7 persons per dwelling. Average occupancy for houses for the whole of Tweed Shire was also 2.7 persons, with that form of housing representing a notably higher 65% of the occupied housing stock.

For Balance NSW, the proportion of housing provided in separate houses was nearly 84% of all occupied private dwellings, with an average occupancy rate of 2.6 persons per separate house.

¹² The age dependency ratio measures the ratio of people of non-working age to people of working age (i.e. 0-14 years + 65+ years as a ratio of those aged between 15-64).

The average occupancy rate for “other” forms of occupied private dwellings (town houses, flats, caravans, cabins, etc) in the 2487 postal area was about 1.8 persons (3,037 persons in 1,685 private dwellings), as it was for Tweed Shire as a whole, while in Balance NSW the average occupancy rate for those forms of accommodation was approximately 1.7 persons.

Types of occupied private dwellings present in the 2487 postal area in 2006, compared with Tweed Shire as a whole, were as shown in **Table 6**.

Table 6
Housing Types – Occupied Private Dwellings – POA 2487 and Tweed Shire – 2006 Census

	Postal Area 2487		Tweed Shire	
	No	%	No	%
Separate Houses	2,133	55.9	20,362	65.4
Semi-detached, row, terrace, town houses	376	9.8	5,836	18.7
Flats, units, apartments	764	20.0	3,320	10.7
Caravans, cabins, attached to shop, etc	545	14.3	1,603	5.2
	3,818	100.0	31,121	100.0

Source: ABS, *2006 Census*, Basic Community Profiles (2487 and Tweed Shire)

Nevertheless, within postal area 2487 it is found that in some Census collection districts there are proportions of persons occupying medium density accommodation (town houses and units) which are much higher than the suburb average, while in other collection districts, the population resides almost entirely in detached houses.

Table 7 indicates the number of persons (proportionally) resident in occupied private dwellings in the 2487 postal area, compared with Tweed Shire as a whole and Balance NSW.

Table 7
Households – Numbers of Persons Usually Resident – 2006

Usual Residents	Postal Area 2487 (%)	Tweed Shire (%)	Balance NSW (%)
One	31.3	27.4	25.9
Two	38.3	39.1	36.3
Three	12.0	13.3	14.5
Four	11.3	12.2	14.0
Five	5.1	5.5	6.5
Six or more	2.0	2.5	2.8
	100.0	100.0	100.0

Source: ABS, *2006 Census*, Basic Community Profiles

In 2006, almost one-third of households (31.3%) in the 2487 postal area in private dwellings consisted of a single person, and another 38% included two persons, making 70% in total. Therefore, households consisting of three or more persons represented just 30% of all private dwelling households, with a substantial majority of those with three or four residents.

Average household sizes were not dissimilar for Tweed Shire as a whole, although there was a slightly lower proportion of both 1-person and 2-person households (66% total), and a consequently slightly higher proportion of households with three or more members (33%). On

the other hand, the Tweed Shire and postcode 2487 characteristics showed a higher proportion of smaller households than for Balance NSW as a whole, where about 60% of households included one or two people. In the Tweed Shire, there is a much lower proportion of families with children living at home.

It is anticipated that there will be a gradual upward readjustment of average household size as a higher proportion of new housing is devoted to younger adults and families, in 3 and 4-bedroom dwellings, especially in newly developing locations, which could be expected to be a feature of some forthcoming new estates in this locality, eg Kings Forest and West Kingscliff.

These potential changes to housing types would be likely to continue concurrently with a general ageing of the population overall, which will exert the opposite effect, hence possibly leading to little change to the profile on a Shirewide basis..

The types of housing provided can also reflect the presence or absence of employment opportunities, with many people, especially those with limited transportation options, choosing to reside in close proximity to workplaces. It could fairly be said that at present there are limited employment opportunities in this coastal part of Tweed Shire, and also that the public transport system is not conducive to the locality being used as a workforce dormitory.

8.2.3.3 Employment

At the time of the 2006 Census, the proportion of the postal area 2487 population categorised as being part of the labour force was 52.6%, which was almost identical to the Shirewide figure of 52.1%, both obviously being reflective of the high average ages of the respective populations. For the Balance (non-Metropolitan) NSW area, the comparable labour force proportion was substantially higher at 59.1% (these proportions in each case exclude those residents whose labour force status was “not stated” in the Census).

Comparatively, at the beginning of the current decade (2001 Census), the unemployment rate was significantly higher in Tweed Shire than for the State as a whole (at 12.6% of the Shire labour force), by the time of the most recent 2006 Census the rate had reached approximate equilibrium between Tweed Shire and Balance NSW, with comparable unemployment rates for persons of workforce age. Comparative labour force characteristics as at 2006 for the locality of the subject site, Tweed Shire and Balance NSW are shown in **Table 8**.

Table 8
Labour Force Characteristics – POA 2487 – Tweed Shire and Balance NSW – 2006 Census

	Postcode 2487		Tweed Shire	Balance NSW
	Persons	%	%	%
Employed	3,490	93.5	92.9	93.0
Unemployed	241	6.5	7.1	7.0
Total Labour Force	3,731			

Source: ABS, 2006 Census, Basic Community Profiles

For the State of NSW as a whole at the time of the 2006 Census, the unemployment rate among members of the State labour force was 5.9%.

In the 2487 postal area in 2006, the male unemployment rate (7.0%) somewhat exceeded the female unemployment rate (5.9%), although this was not the case with Tweed Shire as a

whole, where the proportion of male and female unemployed persons in the labour force were approximately equal at 7.0%.

There are wide differentials between rates of unemployment for members of the labour force of various age groups. For Tweed Shire as a whole, in which the average 2006 Census unemployment rate was 7.1%, there was a rate of 14.7% in the 15-19 years age group and 10.3% among 20-24-year-olds. The rate continues to reduce with increasing ages, falling to 6.0% and below from the 35-44 years group onwards.

The Tweed Shire Social Plan¹³ recorded that “in June 2004 unemployment remained at 6.6% (Tweed Heads) and 7.4% (elsewhere), significantly above the NSW average”. Additionally, it noted that “youth unemployment is in the order of twice the Shire average” (i.e. the overall Shire unemployment rate). These observations are borne out by the most recent Census findings.

Similarly, the evident problem with youth unemployment in Tweed Shire is raised in the Tweed Youth Needs Analysis¹⁴, which also speaks of a youth unemployment rate twice as high as the State average, and identifies a situation where about half of the Shire’s young people leave the Shire when aged 20-24 years for reasons including tertiary education or finding employment. The study called for the development of specific strategies to enhance employment opportunities for young people.

Clearly, the questions of unemployment in general, and among young people in particular, point to a need for continued and increased stimulation of economic activity and creation of a wide range and large number of employment opportunities for Shire residents, and perhaps, in particular, activities in which higher proportions of the younger age groups within the labour force can be engaged.

Table 9 sets out a summary of numbers and proportions of employed persons by industries in the 2487 postal area as at the Census in 2006, compared with proportions in the overall Tweed Shire and Balance NSW populations. Ranking in the table is from highest proportion of employed persons to lowest in the postal area 2487 population.

The industry employment characteristics of postal area 2487 are broadly similar to those for Tweed Shire, although there is a higher proportion of the workforce than in the Shire engaged in construction activities. There is a notably lower share of the employed 2487 postal area population involved in the retail industry, which is the major employment industry not only in Tweed Shire but also the Balance NSW area, as it is intrinsically a labour-intensive activity

Some of the variations between the postal area figures and those for the broader geographical classifications are inevitably also due to the much smaller size of its workforce, with proportional changes brought about by relatively minor numerical variations.

¹³ Tweed Shire Council, *Tweed Shire Social Plan 2002-2005*, November 2004.

¹⁴ Plan C and Fieldworx (for Tweed Shire Council), *Tweed Youth Needs Analysis*, January 2006.

Table 9
Employed Persons by Industries – POA 2487 Tweed Shire and Balance NSW – 2006 Census

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Industry	Postal Area 2487		Tweed Shire	Balance NSW
*	No	%	%	%
Construction	444	13.5	13.0	8.3
Health care & social assistance	428	13.0	13.2	12.2
Retail trade	413	12.6	15.1	13.1
Accommodation & food services	374	11.4	10.8	8.0
Education & training	322	9.8	7.7	8.8
Manufacturing	218	6.6	7.2	9.9
Public administration & safety	180	5.5	5.7	7.3
Professional, scientific & technical services	151	4.6	4.3	4.6
Transport, postal & warehousing	119	3.6	4.3	4.6
Administrative & support services	117	3.6	3.4	2.7
Wholesale trade	113	3.4	3.0	3.3
Agriculture, forestry & fishing	96	2.9	3.4	7.4
Rental, hiring & real estate services	90	2.7	2.5	1.6
Arts & recreation services	73	2.2	1.8	1.3
Financial & insurance services	60	1.8	2.0	2.4
Information media & telecommunications	41	1.2	1.3	1.3
Electricity, gas, water & waste services	36	1.1	0.9	1.4
Mining	12	0.4	0.3	1.8
	3,287	100.0	100.0	100.0

* Excludes "not stated" and "non-classifiable"

Source: ABS, 2006 Census, Basic Community Profiles

As might be expected for a Statewide classification, the Balance NSW figures can be seen to be representative of a slightly greater rural area influence, with consequently somewhat lower proportions of the workforce engaged in some of the "urban" employment categories such as accommodation and food services. Notable, however, is the smaller proportion of the Tweed and postal area 2487 workforces in manufacturing.

With continuing growth of the tourism industry, especially in the coastal section of the Shire, it can be expected that there will be further expansion of employment in the hospitality and associated sectors of the economy, as well as in the retail field.

In view of the apparent relative absence of employing industries within the 2487 postal area, it can be assumed that a high proportion of the workplaces of persons resident in Kingscliff and surrounds are located outside that geographic locality – elsewhere in the Shire, as well as further afield, eg Gold Coast.

In terms of the journey to work, the 2006 Census results also point to the low functionality of the local public transport system for providing for work-based trips, and the consequential continuing heavy reliance on the private car for transport to and from work. Of 2,760 members of the postal area 2487 workforce who travelled to work on the appointed Census check day, a mere 65 (2.4%) used any form of public transport for any part of their journey. As a few of these cite using the train as a public transport mode, this would thus have involved travel by car to a railway station (most likely Robina). Nearly 90% of the workforce travelled to work using a car, truck or motor bike driver or as a passenger within these vehicles.

This further reinforces the desirability of both provision of local employment opportunities, with consequential reduced journey durations and less need for private vehicle transport, and long-awaited improvements in public transport services.

It is noted that, localities within the 2487 postal area, appear to be well placed not only to directly create new employment opportunities with flow-on to support activities, but also to act as dormitory areas for the burgeoning tourism industry and other employment concentrations in the Shire.

Enlargement and diversification of the Shire economy, with a range of fields of employment represented, would provide a greater variety of job opportunities, and among other things assist in improving the area's longstanding higher than State-wide unemployment ratios, and in reducing the need for the Shire's young people to move outside the area to secure employment.

8.2.3.4 Incomes

In 2006, the median weekly household income for the 2487 postal area was \$673, compared with the almost identical figure for Tweed Shire of \$683. For the Balance NSW area as a whole, the median weekly household income was \$795.

Respective median weekly individual incomes in 2006 were: \$379 (2487 postal area); \$364 (Tweed Shire); and \$386 (Balance NSW).

Reasons for the differences in average household and individual incomes between Tweed Shire and Balance NSW would principally result from the larger average household sizes in Balance NSW, the markedly lower age profile in Balance NSW, with correspondingly higher workforce participation, as well as the higher proportion of fixed-income, aged residents in Tweed Shire.

8.2.4 Summary and Conclusions - Demographic Analysis

The key findings of the demographic analysis can be summarised as follows.

- Population growth in the locality will continue for the foreseeable future (2006 – 2016) at a rate in the order of 2.5% – 3.0% per annum, representing an additional population of between 2750 and 3350 during that period.

- There is a rapidly ageing population, with nearly half of the local population aged 45 years and over, and a lower average household size than Tweed Shire as a whole and Balance NSW.
- There is a significantly lower proportion of separate houses in the locality and a correspondingly higher proportion of medium density housing forms (flats, units etc.).
- The area is characterised by very limited local employment opportunities, and a consequential need for employed residents to travel outside the area to workplaces.
- Availability of, access to, and use of public transport is very limited.
- Local workforce opportunities would be boosted by commercial and industrial projects, which will take place on some of the Proponent's land.
- Development of the Proponent's land will have the effect of making available a range of "near coastal" housing options in a variety of built forms to meet the housing needs of future shire residents who are currently unable to participate in the coastal accommodation market of either beachfront residences or apartments.

8.3 Social Impacts

As outlined in Section 8.1, this analysis of social impacts focuses specifically on the potential impacts identified by the Tweed DCP 45. While not all are strictly relevant to the Project, all of those matters are addressed below.

8.3.1 Community Networks

Tweed DCP 45 indicates that the consideration of social impacts in relation to "community networks" is in the context of whether the Project:

- provides or reduces facilities or opportunities for social interaction;
- improves or reduces community identity and cohesion;
- improves or reduces existing residential amenity;
- creates or removes physical barriers between houses and community facilities;
- impacts or disadvantages social groups; and / or
- consolidates or dislocates existing social or cultural networks.

The potential effects of the sand extraction operation would be principally with respect to possible impacts on existing residential amenity. These impacts are assessed in detail in the EA, including the potential cumulative impacts of the Project with respect to existing and approved surrounding developments (i.e. adjacent sand extraction operation, wastewater treatment plant, lobster farm etc).

The Project would also further reinforce the transition of the character or identity of the land in the locality (which already features large-scale sand extraction and construction of the new Kingscliff Wastewater Treatment Plant) from a principally rural or agricultural identity, to one of water based natural resource utilisation and utility and finally to recreation and sporting.

The EA concludes that these impacts are either acceptable and/or can be satisfactorily managed. A summary of these considerations follows.

Groundwater – the Project would result in limited drawdown of groundwater levels to approximately 500m from the Project Site. The level of drawdown would not significantly affect most landholders and water levels would recover to pre-extraction levels within 12 months following the cessation of extraction.

Flooding – the Project would not result in an increase in adverse impacts of flooding on surrounding landholdings.

Acid Sulfate Soils and Sediments – no significant off-site acid sulfate soil and sediment impacts would arise as a result of the Project. Any on-site impacts would be appropriately monitored and managed.

Soil Contamination – no contaminated soil is located within the Project Site.

Agricultural Suitability – the Project would not adversely affect surrounding agricultural enterprises and would be consistent with guidelines for protection of regionally significant farmlands.

Flora – no Threatened species, Endangered Populations or Critical Habitat listed under the TSC Act or the EPBC Act were identified within the Study Area or are considered likely to be adversely affected by the Project.

Fauna – no Threatened or migratory species listed under the TSC Act or EPBC Act identified within the Study Area or considered likely to occur within the Study Area would be adversely affected by the Project.

Aquatic Ecology – the Project would have no significant impacts on existing aquatic habitat, threatened species or populations and would result in the creation of a coastal freshwater lake providing additional habitat that would potentially be recognised as an endangered ecological community.

Transportation – it is considered that the Project would have little impact upon the surrounding road network or road users and the performance of key surrounding intersections would remain largely unchanged.

Noise – with the adoption of the proposed noise controls, the Project would not result in the exceedance of accepted noise criteria at surrounding residences / sensitive receptors.

Air Quality – with the adoption of all proposed safeguard and mitigation measures, it is considered that the Project would not result in the exceedance of accepted air quality criteria as surrounding residences / sensitive receptors.

Aboriginal Heritage – no Aboriginal sites or relics have been identified within the Project Site and the Project is unlikely to affect any Aboriginal site or relics.

Socio-economic – the Project would result in the necessary fill sand to realise substantive social and economic benefits for both the local and regional community. With the adoption of the proposed environmental controls, there would be no significant environmental impacts upon the local community.

Visibility – limited views of the Project-related activities would be available. Considering the development surrounding the Project Site, it has been assessed that nature and scale of the Project would be consistent with the scale and character of the surrounds. It is also assessed that the Project would improve the long term visual character of the Project Site.

Notwithstanding the above, a primary reason for undertaking the Project is to obtain fill material to enable the Proponent's landholdings to be developed. In respect of community networks, the implementation of the Structure Plan would provide opportunities for social interaction through the provision of civic and community facilities, sporting fields and passive recreation areas and improved transport networks (including pedestrianisation and cycleways).

The development of the Proponent's landholdings, as envisaged by the Structure Plan, would also provide opportunities for improved permeability within and between existing residential areas and in particular, better linkages between existing residential areas and community facilities, recreation areas and commercial services by removing the physical barriers created by the large undeveloped land tracts that separate and isolate these areas.

While it is likely that there would be a shift in the character and residential amenity in some areas with increased traffic and pedestrian activity, those changes have been foreshadowed in various planning documents and strategies (such as Tweed DCP No.9 – West Kingscliff) as well as existing subdivision patterns, for more than a decade. Further, those changes would need to be balanced against the improvements in access, services and facilities in the wider locality, and reduced traffic in existing residential streets.

The Project would have no apparent direct impact on disadvantaged groups or social or cultural networks. The Project would not result in the dislocation of any social group.

8.3.2 Public Realm

Tweed DCP 45 indicates that the matters to be considered in relation to the public realm are whether the Project:

- safeguards or threatens heritage sites or buildings, or archaeological sites;
- makes available or enhances, or is detrimental to public places/open space;
- provides or displaces public facilities;
- avoids or exhibits overdevelopment/large scale buildings; and
- has resulted in a significant positive or negative response in submissions/meetings.

There are no heritage items or conservation areas on or near the Project Site (Tweed LEP 2000). The EA is accompanied by a detailed archaeological and cultural heritage assessment (Heritage Surveys, 2007), which concludes that the proposed Cudgen Lakes Sand Extraction Project and the associated filling and development of the Proponent's adjacent landholdings in accordance with the Structure Plan, would not significantly affect any item or area of cultural heritage significance.

The Proponent has been informed by the Tweed Shire Council of a Project to list the remains of a former cane milling building on land described as Lot 3 DP 828298 east of Tweed Coast Road (refer **Figure 2**). This matter has not yet been resolved and would be addressed through the Structure Plan and Kingscliff Locality Plan at the appropriate time. This would have no effect on the Project.

The Project would not result in the displacement or diminution of existing public place, facilities or open space, however, through the implementation of the Structure Plan, the development would ultimately facilitate the provision of public sports fields, and passive open space areas on the site following the completion of various stages of the sand extraction process. The Structure Plan would also provide for the conservation of large areas of important vegetation and fauna habitat areas.

The scale and character of the development, including the nature and scale of buildings associated with the sand extraction operation, would be consistent with the scale and character of development in the immediate vicinity of the site (Kingscliff WWTP and the adjoining Hanson Tweed Sand operations). The scale of operations and buildings being balanced by the large land areas involved.

The EA includes an assessment of the visual impacts of the Project (refer EA Section 4.12), which concludes that the short term visual impact of the Project would be acceptable and that the Project would in fact increase the long term visual character of the Project Site.

The results of community consultation are addressed in Section 7.2 above. That process has identified a number of issues that the local community considers need to be taken into account in the design and management of the Project, including groundwater and acid sulfate soil impacts, as well as flooding and drainage issues. Those matters have been carefully considered during the design and assessment of the Project and it is concluded that the Project is unlikely to lead to any significant adverse environmental or social impacts.

While there is some mixed reaction to the Proponent's Structure Plan, there is a desire among most for improved access to health, transport, community and recreational facilities.

8.3.3 Housing

The Project would also directly facilitate the provision of additional residential land for housing in the Kingscliff, Chinderah and Cudgen localities in accordance with the Structure Plan. In this respect, there is an opportunity to respond to housing needs identified from the demographic analysis presented in Section 8.2, including:

- The need to accommodate up to an additional 3350 people over the next ten (10) years in the locality.
- The provision of additional well located detached housing to encourage and meet the needs of younger, working families.
- The provision of additional medium density housing forms, such as flats, apartments and townhouses to meet the growing demand for these forms of housing as a result of the ageing population and smaller household sizes.

- The opportunity to provide special needs housing such as Seniors Living accommodation.
- The opportunity to deliver more affordable housing options in near coastal locations.
- The Project would also indirectly contribute to local housing through the supply of construction sand to the construction industry for use in concrete and mortar products.

8.3.4 Access

The Project would have little apparent impact on access issues within the locality. The Project would, however, involve the relocation of the existing alignment of Altona Drive approved under DA 05/1450, which would ultimately serve as the main access road to the future sports fields and recreation facilities for the locality.

The development of the Proponent's adjacent landholdings as envisaged by the Structure Plan, would significantly improve accessibility within and between areas as noted in Section 8.3.4.1, particularly through the creation of new road linkages and the implementation of pedestrian pathways and cycleways. These facilities would in turn improve access to existing public transport services. Further, the demand generated by additional population and the provision of specific facilities to encourage public transport use, is likely to lead to an increase in public transport services to the locality, which is better located for improved accessibility. It is noted that a transport interchange is a component of the proposed development at Chinderah (see **Figure 5**).

8.3.5 Human Services

The Project would have no apparent effect in relation to the delivery of human services.

Implementation of the development envisaged by the Structure Plan would, however, result in a significant increase in population and a consequent increased demand for community, health and educational services and for retail and recreational facilities. The Structure Plan contemplates the provision of additional human service requirements in the form of additional retail and commercial facilities (including medical facilities), community centre, library and civic centre, private educational institutions (Note: the Department of Education has advised that no further public schools are proposed in the West Kingscliff locality) and recreation facilities (both public and private). Detailed planning of these facilities would be required to ensure that the needs of the growing population are adequately met.

The Tweed Shire Council too is planning for additional human service facilities through its Section 94 (*Environmental Planning & Assessment Act*, 1979) Plan regime, which among others, currently provide for new or upgraded Community Facilities, Library, Emergency Services (Surf Lifesaving), Cemetery, Council Administration & Technical Support Facilities and Public Open Space to cater for additional population growth.

8.4 Economic Impacts

From an economic impact and land use planning perspective, the principal benefits arising from the Cudgen Lakes Sand Extraction Project will be:

- the productive utilisation of a regionally significant extractive material resource (FNCRS, 2007) and ancillary development; and
- the facilitation of the development of the Proponents important landholdings at West Kingscliff, Chinderah and Cudgen as a new urban village;

The key economic impacts of the Project therefore arise in respect of the following.

- Economic and employment impacts as a result of extracting the sand.
- Economic and employment impacts as a result of providing material for the construction industry.
- Economic and employment impact as a result of providing a facility to dispose of VENM.
- Economic, and employment impacts associated with development of the Proponents adjacent landholdings in accordance with its Structure Plan.
- Comparative economic use of the land and the resource.

These matters are addressed in Sections 8.4.1 - 8.4.5.

8.4.1 Sand Extraction - Filling

Assuming that 2,500,000m³ would be placed hydraulically over the fill sites over a period of 15 years, the net present value of the fill sand compared with importing a similar material from an external supplier is approximately \$14.6 million.¹⁵

The on-site operations would lead to the creation of five (5) full time equivalent jobs (Manager and employees), resulting in salaries in the order of \$300,000 per annum.

8.4.2 Sand Extraction - Construction Industry

Up to 300,000 tonnes of sand products would be available for sale to the construction industry per annum. This sand could be used in concrete manufacture building construction, filling etc. The net present value of external sand sales is also in the order of \$14.6 million.¹⁶

No additional employees would be required to extract and process the sand to make it available to the construction industry. The Project would however, provide employment for approximately fourteen (14) truck drivers to transport sand products to external clients and to import VENM material.

¹⁵ Ecoroc. *Fine Sand Operation – Estimate of Operating Cashflow*. A report to R.W Corkery & Co. Unpublished. March 2007.

¹⁶ Ibid.

It is recognised that the adjoining sand extraction operation operated by Hanson Construction Materials produces some products, principally washed sand, which would be comparable with those produced on the Project Site. However, the Proponent would maximise the production of mortar sand and a variety of other products produced through blending with varying proportions of VENM components that can be recycled on site. It is further noted that it is a common feature for individual extractive resources to be extracted by two or more companies supplying their own customers and / or needs.

Furthermore, based on market predictions, between 2005 and 2020, a cumulative collective consumption of 15 million tonnes of fine sand is expected within the Tweed and coastal Northern New South Wales region and Gold Coast City. Within the Tweed to Southeast Queensland area, the total remaining approved and accessible fine sand reserves are estimated to be less than 6 Mt, or enough to satisfy market demand for only 6 years. Plant capacity and development approval restrictions also limit the capacity of approved operations to fully satisfy market demand. New reserves of fine sand are therefore needed to satisfy existing and future market demand, particularly to service the Tweed ~ Brisbane corridor (Ecoroc, 2007 – Part 12 of the *Specialist Consultants Studies Compendium*).

8.4.3 Processing and Disposal of VENM

The value of the receipt and processing of VENM material is less tangible, given the relative uncertainty as to the demand for this type of facility. Enquiries within the local construction and development industry indicate that up to 30,000 m³ of VENM material could be received per annum¹⁷. Assuming 50% of the material is VENM(a) and 50% VENM(b), annual receipts could be between \$675,000 and \$1.01 million, based on disposal costs at similar facilities in other jurisdictions.

It is also expected that approximately 50% of the VENM material could be reprocessed. This would add a further \$315,000 per annum (approximately) to the value of products sold from the site. The use of VENM in the production of construction materials is recognised, together with recycling of construction materials eg concrete, as important initiatives that need to be embraced by the extractive industry. For every tonne of VENM used to produce a tonne of construction material, a tonne of natural material would be available for further construction projects. In other words, the life of natural resources are extended which is consistent with recognised sustainability objectives.

8.4.4 Implementation of Structure Plan

The following assessment is based on the Structure Plan discussed in Section 3.0 of this assessment and illustrated in **Figure 5**.

As indicated in the proceeding sections of this assessment, the development of the Proponent's landholdings as set out in the Structure Plan would make a major contribution to economic development in the local economy through the generation of substantial capital expenditures (in excess of \$600 million) and the creation of new employment opportunities in Tweed Shire.

¹⁷ Ecoroc. *VENM (Virgin Excavated Natural Materials) Market Assessment*. A report to R.W Corkery & Co. Unpublished. October 2006.

Construction activities are expected to lead to creation of over 8,000 direct and directly induced full-time equivalent job years. Facilities to be constructed on the “Employment Lands” within the Proponent’s property are predicted to generate direct and directly induced permanent ongoing employment for another 3,390 members of the workforce.

8.4.4.1 Expenditure and Employment Generated by Development of the Proponent’s Landholdings

The most recent (and universally utilised) official statistics on which expenditure and employment impacts of economic activities in particular Australian industries can be assessed, are those contained in the ABS Australian National Accounts – Input-Output Tables of 1996-97.¹⁸

At that time, the applicable output multipliers in relation to the Construction Industry were as follows:

• Initial Effects (i.e. the action itself):	1.000
• First Round Effect (direct inputs):	0.466
• Industrial Support Effects:	<u>0.438</u>
• Initial + Production Induced Effects:	<u>1.904</u> +
• Consumption Induced Effects:	0.962
• Total Multiplier:	2.866

While there are in fact moderate differences between building and engineering construction multipliers and outputs, the indices are sufficiently similar and the Proponent’s works are sufficiently diverse in type, for the common figure above to be used to determine the order of magnitude of effects for the entire Project.

- The initial and first round and production-induced effects take account of the original activity (in this case, building construction work), other direct inputs to the construction process (first round – production directly brought about in other sectors of the economy – eg manufacturing, etc), and flow-on extra-induced output from other industries. These figures combined are referred to as the “simple multiplier”, which measures the effects, which are most directly related to the initial action.
- Consumption induced effects, which are added to the simple multiplier to obtain the total multiplier, are less tangible or direct, and brought about by such impacts as the circulation of spending from wages income on goods and services, and its cascading effects through the economy.

The multipliers (in particular the simple multiplier) can be directly used to ascertain the flow-on dollar values of direct project expenditure.

Another factor in the determination of effects of Project expenditure is through employment created by the Project, both directly and indirectly. This necessitates calculation of the average job creation characteristics of outputs in a particular industry, in this case construction.

¹⁸ ABS, *Australian National Accounts – Input-Output Tables, 1996-97 [5209.0]*, 2 March 2001 (latest).

At the time of the 1996-97 Input-Output Tables, the employment coefficient for the construction industry (determined as a ratio of the aggregate dollar value of output to aggregate employment in the construction industry), was approximately 9 full-time equivalent (FTE) jobs for one year per \$1 million of construction output (project expenditure), say, \$110,000 per FTE job year.

However, while these are the latest official statistics available, it is necessary to adjust the employment ratio for the effects of inflation within the construction industry. The appropriate measure for these inflationary effects is the construction industry producer price index.¹⁹ Between 1996-97 and the December Quarter 2006, the Building Industry Output Index increased by approximately 45%, thus indicating that the equivalent construction expenditure for a single FTE job year would now be of the order of \$160,000 (or about 6.25 direct FTE jobs per \$1 million expenditure).

Research by the Housing Industry Association indicates that \$1 million of construction expenditure in the housing and renovations industry generates 7 direct construction jobs, 4 jobs in building material manufacturing and 2 jobs in industries supplying industries which in turn supply construction.²⁰ The induced flow-on multiplier employment effects will be discussed below.

The urban development projects to be carried out on the Proponent's landholdings, in accordance with the Structure Plan, can effectively be grouped into three major elements – residential projects, non-residential projects and associated civil construction works. The foreshadowed output and employment impacts of each of these elements are described in Sections 8.4.4.2, 8.4.4.3 and 8.4.4.4.

8.4.4.2 Residential Projects

The Proponent's residential construction projects are planned to produce approximately 1,500 dwelling units in a variety of forms including houses, apartments and duplex dwellings.

Estimated building construction costs for residential projects amount to just over \$400 million (refer to **Table 10**), which through first round and industrial support effects would result in total simple output impacts of about \$773 million. After consumption induced effects are also taken into account, use of the statistical measures from the ABS data outlined above (Section 8.4.4.1), indicate that the total effect of the residential projects would be of the order of \$1.164 billion.

The direct and directly induced impacts of the residential building construction projects, based on the established employment coefficient of approximately one FTE job year per \$160,000 of expenditure, would be the creation of about 4,800 FTE job years.

It should be noted that the job creation forecasts set out in **Table 11** do not account for any of the additional consumption-induced impacts, which are mainly due to the cascading effects of wages and other expenditures flowing through the economy. The employment impacts are highly diverse both geographically and in industry and employment categories, but are nevertheless significant (as shown by their dollar values).

¹⁹ ABS, *Producer Price Indexes*, [6427.0], Various Issues.

²⁰ HIA Economics Group, *The Economic Multiplier Effects of Housing*, December 2006.

Based on the Proponent's Structure Plan, a summary of residential projects proposed, and their output and employment impacts and multiplier calculations, are set out in the following tables.

Table 10
Gales Landholdings – Residential Projects – Estimated Yield and Cost

Project Sites	Houses	Multi-Dwellings	Duplex Dwellings	Total
Turnock Street – North & South ²¹		700		700
North Kingscliff ²²		350		350
Lots 26C/26D	77	39		116
Part Lot 4/727425 & Lot 3/828298	55	64	66	185
Cudgen Heights	84		42	126
Total Dwellings	216	1,153	108	1,477
Est. Av m ² /dwelling	250	150	175	
Est. Av Cost/m ² ²³	\$1,300	\$1,800	\$1,300	
Est. Total Const'n Cost (\$million)	\$70.20m	\$311.31 m	\$24.57 m	\$406.08 m

Table 11
Gales Landholdings – Residential Projects – Output and Employment Impacts

Output Multipliers	Multiplier	Value
Proponent's Construction Cost (direct)		\$ 406.08 m
First Round Effects	0.466	\$ 189.23 m
Industrial Support Effects	0.438	\$ 177.86 m
Sub-Total – Simple Multiplier (inc Direct Effect)	1.904	\$ 773.17 m
Consumption Induced Effects	0.962	\$ 390.65 m
Total Multipliers (inc Direct Effect)	2.866	\$ 1,163.82m
Employment Multipliers		FTE Job Years
Direct Employment (@ 1 FTE job year/\$160,000)		2,538
Induced Employment (@ 0.9:1 multiplier)		2,284
Total Direct & Directly Induced Job Years (FTE)		4,822

Total direct residential project expenditures of some \$400 million (in 2007 dollars) will lead to over \$1.1 billion altogether in output expenditures, and the generation of in excess of 4,800 full-time equivalent job years in direct and directly induced employment. There would also of course be the further downstream employment generated through consumption induced effects.

²¹ Dwelling yield is based on an available developable area of approximately 20 hectares (of a total of approximately 27 hectares) at a density of thirty five (35) dwellings per hectare

²² Dwelling yield is based on an available developable area of approximately 10 hectares at a density of thirty five (35) dwellings per hectare.

²³ Construction costs are averages based on a higher proportion of custom built dwellings and a lower proportion of project homes. Construction costs are extrapolated from the *Australian Institute of Building Surveyors Cost Guide* (July 2005 – latest) and Rider's Digest: *Construction Industry Construction Data*. Rider Hunt. Qld 2007.

8.4.4.3 Non-Residential Projects

Parts of the Proponent's landholdings are designated for development other than residential purposes, principally comprising land in Chinderah at the northwestern extremity of those landholdings, with frontage to the Tweed Coast Road near the Pacific Highway. The land available for development in that location includes the present sewage treatment plant (STP), as well as land to the north of the STP currently zoned Industrial.

The intended, preferred use of this land is the development of a mixed use district (sub-regional) town centre, containing high-level retail, commercial, medical, civic and entertainment facilities, together with higher density residential areas notwithstanding that this is not currently the policy of Tweed Shire Council.

A concept development proposal based on preliminary plans for the district town centre site has been used to prepare an estimate of project costs and predicted output and employment impacts. The Project assumes that development would consist of a variety of retail, commercial and associated facilities, and further than some 10 hectares of the 40 hectare site would be used for residential development.

Cost estimates for construction and forecast output and employment outcomes are summarised in **Tables 12** and **13**.

Table 12
Gales Landholdings – District Town Centre Development – Building Areas and Costs

Project Sites	Est. Building Area (m²)	Est. Const'n (\$/m²)²⁵	Const'n Cost (\$ million)
Retail	30,000	1,500	45.00 m
Offices	5,000	1,000	5.00 m
Bulky Goods	40,000	850	34.00 m
Tavern	2,000	1,400	2.80 m
Cinema (500 seats @ \$6,000/seat)			3.00 m
Library	1,500	1,500	2.25 m
Medical Centre	500	1,500	0.75 m
Community Centre	1,300	1,500	1.95 m
Car Parking (est.)			30.50 m
District Town Centre Residential (10 ha @ 25 dwgs/ha @ 150m ²	37,500	1,800	67.50 m
Total			\$ 192.75 m

The District Town Centre development is expected to involve direct and indirect expenditure of about \$550 million, attributable to direct project spending by the Proponent of approximately \$192 million. This includes development of retail, commercial, civic, medical and entertainment facilities, as well as construction of residential apartments within the district town centre site.

Table 13
Gales Landholdings – District Town Centre Site – Output and Employment Impacts

Output Multipliers	Multiplier	Value
Gales Construction Cost (direct)		\$ 192.75 m
First Round Effects	0.466	\$ 89.82 m
Industrial Support Effects	0.438	\$ 84.42 m
Sub-Total – Simple Multiplier (inc Direct Effect)	1.904	\$ 367.00 m
Consumption Induced Effects	0.962	\$ 185.43 m
Total Multipliers (inc Direct Effect)	2.866	\$ 552.43 m

Employment Multipliers	FTE Job Years
Direct Employment (@ 1 FTE job year/\$160,000)	1,205
Induced Employment (@ 0.9:1 multiplier)	1,084
Total Direct & Directly Induced Job Years (FTE)	2,289

Direct employment in the District Town Centre building construction is estimated at 1,205 FTE job years, at the adopted ratio of 1 job year per \$160,000 expenditure, with another 1,084 job years to be directly induced through first round and industrial support effects (but not accounting for the additional consumption induced effects).

Further non-residential development is proposed to occur in the recreation and open space precinct in the south-western sector of the landholdings, partly comprising and adjacent to the sand extraction site. Development proposed includes:

- Public Sports Fields
- Private Recreation Facilities, including club buildings and sporting facilities.

Tables 14 and 15 summarise construction cost estimates and forecast multiplier outputs and employment outcomes for this non-residential precinct.

Table 14
Gales Landholdings – Recreation Precinct – Building Areas and Costs

Project Sites	Est. Building Area (m²)	Est. Const'n (\$/m²)²⁵	Const'n Cost (\$ million)
Primary School	4000	1,100	4.40 m
Bowling Club	1,000	1,500	1.50 m
Tennis Club Bldg	250	850	0.21 m
Tennis Courts (synth.) (6 @ \$50,000/court)		50,000	0.30 m
Health Club	1,000	1,500	1.65 m
Swimming Centre	900	1400	1.26 m
+ 25m indoor heated pool			0.90 m
Playing Fields (9ha)		40	3.60 m
Equestrian Centre (est.)			1.50 m
Car Parking (est.)			0.63 m
350 spaces @ \$1800/space			
Total			\$ 15.94 m

The Recreation Precinct development is expected to lead to further direct and indirect expenditure of at least \$46 million, attributable to direct project spending by the Proponent of at least \$16 million. Direct employment in non-residential building construction is estimated at 100 FTE job years, at the adopted ratio of 1 job year per \$160,000 expenditure, with another 90 job years to be directly induced through first round and industrial support effects (but not accounting for the additional consumption induced effects).

Table 15
Gales Landholdings – Recreation Precinct Output and Employment Impacts

Output Multipliers	Multiplier	Value
Gales Construction Cost (direct)		\$15.94 m
First Round Effects	0.466	\$7.43 m
Industrial Support Effects	0.438	\$6.98 m
Sub-Total – Simple Multiplier (inc Direct Effect)	1.904	\$30.35 m
Consumption Induced Effects	0.962	\$15.33 m
Total Multipliers (inc Direct Effect)	2.866	\$45.68 m
Employment Multipliers		FTE Job Years
Direct Employment (@ 1 FTE job year/\$160,000)		100
Induced Employment (@ 0.9:1 multiplier)		90
Total Direct & Directly Induced Job Years (FTE)		190

The aggregate direct and indirect expenditures for non-residential development proposed for the Proponent's landholdings is in the order of \$600 million, based on direct construction expenditure by the Proponent of approximately \$209 million. The non-residential projects would lead to direct construction employment of about 1300 FTE job years, at the adopted ratio of 1 job per \$160,000 expenditure and a further 1170 job years to be created through first round and industrial support effects (excluding additional consumption induced effects).

8.4.4.4 Civil Construction and Infrastructure Works

Likewise, there will be considerable costs involved in constructing civil works and infrastructure as a precursor to building construction works and subdivision taking place. Knobel Consulting Pty Ltd, Consulting Engineers has undertaken the preparation of an estimate of costs for all of the civil works associated with providing urban infrastructure and construction of road works, etc, as part of the overall development program.

A summary of the cost estimate by sectors of the Proponent's landholdings is set out in **Table 16**, while **Table 17** provides an overview of predicted output and employment impacts of the proposed civil works program, which foreshadows further significant boosts to economic activity and to employment.

It can be seen that substantial costs will be involved in civil construction works associated with development of, and provision of access to, urban development parcels within the Proponent's landholdings, leading to further significant flow-on benefits to the economy and in employment generation, mostly within the local area.

Table 16
Gales Landholdings – Civil Construction – Estimated Project Costs

Projects	Construction Costs (\$)
Turnock Street North	21,050,000
Turnock Street South	4,800,000
Turnock Street – Underground	
Power	1,920,000
Lot 26C	7,984,000
Lot 26D	6,034,000
Part Lot 4/727425 & Lot 3/828298	14,325,000
Lot 10 857710 - east of drain	16,295,000
District Town Centre Site	30,257,000
Access Road - Tweed Coast	
Road to Sports Centre	1,000,000
District Park Facilities	4,000,000
Total Civil Construction Costs	\$ 107,665,000

Source: Knobel Consulting - *Estimate of Civil Constructions Costs*, March 2007

Table 17
Gales Landholdings – Civil Construction – Output and Employment Impacts

Output Multipliers	Multiplier	Value
Proponent's Construction Cost (direct)		\$ 107.67 m
First Round Effects	0.466	\$ 50.17 m
Industrial Support Effects	0.438	\$ 47.16 m
Sub-Total – Simple Multiplier (inc Direct Effect)	1.904	\$ 204.99 m
Consumption Induced Effects	0.962	\$ 103.57 m
Total Multipliers (inc Direct Effect)	2.866	\$ 308.57 m

Employment Multipliers	FTE Job Years
Direct Employment (@ 1 FTE job year/\$160,000)	673
Induced Employment (@ 0.9:1 multiplier)	606
Total Direct & Directly Induced Job Years (FTE)	1,279

8.4.4.5 Summary of Project Expenditure, Output Multiplier Effects and Employment Generation

Overall, total estimated development and construction cost is of the order of \$723 million (in 2007 dollars), as shown in the summary in **Table 18**. This will result in total expenditure in the economy, including output multipliers, of \$2,072 million.

Direct employment involved in constructing the Proponent's projects amounts to over 4,500 FTE job years, with a total of approximately 8,550 FTE job years in direct and directly induced employment. A very high proportion of those jobs will occur in the local economy. As well, there will be further large and widespread consumption induced employment impacts, both locally and further afield, although the number and geographical and industry category distribution of these have not been calculated for this report.

The table also briefly examines the output and employment effects on an annualised basis, taking examples of hypothetical 10-year and 15-year development periods for project completion. Under either scenario, annual impacts are of very substantial proportions, with annual output multipliers of \$207 million or \$138 million for 10 years or 15 years respectively.

For direct and directly induced employment, these 10 or 15 year development timetables would result in 860 or 570 annual FTE jobs respectively, most of which would occur in the local and nearby marketplace. Of course, in a high proportion of cases, this number of jobs effectively represents household income for the equivalent number of households, with a majority of families in the locality having a single breadwinner.

The magnitude of the project's significant employment benefits can be seen in the fact that the potential 860 FTE continuous jobs for the 10-year Gales development timetable is equivalent to over 23% of the total (employed and unemployed) labour force of 3,731 persons for the 2487 postal area in the 2006 Census (of which about 241 persons, or 6.5%, were unemployed). It is of course not suggested that all employees would reside within the immediate local area.

Table 18
Gales Landholdings – Summary of Projects – Costs, Multipliers and Employment

Project Elements	Const'n Cost (\$)	Total Output Multipliers (\$)	Direct Employ't Years (FTE)	Total Direct & Induced Job Years (FTE)
Residential Construction	406,620,000	1,165,372,920	2,541	4,829
Non- Residential Civil Construction Works	208,640,000	597,962,240	1,305	2,479
	107,665,000	308,567,890	673	1,279
Totals	722,925,000	2,071,903,050	4,519	8,587
Annual Averages				
@ 10 year staging	72,292,500	207,190,305	452	859
@ 15 year staging	48,195,000	138,136,421	301	572

Overall, it is clear that facilitating development of the Proponent's landholdings, to serve as a key new urban growth area, in accordance with the land's zoning and as anticipated under the Regional Strategy, will act as a significant catalyst to economic activity in the region and major generator of new employment opportunities.

As will be seen below, employment prospects for residents of the coastal district and other parts of Tweed Shire will be further enhanced, with substantial numbers of ongoing operational positions available within, and generated by, the proposed district town centre and associated facilities.

8.4.4.6 Alternative Development of District Town Centre Site

The summary of project expenditures and employment impacts set out above assumes development of the proposed district (sub regional) town centre on the north-western section of the Gales lands, including the existing STP. The district town centre would include retail, bulky goods, commercial and a range of community facilities together with higher density residential areas.

However, it would be appropriate for this report to give consideration to any potential alternatives to the preferred form of development assumed. In this regard, an alternative form of development based on current local statutory planning provisions is assumed to be building works for industrial purposes, bulky goods retailing and associated activities at the site of the proposed District Town Centre.

It is estimated that this alternative form of development could be expected to involve direct expenditure of about \$116 million, and aggregate direct and direct and indirect expenditure of about \$332 million.

For the purpose of this study, it has been assumed that the site area of approximately 40 hectares available would be used for construction of industrial and bulky goods premises. The extent of bulky goods retail facilities has been limited to 60,000m², being the requirement identified for this form of development in the Core Retail Strategy reports²⁴.

Cost estimates for construction and forecast output and employment outcomes are summarised in **Tables 19** and **20**.

Table 19
Gales Landholdings – Alternative Non-Residential Projects – Buildings Areas and Costs

Project Sites	Est. Site Area (ha)	Est. Building Area (m²)	Est. Const'n (\$/m²)²⁵	Const'n Cost (\$ million)
Bulky Goods Retail	15	60,000	\$ 850	\$ 51.00 m
Industrial (Various)	25	100,000	\$ 650	\$ 65.00 m
Total	40 ha	160,000		\$ 116.00 m

Direct employment in non-residential building construction is estimated at 725 FTE job years, at the adopted ratio of 1 job year per \$160,000 expenditure, with another 653 job years to be directly induced through first round and industrial support effects (but not accounting for the additional consumption induced effects).

Table 20
Gales Landholdings – Alternative Non-Residential Projects – Output and Employment Impacts

Output Multipliers	Multiplier	Value
Gales Construction Cost (direct)		\$116.00 m
First Round Effects	0.466	\$54.06 m
Industrial Support Effects	0.438	\$50.81 m
Sub-Total – Simple Multiplier (inc Direct Effect)	1.904	\$220.86 m
Consumption Induced Effects	0.962	\$111.59 m
Total Multipliers (inc Direct Effect)	2.866	\$332.46 m
Employment Multipliers		FTE Job Years
Direct Employment (@ 1 FTE job year/\$160,000)		725
Induced Employment (@ 0.9:1 multiplier)		653
Total Direct & Directly Induced Job Years (FTE)		1,378

²⁴ Core Economics. *Op cit* (p.8)

This scenario would involve project expenditure of \$116 million, which is in the order of 40% lower than the district (sub-regional) town centre development option outlined in **Table 12**, whose project expenditure was estimated to be some \$193 million. **Table 20** shows that the \$116 million project spending would translate to an economy-wide figure of about \$332 million including all multipliers, also 40% lower.

At 1,378 direct and induced job years (FTE) for the industrial development option, the employment effects for the construction phase are similarly some 40% lower than the district town centre option, which involves 2,289 job years. As well, this project would potentially be progressively developed over a more extended period than the main parts of the district town centre and its bulky goods facilities, meaning likely fewer continuing job opportunities on an annual basis.

As addressed below, the proposed district town centre option also provides very significant and enduring benefits in terms of potential direct and indirect employment impacts of ongoing operation of the district town centre facilities, as compared with the industrial option, with a large direct workforce with widely spread flow-on employment as well.

There are also other important potential economic and social benefits of adoption of the district town centre option for development of the Employment Lands. Not the least of these would be the significant reduction in need for travel by coastal and western Tweed Shire residents via Sexton Hill to the already congested Tweed Heads commercial precincts which availability of the district town centre facilities at Chinderah would bring about. However, these issues are not directly related to the subject of the current study.

The district town centre option, in the form of a “town centre”, will also allow the opportunity for integration of residential premises of various types within and around the employment lands. Apart from the urban design and lifestyle benefits of this, it is also notable that it will provide high accessibility for residents in view of the configuration of the major road system.

8.4.4.7 Long Term Employment Impacts

Development of the north-western sector of the Gales landholdings as a district (sub-regional) town centre will create considerable long-term permanent operational employment.

From the point of view of retailing, the centre's principal components will initially include one discount department store (DDS), with another being added later as population growth continues and retail demand escalates. A single supermarket, also later to be augmented by one or more additional stores, will be developed in the initial phase. These elements will be complemented by a broad range and depth of specialty traders, in both convenience and comparison merchandise types.

Anticipated scale of the retail facilities for the medium term is 30,000m² gross floor area.

As identified in all versions of the Core Economics reports, in the short term the Shire will require a new bulky goods centre, which should ultimately reach approximately 60,000m² in size. The Core reports identify the nominated land as being suitable for this purpose, as have other studies, and also identify the principle that co-location of conventional and bulky goods retailing facilities is a preferred planning solution when it can be achieved (as in this case).

Bulky goods retailing facilities to be progressively developed on the subject Chinderah land over the medium term are anticipated to achieve a bulky goods centre of approximately 40,000m² in gross floor area. It is proposed to establish a close physical and functional relationship between the bulky goods and retail elements of the sub-regional centre.

Other facilities intended to be included in the sub-regional centre are a medical centre, limited office space, a tavern, cinema complex (capable of sequential expansion), and a library and community centre. Sites and/or floorspace are intended to be made available as may be required for Government agency and emergency services premises.

It is estimated that permanent, ongoing employment at the sub-regional centre, when the medium term scale described above is achieved, would be of the order of 2,200 persons. This estimate is made up as follows.

- Shopping Centre: 1,200 persons, based on 30,000m² at 1 employee per 25m² GFA. As at 1998/99, when the latest authoritative statistics were published, it was found that, for the 4.497 million square metres of retail floorspace contained in Australia's DDS-based shopping centres, there were 177,826 persons employed.²⁵ This results in an employment ratio of approximately 1 person per 25.3m² GFA, with 1/25m² being the accepted standard.
- Bulky Goods Centre: 600 persons, based on 40,000m², with a wide variety of bulky goods enterprise types, and an overall average employment rate of approximately 15 employees per 1,000m², or about 1 employee per 66m² GFA.
- Other District Town Centre Land Uses: 400 persons. The precise components of the district town centre are yet to be determined, however the estimate of 400 persons altogether assumes offices (5,000m²), a 500-seat cinema, tavern, library and medical centre, as well as other community and civic and sporting facilities, and is considered to be conservative. Some 200 jobs would be catered for by the offices (5,000m²) at approximately 1 employee per 25m² for office space.

This results in aggregate estimated ongoing operational employment for the district town centre for 2,200 persons.

The employment multiplier (throughout the economy due to production of inputs and spin-off activities) for the retail industry is slightly above 0.9:1, and for the other district town centre activities is similar, meaning that the direct employment of 2,200 persons at the district town centre could be expected to result in the generation of a further 1,980 jobs elsewhere in the economy.

Of these, a notable proportion could be anticipated to be created in the local, Tweed Shire and nearby localities, although it is the reality that directly-induced multiplier effects are somewhat more widespread for ongoing retail operations (mainly due to locations of manufacturing enterprises), than is the case for construction multipliers.

²⁵ Jebb Holland Dimasi (for the Shopping Centre Council of Australia), *Australian Shopping Centre Industry*, May 2000. (An update for this publication was published in March 2007, but without any revision of centre employment numbers).

In total, expected direct and induced employment relating to the district town centre in the medium term is 4,180 permanent ongoing jobs. Further (as yet unquantified) jobs, many of them locally, would come about through consumption-induced second round economic effects, when generated income, such as salaries and wages, is spent within the local economy on goods and services.

Permanent employment would also be generated from the recreation services and facilities proposed within the recreation and open space precinct (including primary school) in the south-western sector of the Proponent's landholdings. While more difficult to quantify for the lack of authoritative data on employment ratios relating to recreation services, it is conservatively estimated that 100 FTE jobs would be directly created, with a further 60 jobs generated elsewhere in the economy.

Alternative Development of District Town Centre Site

A brief analysis has also been carried out into the potential employment impacts of an alternative form of development of the District Town Centre site, in the event that the District Town Centre was ultimately not to proceed.

The alternative scenario examined in **Tables 19 and 20** above involves ultimate development of approximately 60,000m² of bulky goods floorspace (on 15 hectares), and some 100,000m² of various types of industrial enterprises (on about 25 hectares of site area).

Various forms of manufacturing and other industrial enterprises have widely differing employment ratios, often depending on types of equipment being used, commodities being manufactured or processed and amounts of floorspace devoted to storage, etc. For example, warehousing, distribution and storage activities, which are space intensive, have relatively low employment densities (employees per unit of floorspace), while intensive manufacturing enterprises are obviously much higher.

As an example, in the recent Sydney Metropolitan Strategy, it was estimated that average overall employment density on land devoted to industrial, employment and enterprise purposes was approximately 30 jobs per hectare²⁶, and this rate has been adopted for the industrial parcels within the Proponent's lands. Therefore, it is estimated that development of the 25 hectare industrial parcel, when fully completed, will yield employment for approximately 750 persons.

For the bulky goods centre, at ultimate build-out of about 60,000m², the adopted employment ratio (as above) is approximately 15 jobs per 1,000m², or 1 employee per 66m², resulting in employment for about 900 persons.

Aggregate employment potential for the less preferred, alternative development of the non-residential parcels, is therefore estimated at approximately 1,650 persons, which is about 25% lower than for the district town centre option.

As far as "industry" is concerned, there is a variety of official simple multipliers for output and employment, depending on types of activities involved, generally ranging between 0.8 (eg paper, printing and publishing) and 1.3 (eg basic metals and products).²⁷ The ratio for another likely key activity in the industrial precincts, i.e. wholesaling, is 1.0.

²⁶ NSW Department of Planning, *Metropolitan Strategy – City of Cities – A Plan for Sydney's Future*, December 2005 [Employment and Economy – Employment Lands].

²⁷ ABS, *Australian National Accounts – Input-Output Tables, 1996-97*, [Table 15] op cit.

Flow-on induced employment as a result of the multiplier (0.9:1 average) would amount to some 1,500 other jobs in the economy, making a total of about 3,140 for the industrial development option, compared with 4,180 for the district town centre.

8.4.5 Alternative Agricultural Land Uses

Given the zoning of the Project Site under the Tweed LEP 2000 and past land use practices, it is appropriate that the agricultural value of the land within the Project Site be considered.

As discussed in the EA (Section 1.4.2) the land within the Project Site was previously drained and developed as a tropical grass and legume nursery farm by Anderson Seed Ltd. However, great difficulty was experienced both growing and harvesting the legume and seed grain due to the high water table and waterlogging. Subsequently, Anderson Seed Ltd entered into liquidation and the land was sold in December 1971.

In 1973, the land was developed as a sugar cane farm during a period of high sugar prices and rapid expansion of cane land. By 1984, the enterprise was determined as non-viable due to history of production costs exceeding income. Due to soil and drainage problems associated with the land, apart from grazing of cattle during dry periods, the land has not been used for agricultural activities since this time.

Further, an analysis of the agricultural values of the land prepared in respect of the Cudgen Lakes Sand Extraction Project indicates that there are physical constraints that prevent the land being used for intensive agricultural purposes (HMC, 2007).

It is noteworthy that the Department of Primary Industries (Agriculture) land classification maps do not identify the land as comprising prime agricultural crop or pasture land (classes 1, 2 or 3).

It is assessed that the use of the land for sand extraction purposes as proposed, far exceeds its value for agricultural purposes, which is of questionable viability.

9 EVALUATION / JUSTIFICATION

The Project would result in the productive utilisation of an identified regionally significant sand resource. The net present value of the resource is estimated at approximately \$30 million (2007) dollars.

The demographic analysis undertaken as part of this assessment indicates that significant population growth (and therefore housing demand) is expected over the next twenty (20) years, with growth predicted up until at least 2031. The corollary of this trend being the continued strong demand for sand based construction materials to meet the needs of the construction industry.

The Project also presents an opportunity for positive and more ecologically sustainable outcomes in relation to the receipt and management (including productive re-use) of VENM, for which at present, there are few disposal options other than unregulated re-use, or the undesirable occupation of Council landfill sites (utilising landfill space otherwise available for garbage waste).

Up to twenty (20) permanent employment positions would be directly generated for site workers and truck drivers over the course of the operations, with further employment induced through first round and industrial support effects.

While there is potential for environmental impacts to occur, particularly in relation to local amenity and agricultural land uses in the locality, the Project has been designed to specifically respond to issues raised by government agencies and local community members and groups consulted in relation to the Project. The detailed EA demonstrates that potential air quality, groundwater, acid sulfate soils, water quality, noise, traffic and visual impacts would be either satisfactory or would be managed to achieve recognised and acceptable standards.

It is necessary that the recommended amelioration and management measures specified in the EA in relation to these issues be implemented and monitored to ensure effectiveness.

Local and regional impacts arising from the development with respect to issues such as traffic would also be off-set through the payment of contributions in accordance with Section 94 of the *Environmental Planning and Assessment Act*, 1979.

The development would ultimately result in the rehabilitation and management of the site for recreation and public open space uses.

While the Project is in itself a significant undertaking, it is as the means to the development of the Proponent's extensive nearby landholdings that the development would potentially lead to very significant and long-term social and economic impacts.

In economic terms, the future development of the Proponent's landholdings in 2007 dollars, based upon the Proponent's current Structure Plan would result in:

- Direct construction expenditures of approximately \$720 million.
- Total direct and induced expenditures (multiplier effects) of approximately \$2.07 billion.
- 4519 FTE job years in direct construction employment.
- A total of 8587 FTE job years in direct and directly induced construction employment.
- 2300 FTE long-term permanent employment positions in retail, commercial, industrial and recreation industries.
- A total of approximately 4200 FTE long-term employment positions including directly induced employment positions.

In a social context, the development of the Proponent's landholdings would achieve the following.

- Lead to improved community networks through:
 - increased opportunities for social interaction arising from the creation of new public spaces and meeting places including recreational facilities, parks and public squares and plaza areas, community and civic buildings, shopping areas and retail/commercial streets, as well as better facilities for and improved access to public transport services; and

- removal of physical barriers and improved accessibility between existing residential areas and between those residential areas and existing and future community services and facilities.
- Enhance the public realm by adopting contemporary urban design principles, and specifically through the provision of extensive public open space, cycleway and pathway networks, public and civic spaces including squares and plaza areas.
- Provide additional housing in a variety of housing forms to meet the projected demand from population growth in the locality.
- Provide new and additional human service infrastructure, including medical and emergency services, civic and community facilities, recreation facilities and transport services.
- Not result in any disadvantage or dislocation of any social group or social or community network. There would be no known or demonstrable impact upon cultural or Aboriginal heritage.

By any measure, the potential economic and social impacts of the Project are very significant. In particular, the generation of the projected additional permanent jobs from the Proponent's non-residential landholdings would constitute a major contribution to the creation of much-needed employment in this part of Tweed Shire.

10 SUMMARY / CONCLUSION

The Proponent (Gales-Kingscliff Pty Ltd) is proposing to develop and operate a sand extraction and processing operation on land it owns at Cudgen ("Cudgen Lakes Sand Extraction Project"). The land has frontage to Crescent Street, Altona Drive and Tweed Coast Road and is described as Lot 21 DP 1082482 and Lot 2 DP 216705.

The extraction of sand is proposed for two (2) primary purposes:

1. The hydraulic delivery of sand within two pipeline corridors for use as fill on land owned by the Proponent within the local area; and
2. The supply of construction materials to the surrounding region. is seeking approval for the establishment of a sand extraction operation involves

The Project would also involve the receipt, management and disposal of VENM (Virgin Excavated Natural Materials).

Site rehabilitation would occur progressively, ultimately resulting in the establishment of a recreational lake facility and surrounding recreation facilities and public open space.

A Socio-Economic Impact Statement has been prepared to accompany an Environmental Assessment of the Project in accordance with the requirements of the Director-General of the Department of Planning.

An analysis of the Socio-Economic impacts of the Project indicates the following.

- The sand extraction Project itself would:
 - result in significant capital and recurrent expenditures in the local economy;
 - directly create long-term employment opportunities in both extraction operations and transport;
 - provide a high value construction material to the local construction industry to meet the anticipated demand arising from strong population growth in the locality; and
 - have economic, environmental and social benefits relating to the management and productive re-use of VENM.
- The proposed environmental management measures are expected to achieve an acceptable environmental outcome, however, on-going monitoring of impacts is required to ensure efficacy.
- The filling of the Proponent's land thereby allowing the development of the landholdings for a range of residential, retail, commercial, industrial, civic and recreational uses would potentially result in very significant social and economic impacts with respect to:
 - capital construction expenditures and multiplier effects;
 - direct and induced construction employment over a ten (10) to fifteen (15) year period;
 - direct and induced long-term permanent employment opportunities;
 - the provision of a variety of housing forms to meet the needs of the projected population growth in the locality;
 - improved community networks, human services infrastructure, accessibility and transport services; and
 - a significant contribution to the public realm through contemporary urban design and the provision of public places.

There is strong justification for the Project on social and economic grounds.

APPENDICES

(No. of pages excluding this page = 18)

Appendix 1

Coverage of Director-General Requirements

Appendix 2

Correspondence – Tweed Shire Council

Appendix 3

Structure Plan and Associated Plans

Appendix 4

Preliminary Stakeholder Consultative Report – Coakes Consulting – August 2005

Appendix 5

Key Stakeholder Group Presentation – Preliminary Feedback Summary – Coakes Consulting – October 2007

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APPENDIX 1

Coverage of Director-General's Requirements – Socio-Economic Impact Assessment

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Table A1-1
Coverage of Environmental Assessment Requirements and Environmental Issues in the Socio-Economic Assessment

ENVIRONMENTAL REQUIREMENTS RAISED BY THE DIRECTOR-GENERAL RELATING TO SOCIO-ECONOMIC ISSUES (06.01.06)		
		Relevant Section(s)
Key Assessment Requirements, namely:		
<ul style="list-style-type: none"> <i>Socio-Economic</i> - Assess the potential impacts of the project (including any potential cumulative impacts that may arise from the combined operation of the project with the existing or approved operations at the Bolster Quarry) (<i>now Hanson Tweed Sand Quarry</i>), and describe what measures would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor these impacts. 		8.3.1
ENVIRONMENTAL REQUIREMENTS RAISED BY GOVERNMENT AGENCIES RELATING TO SOCIO-ECONOMIC ISSUES		
Government Agency	Paraphrased Requirement	Relevant Section(s)
Department of Planning (6 December 2004)	Consult the relevant, local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS.	7.1, 7.2, 7.3 & refer below
	Consult the surrounding landowners and occupiers that are likely to be impacted by the proposal.	7.2
	Include details of the consultations carried out and issues raised in the EIS.	7.1, 7.2, 7.3
Department of Environment and Conservation (15 October 2004)	Provide maps showing the locality of the proposed development in a regional and local context. Base local context maps on 1:25 000 topographic plans.	1.0 – Figure 1
	Clearly identify on an appropriately scaled plan the area subject to development.	Figure 2
	Consult the general requirements from the <i>EIS Guidelines Extractive Industries – Dredging and other extraction in riparian and coastal areas</i> during the preparation of the EIS.	Section 7 and 8
Tweed Shire Council (30 September 2004)	Consider Tweed Shire's DCP-45 Social and Economic Impact Assessment.	Whole document. Note in particular sections 1.0, 2.0 & 8.0
Department of Primary Industries (Agriculture) (7 October 2004)	Provide evidence of consultation with adjoining land owners / users.	7.2 , Appendix 4 & Appendix 5

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APPENDIX 2

Correspondence – Tweed Shire Council

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Please Quote
Council Ref:

[dltr]

Your Ref No:

For Enquiries
Please Contact: Noel Hodges

Telephone Direct (02) 6670 2423

L01J08

5 January 2007

Gales Holdings Pty Ltd
20 Ginahgulla Road
BELLEVUE HILL NSW 2023

Dear Sir

Re: Concept Plan for the Kingscliff Development Control Plan

Further to fruitful dialogue and correspondence between Council, its Officers and your Consultants, it would seem that the Concept Plan as put forward by yourselves in regards to the future Development Control Plan for the Kingscliff area can have a valuable input into the process of formulation of the future for the Kingscliff/Chinderah area.

Council does not support, as you know, the concept of a district centre and hence it is proposed that your Concept Plan be amended deleting reference to a "district centre" and if you would be agreeable to such an option then it would be seen that the Gales Concept Plan is a good basis to commence the Development Control Plan process and to help formulate sound urban design and planning outcomes for the Kingscliff locality including Gales land holdings.

Yours faithfully

Mike Rayner
GENERAL MANAGER



CIVIC AND CULTURAL CENTRE, MURWILLUMBAH
PO BOX 816, MURWILLUMBAH NSW 2484
TELEPHONE: (02)6670 2400 FAX: (02)6670 2429

PLEASE ADDRESS ALL COMMUNICATIONS TO THE GENERAL MANAGER
ABN 90 178 732 496
www.tweed.nsw.gov.au



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APPENDIX 3

Structure Plan and Associated Plans

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ALLEN JACK & COTTIER
CONSULTANTS



Gales Kingscliff and Gales Holdings Structure Plan
November 2007





Tweed Coast Centre – A vibrant retail and entertainment centre, providing a memorable experience for visitors and residents.





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APPENDIX 4

Preliminary Stakeholder Consultative Report – Coakes Consulting – August 2005

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Gales Holdings
Cudgen Lakes Sand Extraction Proposal
Preliminary Stakeholder Consultation Report
August 2005

Prepared for

R.W Corkery and Co Pty Ltd

Sheridan Coakes Consulting Pty Ltd
PO Box 30, Bowral NSW 2576
Tel: 02 4862 3936 ♦ Fax: 02 4662 3936 ♦ Email: scoakes@coakesconsulting.com

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1 OVERVIEW

This report outlines the issues arising from the proposed “Cudgen Lakes” sand extraction proposal and the broader vision of Gales Land Holdings for the region (i.e. development of a range of civic, commercial, residential, recreational and environmental projects).

This report examines the knowledge of Gales Holdings activities with that of the surrounding community.

Finally, this report highlights the community’s views on future development of infrastructure needed for the region.

2 CONSULTATION PROGRAM

In total 18 face-to-face interviews were undertaken with residents and landowners in the area using a structured interview process and survey instrument. All residents were located adjacent to Gales Land Holdings and or recommended by landowners/ residents as having significant interest in the proposed application.

Consultation was undertaken from 11th August 2005 to 16th August 2005.

The survey sought to identify knowledge of Gales Holdings within the community, the issues associated with existing development approvals and issues associated with proposed development applications within the area.

3 COMMUNITY KNOWLEDGE ABOUT GALES HOLDINGS

The majority of residents and landowners surveyed were aware of Gales Holdings (83.33%).

The ways in which residents demonstrated awareness of Gales Holdings included:

- Personal relationship with Dr Stephen Segal and or family (6 respondents)
- Information provided in local media (8 Respondents)
- Information obtained at a public meeting in the local area (1 respondent)

While the majority of respondents were aware of Gales Holdings (15 respondents), knowledge of the companies development activities was varied. Certain activities were more commonly known than others. Knowledge of activities included:

- All projects currently approved and proposed applications (5 respondents)
- Landholder in the area (5 respondents)
- The Woolworth’s Shopping Centre (3 respondents)
- Associated with the new Sewage Treatment Plant (2 respondents)

4 LAND USES

When residents/ landowners were asked what uses were carried out on their respective landholdings, a number of uses were identified. Several residents mentioned the need for clubhouses at the sites not just the fields. Please note several respondents had multiple uses for their landholdings. All uses identified are detailed in table below:

Land uses surrounding Gales Holdings	Number of respondents
Residential less than 1 ha	5 respondents
Residential more than 1 ha	2 respondents
Agricultural less than 20ha (cattle)	2 respondents
Agricultural less than 20ha (crops)	2 respondents
Agricultural more than 20ha (cattle)	3 respondents
Agricultural more than 20ha (crops)	2 respondents
Commercial - Tourism	2 respondents
Commercial – sand extraction	2 respondents
Commercial – tea tree farming	2 respondents
Commercial – turf farming	1 respondent
Commercial – golf course	1 respondent
Commercial – tourism	1 respondent

5 EXISTING AND PROPOSED EXTENSION TO THE SAND EXTRACTION OPERATION

Respondents were asked if they had any issues associated with the existing and proposed extension to the Cudgen Lake sand extraction activities. The following results were obtained.

Existing Sand Extraction Proposal

A significant percentage of respondents (72.22%) were not aware of the existing approval. Five respondents raised concerns about certain issues with the current approval. These issues included:

- Noise – from machinery, from trucks
- Dust - from stockpiles, trucks with muddy tyres
- Groundwater – change in water level noticed in dams and or spear pumps
- Traffic – increase in trucks seen to be a safety issue on nearby roads

Several respondents perceived issues of traffic, dust, ground water and noise to be associated with Gales Holdings current approval. However, no respondents could confirm if this was associated with Gales Holdings and/or other commercial operators in the area.

Proposed Extension to Sand Extraction activities

A significant percentage of respondents (72.22%) were not aware of the proposed extension to the existing sand extraction approval. Once advised of the proposal through the structured interview process and provision of an information sheet, 13 of the 18 respondents expressed some concerns with the proposal. Please note several respondents had multiple concerns with the proposal. These issues included:

Issue associated with proposed application	Number of respondents
Groundwater changes	5 respondents
Drainage and or Flooding	4 respondents
Acid Sulfate Soils	4 respondents
Salinity	2 respondents
Increase in traffic – trucks	2 respondents
Change to local amenity	2 respondents
Impact on tourist opportunities	2 respondents
Odour (rotten egg gas smell)	2 respondents
Loss of agricultural land	2 respondents
Visual impact	1 respondent
Subsidence	1 respondent
Noise from machinery	1 respondent
Property Value	1 respondent

Historically, previous developments in the area have caused concern amongst residents. Issues relating to these developments include groundwater impacts (drying up of dams and spear pumps), acid sulfate problems, salinity and crop damage. The developments most commonly associated with these issues throughout the consultation process were the Noble Lake retirement development (early 1990's) and the current sand extraction activity adjacent to the proposed site. The raising of land for the residential development at Kingscliff "Salt" was also raised in regard to odour and acid sulfate problems.

Five residents had no issues, however highlighted benefits of the current proposal. These benefits included:

- Greater development in the area
- Access to lake and surrounding areas
- Increase in property values
- More jobs for the local construction industry

6 REGIONAL DEVELOPMENT OPPORTUNITIES

Respondents were asked if there were specific development activities they would like or that were required in the local area. The two most commonly requested activities included:

- Shopping Facilities/Centre
- Sporting Fields

When questioned further if there were specific retail and or commercial activities respondents would like to see in the area, the most common responses (listed in order) included:

- Grocery outlets, Woolworth's, Coles for competition and increased variety in products
- Service station
- Banks
- Clothing outlets – Myers, Just Jeans, Target, and K mart
- Growers market to assist local agricultural market

When asked what type of sporting fields were required the most common response was the need for variety. This included football fields, netball facilities but also mountain bike and motor bike options, tennis, lawn bowls as well as rowing at the proposed lake. Concerns were raised that the fields may be at a level that is subject to flooding. Several residents mentioned the need for clubhouses at the sites not just the fields.

The majority of respondents did see a need for health services, both public and private and educational facilities (primary secondary and tertiary) into the future, if development proceeded. Several residents identified the need to encourage agricultural education, especially for the local university to expand in the area.

Most of the respondents were happy for the potential increase in choice that new developments would provide. The time saved in travel to obtain retail items was also commonly expressed.

With regard to the types of developments proposed, more than half of the respondents wanted the natural amenity of the area to be taken into consideration when designing all components.

7 FEEDBACK OPPORTUNITIES FOR COMMUNITY

When questioned if there were specific feedback mechanisms respondents would prefer to be kept informed on the proposal and the company's planning activities the following options were preferred:

- Information Sheets (12 respondents)
- Personal Contact (2 respondents)
- Local Media (2 respondents)
- Internet and or email (2 respondents)
- Do not care (2 respondents)

All residents and land owners expressed satisfaction that they were being advised of this application at such an early stage. The majority also stated that the consultation process had increased their level of knowledge of Gales Holdings and the proposed developments in the area.

8 CONCLUSIONS

In conclusion, consultation with the local Cudgen, Chinderah and Kingscliff residents has resulted in the following key issues being identified regarding the proposed sand extraction extension application.

Groundwater

Concerns from local graziers and farmers that a change in groundwater could impact on crops and or livestock, be it through salinity, loss of water supply and change in water quality.

Acid Sulfate Soils

Concerns from local residents that acid sulfate problems experienced previously in the area could arise again during this development. Issues such as odour, red staining and fish kills were raised.

Flooding and Drainage

Concern that raising the level of the land may impact other landholders be it, loss of crops, cause flooding, impact local waterways.

Regional Developments

Furthermore it was identified that the community believe there is a need for a range of civic, commercial, residential, recreational and environmental projects. Specific items that the respondents believed to be a priority were:

- Retail/ Commercial Outlets
- Sporting Fields

The need to incorporate natural features of the area as well as support the agricultural sector in the area were also identified as key features in relation to development opportunities.

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APPENDIX 5

Key Stakeholder Group Presentation – Preliminary Feedback Summary – Coakes Consulting – October 2005

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GALES HOLDINGS
KEY STAKEHOLDER GROUP PRESENTATIONS
PRELIMINARY FEEDBACK SUMMARY

OVERVIEW

In late August and early September 2005, Coakes Consulting conducted interviews with key stakeholder groups in the suburb of Cudgen and the surrounding suburbs of Chinderah and Kingscliff.

The purpose of the interviews and discussions was to:

- introduce the Gales Holdings sand extraction proposal;
- identify knowledge of Gales Holdings within the community;
- identify issues associated with existing development approvals; and
- identify issues associated with proposed development applications within the area.

Participants were provided with a copy of the first Gales Holdings project information sheet (attached as Appendix A), which included information on the current environmental impact assessment process underway in relation to the company's development proposal.

A range of representative stakeholder groups were invited to attend the presentations. The stakeholders included landholders directly affected by the plans being proposed and community and agricultural groups with an interest in the company's proposal. The representative stakeholder groups that attended the presentations are listed below:

- Cudgen Progress Association
- Chinderah Progress Association
- Kingscliff Rotary Association
- Chinderah Drainage Union
- Tweed Growers Union

A summary of the key questions and issues raised during each of the presentations to the specific groups is described in the following sections.

KEY STAKEHOLDER GROUP CONSULTATION

Cudgen Progress Association

Cudgen Progress Association is a community group represented by residents of the Cudgen area. They meet once a month or as required. They are experienced in reviewing development applications at State and Local Government levels.

Issues

- Where is the drainage that usually flows into the project area going to go if development proceeds on the project site
- This is an agricultural region and water quality is essential for the agricultural sector.



- Existing sand extraction operations have caused dams to go dry, salinity in dams and loss of crops in the past, why would this be any different. Specific individuals within the group had experienced such issues.
- There should be no lake east of Crescent Road, as this will potentially affect groundwater levels in the area as there is already a lake there in the form of Bolsters lake.
- Alternative access routes to the extraction site should be considered, to take heavy traffic off the main road.
- Proposed lake and sand extraction activities means acid sulphate soil impacts.
- Why not import sand from Tweed River and not extract at this site?
- The site access road; is it public or private was raised.
- The Association were unhappy that they were not consulted two years ago, whereas other groups were consulted (cited Kingscliff Ratepayers Association). Appreciate they are now being consulted.
- Gales Holdings land, previously owned by Kelly Developments, historically has caused issues for the group ranging from:
 - vegetation clearing;
 - egress road intersection design;
 - loss of fauna;
 - loss of agricultural land; and
 - ponding.

Action

- Nil apart from keeping the Association informed.

Chinderah Progress Association

Chinderah Progress Association is a community group represented by residents of the Chinderah area. They meet once a month or as required. They are experienced in reviewing development applications at State and Local Government levels.

Issues

- You want to fill in this low lying area– where is the drainage going to go?
- “You are going to flood Chinderah”.
- We don’t trust data we get on flooding from the Local Council, “the Engineers have told us inaccurate data in the past”.
- West Chinderah has been progressively filled and we suffer cumulative impacts, e.g. Lobster farm, STP, Bolster’s operation.
- Believe Lobster farm consent should be deferred until there is a study of cumulative impacts.
- Referred to consent conditions for Lobster farm, pushed through by the Minister without incorporating solutions for us; our submissions have been ignored.
- Suspicious of consent process because it permits later applications for variations to consent, without wider community knowledge or influence.
- Recent reports to the Council on recent rain events are erroneous (i.e Council’s response to the flooding in Chinderah after heavy falls in June/July were inaccurate.
- Discussion about efficacy of the flood plain manual – “we never got flooded before the local bypass road went in – now it floods all the time”.
- On the question of individual uses / appropriate sites – “we don’t want to see the commercial area extended away from Kingscliff original strip shops, because it means a loss of the village atmosphere”.
- On the district centre proposal – “we don’t worry about that. DCP5 and the flood plain manual are our main concerns, so long as you don’t flood us”.



Action

- Nil apart from keeping the Association informed.

Kingscliff Rotary Club

Kingscliff Rotary Club is a not for profit group made up of members from Kingscliff and surrounding areas. They meet weekly to discuss local issues, fundraising and professional development opportunities.

Issues

- No specific issues raised. The Rotary Club were happy to be included in the consultation process and members were asked to provide feedback individually.

Action

- Nil apart from keeping the Club informed.

Chinderah Drainage Union/ Tweed Growers Union

The Chinderah Drainage Union is a group of land owners that manage certain drains in the Chinderah region in order to maintain water quality for agricultural purposes. The proposed sand extraction proposal directly affects certain drains under the direction of the Drainage Union.

The Drainage Union members also are representatives of the Tweed Growers Association which act for the local agricultural sector.

Issues

- Maintenance of surface and ground water levels and quality.
- No impediment to function and integrity of existing drainage network.
- Drains must be separated from proposed lake to prevent contamination.
- Interface of drains (new and old drains) and proposed lake needs filtration ponds to purify water.
- Frustration with cost to ratepayers of legal actions by Gales Holdings on existing DA's.
- Need for a public road through the site area, providing access from east to west.
- Gales Holdings must consult with neighbours, keep them informed and be flexible on solutions.

Action

- Nil apart from keeping the Unions informed.

Other Stakeholder Groups

Due to the non-availability of members and meeting times, certain groups are still to be consulted on the proposal. These groups include:

- Kingscliff Ratepayers Association; and
- Cudgen Primary School Parents and Citizens Association.

Following consultation with these groups this report will be updated.



CONCLUSION

In conclusion, consultation with the Key Stakeholder Groups in the region has resulted in the following key issues being identified regarding the proposed sand extraction extension application.

Flooding and Drainage

Concern that raising the level of the land may impact on other landholders resulting in, loss of crops, cause flooding and impact local waterways.

Groundwater

Concern that a change in the groundwater regime could impact on crops and or livestock through salinity, loss of water supply and change in water quality. Historically this has occurred as a result of previous extraction activities (i.e. Bolsters sand extraction and Nobles Lake developments).

Acid Sulfate Soils

Concerns that acid sulfate problems experienced previously in the area could arise again during this development. Issues such as odour, red staining and fish kills were also raised.

Regional Developments

It was evident that the groups and their members were divided as to the need for a range of civic, commercial, residential, recreational and environmental projects. Specifically groups thought that the community should have an input into the process and design of the projects.

APPENDIX A

Project Information Sheet