

**SOCIAL & ECONOMIC
IMPACT ASSESSMENT**

Sand Quarry Extension

**Lot 10 DP 1090880, Keighley Road Somersby
(Existing Quarry Location on Lot 33 DP 755246
Reservoir Road, Somersby)**

PREPARED FOR: HANSON CONSTRUCTION MATERIALS

DECEMBER 2009

REF: 07160

**SOCIAL IMPACT ASSESSMENT
HANSON CONSTRUCTION MATERIALS****LOT 10 DP 1090880, KEIGHLEY ROAD SOMERSBY
(EXISTING QUARRY LOCATION ON LOT 33 DP 755246, RESERVOIR ROAD, SOMERSBY)**

Insite Economic & Social Planning Pty Ltd (ABN: 76 125 889 572)

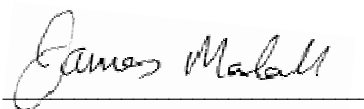
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EXECUTIVE SUMMARY

Insite Economic and Social Planning (IESP) has been engaged by Hanson to undertake a social and economic impact assessment regarding the planned extension of their quarry in Somersby.

Hanson has been involved in the operation of the Somersby quarry for over four decades. The quarry has operated within established limits and guidelines and the company has developed a positive rapport with the local community. The extension of the quarry is not to increase productivity but rather to meet current demand and to ensure the ongoing supply of fine sand. In this respect the economic benefits are positive. As the quarry is not changing its current operations, current operational impacts will remain as they are. This is a positive benefit of the proposed extension.

Furthermore, the extension of the life of the quarry will meet the demand for fine sand which is required for the construction industry. The location of the quarry allows for this demand to meet markets across Newcastle, Central Coast and Sydney regions.

While the operation of this and other quarries in the area are seen as part and parcel of the landscape, the proposed extension has identified some social and economic impacts which will need to be addressed as part of the other specialist reports that have been undertaken. These impacts specifically relate to:

-  Noise.
-  Dust.
-  Visual impact.
-  Loss of value to their properties due to the encroachment of the quarry.
-  Concern regarding health impacts resulting from dust, in particular silica.
-  Potential environmental impacts on water (dam levels, dust on the dam and affecting water quality, potential interruption of aquifers and reducing capacity of bores for the water supply for the chicken farm and also orchards), which in turn may have a negative economic impact on these businesses.

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1. INTRODUCTION

1.1 Social and Economic Impact Assessment

Insite Economic and Social Planning (IESP) has been engaged by Hanson Construction Materials to prepare a Social and Economic Impact Assessment (SEIA) for the proposed extension of their sandstone quarry, located in Somersby. The SEIA has been prepared as a result of, and in accordance with, the Director General's comments relating to the Part 3A assessment process.

A SEIA is required for development matters which are identified to bring about changes to a particular locality where the development will occur. Gosford City Council has no policy on the undertaking of a SEIA so key documents guiding the process are the *Draft Economic Evaluation in Environmental Impact Assessment* (Dept of Planning) and *Techniques for Effective Social Impact Assessment: A Practical Guide* (Office of Social Policy, NSW Government Social Policy Directorate).

1.2 Social and Economic Impact Assessment - Definition

A SEIA is defined as an analysis of the likely effects that a change will have on the social and economic fabric of a community. The process of a SEIA is to systematically investigate how people and communities are affected and to assist determine the scale of change, if any, within the community. These changes may be both positive and negative. For example:-

-  The desirable and undesirable impacts
-  The intentional and unintentional impacts
-  The distributional impacts (impacts experienced by different people and different parts of the community).

To fully understand the SEIA of the proposed development an assessment of the following have been undertaken:

-  The community's structure, character and beliefs.
-  Health.
-  Safety.
-  Social cohesion.
-  Income levels, cost of living, housing prices.
-  Sense of place and community.
-  Other identified contributing factors.

1.3 Prescribed Requirements and Scope of Work

To ensure compliance with all the requirements of the NSW Department of Planning and Gosford City Council this report is to be consistent with:

-  Consultation with Gosford City Council's Social Planner for the overall scope of the assessment and level of consultation.
-  Guidelines for Major Project Community Consultation: Department of Planning 2007.
-  Draft Economic Evaluation in Environmental Impact Assessment (Dept of Planning).

Techniques for Effective Social Impact Assessment: A Practical Guide (Office of Social Policy, NSW Government Social Policy Directorate).

1.4 Gosford City Council Social Impact Assessment Guidelines

Gosford City Council has no specific guidelines for the assessment of the social and economic impacts. Council's Social Planner has determined that the SEIA should include:

- ☞ A community social profile.
- ☞ The identification of the scope of the assessment (otherwise known as scoping).
- ☞ The formulation and examination of alternatives.
- ☞ The protection and estimation of social impacts,
- ☞ The identification of proposed mitigation methods.
- ☞ If negative impacts have been identified through the site analysis, the application will need to outline the amelioration measures to be undertaken.

Particular reference was made to Aboriginal significance to this area. While the SEIA has not undertaken a specific Aboriginal archaeological assessment, reference is made to the formal Aboriginal Heritage Impact Assessment coordinated by Harper Somers O'Sullivan (RPSHSO) which involved specific consultation with Aboriginal Groups in accordance with the Consultation Guidelines set out by the Department of Environment Climate Change and Water (DECCW).

1.5 Director Generals Requirements

The Director Generals requirements for a social and economic impact assessment states that the assessment is to identify and address social and economic impacts arising from the proposal and establish appropriate measures that mitigate any negative impacts. In this regard community consultation should be undertaken and the issues and/or concerns raised need to be addressed.

All consultations have been undertaken in accordance with the *Guidelines for Major Project Community Consultation* (NSW Department of Planning, 2007). The Departments guidelines stress the importance of community consultation to provide an opportunity to obtain the stakeholders views in the assessment and decision making process.

1.6 Authors Qualifications

This SEIA has been prepared by Insite Economic & Social Planning (IESP). IESP has a demonstrated experience and expertise in the preparation of Social and Economic Impact Assessments. Numerous social and/ or economic impact assessments have been completed over the past three (3) years. A listing of examples and references can be readily supplied. IESP's experience includes:

- ☞ Community Consultation and Engagement
- ☞ Social Impact Assessments
- ☞ Economic Impact Assessments
- ☞ Recreation Strategic Planning
- ☞ Social & Community Strategic Planning
- ☞ Safer By Design Reviews
- ☞ Feasibility Studies and Needs Analysis
- ☞ Demographic Analysis and Population Projections
- ☞ Mediation and Conflict Resolution
- ☞ Open Space Analysis
- ☞ Strategic Land Use Planning
- ☞ Asset Management Planning
- ☞ Management Reviews

Insite Social & Economic	
Joe Lantz – Managing Director	Joe has worked for over fifteen years in the area of community facility development, social planning, strategic land use planning and asset management. During this time he has gained experience in all aspects of community and special interest group engagement. He has specialised knowledge in relation to social planning, economic development planning, strategic land use planning, focus meetings, performing arts and cultural activities, negotiations, asset management, recreation planning, project management and community consultation. Joe's abilities lie in achieving practical, clearly defined results. Joe has held a number of senior management positions and over the past seven (7) years has undertaken numerous social and economic planning and needs assessment consultancies.
<i>Qualifications</i>	 Bachelor of Social Science  Bachelor of Business  Graduate Diploma in Education  Masters in Economics (underway)

James Marshall – Consultation Co-ordinator & Senior Planner	James has over fifteen years experience in the community development and social planning sector. He has held a number of senior management roles in both the welfare sector and in local government. His focus is on social research methodologies, community consultation practices and both demographic analysis and social mapping. James holds graduate qualifications in the social sciences as well as post-graduate qualifications in business management. James has prepared a number of Social Plans, social impact assessments and provided expert advice in the Land and Environment Court.
<i>Qualifications</i>	 Bachelor of Social Science (Community Development)  Advanced Diploma in Business Management

2. THE DEVELOPMENT

This SEIA has been undertaken with regards to the proposed expansion of Hanson Sand Quarry, located in Reservoir Road, Somersby. The existing quarry is located on Lot 33, DP 755246 Reservoir Road, Somersby. The proposed extension is to take place on Lot 10 DP 1090880, Keighley Road, Somersby. The outline of the proposed development is:

- ☞ An addition of 8 hectares to the quarry footprint through boundary adjustment between the two lots. A proposed plan of subdivision is shown in the following pages;
- ☞ The proposed boundary adjustment will include the provision of appropriate easements for access from Reservoir Road and Keighley Road to the balance of Lot 10, DP 1090880. This will provide this residue lot with legal access to both roads;
- ☞ The proposal will not require any additional plant or equipment, and will largely utilise the existing administration buildings, plant, equipment, loading facilities etc which are located on the existing quarry site;
- ☞ The addition of 8 hectares will not increase the annual quarry output, but rather, will extend the life of the quarry operation by an extra 17 years;
- ☞ The number of employees will not alter (from 10 full time staff) as a result of the quarry extension;
- ☞ Haulage routes and traffic volumes generated by the site will remain the same as current routes/volumes. All quarry operations will utilise the existing access points on Reservoir Road; and
- ☞ The total resource for the quarry extension is approximately 5 million tonnes. The existing quarry has a remaining resource of approximately 4.8 million tonnes (total resource of approximately 9.8 million tonnes).

The area of the Hanson Sand Quarry and proposed extension is illustrated within the following figures:

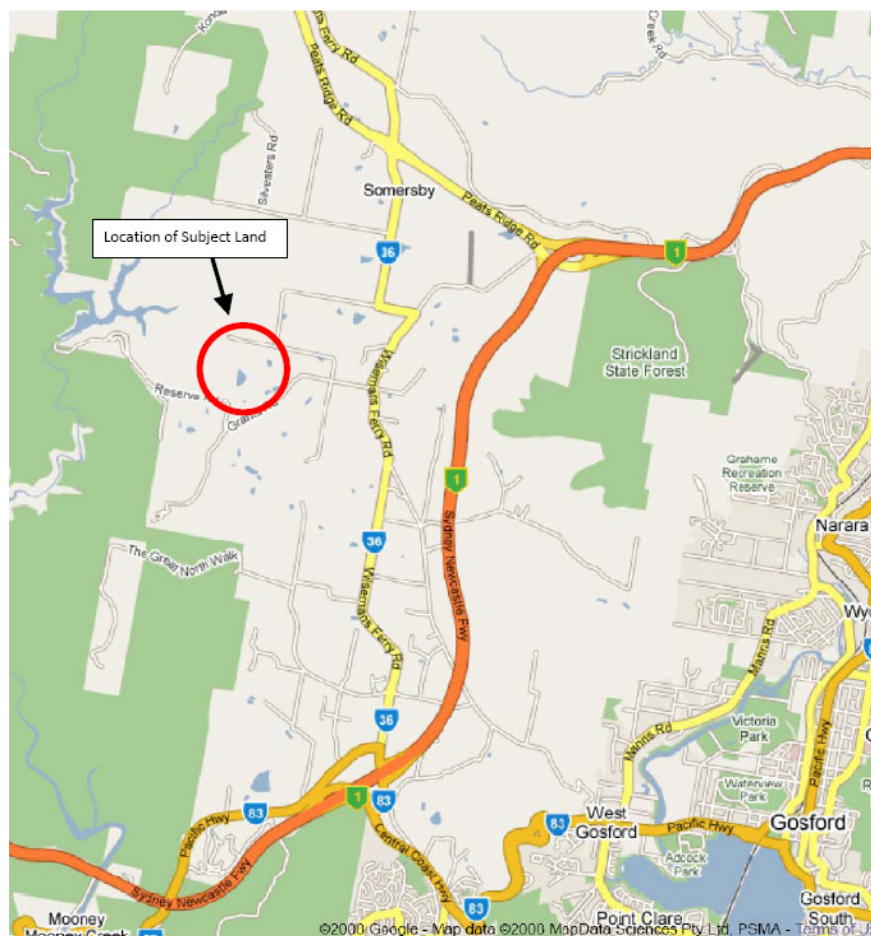


Figure 1: Location of Subject Land

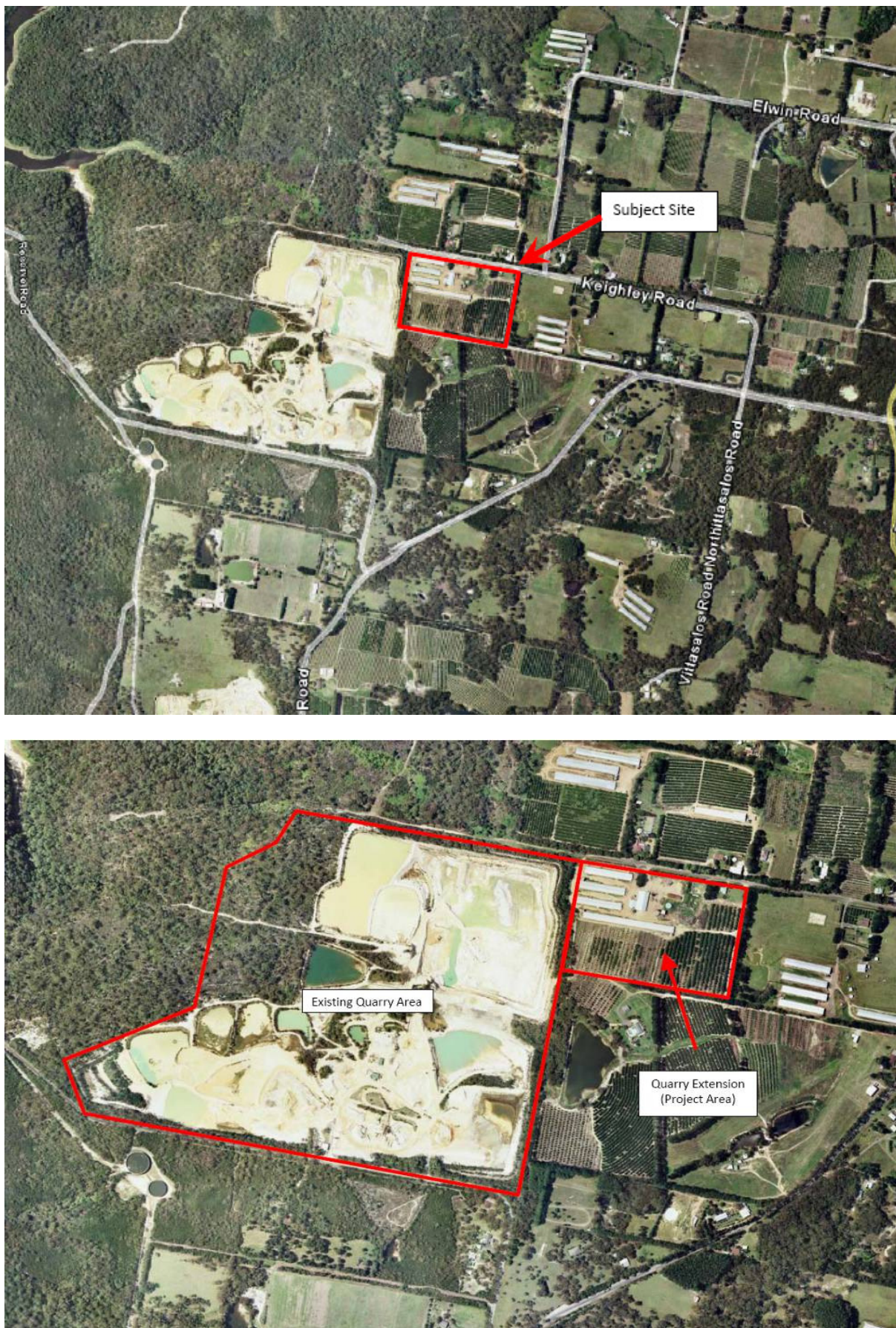


Figure 2: Aerial Photographs of subject site

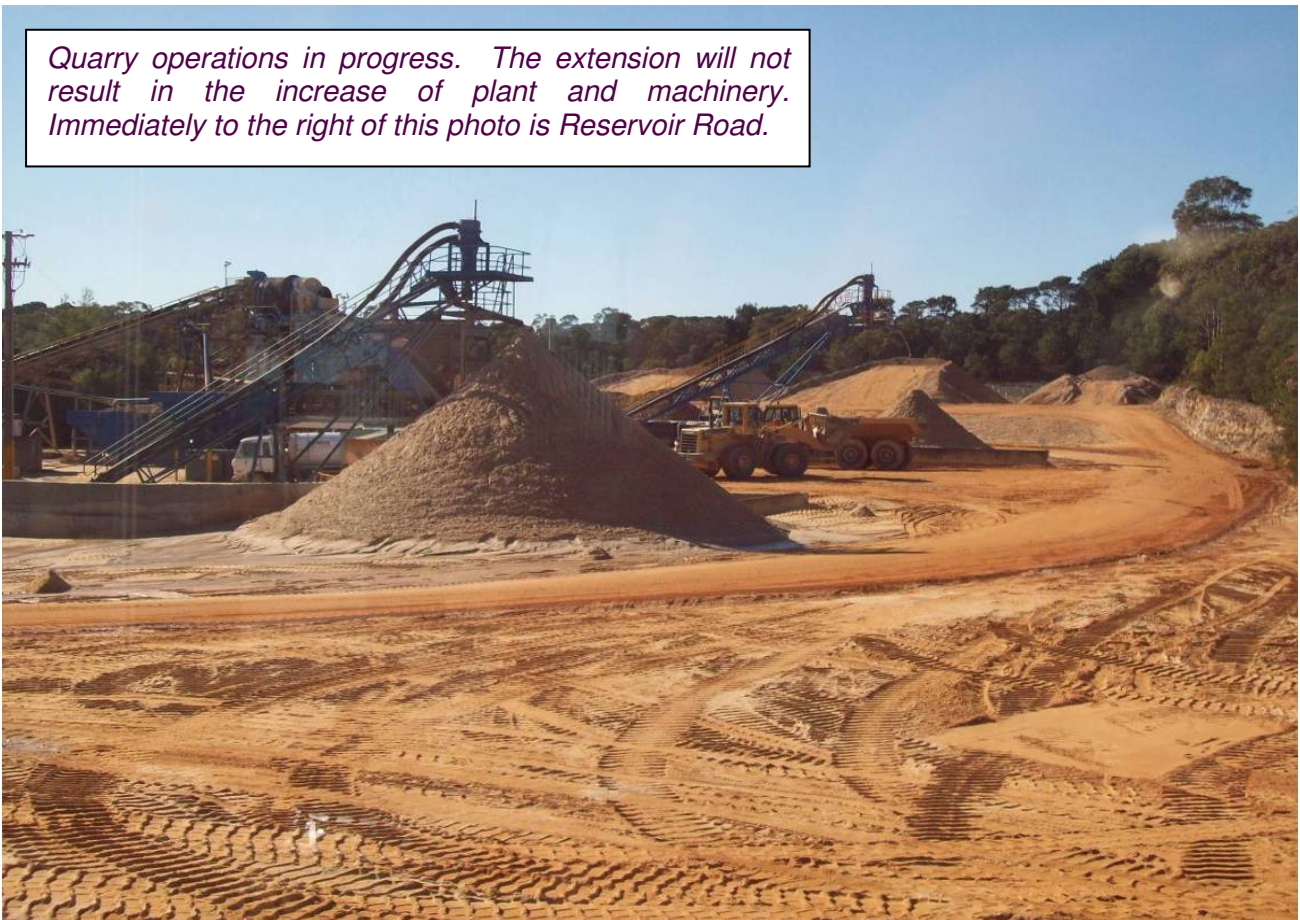
2.1 Existing Quarry Operations

The existing quarry has operated on the adjoining site for nearly fifty (50) years. Specific characteristics of the existing quarry are as follows:

- ☞ The quarry is situated within Lot 33 DP 755246, Reservoir Road, Somersby which has an area of approximately 48.6 hectares and a small lease area (from the Crown) to the west;
- ☞ The quarry has an annual production of approximately 310,000 tonnes with a total remaining resource of around 4.8 million tonnes;
- ☞ The quarry has a current maximum working depth of approximately 55-60m below the natural ground level;
- ☞ The quarry currently employs ten (10) full time staff and one contractor. In addition, there is a sales manager that shares his time between 3 quarries (including this one);
- ☞ The current hours of operation for the quarry are as follows:

Sales Area	Plant Operations	Quarry/Pit Operations
6am – 4pm Monday to Friday	(Summer) 6am – 8pm Monday to Friday 6am – 4pm Saturday	7am – 5pm Monday to Friday
6am – 11am Saturdays	(Winter) 6am – 6pm Monday to Friday 6am - 4pm Saturday	7am – 4pm Saturday

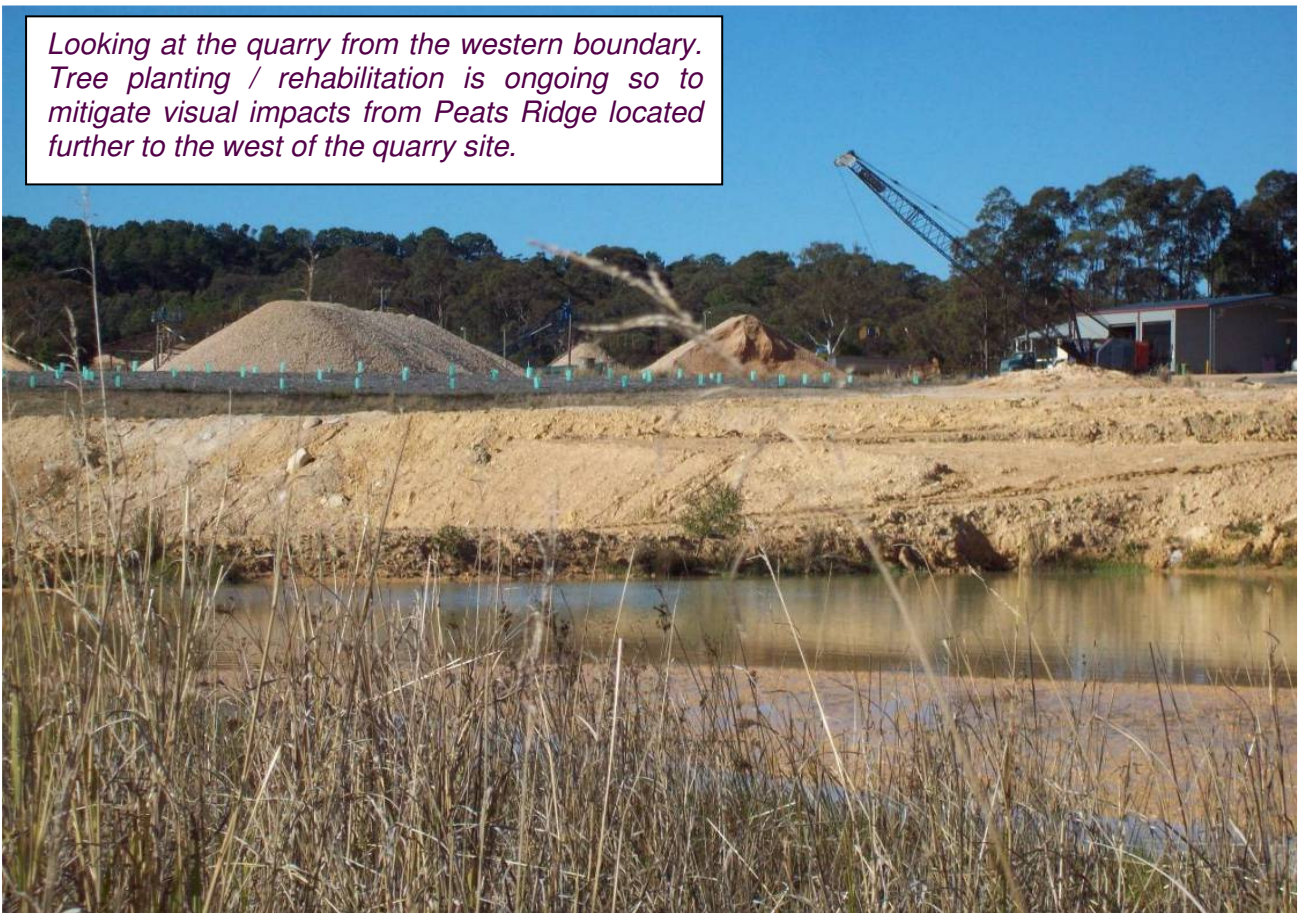
Quarry operations in progress. The extension will not result in the increase of plant and machinery. Immediately to the right of this photo is Reservoir Road.



Reservoir Road is seen to the right of the photo. The vegetation provides an effective buffer along the immediate boundary of the quarry.



Looking at the quarry from the western boundary. Tree planting / rehabilitation is ongoing so to mitigate visual impacts from Peats Ridge located further to the west of the quarry site.



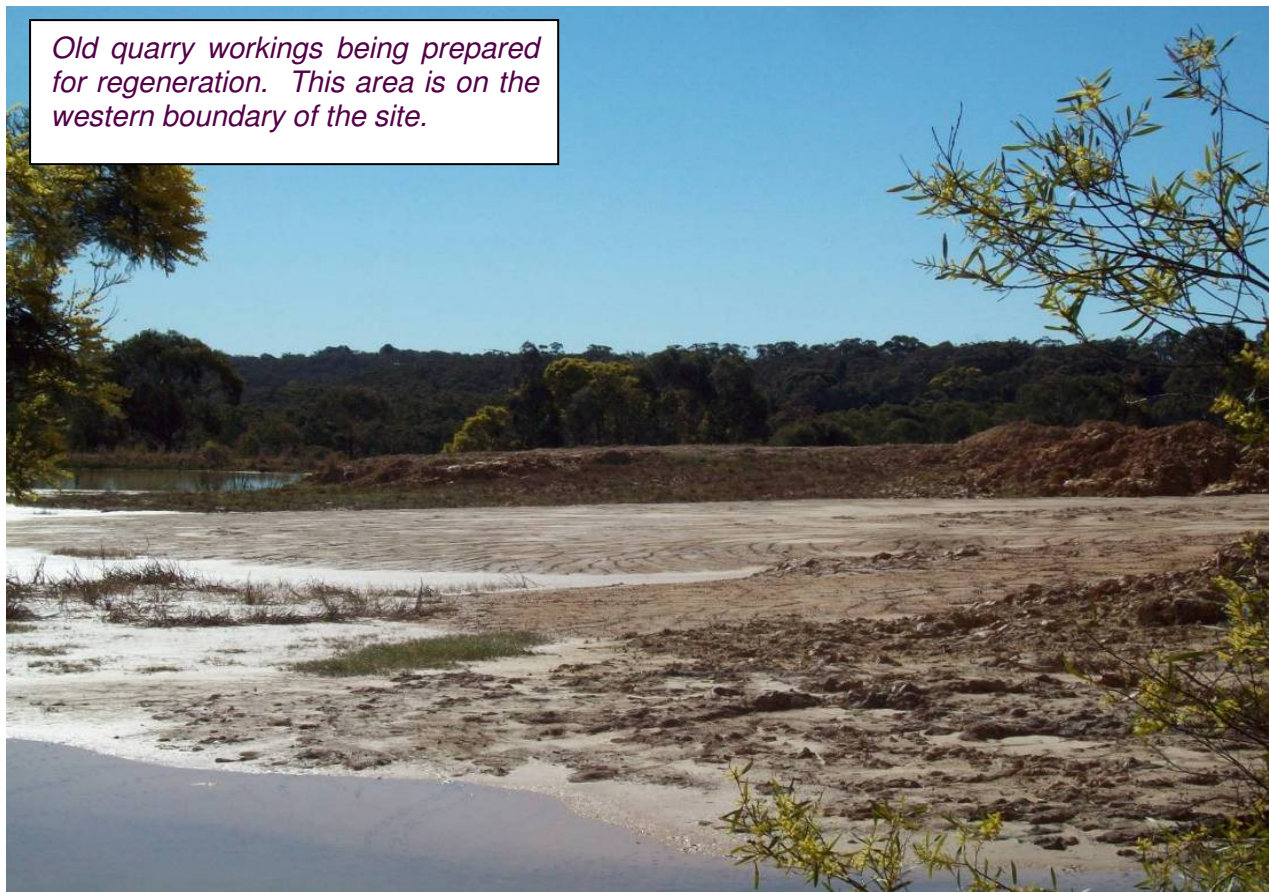
Evidence of old and new plantings. The purpose of this is to provide visual buffers as well as ongoing / progressive regeneration.



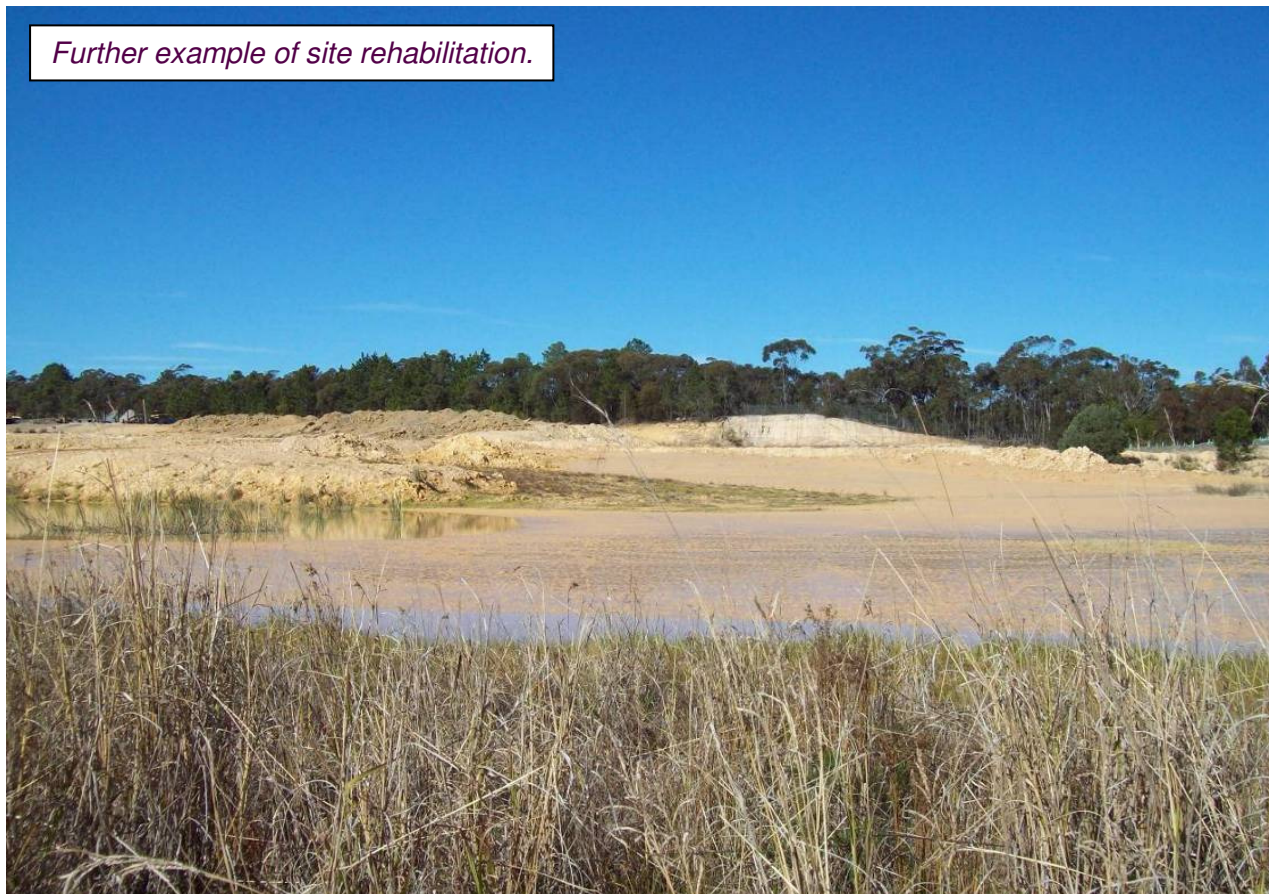
Further examples of regeneration.



Old quarry workings being prepared for regeneration. This area is on the western boundary of the site.



Further example of site rehabilitation.



Looking towards the eastern boundary. This is the area where the quarry will be extended. Keighley Road is to the left of the photo.

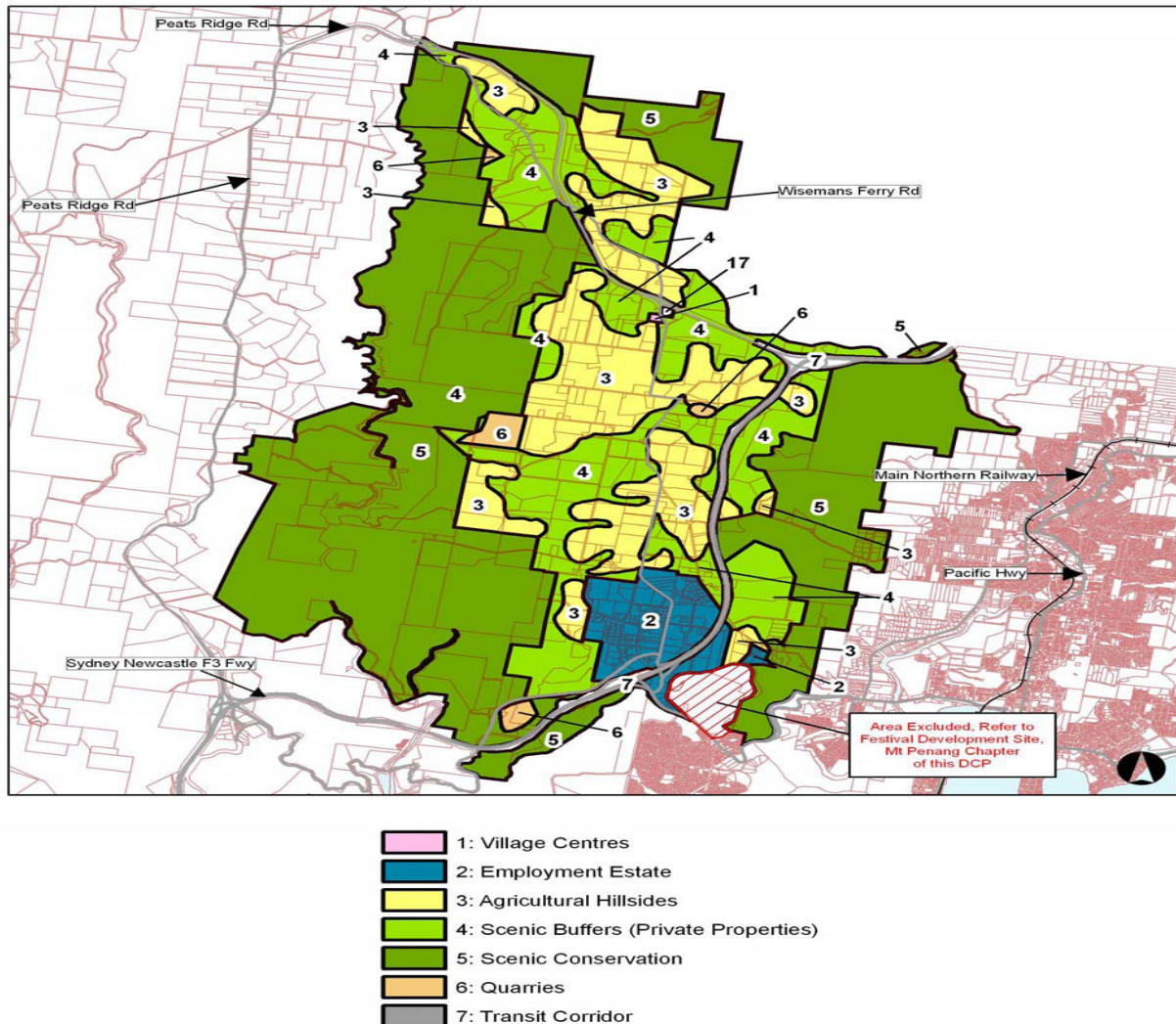


Regeneration along the eastern boundary.



3. LOCAL AREA ASSESSMENT

An assessment of the local area has been undertaken. This assessment has included a comprehensive land use survey of the area and surrounds as well as a review of strategic and development planning policies. A map of the areas land use is shown below.



Housing throughout the area is large lot rural residential. There are also numerous quarries located throughout the Somersby area (identified as Precinct 6 on the map. Note the neighbouring Grants Road quarry does not appear to be shown). The major retail and commercial centre for Somersby is Gosford. The Draft Gosford DCP 2009 for Somersby, has identified the areas land uses along with the land use objectives.

The Draft Gosford DCP 2009 for Somersby identifies the characteristics of each of the 7 precincts. With reference to precinct 6 – Quarries the following is stated in the Draft DCP.

3.1 Existing Character

Located close to major tourist routes, rural properties and village centres, quarrying of hard rock and sands occurs according to the State Government's planning policies and regulations, largely without reference to local government.

Quarrying has occurred in the past, and currently continues, upon several large-to-very large properties. Subject to State Government approval, additional or expanded operations might be developed on any property that offers commercially-viable resources.

To date, pits and processing facilities tend to be screened from their immediate road frontages behind vegetated buffers, but local topography means that operations located on hillsides can be seen from their opposing ridgeline across the valley.

Quarrying has demonstrated its impact upon local character not only in visual or scenic terms, but also in relation to rural amenity in terms of noise and the intensity of road traffic.

3.2 Desired Character

Existing quarries should continue to operate according to current approvals and licenses, but should progressively restore natural and scenic landscapes that have been degraded by past works. The site and operation of any future works should protect scenic qualities of prominent landscape backdrops to Gosford City's major tourist routes, nearby village centres and surrounding rural areas.

- Conserve scenic qualities by concentrating new works within existing clearings, away from scenically-prominent road frontages or hillsides, the side or rear boundaries of each property, and watercourses.
- Along road frontages and boundaries in particular, conserve existing bushland and bushland remnants as broad buffers that screen intensive mining and processing works.
- Manage these buffers to promote natural regeneration of bushland, and plant new indigenous trees and shrubs where necessary to enhance effectiveness of the desired screening.
- Remove existing infestations of noxious and environmental weeds.
- Use framed construction with footings that are piered rather than slab-on-ground to facilitate future removal and rehabilitation of sites.
- Minimise water-cycle impacts by best-practice in relation to design and construction of works, together with management of operations.
- Complement the existing informal landscape quality of buildings that are surrounded by trees and scattered across paddocks or slopes.
- Locate all new structures well back from road frontages, and avoid the appearance of very large walls or visually-dense clusters of buildings.
- Promote the natural or informal scenic characters of existing road verges and frontages by avoiding opaque fences, urban-style entrance walls, extensive landfilling or terracing, and large commercial signs.
- Rehabilitate each property upon completion of quarrying and processing activities by removing structures and pavements, followed by re-contouring of landforms in order to complement the form and character of surrounding rural or natural landscapes.
- Stabilise watercourses to prevent excessive erosion, and rehabilitate quarry pits as well as any containment ponds to restore natural stream flows and also to prevent any discharges that might compromise water quality within the surrounding catchment.
- Revegetate all areas that have been disturbed, and restore natural plant communities along road frontages as well as along boundaries or across hillsides that are scenically-prominent.

On review of the exiting quarry operations, Hanson is aware of the areas characteristics and undertakes management measures that ensure the operations fall within Council's guidelines, outlined above.

4. SOMERSBY CHARACTERISTICS

The area of Somersby contains a mix of land uses, which include agriculture (typically orchards - apples, oranges, avocados), poultry farming and livestock (horses). The area of Somersby is scenic with views across to Peats Ridge. The F3 Freeway is a major transport link and an area identified as the Somersby Interchange is an area of employment / industrial lands.

In addition to agriculture and rural residential development, the Somersby plateau has long been used for extractive industries, including primarily sand for use in the construction industry. There are a number of quarries in the locality, many of which have been in existence for several decades.

The following photos show the Somersby area, in the vicinity of the quarry.



Grants Road, Somersby

Looking to the west from Grants Road. Peats Ridge in the distance.



Typical example of rural property's in Somersby.



4.1 Somersby Population Characteristics

The Gosford City Council, community profile, identifies that Somersby is located in the area known as Central Coast Plateau North. The area is predominantly a rural area, with some industrial land use. The industrial land use relates to quarrying in the Somersby area and industrial park located at the Somersby Interchange, adjacent to the Newcastle to Sydney expressway. A brief profile only is provided as it is determined that the proposed extension of the quarry will not change the population characteristics.

Person Characteristics

In the 2006 Census, there were 1,252 persons usually resident in Somersby: 56.0% were males and 44.0% were females. Of the total population in Somersby (Suburb) 5.3% were Indigenous persons, compared with 1.7% for the Gosford LGA.

Table 1: Age Characteristics

Age Groups	Somersby	% of total persons in Somersby	% of total persons in Gosford LGA
0-4 years	67	5.4%	5.9%
5 – 14 years	191	15.3%	13.7%
15 – 24 years	244	19.5%	12.2%
25 – 54 years	485	38.7%	38.5%
55 – 64 years	138	11.0%	11.5%
65 years and over	127	10.1%	18.2%
Median Age	35 years		40 years

Source: ABS 2006 Census Data of Population and Housing

Table 2: Labour Force Characteristics

Labour Force (people aged 15 years and over)	Somersby	% of total persons in Somersby	% of total persons in Gosford LGA
Total labour force (includes employed and unemployed persons)	519	-	-
Employed full-time	296	57.0%	56.3%
Employed part-time	163	31.4%	31.1%
Employed away from work	23	4.4%	3.8%
Employed hours not stated	15	2.9%	2.5%
Unemployed	22	4.2%	6.2%
Not in the labour force	337	-	-

Source: ABS 2006 Census Data of Population and Housing

Table 3: Occupation Characteristics

OCCUPATION (Employed persons aged 15 years and over)	Somersby	% of total persons in Somersby
Managers	101	20.3%
Professionals	94	18.9%
Technicians and Trades Workers	77	15.5%
Clerical and Administrative Workers	76	15.3%
Community and Personal Service Workers	37	7.4%
Machinery Operators And Drivers	37	7.4%
Sales Workers	34	6.8%
Labourers	32	6.4%

Source: ABS 2006 Census Data of Population and Housing

Table 4: Industry of Employment

INDUSTRY OF EMPLOYMENT (Employed persons aged 15 years and over)	Somersby	% of total persons in Somersby
School Education	22	4.4%
Public Order and Safety Services	18	3.6%
Residential Building Construction	15	3.0%
Road Freight Transport	15	3.0%
Cafes, Restaurants and Takeaway Food Services	15	3.0%

Source: ABS 2006 Census Data of Population and Housing

Table 5: Income Characteristics

INCOME (Population aged 15 years and over)	Somersby	Gosford LGA
Median individual income (\$/weekly)	429	438
Median household income (\$/weekly)	1,222	944
Median family income (\$/weekly)	1,374	1,147

Source: ABS 2006 Census Data of Population and Housing

Table 6: Family Characteristics

Family Characteristics	Somersby	% of total families in Somersby	% of total persons in Gosford LGA
Total families	273	-	-
Couple families with children	147	53.8%	42.7%
Couple families without children	94	34.4%	38.4%
One parent families	29	10.6%	17.6%
Other families	3	1.1%	1.2%

Source: ABS 2006 Census Data of Population and Housing

Table 7: Dwelling Characteristics

Dwelling Characteristics	Somersby	% of total dwellings in Somersby
Total private dwellings (includes unoccupied private dwellings)	397	-
Occupied private dwellings:	382	-
Separate house	369	96.6%
Semi-detached, row or terrace house, townhouse etc	0	0.0%
Flat, unit or apartment	5	1.3%
Other dwellings	8	2.1%
Not stated	0	0.0%

Source: ABS 2006 Census Data of Population and Housing

Table 8: Dwelling Characteristics – Occupied Private Dwellings

Dwelling Characteristics	Somersby	Gosford LGA
Median rent (\$/weekly)	180	215
Median housing loan repayment (\$/monthly)	1,602	1,517
Average household size	3.0	2.5
Average number of persons per bedroom	1.1	1.1

Source: ABS 2006 Census Data of Population and Housing

Table 9: Tenure Type – Occupied Private Dwellings

Tenure Type (occupied private dwellings)	Somersby	% of total occupied private dwellings in Somersby	% of total occupied private dwellings in Gosford LGA
Fully owned	137	35.9%	34.9%
Being purchased (includes being purchased under rent/buy scheme)	116	30.4%	31.8%
Rented (includes rent-free)	58	15.2%	23.9%
Other tenure type	4	1.0%	1.7%
Not stated	67	17.5%	7.7%

Source: ABS 2006 Census Data of Population and Housing

4.2 Conclusions – Somersby and Local Area Characteristics

While Somersby has elements of industry, such as its industrial park located at the Somersby Interchange and a number of quarries, the area is best characterised as rural. Residential housing is on large lots and agriculture seems to contribute to the overall character of the area as it is the most predominate land use. Types of agriculture include orchards (apple, oranges, avocados) as well as chicken farms. There is also livestock (horses and cattle) found in the area. The area also has high scenic qualities across to Peats Ridge, to the west.

The age characteristics of those living in Somersby are similar to those of the LGA as are the employment characteristics (however Somersby has a lower rate of unemployment than the LGA). Generally, the area is more affluent evidenced by a higher proportion of managers and professionals and generally higher individual and family income levels than the LGA. Housing loan repayments are higher than the LGA and those living in the area are more generally home owners (or purchasing) than renters. Given the characteristics of the area the population generally is families and the population is generally more stable and people will live in the area for a longer period than areas characterised by increased number of rental properties, younger single people etc.

The proposed extension of the quarry will not result in any change to the population numbers or the general characteristics of the area.

5. CONSULTATION SUMMARY

In the preparation of this SEIA there have been numerous consultations undertaken. All consultation have been undertaken in line with the *Guidelines for Major Project Community Consultation* (NSW Department of Planning, 2007). According to the guidelines, the purpose of the consultations, are to:

- provide information about the development;
- allow the community and stakeholders have their say in the proposed development;
- allow opportunities for new ideas;
- allow for an opportunity to negotiate acceptable outcomes;
- develop, maintain and enhance relationships with the community and stakeholders; and
- ensure that the reputation of the Hanson is enhanced.

The specific stakeholders that have been consulted with (and the purpose of the consultation) are listed in **Table 10** below.

Table 10: Consultation Summary

Person/organisation	Purpose
Andrew Driver – Hanson	To understand the operation of the quarry and purpose of the proposal.
Neil Catt – Hanson	To understand the operation of the quarry and purpose of the proposal.
Residents along Reservoir Road, Keighley Road	To inform of the proposed extension and to identify any social and economic impact and the extent of these impacts.
Helen Eaves - GCC Social Planner	To clarify and confirm the scope of the SEIA and identify specific areas of enquiry.
GCC Strategic Land Use Planner	To clarify the progress of the Draft LEP and to commence discussions regarding land use post quarry operations.
Jane Young – Principle Somersby Public School	To inform of the proposed extension and to identify any social and economic impact and the extent of these impacts.
Lyn Daniel – Somersby Action Group	To inform of the proposed extension and to identify any social and economic impact and the extent of these impacts.
Darrell Rigby – Harper Somers O'Sullivan	To identify progress of the Aboriginal Archeologically Survey and outcomes.
Andrew Norris – Martins and Assoc.	To discuss SEIA and specific concerns identified by residents along Keighley Road.
Jason Watson – Heggies	To discuss SEIA and specific concerns identified by residents along Keighley Road.
Andrew Roach – Insite Planning	To monitor progress of consultants, in particular, noise, dust, water and archaeology.

5.1 Conclusion - Consultation

Consultations have been undertaken to identify the social and economic impacts of the proposed quarry extension. The consultation process did not identify any concerns regarding impacts on the broader community. This was because the quarry has been operating for many years and that the proposed extension was to increase the life of the quarry, rather than an increase in production. The areas where concerns were identified are with the surrounding neighbours which are identified as being the primary area of affectation (those residences located along Keighley Road). These concerns related to noise, dust and water. The specific issues and management of the social and economic impacts are detailed in the social impact and final section of this report.

6. ECONOMIC IMPACTS

6.1 Economic Assessment

Quarrying has been undertaken in Somersby and the surrounding area for many years. Quarrying is undertaken to obtain sandstone as a raw material which is predominantly used for the manufacturing of concrete. The sandstone in this area is friable, meaning that it cannot be cut and can easily crumble (ie in your hand). As a fine sand, it is a sought after resource.

The reason for the proposed quarry extension is to meet market demand. It is estimated that the Sydney market alone consumes around 7 million tonnes of fine sand per year. This means that 7 million tonnes of fine sand needs to be replaced each year. Hanson has been extracting from this site since the 1960s, and has yet to find a suitable fine sand source to replace the depleted reserves. The fine sand resource next door to the quarry represents an opportunity to top-up some of these reserves and ensure that the Sydney, Central Coast, and Hunter regions have an on-going supply to meet future demands.

A review of sales for this year has found that internal sales have accounted for 81% (supplying approximately 15 concrete plants operated by Hanson) and external sales 19%. The main external customers include;

Customer	Suburb / region
Gosford City Council	Gosford (Central Coast)
Pioneer Road Services	Doyalson and Rutherford (Central Coast and Newcastle)
Brookvale Sand & Soil	Brookvale (Sydney)
McCourt Dando	Parramatta (Sydney)
Dempsey's	Berkeley Vale (Central Coast)

This year, the use of the fine sand is accounted for as follows; concrete 92%; asphalt 3%; pipe work 2%; sewerage works 2% and landscaping 1%.

The current operation of the quarry and proposed extension is therefore meeting a strong demand across the Sydney, Newcastle and Central Coast regions. The economic benefits are primarily via the resource meeting the identified demand. As far as economic benefits to Hanson, fine sand constitutes around 1/8th of the materials required to make concrete by weight, and it is estimated that there is around 3-4 fold increase in value of the final product (concrete) by weight.

With this in mind, the extraction of this resource from this area is consistent with the broader strategic objectives of the Central Coast Regional Strategy.

The draft Central Coast Regional Strategy identifies that the Central Coasts economy has evolved from primary industries and particular reference is made to agriculture and mining with a strong presence of manufacturing and service industries.

The Strategy (p23) also states that the region is attracting investment in agriculture, mining and energy sectors. With this in mind, the region is noted for its strategic location between Sydney and Newcastle. Furthermore the Strategy goes on to say that the natural environment is highly valued and sensitive.

The Central Coast is identified as having significant rural and resource lands with fresh produce being provided to the entire Sydney region. The Central Coasts contributes to over 10 per cent of Sydney's total agricultural production and a significant proportion of extractive resources such as coal, clay for brick and tile manufacture, construction sand and sandstone.

The proposed development aims to be consistent and complementary to the Strategy. This is further detailed within the Environment Assessment. The aim of the Strategy is graphically represented in **Figure 3**.

6.2 Conclusion – Economic Impacts

The extension of the Hanson quarry will aim to meet the demand for fine sand across Newcastle, Central Coast and Sydney regions. Fine sand is a sought after resource and its location is strategically well placed to meet market demand. Furthermore, because the current quarry has been operating for nearly fifty (50) years there are no identified negative economic impacts.

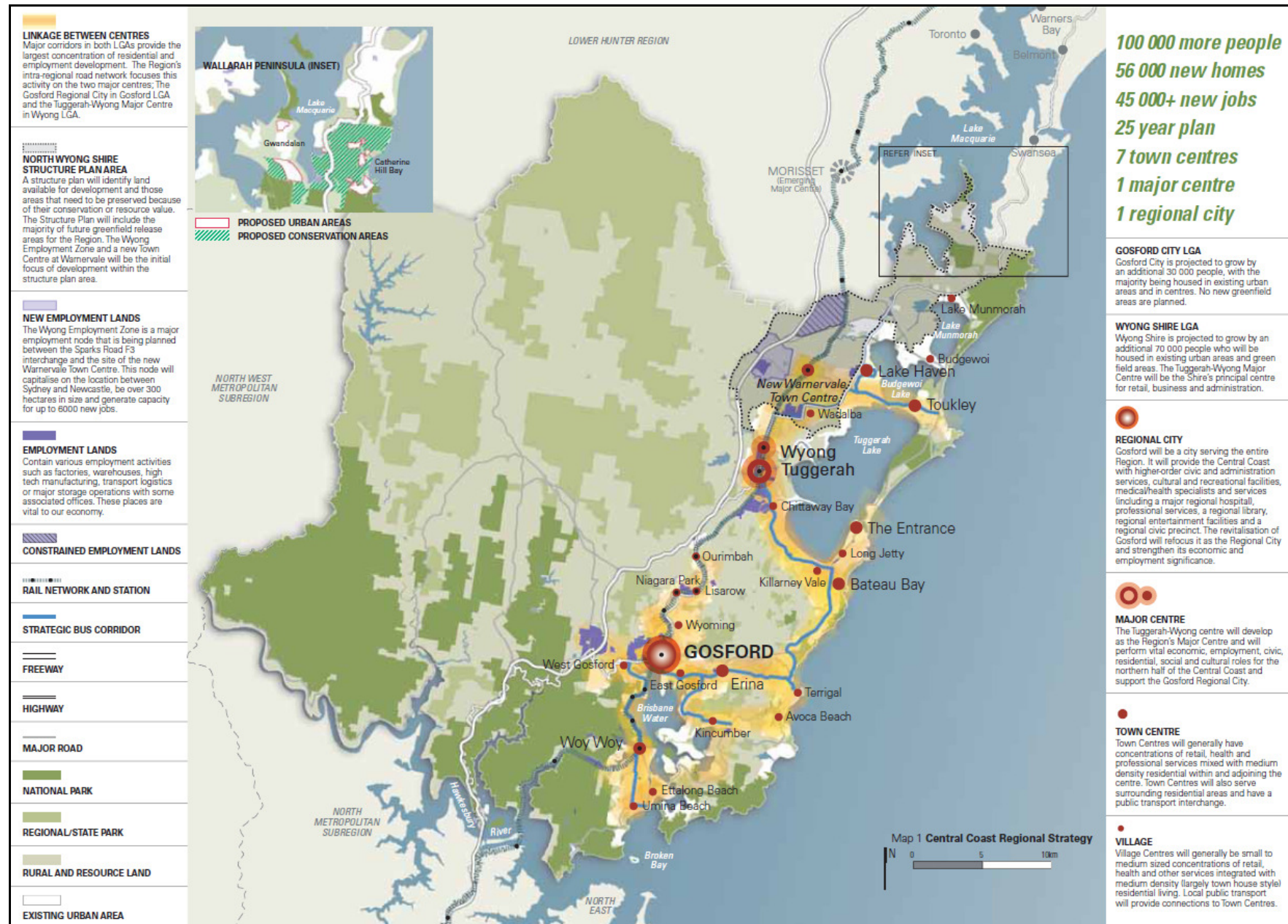


Figure 3: Central Coast Regional Strategy

7. SOCIAL IMPACT ASSESSMENT

7.1 Introduction

As discussed above, the purpose of the social impact assessment is to identify the impacts (both positive and negative) resulting from the proposed development. The strategic analysis undertaken provides an overarching view of the proposal to identify if the proposal is in conflict, or consistent with, key documents and policies. In this case, the Hanson quarry is consistent with these policy documents.

With this in mind, the SEIA must also focus on the impact of the immediate neighbour character. This is undertaken via specific consultations with local residents, land use surveys and review of other secondary data. The specific analysis relates to the following areas;

-  The community structure, character and beliefs.
-  Health.
-  Safety.
-  Social cohesion.
-  Income levels, cost of living, housing prices.
-  Sense of place and community.
-  Other identified contributing factors.

Each of the above areas is discussed in turn.

7.2 Structure, character and beliefs

The community's structure, character and beliefs will explore if the proposed quarry extension will have any impact on any relationships, customs, beliefs, attitudes, religions, create disruption or need to be considered in any way as part of the development, or will the communities values will be adversely affected or even enhanced.

Quarries have been part of the Somersby community for many years, with this quarry being operational for 50 years. Some of those consulted with did not know that Hanson operated in the area, or where the quarry was actually located. There was common understanding that there were quarries in the area. The community's values will not generally be affected by the proposed extension however it will have a negative impact on the residents living in the immediate vicinity of the extension. These people will be directly impacted by the proposed development should it be approved. The specific impacts relate to their quality of life being impacted upon by the presence of the quarry in close proximity to their residences, increasing noise arising from the development. The affected residents can be identified in the aerial photograph of the site listed on page 5 of this report.

7.3 Health

This will explore if there will be any increase in demand for any health services and how and where will people access them (including ancillary services such as community health care, dental services, child care, counselling social support, etc.). Will the development affect the health of the community or their perceptions of health and will the development create additional pollution (including noise) during construction and operation.

Health is a major concern for the community, evidenced by the community's response to the recent proposal for a sand quarry near the Somersby Public School. One of the main health concerns was the presence of silica dust and the adverse health impacts arising from this. Heggies Pty Ltd have completed an air quality assessment indicating that respirable silica levels will be within relevant requirements and the proposal will not significantly increase these levels above the predicted background levels. This has been raised as a major concern with the nearby residents and also raised was the impact on the chicken farm which will be in close proximity to the development site.

Noise has also been identified as a concern.

Residents living along the established haul route identify dust and noise coming from trucks entering and leaving the site. This has been experienced for many years. Those residents living along Keighley Road have not experienced road noise however have experienced some disturbance from noise of the plant machinery during quarry operations. This has related to the general noise of plant and the reversing beepers in particular. The impact of noise is of a particular concern on Saturdays when people are more likely to be home. As the quarry boundary will be closer to these properties, noise and dust will be expected to increase. This was of particular concern to one Keighley Road resident who had bought the property with the expectation to retire there.

Heggies have undertaken the noise and air quality reports and the outcome of these reports have been discussed with neighbours who raised concerns. The formal submission of the application will allow neighbours to review the reports in detail and make submission as appropriate.

7.4 Safety

This will explore crime and nuisance rates or perceptions of crime likely to change and if any crime prevention strategies will need to be employed/developed. It is also used to identify if the development will require surveillance and protection including lighting, landscape and other Crime Prevention Through Environmental Design principles.

The quarry has not been impacted on by regular or systematic incidences of crime, nuisance or anti-social behaviour. There have been some incidences of trail bike riding in the property on the western side of Reservoir Road which have been investigated by Hanson. Hanson enjoys a good relationship with the neighbouring residents and issues arising have usually been dealt with in a collaborative manner.

7.5 Social Cohesion

This will explore the extent of change in the lifestyles of existing residents in the vicinity of the development or transport routes and how the development may cause conflict between existing and new users. It is also concerned with how people will be involved in the implementation and management of community change caused by the development.

The main change in lifestyle will be limited to those properties located on Keighley Road. The extension of the quarry will have a significant impact on these people as a result of the quarry boundary becoming closer to their residences.

7.6 Income levels, cost of living, housing prices

This will explore how the development will affect income levels across the community and if there would be an increase or decrease in employment, and where will the required employment be drawn from. This area also explores if there will be an increase or decrease in the cost of living (e.g. land, supermarket, grocery and housing prices) and how the level of trade will be affected e.g. competition, closure of existing business.

The proposed extension of the quarry will have no impact on income levels across the community, nor will there be an impact on the cost of living or on trade generally. Employment at the quarry will remain the same as will employment multipliers (resulting from quarry trade).

There will be an impact on the housing prices/value on neighbouring properties. Impacts will be positive if the property is, say, required by Hanson as part of the quarry extension or if the property is used primarily for economic purposes / an income source (ie its income source is the primary value of the property) and this income generation is not adversely impacted upon by the quarry operations.

Negative impacts will be experienced by residents who's primary purpose for living in the vicinity is for residential purposes. Regardless of other income sources generated from a property (ie an orchard), the intrinsic value of the property will be lost if the quarry is seen to have a negative impact on a residents lifestyle (for example a person who buys a property for their retirement may have done so with knowledge that Hanson operates a quarry nearby, however its encroachment on or near their property boundary and the increase in noise and dust will now negatively impact on their life style. This intrinsic loss may or may not be reflected in a property value).

The primary area of affectation are those residents along Keighley Road as well as to residents living along Grants Road.

7.7 Sense of place and community

This explores the whether the aesthetic nature of the community is affected and can be determined if people perceive a loss of aesthetic qualities of their community; if items of social and cultural heritage affected and if the development complimentary to the existing neighbourhood character.

The Hanson quarry has been operating for nearly 50 years and it has been in Hanson's ownership for over 40 years. The current life of the quarry is 18 years. Quarrying in this area is established and has been documented with guidelines for management in its draft DCP. The DCP acknowledges the high scenic value of the area and the impact of quarrying on this. The fact that the quarry has been operating for so long mitigates this matter to some degree however the fact that there is a proposal to extend the quarry may trigger some concerns. This may be relating to extending its life 17 years is seen as unreasonable. Again the negative impact will be by any increase in visual impact, noise and dust arising from the quarry extension. If it is left as it is – then it is less likely that this would generate any more discussion than what is currently undertaken as part of the quarries operation.

It is also important to reference the recent community opposition to a 'new' sand mine proposed for the Somersby area (adjacent to the primary school). This generated strong opposition and has subsequently been refused.



7.8 Other matters

In the operation of the quarry, it must be said that Hanson has enjoyed a good reputation with the local community. This has been evidenced by talking to residents, in particular those living in the vicinity of the existing quarry and along the haul route, who have spoken about the ability to raise and resolve any issues that may arise. On review, it has found that issues have generally related to the speed of trucks moving in / out of the quarry. It was made clear that this was generally not the practice of Hanson's vehicles but contractors coming to the site (no specific contractor was identified). On review of the complaint register, only one (1) complaint had been registered in the past five (5) years and again this related to the speed of a truck. The complaint was recorded as follows:

External to Quarry – 17/01/2005 Complaint raised by Barry Dean resident of Grant's Rd: Hanson Trucks turning from Grant's Rd onto Wiseman's Ferry Rd before 6.00am. Letter of response informing that Hanson was not at fault plus follow up letter to drivers regarding excessive noise entering and exiting the quarry. Response letter from Barry Dean thanking Hanson for the quick response and positive outcome.

Furthermore, Hanson has undertaken a number of community support initiatives which for the past year, are listed below.

	Central Coast Junior Motorcycle Club	(\$875)
	Kulnura Public School	(\$600 in materials)
	Mangrove Mountain Country Fair	(\$1000)
	Rotary Club of Gosford	(\$500)
	Lions Club Festival of Music	(\$500)
	Rural Bush Fire training day	(Supply training facilities each year)
	Australia's Biggest Morning Tea	(\$200)
	MS Society of Australia	(\$200 and Hanson merchandise)
	Local Sporting People	(\$2100)
	Central Mangrove School	(\$600 in materials)
	Teddy Bear's Picnic (Sydney)	(\$1200 in materials)

The sponsorship of these items are not budgeted into the quarry's operating forecast but are approved by the Regional Sales Manager.

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The sponsorship of these items are not budgeted into the quarry's operating forecast but are approved by the Regional Sales Manager.

8. CONCLUSIONS - SOCIAL AND ECONOMIC IMPACTS

Hanson has been involved in the operation of the Somersby quarry for over four decades. The quarry has operated within established limits and guidelines and the company has developed a positive rapport with the local community. The extension of the quarry is not to increase productivity but rather to meet current demand and to ensure the ongoing supply of fine sand, which is a sought after resource in the Newcastle, Central Coast and Sydney regions. In this respect the economic benefits are positive. As the quarry is not changing its current operations then impacts along the haul route etc will remain as they are. This is a positive impact of the quarry and the proposed extension.

While the operation of this and other quarries in the area are seen as part and parcel of the landscape, the proposed extension has identified some negative social impacts. These are identified within the primary, secondary and tertiary areas of affectation and are listed below.

8.1 Primary area of affectation

The primary area of affectation is those residents along Keighley Road. This may represent a small number of properties / residents overall however the identified impacts relate to a negative impact on their amenity due to:

- ☞ Noise.
- ☞ Dust.
- ☞ Visual impact.
- ☞ Loss of value to their properties due to the encroachment of the quarry.
- ☞ Concern regarding health impacts resulting from dust, in particular silica.
- ☞ Potential environmental impacts on water (dam levels, dust on the dam and affecting water quality, potential interruption of aquifers and reducing capacity of bores for the water supply for the chicken farm and also orchards).

These impacts are raised as 'concerns' and have been taken into account during the preparation of the Environmental Assessment and associated specialist studies.

Specifically, concerns relating to potential economic impacts on the nearby chicken farm and also orchards have been identified and addressed through appropriate reporting (included within the Environmental Assessment) and through a range of community meetings held with neighbouring property owners to detail these reports and outcomes. The proprietor of the chicken farm is concerned that if there is a detrimental impact on the farms operations, this will have a direct affect on his livelihood. This concern relates to the impact of dust and hydrogeological impacts on the water which supplies the chicken farm. The dam is within 10 meters of the boundary to the proposed extension and is fed by bores as well as surface run off.



8.2 Secondary area of affectation

The secondary area of affectation is the residents living along Grants Road. Potential impacts include noise and dust. Please see the formal acoustic impact assessment and air quality impact assessment for an evaluation of the impacts. While the actual increase in these areas may be minimal and within relevant standards, there is a perceived increase basically due to the quarry boundary becoming closer to their properties.

8.3 Tertiary area of affectation

The tertiary area of affectation is the general Somersby community. As noted at the time of undertaking this report an application to develop a quarry adjacent to the Somersby Public School was rejected. The community was very vocal regarding the proposed quarry and articulated their concerns regarding the health impacts (this was a particular concern given its proximity to the school). With this in mind, some residents within the primary and secondary areas of affectation were part of the action against the above mentioned quarry and may act against the proposed Hanson extension and seek to engage community support in their plight.

In saying this however, it has also been identified that many residents see the two issues as being completely separate. This can be evidenced by signs along Wisemans Ferry Road where it is clearly stated that residents were acting against a new quarry. There was not opposition to quarrying in general.

The Somersby Action Group (who led the objection to the Somersby Fields proposal) has responded (13/08/09) to the proposed extension of the Hanson quarry as follows:

'Hi James!

I spoke with our group last night and they suggested the following:

*That you inspect our website to investigate social and economic impacts
ie somersbyactiongroup.org*

*We are not familiar with the particular issues that concern this development.
Perhaps the surrounding neighbours would give you more accurate and heartfelt
responses.*

Regards

XXXXX

While no assumption is made that the Somersby Action Group has no specific interest in this proposal, the response does support our determination of the 'primary area of affectation' being the nearby residents, in particular those living on Keighley Avenue.

9. ADDRESSING ISSUES AND MONITORING SOCIAL IMPACTS

The social and economic impacts identified above have been examined in specialist studies including formal acoustic, air quality, hydrogeological and agricultural reports. These reports are appended in full to the Environmental Assessment.

To progress the social impact assessment's finding, the sub-consultant's reports have been reviewed and the summaries / conclusions are listed below:

ISSUE - Noise	The increase in noise will have a negative impact on the quality of life of residents. This will be particularly evident on weekends.
Management Action	Preparation of acoustic / noise report by Heggies Pty Ltd.
Report Findings	Heggies was commissioned by Insite Planning Services Pty Ltd on behalf of Hanson Construction Materials Pty Ltd (the proponent) to undertake a Noise Assessment for the extension of Central Coast Sand Quarry, Somersby NSW. It was identified that numerous residential receivers are potentially susceptible to noise impacts. The sensitivity of these receptors is a reflection of their distance from the quarry and the attenuating effects of topography and local meteorology (wind direction and strength). Receptors A, B C and D which are in close proximity (less than 60m) from the proposed extraction areas potentially the most affected. This report has identified the following noise mitigation requirements and recommendation for the Somersby Sand Quarry existing and proposed extension operations: Existing Quarry Operation Predicted noise levels show that full quarry operations will comply with the DECC project specific noise goals under calm, prevailing winds and under temperature inversion weather conditions. However, it is recommended at that all mobile plant onsite are fitted with quacker type reversing alarms. Proposed Quarry Extension Operation Predicted noise levels show that the proposed quarry extension operations will comply with the project specific noise levels with the following restrictions and recommendations: • A 5m high earth bund will need to be constructed around the proposed extension area boundary. This bund is a permanent fixture and will remain there for the duration of quarry operations. • Only 1x Excavator or 1x 480 loader, 1x Haul truck

	and 1x Water Cart may operate in the proposed extension area once the 5m high earth bund is constructed. • 1x Dozer can operate once the proposed extension area ground level reached a depth of 5m below the existing ground level. We note that if the dozer operates in the proposed extension area, only the water cart may operate at the same time. • All mobile plant onsite be fitted with quacker type reversing alarms. Road Traffic Noise The existing noise measurement results which include the quarry vehicles and local traffic indicate a marginal noise level increase of 1dBA above the project specific noise goals shown in Table 12 for both the day and the night time periods. However, the ECRTN states that in all cases (where criteria are already exceeded), traffic arising from the development should not lead to an increase in existing noise levels of more than 2 dBA. Since the proposed development isn't altering their production output or traffic volumes the project specific road traffic noise criteria has been satisfied. Sleep disturbance The predicted noise levels show that all nearest affected residential receivers comply with the sleep disturbance noise goals. Construction Noise The predicted noise levels at the nearest residential receivers during bund construction are between noise goals for noise affected and highly noise receivers. Locations A to E, & G exceed noise affected goals by 5 dBA to 17 dBA but are below those of high noise affected. All other residential locations comply with project specific criteria. It is likely that noise levels will be of a short duration during the construction of the bund wall. It is recommended all potentially impacted residents will need to be informed of the nature of works to be carried out, the expected noise levels and duration, as well as contact details for the site representative responsible for the construction works.
ISSUE - Dust	The increase in dust has raised concerns regarding the impact of silica and the impact of dust generally. This concern is twofold – being 1. Impact on residents – both from a health and lifestyle perspective 2. Impact on industry, in particular the nearby chicken farm and contamination of sheds and also water supply.
Management Action	Preparation of air quality and green house gas report by Heggies Pty Ltd

Report Findings	Heggies Pty Ltd ("Heggies") has been commissioned by Insite Planning Services Pty Ltd ("Insite") on behalf of Hanson Construction Materials Pty Ltd (the proponent) to undertake an Air Quality Impact Assessment for the extension of Central Coast Sand Quarry at Somersby, NSW. Modelling of PM₁₀, deposited dust and silica emissions concentrations was undertaken using the Ausplume Gaussian Plume Dispersion Model software developed by the Victorian EPA. The following finding were made from the modelling exercise: • Particular Matter (PM₁₀) concentrations are predicted to be below the NSW DECC air quality goal at all surrounding receptors. • Dust deposition levels are predicted to be below the current NSW DECC air quality goal at all surrounding receptors. • Silica concentrations are predicted to be below the EPA air quality goal at all surrounding receptors. The total estimated annual emissions of CO₂-Equivalent as a result of operations at the site are likely to be of the order of 220t of CO₂-Equivalent per annum. Greenhouse gas estimated are estimates are assessed relative to 1990 baseline levels for reporting purposes. The AGO (AGO, 2009) estimates that in 1990, Australian greenhouse gas emissions totalled 1116t CO₂-Equivalent. A comparison of the predicted emissions with the 1990 national estimate demonstrates that operations would represent an annual emission of approximately 0.00006% of the total baseline Australian emissions. Emissions of greenhouse gases in NSW during 2005 amounted to a total of 158.2Mt CO₂-Equivalent (AGO,2007). A comparison of the predicted emissions due to the proposed operations with NSW emissions in 2005 demonstrated that operations would represent an annual emission of approximately 0.0002%.
Social Economic Impact - Water	Impact of the quarries operation on the water supply. This relates to both ground water and also sub surface water.
Management Action	Preparation of hydrology, geo-tech and groundwater report by Martens Consulting Engineers.
Report Findings	A groundwater assessment was undertaken to assess the impacts of the proposed boundary readjustment and expansion of the resource extraction operations of the existing Somersby Quarry (Central Coast Sands) into the proposed expansion site. Potential impacts were assessed using a calibrated

	steady-state numerical Modflow groundwater flow model. Primary objectives of the model were to assess drawdown and groundwater ingress rates into the extraction pit for existing-approved and proposed-development scenarios. Aquifer testing on the site including slug tests and a pump test produced a median K test value of 0.08 m/d. The final calibrated K value used in the groundwater model was 0.017 m/d. This value is in line with typically cited K values for the aquifers in the Somersby region. Recharge was determined to be 125 mm/yr following calibration of the groundwater model. The groundwater model was calibrated to existing-development conditions / observations. Results indicate that the steady-state groundwater inflow into the extraction pit is currently of the order of 80 KL/d, under the currently approved-development groundwater inflows shall be of the order of 957 KL/d. Groundwater inflows for the proposed-development shall be of the order of 233 KL/d. The proposed lateral expansion of the quarry will result in reduced impact when compared to the ultimate approved-development due to the following: Groundwater extraction rates are modelled as approximately 75% lower. Drawdown levels will be lower at all bores. Modelling indicates that the proposed development will result in a reduction to median drawdown (i.e a final groundwater surface higher under the proposed development than under the presently approved development) of approximately 9.5 m. Groundwater Dependent Ecosystems (GEDs) will experience less impact based on drawdown results.
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ISSUE - Visual	What the visual impact would be to residents along Keighley and Grant Road
Management Action	Visual impact assessment completed by Insite Planning.
Report Findings	The location of the proposed quarry extension is visually enclosed as a result of topography and existing vegetation in the locality (including mature hedge rows, orchards and remnant vegetation stands). There are limited properties and public places that have direct view of the land and these are limited to very small section of Keighley Road (where these views are currently dominated by the existing poultry sheds situated less than 10 metres from the northern boundary of the subject land). The enclosed nature of the locality and extensive use of

	hedge rows creates a circumstance where the use of relatively narrow vegetated buffers around the site will be entirely consistent with the visual characteristics of the locality. Quarries and extractive industries are generally surrounded by long, narrow vegetation buffers/screens which, in some instances, detract from the amenity of the locality. In the case of the subject land, use of vegetated buffers and earth bunding along boundaries and in other suitable locations will be entirely in keeping with the existing hedge-row plantings and the visual amenity of the area. As a result of the visually enclosed nature of the site, it is considered that the proposed development will have minimal impact in terms of visual impacts. Providing that the mitigation measures previously described in this report are maintained or put in place, the development of the quarry extension will have a very minor impact on existing views or vistas.
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The above have been communicated with residents identified within the primary area of affectation at a meeting of affected residents on 24 November 2009. Specific follow up meetings have been held with specific land-owner to deal with specific issues (specifically, meetings with neighbouring owners to the east of the subject land in relation to issues relating to water (ground and surface water concerns).

The purpose of the meeting was to outline the finding of the reports and respond to any questions raised. Minutes of the meeting are on the following page:

Meeting Notes – Somersby Quarry Extension

Date: Tuesday November 24, 2009 @ 6pm

Location: Keighley Avenue (adjacent to subject land)

In attendance: James Marshall (Insite), Andrew Roach (Insite), Mr Geoff Gaye (Neighbour), Mr & Mrs Katrakitis (Neighbour), Mr Shane Britten (Neighbour), Mr Phil Smith (Neighbour)

Notes:

- Aim is to inform residents of progress to date, project details and to address residents concerns now that many of the specialist reports are approaching completion.
- Meeting opens with discussion about the background of Insite and the project.
- Discussion regarding the current Somersby quarry operations and existing approvals – note made that there is currently no maximum quarry depth. Discussion of current works on site, extraction rates, number of staff etc. Details provided from PEA to attendees to give outline of current operations
- Discussion regarding the proposed development – ie Hanson's to acquire 8 hectares via boundary adjustment, extraction in new area to add to life of mine, number of staff to remain unaltered, location of plant and equipment to remain unaltered, vehicle movements to remain unaltered etc. Details of proposal (extract from PEA) provided to attendees along with some aerial photographs and broad details of the proposal
- Discussion of the Part 3A process and the application processes to date
 - Confirmation from the Department that the proposal is a Part 3A application
 - Preliminary Environmental Assessment (PEA) has been completed and submitted to Department of Planning
 - PEA tabled at meeting for review by attendees, also copies available online for viewing
 - Planning Focus Meeting has been held on site with DoP have issued the Director General's Requirements
 - Preparation of the Environmental Assessment underway.
- Discussion of consultation process to date – neighbours have been contacted by James Marshall over past few months, issues raised have been noted.
- Specialist reports are approaching completion – including those issues that were raised by the neighbours as being significant:
 - Traffic – Traffic Impact Statement
 - Noise – Acoustic/Noise Report
 - Dust/Silica – Air Quality Assessment Report
 - Visual – Visual Impact Assessment
 - Ground and Surface Water – Relevant Geotechnical and Hydrology Reports

- *Discussions regarding next steps in the process – ie completion of specialist reports, submission to DoP, public consultation, consultation with government agencies/Council and DoP making a thorough assessment in conjunction with relevant Government agencies.*
- *Discussion of Key Issues separately:*

Traffic

- *Neighbours raise minor concern over traffic and safety, including traffic along Grants Road, Questions whether any access will be required along Keighley Avenue.*
- *AR & JM explain that traffic will not alter as part of the proposal, same productive capacity and same number of vehicle movements – this will remain unchanged*
- *Neighbours raise safety concerns from existing truck movements along Grants Road although*
- *No traffic to use Keighley Avenue, access to the new extraction area will be from within the existing quarry, staff and trucks will continue to access the site from Reservoir Road as is the current situation*
- *Traffic Report has been completed in either case to ensure that these matters are dealt with.*
- *Outcome: Generally comfortable that no additional traffic will be created from the proposed development and that no traffic will use Keighley Avenue.*

Noise

- *Neighbours raise concern over noise impacts, particularly if the quarry working area moves closer to homes.*
- *Particular concerns relating to reversing alarms on vehicles which area already disturbing on quiet/still days.*
- *AR explains that a noise assessment report is underway and that initial findings are that the proposal will be within relevant standards. No blasting required to remove the resource.*
- *AR notes that reversing alarms are an issue and comments that this has been dealt with by the noise report which will recommend that the alarms be replaced with 'quackers' to prevent disturbance to neighbours.*
- *A 5 meter bund is proposed to assist in arresting any noise issues. Neighbours seem satisfied with this approach provided that the bunding is vegetated with appropriate species and appropriately maintained.*
- *JM points out that noise impacts will become less and less as the quarry gets deeper.*
- *Outcome: neighbours satisfied that noise concerns taken into account, but want to see the final noise assessment which will be included as part of the Environmental Assessment and reserve the right to make comment at that stage*

Air Quality/Dust/Silica

- *AR comments that dust modeling is being carried out and specialist reports prepared. Provides basic summary of process of collecting background noise data and modeling impacts.*
- *Results from modeling (Ausplume) show compliance with relevant criteria for dust and silica.*
- *Draft Air Quality Report makes recommendations regarding methods of further mitigating impacts, including use of designated machinery only, watering exposed areas etc.*
- *Outcome: Some concern from neighbours regarding potential for dust deposition on roofing etc. Also concern regarding Silica. Express some level of comfort that reporting is being undertaken and that the initial results show compliance with relevant standards. Reserve the right to comment once the Environmental Assessment is completed.*

Visual Impact

- *Limited discussion on visual impact, neighbours appear comfortable that there will be limited impact. Support expressed for bunding around site to protect views from Keighley Avenue.*

Ground and Surface Water

- *Neighbours expressed concern over impact from groundwater and also surface water. Particular concerns relate to existing bores and potential loss of water from those bores due to lowering of the water table. Bores used by neighbours range from approximately 30 metres deep to 120 metres deep. Concerns relate particularly to loss of water for poultry operations which will result in lost productivity for neighbours.*
- *AR and JM point out that engineers with geotechnical and hydro-geological expertise have been engaged to undertake reporting to determine impacts.*
- *Summary of reporting so far is that there will be an impact on groundwater compared to current situation. However, this impact will be less than what would be experienced if Hanson's continued to deepen the existing quarry (for which they have development consent).*
- *Neighbours are concerned over loss of water – particularly Mr Katrakitis who relies on water for operation of his poultry farm.*
- *Water quality is discussed – if any bore extensions or receipt of water from the quarry site was used as a solution (if needed) then the water would need to be of a suitable quality for the intended use.*
- *AR and JM point out that there are a number of potential solutions that can be employed. These include:*
 - *Monitoring of existing neighbor bores over the life of the quarry extension to ascertain impacts;*
 - *Hanson's could potentially assist neighbours be deepening bores/providing new bores in the event that there are impacts*
 - *The opportunity to pump water from the quarry site up to the neighbouring quarries could be investigated to supplement water supply*

- Outcome: neighbours expressed concern over loss of water, AR and JM pointed out that there are some potential solutions. Neighbours reserve the right to discuss the matters and raise further comment. In addition, neighbours want the chance to view specialist reports as part of the Environmental Assessment and make further comment. Impact mitigation needs to be in perpetuity.

Final Matters

- AR and JM leave contact details and request that neighbours provide any comment they feel necessary within the next week or so.
- AR advises that the application (Environmental Assessment) will be completed within the next few weeks and submitted to the Department of Planning along with all specialist reports.
- Potential for these matters to be addressed by 'Statement of Commitments' from applicant.
- Neighbours reserve the right to comment on the finalised specialist reports and make objections as part of the 3A community consultation process.
- AR and JM will keep neighbours informed of progress of the application and will advise when documents are submitted to the Department of Planning.