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Hancock Prospecting Pty Ltd

Alpha Coal Project (Rail) Social Impact Assessment

September 2010



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- B SIA Stakeholders
- C SIA Case Studies
- D SIA Significance Identification Matrix



Acronyms

ABS	Australian Bureau of Statistics
ASDR	Alice Springs to Darwin Railway
ATSB	Australian Transport Safety Bureau
BRC	Barcaldine Regional Council
CCD	Census Collection District
CHMP	Cultural Heritage Management Plan
CRC	Cooperative Research Centre
DIP	Department of Infrastructure and Planning
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ERP	Estimated Resident Population
FTE	Full Time Equivalent
HACC	Home and Community Care
HPPL	Hancock Prospecting Pty Ltd
IRC	Isaac Regional Council
Mtpa	Million tonnes per annum
LGA	Local Government Area
OESR	Office of Economic and Statistical Research
PIFU	Planning and Information Forecasting Unit
PRD	Project Reference Design
PUR	Place of Usual Residence
RFDS	Royal Flying Doctor Service
QAS	Queensland Ambulance Service
SDA	State Development Area
SES	State Emergency Service
SLA	Statistical Local Area



SIAU	Social Impact Assessment Unit
SIMP	Social Impact Management Plan
SPQ	Single Persons Quarters
TOR	Terms of Reference
WRC	Whitsunday Regional Council



Executive Summary

Introduction

The purpose of the Social Impact Assessment (SIA) is to address the Part B, Section 4 of Terms of Reference (TOR), titled “Social values and management of impacts”. The SIA focuses on the rail component of the Alpha Coal (Rail) Project.

Methodology

A project specific SIA methodology was developed (based on the methodology applied for the Alice Springs to Darwin Railway, being the most similar available approach) and tailored to meet the requirements of the TOR. The methodology included:

- ▶ Initial scoping exercise;
- ▶ Consultations with the Social Impact Assessment Unit (SIAU) within the Department of Infrastructure and Planning (DIP);
- ▶ Desk based research (including a review of comparative cases);
- ▶ Consultations with SIA stakeholders (including case studies with landholders and integration with the public consultation process for the Environmental Impact Assessment (EIA);
- ▶ Identification of social impacts and their significance; and
- ▶ Development of a draft SIMP.

Social and Cultural Area of Influence

The social and cultural area of influence has been split into a regional and local study area. The local study area focuses on the landholders who will be impacted by the Project and the regional study area focuses on the Barcaldine, Isaac and Whitsunday Regional Council Local Government Areas (LGA).

Local Study Area

The local study area is predominantly based on agriculture including livestock and crops. People living in the local study area defined themselves as hard working, family orientated, having a quiet lifestyle with strong connections to their property. The majority of the properties in the local study area are primary producers, with cattle breeding and fattening or crops being the main source of income. People who live in the area are highly passionate about their property and their businesses due to the large component of physically hard and long work it takes to run the property successfully. The properties are people's homes not just the location of their business and they have a strong connection or a strong sense of place.

The total enumerated population in the local study area in 2006 was 2,912 people. During the SIA case studies, landholders were asked the number of people who live in their property. Of the eight case studies, there was an average of three people living permanently on each property, however the largest number was six. Landholders explained that there were often more people on the property



(living part time) depending on the work that needed to be undertaken, e.g. mustering, where the number of people living on the property could increase by up to fourteen people.

'Couple family with children' was the most common family type (50% of all families), followed by 'couple family with no children' (41%). There were a few one parent families and very few other family types in the area (6% and 2% respectively).

During the SIA case studies, landholders explained that many of the properties to be impacted by the Project were in a stage of transition, of one generation handing over to the next, so there could be two generations living on one property or one family getting ready to leave and the next generation getting ready to relocate.

There are significantly more males than females in the local study area. The male to female ratio is 129 to 100 which reflects the higher ratio of females leaving the region at a school age and not returning. There are comparatively very few children and young persons between the age of 10 and 20 years. This is reflective of the high percentage of high school students who relate to Rockhampton for boarding school. There are very few persons over the age of 70 years which reflects the low levels of aged care in the region. The median age in the local study area is 35 years, which is similar to the Queensland median of 36 years (ABS 2006a, ABS 2006b).

The majority of the population, 1,482 persons or 82%, were born in Australia, followed by New Zealand (35 persons or 2%) and the United Kingdom (17 persons or 1%). The only non European country among the top five countries of birth was Indonesia, with 4 persons identified as being born there. Due to the low value and the ABS introduced random error, this may however reflect a distortion of the real value. During the SIA case studies, landholders explained that there was a significant (although minor) presence of backpackers working in the area, which may account for the diversity in cultural and ethnic characteristics.

In 2006, 44 persons identified as indigenous in the local study area, with 26 males and 18 females. The indigenous population constituted 2% of the usually resident population (ABS 2006a).

In 2006, the majority of people in the local study area had reported gross individual weekly income of \$400-\$599, which is supported by the median weekly individual income of \$539, which is higher than the Queensland median of \$476 (ABS 2006a, ABS 2006b). There was also a relatively large group with no or negative income.

The total labour force participation was high (72.6%). Very few people were unemployed, with the unemployment rates at 1%. For both women and men, Manager was the most common type of occupation (444 persons), followed by Labourers (261 persons) and Machinery Operators and Drivers (110 persons). In conjunction with the large dominance of agriculture in the local study area, the large number of managers is likely to reflect a large number of self employed property owners and/or employed managers.

In 2006 the largest home loan repayment bracket in the local study area was \$2,000 to \$2,999 per month, followed by \$3,000 and over. It should be noted that 54% of the respondents did not state their housing loan repayment levels and with the only 81 dwellings being purchased at the time, it is difficult to draw any certain conclusions from the data. More than 70% of the 191 rented dwellings were being rented for less than \$49 per week. These very low rents may indicate a large proportion of employer subsidised rental housing.



The CCDs to the south west of the local study area were more disadvantaged than those in the middle of Project or the north-eastern area of the local study area.

There was no social infrastructure located within the local study area. There were some service providers who would travel to the landholders; however the majority of people living in the area need to travel to towns where services are provided. The only social service that comes to landholders is the Central Queensland Rescue Helicopter (based in Mackay) and/or ambulance.

Regional Study Area

Each of the towns in relative proximity to the Project has different settlement histories:

- ▶ Alpha (1884) rail;
- ▶ Clermont (1864) sheep and mining (including gold, copper and coal);
- ▶ Collinsville 1866) mining (coal); and
- ▶ Bowen (1861) pioneering and World War II history.

People living in the regional study area defined themselves as having a strong sense of community and community pride. They would like to see the towns in their region to develop to encourage young people and families to stay, which supports the provision of community services and facilities, such as medical and educational services.

The regional study area has a diverse mix of land use including with agriculture (livestock and crops) and mining being the main industries.

The population of the regional study area has remained from 2004 to 2009 at 52,988. The population of the Barcaldine Regional Council LGA decreased from 2004 to 2009 by 0.4%. The population of the Isaac Regional Council LGA increased from 2004 to 2009 by 2.6%. The population of the Whitsunday Regional Council LGA increased from 2004 to 2009 by 2.8%. The population of the regional study area is expected to increase from 2009 to 2031, from 59,988 to 86,056 and each of the regional council LGAs are expected have an increase in their populations.

In 2009, OESR calculated the FTE population for the Bowen Basin, including the pre-amalgamated boundaries for the Belyando, and Bowen LGAs. The Belyando LGA had a FTE population estimate of 14,109 which included 17% non-resident workers. Bowen LGA had a FTE population estimate of 14,240 which included 2% of non-resident workers.

There were 12,555 families in the regional study area in 2006. The Barcaldine and Isaac Regional Council LGAs had a higher percentage of couple families with children which is consistent with the rest Queensland, however Whitsunday Regional Council LGA had a higher percentage of couple families with no children.

In 2006 the Barcaldine and Whitsunday Regional Council LGAs had a similar population pyramid to the Queensland. Isaac Regional Council had a significantly lower percentage of older people (that is people aged 65 and above) compared to Queensland. This may be representative of the higher percentage of people in the labour force age groups (15-64) in the LGA.

There were 41,056 people born in Australia in the regional study area and 5,433 born overseas. 89.4% of the Barcaldine Regional Council LGA, 81.7% of the Isaac Regional Council LGA and 75.0% of the Whitsunday Regional Council LGA were born in Australia.



There are 1,742 who identified as being Indigenous in the regional study area.

At the time of the 2006 Census, 42.1% of people aged 15 years and over in the Barcaldine Regional Council LGA stated their gross individual weekly income was less than \$400, and 2.3% who stated their gross individual weekly income was higher than \$2,000. At the time of the 2006 Census, 29.4% of people aged 15 years and over in the Isaac Regional Council LGA stated their gross individual weekly income was less than \$400 and 13.7% stated their gross individual income was more than \$2,000. At the time of the 2006 Census, 34.5% of people aged 15 years and over in the Whitsunday Regional Council Local Government Area stated their gross individual weekly income was less than \$400 and 2.0% stated their gross individual income was more than \$2,000.

In the March quarter of 2010, the Barcaldine Regional Council LGA had 2,071 people in the labour force and an unemployed rate of 2.8%. At the time of the 2006 Census Agriculture, Forestry and Fishing was the largest industry of employment in the Barcaldine Regional Council LGA (33.5% of the population). The Barcaldine Regional Council LGA had 12.2% of their labour force employed as technicians or trade workers, 70.7% as machinery operators or drivers and 20.3% as labourers.

In the March quarter of 2010, the Isaac Regional Council LGA had 12,947 people in the labour force and an unemployment rate of 1.4%. At the time of the 2006 Census, Mining was the largest industry of employment in the Isaac Regional Council LGA (38.9%). The Isaac Regional Council LGA had 20.1% of their labour force employed as technicians or trade workers, 24.9% as machinery operators or drivers and 12.3% as labourers.

In the March quarter of 2010, the Whitsunday Regional Council LGA had 18,631 people in the labour force and an unemployment rate of 6.3%. At the time of the 2006 Census, Accommodation and Food Services was the largest industry of employment in the Whitsunday Regional Council LGA (11.6%). The Whitsunday Regional Council LGA had 16.7% of its labour force employed as technicians or trade workers, 9.8% as machinery operators or drivers and 18.1% as labourers.

Median house prices in the Alpha area have increased considerably 2008 and 2009 in comparison to prices from 2000 to 2007. According to an OESR, in the 12 months ending 31 March 2010, there were nine residential dwelling unit approvals valued at \$2.5 million in the Barcaldine Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$7.9 million. According to www.realestate.com.au, the range of house prices in Alpha in July 2010 was \$219,000 to \$369,000 and there were 40 houses for sale. There were five houses for rent with weekly rent ranging from \$160 through to \$230. There were no units, townhouses, villas or apartments for sale or rent in Alpha in July 2010.

Median house prices in the Clermont area were relatively stable from 2000 – 2003 with an increase of prices from 2005 and a peak in 2008 and a decline in 2009. According to an OESR, in the 12 months ending 31 March 2010, there were 95 residential dwelling unit approvals valued at \$28.5 million in the Isaac Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$25 million. According to www.realestate.com.au the range of house prices in Clermont in July 2010 was \$225,000 to \$570,000 and there were 235 houses for sale. There were seven houses for rent with weekly rent ranging from \$280 through to \$420. The range of units, townhouses, villas or apartments prices in July 2010 was \$295,000 to \$450,000 and there were five units, townhouses, villas or apartments for sale. There were 19 units, townhouses, villas or apartments or rent in Clermont in July 2010 ranging from \$280 to \$400 per week.



Median house prices in the Collinsville and Bowen area have been slowly increasing since 2000 with a stabilisation from 2008 – 2009. According to www.realestate.com.au the range of house prices in Collinsville in July 2010 was \$120,000 to \$890,000 and there were 132 houses for sale. There were 52 houses for rent with weekly rent ranging from \$190 through to \$1,100. There was only one unit, townhouse, villa or apartment for sale in July 2010 and it was priced at \$400,000. There were 91 units, townhouses, villas or apartments for rent in Collinsville in July 2010 ranging from \$120 to \$925 per week. According to www.realestate.com.au the range of house prices in Bowen in July 2010 was \$255,000 to \$2,800,000 and there were 580 houses for sale. There were 58 houses for rent with weekly rent ranging from \$190 through to \$1,100. The range of units, townhouses, villas or apartments prices in July 2010 was \$175,000 to \$2,550,000 and there were 110 units, townhouses, villas or apartments for sale. There were 91 units, townhouses, villas or apartments for rent in Bowen in July 2010 ranging from \$120 to \$925 per week. According to OESR in the 12 months ending 31 March 2010, there were 201 residential dwelling unit approvals valued at \$55.9 million in the Whitsunday Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$35.8 million.

At the time of the 2006 Census, there were 96 persons (2.9% of population) in need of assistance with a profound or severe disability in the Barcaldine Regional Council Local Government Area. At the time of the 2006 Census, there were 267 persons (1.3% of the population) in need of assistance with a profound or severe disability in the Isaac Regional Council Local Government Area. At the time of the 2006 Census, there were 1,135 persons (3.9% of the population) in need of assistance with a profound or severe disability in the Whitsunday Regional Council Local Government Area.

At the time of the 2006 Census, the Barcaldine Regional Council local government area had 45.7% of the population in the lowest quintile (most disadvantaged) and 6.5% in the highest quintile (least disadvantaged). At the time of the 2006 Census, the Isaac Regional Council local government area had 5.1% of the population in the lowest quintile (most disadvantaged) and 17.3% in the highest quintile (least disadvantaged). At the time of the 2006 Census, the Whitsunday Regional Council local government area had 27.8% of the population in the lowest quintile (most disadvantaged) and 4.9 in the highest quintile (least disadvantaged).

In 2002-2003 the crime profile of the pre-amalgamated LGA of Jericho, Barcaldine, Blackall, Isisford and Tambo had lower rates of crime than Queensland. In 2002-2003 the crime profile of the pre-amalgamated LGA of Belyando and Nebo had a higher crime rate of offences against the person but lower rates of offences against property and other crime than Queensland. In 2002-2003 the crime profile of the pre-amalgamated LGA of Bowen had had a higher crime rate of offences against the person but lower rates of offences against property and other crime than Queensland.

The total value of agricultural production in the Barcaldine Regional Council Local Government Area in 2005-2006 was \$109.6 million (1.3% of Queensland production). This consisted of 2.5% crops, 88.5% livestock slaughtering and 9.1% livestock products). The total value of agricultural production in the Isaac Regional Council Local Government Area in 2005 – 2006 was \$232.8 million (2.7% of Queensland production). This consisted of 14.0% crops, 86% livestock slaughtering. The total value of the agricultural production in the Whitsunday Regional Council Local Government Area in 2005 – 2006 was \$336.0 million (3.9% of Queensland production). This consisted of 82.8% crops, 17.0% livestock slaughtering and 0.3% livestock products.

The Barcaldine Regional Council Corporate Plan 2009-2014, describes community access to services as one of the regions dilemmas, with the communities not having enough population to support key



infrastructure such as education and health care. Isaac and Whitsunday Regional Councils described themselves as having adequate community infrastructure.

Impact identification and significance

Social impacts have been identified for the feasibility stage of the Project. Social impacts identified for the construction and operational stages of the Project are potential only. Potential social impacts have been identified based in information provided by:

- ▶ Landholders (during EIS community consultation events, SIA case studies and feed back on preliminary results);
- ▶ Regional Councils; and
- ▶ Comparative studies of other rail projects in rural areas (e.g. Northern Missing Link).

The assessment of potential impacts is based Project information available at the time of assessment. The assessment as adopted the relevant International Association for Impact Assessment Social Impact Assessment principles, including the precautionary and uncertainty principle when predicting social impacts. The predicted social impact may change as more information about the Project is known (during the feasibility study, e.g. detailed design) and the Project is being constructed and operated. Therefore actual social impacts of the Project will not be known for certain when writing this report. A monitoring program has been developed in order to provide information on whether potential social impacts actually occur or not.



Table E- 1 Summary of social impacts and opportunities in the feasibility stage

Impact	Stakeholder Group	Existing Project Description					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Health and Wellbeing											
Health impacts ¹	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Loss of aspiration	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Economic and Material Wellbeing											
Decrease in property value	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Decrease in economic resilience	Landholders	Medium	Negative	Long	Local	High					Medium
Family and Community											
Decrease in family cohesion	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Loss of sense of belonging and attachment to place	Landholders	High	Negative	Long	Local	High	High	Negative	Long	Local	Medium
Decrease in community cohesion	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium

¹ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Table E - 2 Summary of the potential social impacts and opportunities during the construction stage of the Project

Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Demographic											
Temporary increase in population	Regional communities	Medium	-	Medium	Regional	Medium	Low	-	Medium	Regional	Low
Concern in relation to presence of construction workers and construction camps	Landholders	Low	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Services and Facilities											
Community services and facilities	Regional Communities	Low	Negative	Medium	Regional	High	Low	Negative	Medium	Regional	Medium
Housing availability	Regional communities	Negligible	-	-	-	-	Negligible	-	-	-	-
Geographic											
Conversion of land use	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	High
Physical splintering	Landholders property	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
	Regional communities	Negligible	Negative	Medium	Regional community	Medium	Negligible	Negative	Medium	Regional community	Low
Physical construction impacts	Landholders	Low	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Health and Wellbeing											
Decrease in health ²	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Loss of aspirations	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium

² Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Loss of autonomy	Landholders	Medium	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Quality of the living environment											
Decrease in the quality of the living environment	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Changes to the natural environment	Landholders	Medium	Negative	Medium	Local	Medium	Low	Negative	Medium	Local	Low
Decrease in personal safety and increase to hazard exposure											
► Road safety	Road users	High	Negative	Medium	Regional	High	High	Negative	Medium	Regional	High
► Fire	Landholders	High	Negative	Medium	Regional	High	High	Negative	Medium	Regional	High
Increase in crime and decrease in security	Landholders	Medium	Negative	Medium	Local	High	Low	Negative	Medium	Local	High
Economic and Material Wellbeing											
Increase in workload for landholders	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Decrease in income, economic prosperity and resilience	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Disturbance to cattle	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Low
Loss of viable land	Landholders	Medium	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Decrease in property values	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Increase in local employment opportunities	Local employees	Low	Positive	Medium	Regional	Medium	Medium	Positive	Medium	Regional	Medium
Increase in skills shortage	Local businesses	Medium	Negative	Medium	Regional	High	Medium	Negative	Medium	Regional	Low



Table E - 3 Summary of social impacts and opportunities in the operational stage

Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Demographic											
Increase in population	WRC LGA	Negligible	-	-	-	-	Negligible	-	-	-	-
Services and facilities											
Housing availability	WRC LGA	Low	Negative	Long	Regional	High	Low	Negative	Long	Regional	Low
Community services and facilities	WRC LGA	Low	Negative	Long	Regional	High	Low	Negative	Long	Regional	Low
Geographic											
Conversion of land use	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Physical splintering	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Physical operational impacts	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Health and Wellbeing											
Decreased in health ³	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Quality of the living environment											
Decrease in the quality of the living environment	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Changes to the natural environment	Landholders	Medium	Negative	Long	Local	Medium	Low	Negative	Long	Local	Medium
Decrease in personal safety and increase to hazard exposure											
► Train safety	Landholders	High	Negative	Long	Local	High	High	Negative	Long	Regional	Medium
► Fire	Landholders	High	Negative	Long	Regional	High	High	Negative	Medium	Regional	Medium

³ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Increase in crime and decreased security	Landholders	High	Negative	Long	Regional	High	Medium	Negative	Medium	Regional	Medium
Economic and Material Wellbeing											
Increase in workload	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Decrease in income, economic prosperity and resilience	Landholders	Low	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Disturbance to cattle and other animals	Landholders	Low	Negative	Long	Local	High	Low	Negative	Long	Local	Low
Loss of cattle or other animals	Landholders	Low	Negative	Long	Local	High	Low	Negative	Long	Local	Low
Increased rates and rents	Regional communities	Medium	Negative	Long	Regional	Low	Low	Negative	Long	Regional	Low
Family and Community											
Alterations to family structure	Landholders	High	Negative	Long	Regional	Medium	Medium	Negative	Long	Regional	Medium



Management Strategies

Identified social impacts during the feasibility stage and potential social impacts identified for the construction and operational stages of the Project are able to be managed. Proactive management of existing social impacts and potential social impacts will decrease their significance.

Table E - 4 Overview of management strategies

Management Strategy	Impact Category																
	Feasibility			Construction							Operation						
	HW	EM	FC	D	G	SF	HW	QLE	EM	FC	D	G	SF	HW	QLE	EM	FC
Project Design				✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Good Neighbour Policy	✓	✓	✓	✓			✓	✓	✓	✓		✓		✓	✓	✓	✓
Individual Landholder Compensation Package	✓	✓			✓		✓	✓	✓	✓		✓		✓	✓	✓	✓
Regional Stakeholder Engagement Program						✓		✓	✓	✓					✓	✓	✓
HPPL Community Development Fund					✓												
Employment and Economic Development Strategy									✓							✓	
<i>Other technical study management strategies</i>																	
EMP (dust, noise, ecological)							✓	✓	✓					✓	✓		
Traffic Management Plan					✓			✓				✓					
Emergency Response Plan								✓							✓		

D- demographic, G – Geographic, SF – Services and Facilities, HW – Health and Wellbeing, QLE – Quality of the Living Environment, EM – Economic and Material Wellbeing, FC – Family and Community, EMP – Environmental Impact Management Plan



Monitoring and Reporting

A Monitoring and Reporting Plan has been developed to monitor the predicted social impacts associated with the Project.



1. Introduction

1.1 Purpose of the Social Impact Assessment

The purpose of the Social Impact Assessment (SIA) is to address the Part B, Section 4 of Terms of Reference (TOR), titled “Social values and management of impacts”. The SIA focuses on the rail component of the Alpha Coal Project. Where possible the SIA report structure has mirrored the TOR structure.

1.2 Project Overview

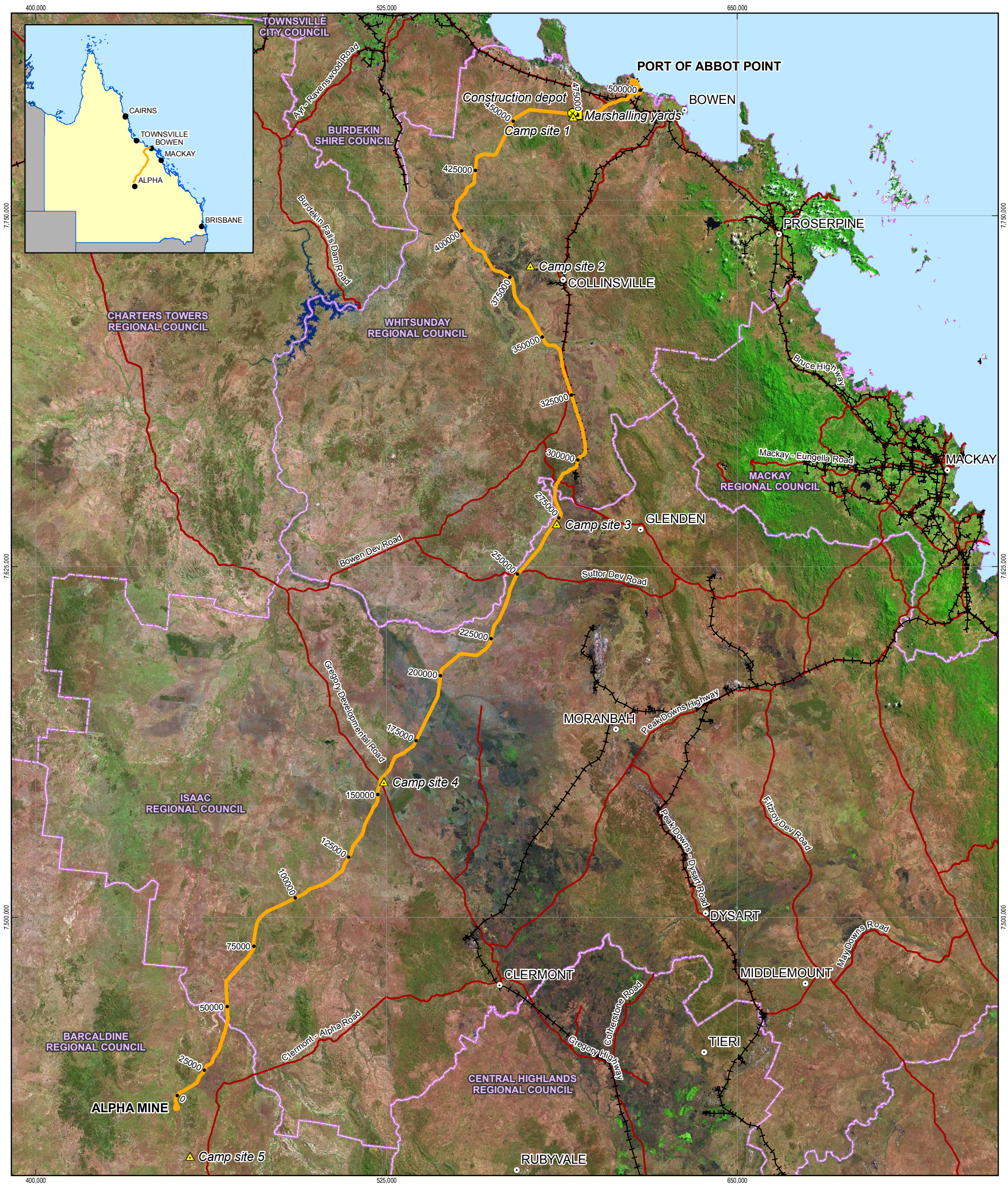
Hancock Prospecting Pty Ltd (HPPL) is proposing to construct a standard gauge, 495 km long railway line for the purposes of transporting processed coal from the Alpha coal mine site, and other potential mines in the Galilee Basin, to the Port of Abbot Point, near Bowen (refer to Figure 1-1). The proposed railway line is a vital piece of infrastructure that will enable export of 60 Mtpa of quality thermal coal to overseas markets in this current stage and has the potential for future expansion.

In September 2009, GHD was commissioned by Hancock to undertake an Environmental Impact Statement (EIS), incorporating a SIA, for the Alpha Coal Project’s proposed rail line (herein referred to as the Project).

The Project stretches between the Alpha coal mine, 38 km northwest of the Alpha Township and the Abbot Point coal export terminal, 25 km north of Bowen. The alignment of the Project has been selected on the basis of several factors, primarily environmental, engineering, economic and geotechnical. The rail corridor proceeds in a generally north-easterly direction from the Alpha mine, crossing the Belyando River and several of its tributaries in the first 100 km. The railway crosses generally relatively flat lowlands before commencing a gentle climb from near Eaglefield adjacent to the Suttor River, to a point near the existing Newlands mine. This is the highest point on the railway at approximately 300 m above sea level. In the vicinity of the Newlands mine, it runs parallel to the Queensland Rail (QR) Northern Missing Link railway for approximately 70 km through a pass in the Leichhardt Range to a point near the Bowen River. It then travels in a north westerly direction crossing the Bowen River, then passing down the Bowen River valley through mostly grazing land toward Mt Herbert, where it passes to the west of Mt Herbert through a pass in the Clarke Range. From this point, it travels north-easterly crossing the Bogie River, then finally in an easterly direction entering the Abbot Point area on its western boundary.

The railway passes approximately 70 km to the northeast of the town of Clermont, 55 km to the northeast of the town of Moranbah, 35 km to the east of Mt Coolon, 20 km to the west of Collinsville, and enters the Abbot Point area 25 km west of Bowen.

Please refer to Volume 3: Section 2 of the Environmental Impact Statement (EIS) for a full project description.

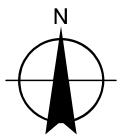


- LEGEND**
- Town
 - Camp
 - Marshalling Yards
 - Depot
 - Proposed Alignment
 - State Road
 - Existing Railway
 - Local Government Area

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1:1,250,000 (at A3)
0 5 10 20 30 40 50
Kilometres
Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55



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HANCOCK PROSPECTING PTY LTD
Alpha Coal Project
Environmental Impact Statement

STUDY AREA

Job Number | 41-22090
Revision | A
Date | 04-08-2010

Figure: 1-1



1.3 Assumptions and Limitations

Data contained in this report has been drawn from publicly available sources, SIA stakeholders and specialist advice from HPPL. While all due care has been taken when applying the data, GHD Pty Ltd accepts no responsibility for the accuracy of data provided by third parties.

GHD has adopted the relevant International Association for Impact Assessment (IAIA) Social Impact Assessment principles, including the precautionary and uncertainty principle when predicting social impacts. The predicted social impact may change as more information about the Project is known (during the feasibility study, e.g. detailed design) and the Project is being constructed and operated. Therefore actual social impacts of the Project will not be known for certain when writing this report. A monitoring program has been developed in order to provide information on whether potential social impacts actually occur or not.

GHD has not contracted a medical practitioner to undertake any medical or psychological testing. Any reference to medical, health, wellbeing or psychological impacts are based on the self diagnosis of the person providing the information.

Workforce numbers and characteristics provided in Section 6 are based on estimates only and are likely to change as the Project moves into the detailed design phase. Operational workforce numbers are dependant on the mine production, with increases in production leading to a greater need for both mine and rail workers.

Given the distance of the Project, the cost of undertaking a comprehensive SIA consultation process was prohibitive and the timeframe within which the Environmental Impact Statement (EIS) and hence SIA was required made comprehensive consultations impossible to achieve.



2. Methodology

2.1 Introduction and Background

This section provides an overview of the methodology used to conduct the SIA. The aim of the SIA methodology was to gain a sufficient level and type of data and information on which to respond to the TOR and provide a practical basis on which to predict potential social impacts and develop a relevant Social Impact Management Plan (SIMP).

Research by Howitt and Jackson (2000) found the majority of benchmarks for SIA methodologies are based on relatively discrete, spatially contained project configurations rather than extended linear configurations. Given the lack of linear SIA methodology benchmarks GHD developed a Project specific SIA methodology based on the SIA undertaken for the Alice Springs to Darwin Railway (ADR). Given the distance of the Project, this SIA faced similar constraints to the ADR. Similarly, the cost of comprehensive consultation process would be prohibitive and the timeframe in which the SIA Report was required made comprehensive consultations impossible to achieve.

The ADR and this Project are similar, in that they are both railways:

- ▶ Covering significant distances (ADR over 1,000 kms and the Project nearly 500 kms);
- ▶ Cross a variety of environments;
- ▶ Standard gauge; and
- ▶ Private railways.

However they are also different in that the ADR was designed for a variety of bulk freight and passengers, whereas the Alpha Coal (Rail) Project is for bulk freight only, predominantly coal.

2.2 Overview of Methodology

An overview of the methodology is provided in Table 2-1.

Table 2-1 SIA Methodology

Step	Task
1.	Scoping exercise (including identification social and cultural area of influence and SIA stakeholders)
2.	Meeting with SIAU(DIP), approval for SIA methodology
3.	Development of report structure and indicators
4.	Contract ABS to collate Census Collection District (CCD) data for social and cultural area
5.	Desk based research to respond to TOR (including comparative analysis)
6.	Project description for rail component finalised
7.	Consultations with SIA stakeholders (meetings with Regional Councils, participation in EIA Community Consultation Events and SIA case studies)
8.	Workshop with HPPL on draft SIMP
9.	Meeting with all landholders to discuss preliminary findings of SIA and management strategies.



Step	Task
10.	Meeting with SIAU to discuss preliminary findings of the SIA and SIMP
11.	Finalisation of draft SIA and draft SIMP

2.3 Comparative Analysis

Table 2-2 provides the list of comparative case studies used throughout the SIA process. The SIA report addresses the steps in the design phase of Table 2-2, and the draft SIMP provides guidance on how to address the steps in the Implementation Phase.

Table 2-2 Comparative Cases Used in the Hancock Rail SIA

SIA Process	Comparative Case Studies
<i>Design Phase</i>	
Scoping	<p>Northern Missing Link SIA (rail project in the Bowen Basin)</p> <p>Longitudinal social assessment of the Coppabella coal mine (mining development in the Bowen Basin)</p> <p>Published books or journal articles on the Alice Springs to Darwin Railway SIA</p> <p>CRC for Rail Innovation assessment of social, economic and environmental impacts of transport modes</p>
Profiling/baseline	Built on existing data and data generated from stakeholder consultation
Prediction of potential impacts	<p>Local knowledge and experience from SIA stakeholders</p> <p>Northern Missing Link SIA (rail project in the Bowen Basin)</p> <p>Longitudinal social assessment of the Coppabella coal mine (mining development in the Bowen Basin)</p> <p>Published books or journal articles on the Alice Springs to Darwin Railway SIA</p> <p>CRC for Rail Innovation assessment of social, economic and environmental impacts of transport modes</p>
<i>Implementation Phase</i>	
Monitoring	Refer to the requirements of the Queensland Government Social Impact Management Plan Guidelines and Template
Evaluation	Refer to the requirements of the Queensland Government Social Impact Management Plan Guidelines and Template
Ex-post studies	Refer to the requirements of the Queensland Government Social Impact Management Plan Guidelines and Template

2.4 Integration with the EIA Public Consultation Process

The SIA consultations were closely integrated with the Environmental Impact Assessment (EIA) Public Consultation process. A SIA practitioner participated in the EIA public consultation events including:

- Community Information Sessions; and
- Attending Regional Shows.



Key findings of the EIA Public Consultation process have been incorporated into the relevant sections of the SIA and are provided in Section 1 of the EIS.

2.5 SIA case studies

A key component of the SIA was the development and incorporation of case studies into the SIA. GHD aimed to have ten completed case studies for the SIA. The following criteria were used to identify a potential list of landholders to invite to participate in a SIA case study:

- ▶ Landholders who had already signed voluntary access agreements;
- ▶ A geographical spread across the Project corridor; and
- ▶ Landholders who would be willing to participate and provide honest feedback on the Project.

The following process was used to decide which landholders to invite to participate in the SIA case study:

1. GHD drafted a list of potential landholders based on notes from land access negotiators;
2. A land agent reviewed the potential list and made amendments (the land agent who had participated in gaining voluntary access agreements for the Project);
3. HPPL reviewed the potential list and made amendments;
4. The land agent contacted landholders on the potential list of SIA case studies and asked whether the landholder was interested or not.
5. GHD sent out Information and Consent Form and SIA Case Study Questions to interested landholders.
6. The land agent contacted landholders and asked if they would like to participate or not. If landholders were interested, a date and time to do the case study was made. If not, another landholder was contacted.

Prior to conducting the SIA case studies, GHD asked if the landholders were happy to participate or not. If the landholders were, they were asked to sign the Information and Consent Form. Landholders were provided with the option of having the case study published anonymously. Each of the landholders chose to have anonymous case studies. Therefore, information in the case studies has been published (where possible) without any identifiers of the landholders or their properties.

The original Information and Consent Form was posted back the landholders (with copies of hand written notes if requested). Draft case studies were provided to the landholders for their comments and changes either by post or e-mail. Once the changes to the draft case studies were made, the final version was sent (by post or e-mail) to the landholder for their records. Landholders only saw their case study prior to finalisation. The SIA Report is the first time that all SIA case studies have been provided together.

A total of nine draft case studies were completed, of these eight have been published with agreement from the respective landholders.

The information contained in the case studies is the opinion of the landholders based on the information they had about the Project at the time. GHD has not amended the case studies without the permission of the landholders. The case studies which are published in Appendix C are the same as were provided to the landholders.

Broader consultations for the SIA is set out in Section 7.



2.6 Impact Identification

2.6.1 Guiding Principles

GHD has adopted the International Association for Impact Assessment (IAIA), Social Impact Assessment International Principles. The following guiding principles have been utilised when identifying social impacts and management strategies:

- **Precautionary principle**

In order to protect the environment, a concept which includes people's way of life and the integrity of their communities, the precautionary approach shall be applied. Where there are threats or potential threats of serious social impact, lack of full certainty about those threats should not be used as a reason for approving the planned intervention or not requiring the implementation of mitigation measures and stringent monitoring.

- **Uncertainty principle**

It must be recognised that our knowledge of the social world and of social processes is incomplete and that social knowledge can never be fully complete because of the social environment and the processes affecting it are changing constantly, and vary from place to place over time.

- **Intra and intergenerational equity**

The benefits from the range of planned interventions should address the needs of all, and the social impacts should not fall disproportionately on certain groups of the population, in particular children and women, people with disabilities and the socially excluded, certain generations or certain regions.

Development activities or planned interventions should be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.

- **Recognition and preservation of diversity**

Communities and societies are not homogenous. They are demographically structured (age and gender) and they comprise different groups with various values systems and different skills. Special attention is needed to appreciate the existence of the social diversity that exists within communities and to understand what the unique requirements of special groups may be. Care must be taken to ensure that planned interventions do not lead to a loss of social diversity in a community of diminishing social cohesion.

- **The prevention principle**

It is generally preferable and cheaper in the long run to prevent negative social impacts and ecological damage from happening than having to restore or rectify damage after the event.

- **The protection and promotion of health and safety**

Health and safety are paramount. All planned interventions should be assessed for their health impacts and their accident risks, especially in terms of assessing and managing the risks from hazardous substances, technologies or processes, so that their harmful effects are minimised, including not bringing them into use or phasing them out as soon as possible. Health impacts cover the physical, mental and social wellbeing and safety of all people, paying particular attention to those groups of the population who are more vulnerable and more likely to be harmed, such as the



economically deprived, indigenous groups, children and women, the elderly, the disabled, as well as to the population most exposed to risks from the planned intervention.

- ▶ The principle of subsidiarity

Decision making power should be decentralised, with accountable decisions being made as close to an individual citizen as possible. In the context of SIA, this means about the approval of planned interventions, or conditions under which they might operate, should be taken as close to the affected people as possible, with local people having an input into the approval and management processes.

2.6.2 Conceptual Framework

GHD adopted the van Schooten *et al* (2003) conceptual framework of identifying social impacts. In this conceptual model, there is a clear distinction between social change processes and social impacts.

A social change process is described by van Schooten *et al* (2003) as being able to be measured objectively, independent of the local context, they are set in motion by project activities or policies and can lead to several iterations of change (first, second and third order changes) and each of these can lead to social impacts occurring. van Schooten *et al* (2003) explain that the ways in which social change processes are perceived, given meaning or valued depend on the societal context in which various societal groups act. Some sectors of society, or groups in society, are able to adapt quickly and exploit the opportunities of a new situation. Others (for example various vulnerable groups) are less able to adapt and will bear most of the negative consequences of change. Therefore social impacts are implicitly context dependent.

A social impact is described by van Schooten *et al* (2003) as something that is actually experienced by humans in either a corporeal (physical) or cognitive (perceptual) sense and results directly from the social change processes that are invoked by a project (direct social impacts). Indirect social impacts are a result of changes in the biophysical environment. To apply this framework:

- ▶ Population growth or the presence of construction workers, are social change processes that may lead to social impacts.
- ▶ Resettlement can lead to processes of rural to urban migration and changes in food production, in addition the social experience of change (that is the social impacts) can also prompt people to undertake other behaviour that leads to further social change processes, such as unemployment.
- ▶ Economic developments which increase the number of tourists in a particular area can have serious influence on land use and water quality, this in turn can have indirect social impacts through a reduction in agricultural production and subsequently on income level for smallholder farms.

3. Social and Cultural Area of Influence

3.1 Introduction

The definition of the social and cultural area of influence was defined as part of the initial scoping study (as described in Table 2-1). Table 3-1 sets out how the TOR considerations were addressed when defining the social and cultural area of influence. The social and cultural area of influence consists of a local and regional study area.

Table 3-1 Considerations for the Project's Social and Cultural Area of Influence

Consideration	How Considered
The potential for social and cultural impacts to occur at the local, district, regional and state level	<p>Landholders will face the majority of impacts associated with the Project, and therefore are the focus of the local study area.</p> <p>Closest towns to the Project are Alpha, Clermont, Collinsville and Bowen, however these towns are more than 20 kms away and have been included in the regional study area. Therefore the regional study area will incorporate the Local Government Areas (LGAs) of :</p> <ul style="list-style-type: none"> ▸ Barcaldine Regional Council; ▸ Isaac Regional Council; and ▸ Whitsunday Regional Council.
The location of other relevant proposals or projects within the local area, district or region	<p>There are other of other state significant projects⁴ in the district and region:</p> <ul style="list-style-type: none"> ▸ Kevin's Corner (adjacent to the Alpha Coal Mine); ▸ X110 Expansion Project (adjacent to the existing Abbot Point Coal Terminal); ▸ Abbot Point Multi Cargo Facility (at the Port of Abbot Point); ▸ Galilee Coal (Northern Export Facility), 30 kms west of Alpha; and ▸ Galilee Basin Power Station (30 kms west of Alpha). <p>Other large scale projects going through an environmental approval process at the Commonwealth level include the X110 and Multi Cargo Facility projects associated with Abbott Point (near Bowen).</p> <p>Recently constructed resource projects along the rail corridor include:</p> <ul style="list-style-type: none"> ▸ Coal Connect (Northern Missing Link EIS) – history of rail EIS ▸ Other Coal Projects – history of coal developments; ▸ Water pipeline (Sunwater); ▸ Electrical easement (Powerlink).

⁴ Currently developing EIS under Part 4 the *State Development and Public Works Organisation Act 1971*



Consideration	How Considered
The location and types of physical and social infrastructure, settlement and land use patterns	The majority of land use along the Project is agricultural with dispersed settlements focused around homesteads on properties. Coal mining and associated infrastructure is also present in the central portion of the rail corridor, and it enters the industrial designated areas in the north near the Port of Abbot Point.
The social values of the area, district and region that might be affected by the project (e.g. including integrity of social conditions, visual amenity and liveability, social harmony and wellbeing, and sense of community)	Based on a review of information available on Regional Council websites, lifestyle and community identity were strong social values in the local and regional study area.
Indigenous social and cultural characteristics such as native title rights and interest and cultural heritage	Based on initial searches of the native title register – there are three native title claims over the rail corridor. Any native title rights and interests will be considered through Indigenous Land Use Agreements (ILUA) and cultural heritage impacts will be considered through the draft Cultural Heritage Management Plan (CHMP).

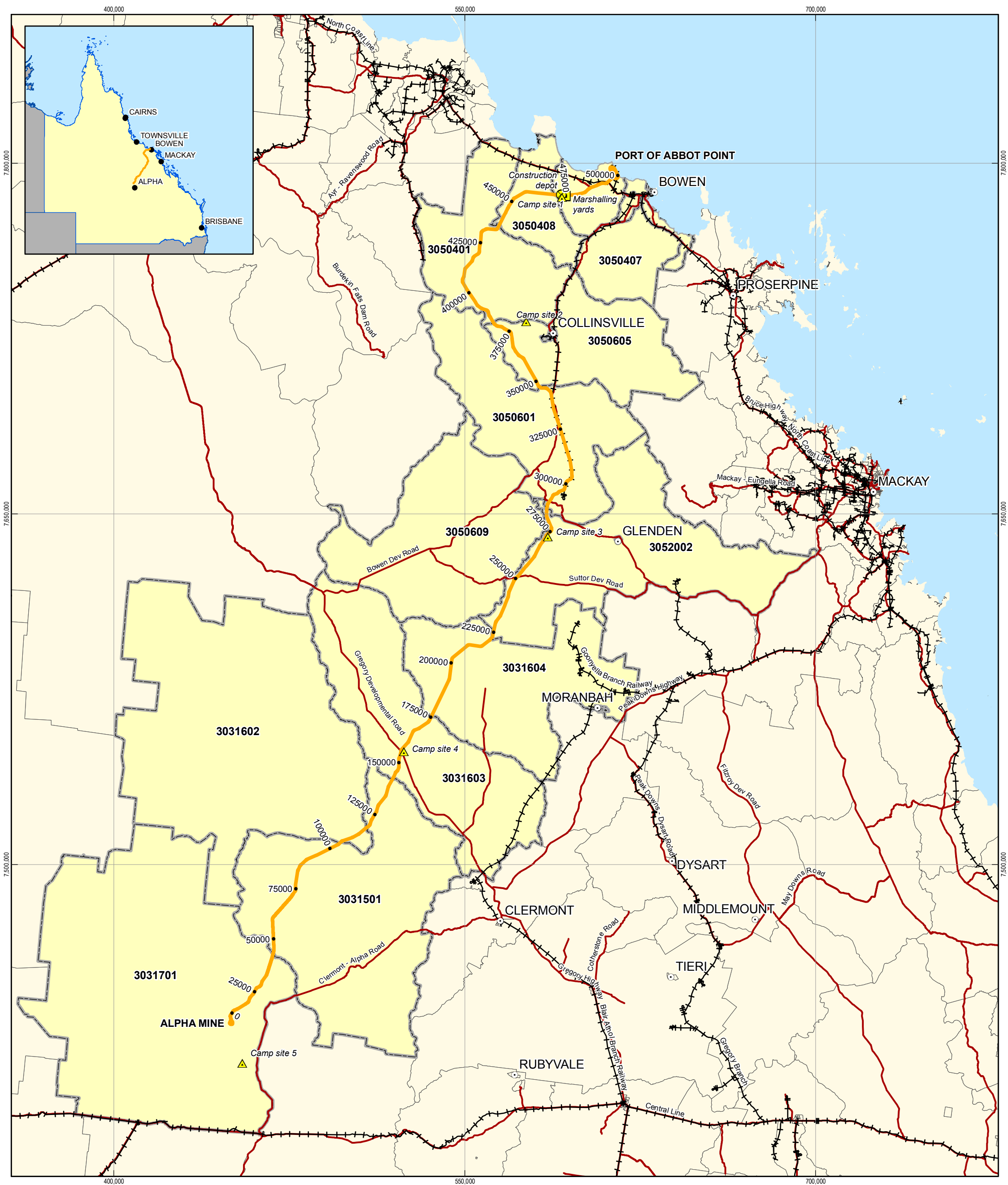
3.2 Local Study Area

The local study area for the SIA is based on the Australian Bureau of Statistics (ABS) Census Collection Districts (CDDs) that are intersected by the rail corridor (refer to Figure 3-1):

- | | |
|-----------|------------|
| ▸ 3031701 | ▸ 3050601 |
| ▸ 3031501 | ▸ 3050605 |
| ▸ 3031602 | ▸ 3050401 |
| ▸ 303160 | ▸ 3050402 |
| ▸ 3031604 | ▸ 3050408; |
| ▸ 3052002 | ▸ 3050609 |

3.3 Regional Study Area

The regional study area includes the Local Government Areas (LGAs) of Barcaldine Regional Council (closest town to the rail corridor is Alpha), Isaac Regional Council (towns close to the rail corridor include: Moranbah, Clermont and Glendon), and Whitsunday Regional Council (closest towns to the rail corridor are Collinsville and Bowen). Figure 3-2 shows the Regional Study Area.



LEGEND

- Town
- Camp
- Marshalling Yards
- Depot
- State Road
- Existing Railway
- Proposed Alignment
- Impacted Census District
- Census District

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1:1,500,000 (at A3)

0 7.5 15 30 45 60 75

Kilometres

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55

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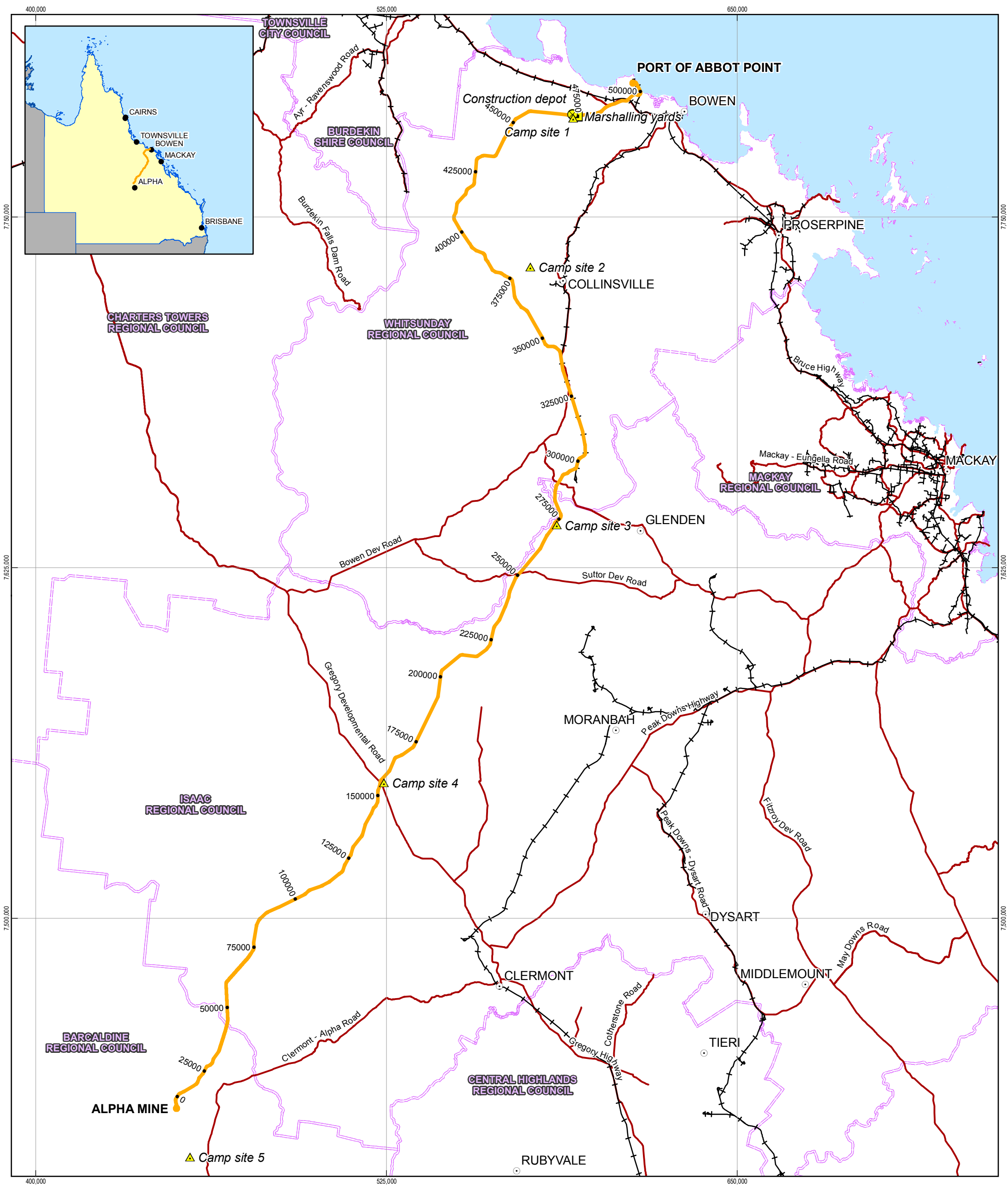
Alpha Coal Project
Environmental Impact Statement

**CENSUS COLLECTION
DISTRICTS AND
STATISTICAL LOCAL AREAS**

Job Number | 41-22090
Revision | A
Date | 09-08-2010

Figure: 3-1

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- LEGEND**
- | | | |
|---------------------|----------------------|-----------------------|
| ○ Town | — Proposed Alignment | Local Government Area |
| ▲ Camp | — State Road | |
| ■ Marshalling Yards | — Existing Railway | |
| ⊗ Depot | | |

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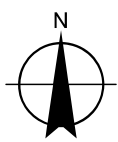
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0 5 10 20 30 40 50

Kilometres

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55



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Alpha Coal Project
Environmental Impact Statement

Job Number	41-22090
Revision	A
Date	04-08-2010

REGIONAL STUDY AREA

Figure: 3-2

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4. Social Baseline Study – Regional Study Area

4.1 Introduction

This section addresses section 4.1.3 of the TOR. Information contained in this section sourced from publicly available data (e.g. Australian Bureau of Statistics (ABS) Census), reports (e.g. as produced by the Office of Economic and Statistical Research (OESR), local government plans and reports, information provided by Regional Councils during consultations for the SIA. The regional study area is defined as the Local Government Areas (LGAs) of the Barcaldine, Isaac and Whitsunday Regional Councils, refer to Figure 3-2.

4.2 Settlement Patterns

Relevant towns in the regional study area have different histories and settlements patterns, which have been summarised in Table 4-1.

Table 4-1 Settlement patterns of potentially impacted towns in the regional study area

Town	History and Settlement Pattern
Alpha	Alpha is known as “the gateway to the west” as it is considered to be a good stopover when travelling between Rockhampton and Longreach or Barcaldine. Alpha was established in 1884 to serve the construction of the railway.
Clermont	Clermont’s history is based on agriculture, predominantly sheep until the shearing strikes. Based on the overnight growth of the gold rush (in 1861), Clermont was gazetted a town in 1864. Copper was discovered in 1862. Coal was also discovered around the same time. The area saw a decline of population but the combination of gold, copper and coal at Blair Athol, and the sheep and beef industries ensured that even during the most difficult times the town survived.
Collinsville	Collinsville is a coal mining town and was recognised for its coal as early as 1866. Collinsville was known for many years as Moongunya; which is the Aboriginal name for coal.
Bowen	Bowen was founded in 1861 and lays claim to Queensland’s oldest town. Bowen is proud of its pioneering and shipwreck history. Bowen has direct links to World War II and the surrounding region has a rich agricultural history.

4.3 Identity, Values and Aspirations

The identity, values and aspirations of people living in the regional study area have been documented in Regional Council documents and are summarised in Table 4-2.

Table 4-2 Identity, values and aspirations in the regional study area

Town	Identity , values and aspirations
Barcaldine	<p>The following is a quote from the Barcaldine Regional Council Community Plan (p. 7):</p> <p><i>“Residents value the region’s relaxed rural lifestyle, friendly people and strong sense of community. The region has a rich Indigenous and European history and many heritage sites. The region’s strong rural economy is bolstered by a growing tourism sector with further potential for minerals expansion. People contribute strongly to their community with a high level of volunteering fostering self-reliant, cooperative communities.”</i></p>
Isaac	<p>The following is a quote from the Isaac Regional Council 2020 Vision 2009-2019 (p. 6) relates to the diverse lifestyle in the region:</p> <p><i>“Many of us, regardless of our age or location, enjoy living in the region because of the opportunities to spend time with family and develop strong and honest relationships with our neighbours and friends. We value the relative safety of where we live and believe our children are accepted and cared for. It is this connectivity and community spirit that many of us have identified as being essential to the quality of life in our smaller communities.</i></p> <p><i>As spending time outdoors and being active and healthy is part of our lifestyle we would welcome opportunities to connect with our family and friends in environmentally sustainable ways. We value safe and modern sporting facilities, well maintained recreational reserve amenities and extension to our current walking paths and footpaths. We believe the provision of social and educational programs for families, single people, children, young people and the aged will also assist us to connect to our families and communities.</i></p> <p><i>Many of us see our communities as unique and value occasions to celebrate who we are, what we have done and where we have come from. We value our talented local artists and their depiction of our lifestyles. The creation of an Isaac identity through arts, culture and heritage development will continue to unite us and draw recognition to our region.”</i></p>
Whitsunday	<p>The Whitsunday Regional Council is in the process of developing their Community Plan under the <i>Sustainable Planning Act 2009</i>, in which they will describe the identity, values and aspirations of the people living in their region.</p>

During meetings with the Regional Councils, participants were asked to describe the identity and values of the towns likely to be impacted by the Project, these are summarised in Table 4-3.

Table 4-3 Identify and value of potentially impacted towns in the regional study area

Town	Identity and Values
Alpha	<p>People living in Alpha were described as having a high sense of community and connection to place which is demonstrated by the high level of volunteers who maintain vital community services (such as the ambulance). The values and lifestyles of living in a small community were important to people living in Alpha. The rail and agricultural industries are key in the development and maintenance of the town. The population of Alpha is slowly decreasing because of decreasing services. There is a drive to keep young people in the region however there are restrictions on population growth due to the limited availability of land and housing, employment, water and electricity services. Younger people are staying in the region but not the town of Alpha, there is a trend of young men returning to the region after school, however young women do not. It was explained that this is because of the employment opportunities in the mines. The number of older people living in town is decreasing due to the lack of aged services, people can not 'age in place.'</p>
Clermont	<p>The social community of Clermont and identification as being from Clermont is larger than the geographical boundary of Clermont. It was explained that the social community of Clermont ranges from 80 kms to the south west along the Alpha to Clermont Road and 40 kms to the south east along the Gregory Highway. People who identify with Clermont would like the town to grow in numbers and are actively pursuing this growth with a proactive business group. The focus of the growth is to encourage families to relocate to Clermont, which in turn will bring access to more community services.</p>
Collinsville	<p>People living in Collinsville have a wonderful sense of community and a high pride of place. The population of Collinsville is aging and there is a growing demand for aged services so people can 'age in place'. The town is dependant on the mining industry but needs the workforces to be located in town (not in accommodation camps) so there is a permanent demand for much needed services such as health (which is provided based on population numbers).</p>
Bowen	<p>People living in Bowen and Merinda were described as being highly conservative with strong ties to the land and the region. There is a high level of pride in living in the region and a strong sense of community. The environment plays a key role in the identification to the region. People in the region want the area to grow and develop, however not at the cost of community diversity or by displacing people who already live in the area. This focuses on the impacts of housing and people having to leave the area because they can no longer afford to live there.</p>

Source: meetings with Regional Councils

4.4 Overview of Demographics

Various data sets have been utilised in order describe the demographics of the regional study area. Table 4-4 provides a summary of the different data sets for the indicators used to describe the regional study area.

Table 4-4 Indicators and data sets used to describe demographics of the regional study area

Section	Indicator	Data Set	Geographical Area
5.4.1	Population	Australian Bureau of Statistics, Regional Population Growth (Cat no. 3218.0) and unpublished data	LGA, post-amalgamation (updated by OESR)
5.4.2	Full time equivalent population	OESR research	LGA, pre-amalgamation
5.4.3	Population change	Australian Bureau of Statistics, Regional Population Growth (Cat no. 3218.0) and unpublished data	LGA, post-amalgamation (updated by OESR)
5.4.4	Population projections	Queensland Government Department of Infrastructure and Planning, Planning Information and Forecasting Unit, SLA population projections 2008 edition (Medium series) Queensland Government, Population Projections to 2056: Queensland and Statistical Divisions, 3rd edition, 2008. Australian Bureau of Statistics, Population Estimates by Age and Sex, Australia and States (Cat. no. 3235.0.55.001)	LGA, post-amalgamation (updated by OESR)
5.4.5	Population pyramids	Australian Bureau of Statistics, Population by Age and Sex, Regions of Australia (Cat. no. 3235.0)	LGA, post-amalgamation (updated by OESR)
5.4.6	Indigenous population	Australian Bureau of Statistics, Census of Population and Housing, Indigenous Profile - I02	LGA, post-amalgamation (updated by OESR)
5.4.7	Industry and occupation	Australian Bureau of Statistics, Census of Population and Housing, 2006, Basic Community Profile - B42	LGA, post-amalgamation (updated by OESR)
5.4.8	Individual weekly income	Australian Bureau of Statistics, Census of Population and Housing, 2006, Basic Community Profile - B16	LGA, post-amalgamation (updated by OESR)
5.4.9	Value of agriculture production	Australian Bureau of Statistics, Agricultural Commodities, Australia, 2005-06, (Cat. no. 7125.0)	LGA, post-amalgamation (updated by OESR)
5.4.10	Socio-Economic Index of Disadvantage	Australian Bureau of Statistics, Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia - Data only, 2006, Cat. no. 2033.0.55.001 (OESR derived)	LGA, post-amalgamation (updated by OESR)

Section	Indicator	Data Set	Geographical Area
5.4.11	Need for assistance	Australian Bureau of Statistics, Census of Population and Housing, 2006, Basic Community Profile - B17	LGA, post-amalgamation (updated by OESR)

4.4.1 Population

The estimated resident population of the Barcaldine, Isaac and Whitsunday Regional Council Local Government Areas (LGAs) and the percentage of the Queensland population in 2009 is shown in Table 4-5.

The Whitsunday Regional Council has the highest population of the three Regional Councils and Barcaldine has the lowest.

Table 4-5 Estimated Resident Populations for Barcaldine, Isaac and Whitsunday Regional Council LGA (2009)

LGA	Estimated Population	Percentage of Queensland Population
Barcaldine	3,376	0.1
Isaac	22,417	0.5
Whitsunday	34,195	0.8
Regional Study Area	59,988	1.3
Queensland	4,425,103	-

Source: OESR (2010b, c and d)

4.4.2 Full Time Equivalent Population

The Office of Economic and Statistical Research (OESR) undertakes an annual review of the Bowen Basin's non-resident worker population, *Bowen Basin population report: full time equivalent (FTE) population estimates, July 2009* (the 2010 OESR Report). The 2010 OESR Report presents and discusses data in the pre-amalgamated boundaries of Banana Shire Council, Central Highlands Regional Council, Isaac Regional Council and Whitsunday Regional Council (Bowen Statistical Local Area only). The OESR Report provides a table of geographical concordances and naming conventions used in the report which has been replicated in Table 4-6.

Table 4-6 Geographical concordances and naming conventions used in the 2010 OESR Report

2008 LGA Name	2006 LGA and SLA name	2008 SLA name	SLA name used in the OESR Report
Banana (S)	Banana (S) Taroom (S)	Banana (S)*	Banana
Central Highlands (R)	Bauhinia (S)	Central Highlands (R) –	Bauhinia



2008 LGA Name	2006 LGA and SLA name	2008 SLA name	SLA name used in the OESR Report
		Bauhinia	
	Duaringa (S)	Central Highlands (R) – Duaringa	Duaringa
	Emerald (S)	Central Highlands (R) – Emerald	Emerald
	Peak Downs (S)	Central Highlands (R) – Peak Downs	Peak Downs
Isaac (R)	Belyando (S)	Isaac (R) – Belyando	Belyando
	Broadsound (S)	Isaac (R) – Broadsound	Broadsound
	Nebo (S)	Isaac (R) – Nebo	Nebo
Whitsunday**	Bowen (S)	Whitsunday (R) – Bowen	Bowen

Source: OESR (2010a)

Note: (S) – Shire and (R) – Regional Council

* The 2008 boundaries of the SLA of Banana (S) include part of former Taroom (S)

** The OESR Report only includes the former Bowen (S) and not other parts of the Whitsunday Regional Council area

The OESR 2010 Report includes the following towns relevant to the regional study area:

- ▶ Clermont;
- ▶ Collinsville; and
- ▶ Bowen.

The data and analysis for Belyando and Bowen SLAs have been replicated in this section. The OESR 2010 Report does not include data from the Barcaldine Regional Council area, it is assumed that this is because it is outside the study area defined as the Bowen Basin.

The FTE population measure differs from the ABS resident population estimates in that it represents a 'snapshot' of the total number of persons living in an area at a particular point in time. By contrast, the ABS resident population figures are an estimate of the number of people who reside permanently in an area, as at 30 June for the given year. It should be noted that the number of residents actually present in an area at any given time will vary, as some may be temporarily absent for reasons such as holidays, schooling or work commitments.

To inform the preparation of the 2009 FTE population estimate, OESR undertook a survey of all commercial accommodation providers in the Bowen Basin early in the third quarter of 2009. The survey counted the number of people living in Single Person Quarters (SPQs), hotels, motels, caravan parks and other accommodation (e.g. private dwellings head leased by companies and managed by real estate agents and some farm-stay accommodation if occupied by non-resident workers other than season agricultural workers) at the end of July 2009.

Table 4-7 provides the data for the number of non-resident workers by accommodation type in the Belyando and Bowen SLAs in 2009. Table 4-8 provides the 2010 OESR Report data on the number of SPQ bed capacities in the Belyando and Bowen SLAs.



Table 4-7 Non-resident workers by accommodation type in Belyando and Bowen SLAs, July 2009

SLA	SPQ	Hotels and motels	Caravan parks and other	Total
Belyando	1,890	137	323	2,350
Bowen	112	15	125	252
Total	2,002	152	448	2,602

Source: OESR (2010a)

Table 4-8 SPQ bed capacity and occupancy in Belyando and Bowen SLAs, July 2009

SLA	Total capacity of SPQ @ 31 July 2009 (beds)	Non-resident workers counted in SPQs @ 31 July 2009*	Occupancy rate for SPQs @ 31 July 2009*
Belyando	2,629	1,890	72%
Bowen	146	112	77%
Total	2,775	2,002	72%

Source: OESR (2010a)

* Note, refers to beds occupied by non-resident workers and staff members of the accommodation centre on a medium to long-term basis – it does not include overnight or short term occupants.

Belyando

According to the 2010 OESR Report, the SLA of Belyando had an FTE population of 14,109 people in 2009, made up of 11,759 usual residents and 2,350 non-resident workers. Around 80% of Belyando's non-resident worker population (or 1,933 people) were located in or near Moranbah. The balance of Belyando's non-resident workers lived in Clermont (417). Data from the 2010 OESR Report for the Belyando SLA is shown in Table 4-9.

Table 4-9 Population estimates for Belyando SLA and localities, July 2009

Area	FTE population and components, July 2009			Non-resident workers as % of FTE population
	Resident Population (estimated)	Number of non-resident workers	FTE population estimate	
Clermont	1,953	417	2,370	18%
Moranbah	8,225	1,933	10,158	19%
SLA remainder	1,580	0	1,580	0%
Belyando SLA	11,759	2,350	14,109	17%

Source: OESR (2010a)

Note that the differences between totals and the sum of their components are due to rounding of population estimates.

According to the 2010 OESR Report, the FTE of Belyando SLA rose between 2006 and 2009, with a peak in 2008. OESR attributed the majority of this growth to a steady increase in the residential population of the area with a net increase of 610 comparison, net growth in the non-resident worker population in the Belyando SLA over the same period was only 231 people, with most change occurring



between 2007 and 2008. The peak of 3,194 non resident workers reached coincided with the temporary construction workforces of several large projects (namely Clermont coal mine and the Dyno Nobel explosives plant) as well as increased production workforces at existing mines.

Bowen

According to the 2010 OESR Report, the SLA of Bowen had an FTE population of 14,240 people in 2009, with only two per cent comprising non-resident workers (252 people). The town of Bowen accounted for around 61% of residents living in the Bowen SLA, while a further 16% lived in Collinsville. All 252 non-resident workers counted in the Bowen SLA in 2009 were located in or near Collinsville, in close proximity to major coal mines in the area, Sonoma and Collinsville. Data from the 2010 OESR Report for the Bowen SLA is shown in Table 4-10.

Table 4-10 Population estimates for Bowen SLA and localities, July 2009

Area	FTE population and components, July 2009			Non-resident workers as % of FTE population
	Resident Population (estimated)	Number of non-resident workers	FTE population estimate	
Collinsville	2,185	252	2,437	10%
SLA remainder	11,804	0	11,804	0%
Bowen SLA	13,988	252	14,240	2%

Source: OESR (2010a)

Note that the differences between totals and the sum of their components are due to rounding of population estimates.

According to the 2010 OESR Report, the FTE population of the Bowen SLA rose between 2006 and 2009 with a small but notable increase of around 880 people. Most of this growth occurred in the resident population component, with the net increase of non-resident workers limited to 33 people between 2006 and 2009.

4.4.3 Population Change

Table 4-11 provides the population changes in the three Regional Council LGAs, for 2004, 2008 and 2009.

Table 4-11 Estimated resident population as at 30 June

LGA	2004	2008	2009	Ave. annual growth rate	
				2004-2009	2008-2009
Barcaldine	3,443	3,406	3,376	-0.4	-0.9
% of Queensland	0.1	0.1	0.1	-	-
Isaac	19,764	22,007	22,417	2.6	1.9
% of Queensland	0.5	0.5	0.5	-	-
Whitsunday	29,781	33,237	34,195	2.8	2.9
% of Queensland	0.8	0.8	0.8	-	-



LGA	2004	2008	2009	Ave. annual growth rate	
				2004-2009	2008-2009
Regional Study Area	52,988	58,650	59,988	-	-
% of Queensland	1.4	1.4	1.4	-	-
Queensland	3,900,910	4,308,570	4,425,103	2.6	2.7

Source: OESR (2010b, c and d)

As at 30 June 2009, the estimated resident population of the Barcaldine Regional Council LGA was 3,376 or 0.1% of Queensland's population; Isaac Regional Council LGA was 22,417 or 0.5% of Queensland's population; and Whitsunday Regional Council LGA was 34,195 or 1.4% of Queensland's population. The estimated resident population of the regional study area was 59,088 as at 30 June 2009.

4.4.4 Population Projections

Table 4-12 shows the medium population projections for the Barcaldine, Isaac and Whitsunday Regional Council areas. The population in the Barcaldine Regional Council area is expected to decrease, whereas the populations in the Isaac and Whitsunday Regional Councils are expected to grow from 2011 through to 2031.

Table 4-12 Population Projections for LGAs 2011 – 2031 (medium series)

LGA	2009 ⁵	2011	2016	2021	2026	2031
Barcaldine	3,376	3,515	3,529	3,516	3,483	3,435
Isaac	22,417	24,131	27,436	30,289	32,432	34,580
Whitsunday	34,195	35,303	39,389	42,840	45,551	48,041
Regional Study Area	59,988	62,949	70,354	76,645	81,466	86,056

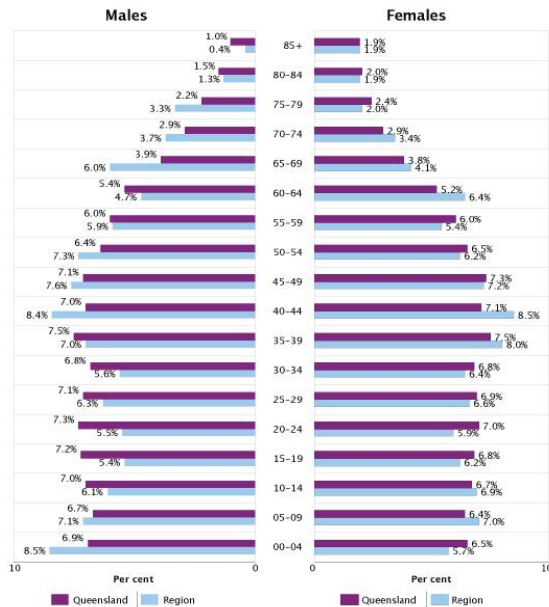
Source: PIFU (2010)

4.4.5 Population Pyramids

Figure 4-1 through to Figure 4-3 show the population pyramids for the Barcaldine, Isaac and Whitsunday Regional Council LGAs as at 30 June 2009 (respectively). The Barcaldine Regional Council LGA had 20.7% of persons aged 0 – 14, 65.2% aged 15 – 64 (labour force) and 14.1% aged 65 and over.

⁵ ERP in 2009, refer to Table 4-11.

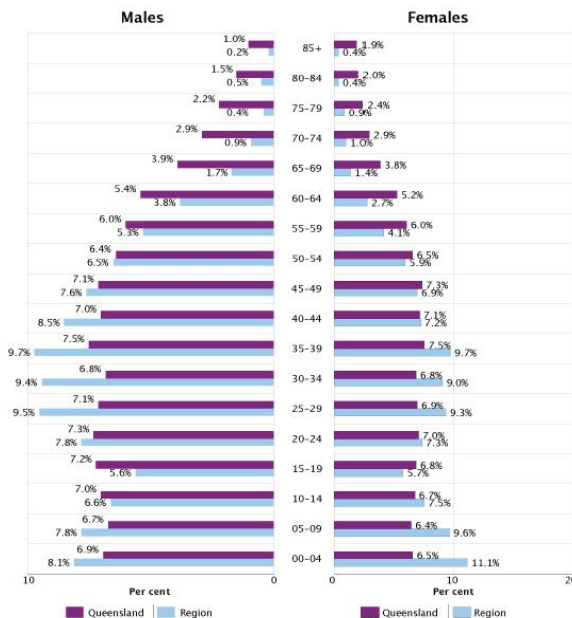
Figure 4-1 Population Pyramid for Barcaldine Regional Council LGA



Source: OESR (2010b)

The Isaac Regional Council LGA had 25.1% of persons aged 0 – 14, 71.1% aged 15 -64 (labour force) and 3.8% aged 65 and over.

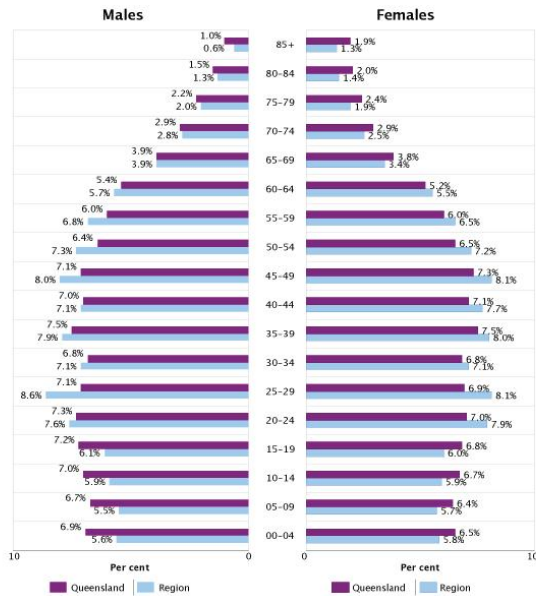
Figure 4-2 Population Pyramid for Isaac Regional Council LGA



Source: OESR (2010c)

The Whitsunday Regional Council LGA had 17.2% of persons aged 0 – 14, 72.1% aged 15 -64 (labour force) and 10.6% aged 65 and over.

Figure 4-3 Population Pyramid for Whitsunday Regional Council LGA



Source: OESR (2010d)

4.4.6 Indigenous Population

Table 4-13 shows the Indigenous population for the Barcaldine, Isaac and Whitsunday Regional Council LGAs in 2006. In 2006, 1,742 people identified as being Indigenous in the regional study area.

Table 4-13 Indigenous Populations, LGA (2006)

LGA	Aboriginal	Torres Strait Islander	Both	Total
Barcaldine	171	10	13	194
% of Queensland	0.2	0.1	0.1	0.1
Isaac	330	54	35	419
% of Queensland	0.3	0.3	0.3	0.3
Whitsunday	919	125	85	1,129
% of Queensland	0.9	0.7	0.9	3.3
Regional Study Area	1,420	189	133	1,742

Source: OESR (2010b,c, and d)

4.4.7 Cultural and ethnic characteristics

Table 4-14 shows the country of birth of people living in the Barcaldine, Isaac and Whitsunday Regional Council LGAs.

Table 4-14 Country of Birth, LGA (2006)

LGA	Born in Australia		Born in ESB Countries*		Born in NESB Countries**		Total born overseas		Total persons***
Barcaldine	2,909	89.4%	97	3.0%	54	1.7%	151	4.6%	3,264
% of Queensland	0.1%	-	0.0%	-	0.0%	-	0.0%	-	0.1%
Isaac	16,145	81.4%	1,005	5.1%	465	2.3%	1,470	7.4%	19,822
% of Queensland	0.6%	-	0.3%	-	0.2%	-	0.2%	-	0.5%
Whitsunday	22,002	75.0%	2,442	8.3%	1,390	4.7%	3,832	13.1%	29,334
% of Queensland	0.7%	-	0.6%	-	0.5%	-	0.5%	-	0.8%
Regional Study Area	41,056	-	3,544	-	1,909	-	5,433	-	-
Queensland	2,935,260	75.2%	391,807	10.0%	307,637	7.9%	699,444	17.9%	3,904,533

Source: OESR (2010b,c, and d)

* ESB – English Speaking Background, including the United Kingdom, Ireland, Canada, United State of America, South Africa and New Zealand.

** NESB – Non English Speaking Background

*** Includes inadequately described, at sea, not elsewhere classified and no stated response

There were 41,056 people born in Australia in the regional study area and 5,433 born overseas:

- 89.4% of the Barcaldine Regional Council LGA were born in Australia and 4.6% born overseas (3.0% born in English speaking countries and 1.7% born in non-English speaking countries.
- 81.7% of the Isaac Regional Council LGA were born in Australia and 7.4% were born overseas (5.1% in English speaking countries and 2.3% in non-English speaking countries.
- 75.0% of the Whitsunday Regional Council LGA were born in Australia and 13.1% were born overseas (8.3% in English speaking countries and 4.7% in non-English speaking countries.

4.4.8 Family Structure

Table 4-15 shows there were 12,555 families in the regional study area in 2006. There were 823 families in the Barcaldine Regional Council LGA, with 40.9% couple family with no children, 45.9% couple family with children and 12.0% one parent families. There were 4,663 families in the Isaac Regional Council LGA, with 35.2% couple family with no children, 55.7% couple family with children and 8.0% one parent families. There were 7,069 families in the Whitsunday Regional Council LGA, with 42.4% couple family with no children, 46.7% couple family with children and 10.9% one parent families. The Barcaldine and Isaac Regional Council LGAs had a higher percentage of couple families with children which is consistent with the rest Queensland, however Whitsunday Regional Council LGA had a higher percentage of couple families with no children.

Table 4-15 Family Composition, LGA (2006)

LGA	Couple family with no children		Couple Family with Children		One parent family		Total
Barcaldine	341	40.9%	382	45.9%	100	12.0	823
Isaac	1,661	35.2%	2,626	55.7%	376	8.0%	4,663
Whitsunday	3,317	46.3%	2,852	39.8%	900	12.6%	7,069



LGA	Couple family with no children		Couple Family with Children		One parent family		Total
Regional Study Area	5,660	42.4%	5,860	46.7%	1,376	10.9%	12,555
Queensland	403,854	39.1%	446,740	43.3%	164,219	15.9	1,032,034

Source: OESR (2010b,c, and d)

4.4.9 Education

School Students

According to OESR (2010b,c and d), in 2006, there were 7,767 students attending primary school and 898 students attending secondary school:

- ▶ 456 students attending primary school and 25 students attending secondary school in the Barcaldine Regional Council LGA.
- ▶ 3,504 students attending primary school and 128 students attending secondary school in the Isaac Regional Council LGA.
- ▶ 3,807 students attending primary school and 745 students attending secondary school in the Whitsunday Regional Council area.

Table 4-16 shows the post-school qualification for people in the Barcaldine, Isaac and Whitsunday Regional Council LGAs.

Table 4-16 Post-School Qualification, LGA (2006)

LGA	Level of Education			Person with a qualification		Total
	Bachelor degree or higher	Advanced diploma or higher	Certificate	#	%	
Barcaldine	183	113	372	961	38.0	2,528
% of Queensland	0.0%	0.1%	0.1%	0.1%	-	0.1%
Isaac	1,258	548	3,204	7,317	49.7	14,715
% of Queensland	0.3%	0.3%	0.6%	0.5%	-	0.5%
Whitsunday	1,639	1,267	4,985	12,271	51.2	23,957
% of Queensland	0.4%	0.6%	0.9%	0.8%	-	0.8%
Regional Study Area	3,080	1,928	8,561	13,569	32.9%	41,200
Queensland	405,904	204,039	554,243	1,560,838	50.4	3,097,996

Source: OESR (2010b,c, and d)

According to OESR, 32.9% of the regional study area population have a qualification:

- ▶ Barcaldine Regional Council LGA has 38.0%.
- ▶ Isaac Regional Council LGA has 49.7%.



- Whitsunday Regional Council LGA has 51.2%.

4.4.10 Labour Force and Unemployment

Table 4-17 shows the labour force and unemployment data for the Barcaldine, Isaac and Whitsunday Regional Council LGAs for the March quarter in 2010.

Table 4-17 Unemployment and Labour Force, LGA (March Quarter 2010)

LGA	Unemployed	Labour Force	Unemployment Rate
Barcaldine	59	2,071	2.8
% of Queensland	0.0	0.1	-
Isaac	175	12,947	1.4
% of Queensland	0.1	0.5	-
Whitsunday	1,177	18,631	6.3
% of Queensland	0.9	1.4	-
Queensland	133,500	2,364,000	5.6%

Source: OESR (2010b,c, and d)

The unemployment rates in the Barcaldine and Isaac Regional Council LGAs was less than Queensland, however the Whitsunday Regional Council LGA was higher than Queensland.

4.4.11 Industry and Occupation

Table 4-18 sets out the industry of employment for people working in the Barcaldine, Isaac and Whitsunday Regional Council areas in 2006.

Table 4-18 Industry of Employment, LGA (2006)

Industry	Barcaldine Regional Council		Isaac Regional Council		Whitsunday Regional Council	
	Number	%	Number	%	Number	%
Agriculture, forestry and fishing	547	33.5	1,065	10.5	1,589	11.0
Mining	12	0.7	3,965	38.9	542	3.7
Manufacturing	40	2.4	206	2.0	890	6.2
Electricity, gas, water and waste services	24	1.5	55	0.5	111	0.8
Construction	102	6.2	649	6.4	1,461	10.1
Wholesale trade	36	2.2	207	2.0	371	2.6
Retail trade	110	6.7	722	7.1	1,685	11.6
Accommodation and food services	63	3.9	627	6.2	2,261	15.6



	Barcaldine Regional Council		Isaac Regional Council		Whitsunday Regional Council	
Transport, postal and warehousing	91	5.6	371	3.6	1,047	7.2
Information media and telecommunications	6	0.4	25	0.2	81	0.6
Financial and insurance services	3	0.2	53	0.5	187	1.3
Rental, hiring and real estate services	9	0.6	99	1.0	321	2.2
Professional, scientific and technical services	36	2.2	131	1.3	441	3.0
Administration and support services	6	0.4	220	2.2	479	3.3
Public administration and safety	192	11.7	290	2.8	480	3.3
Education and training	114	7.0	569	5.6	693	4.8
Health care and social assistance	141	8.6	368	3.6	871	6.0
Arts and recreational services	15	0.9	25	0.2	132	0.9
Other services	39	2.4	287	2.8	433	3.0
Total	1,635	100.0	10,191	100.0	14,471	100.0

Source: OESR (2010b, c and d)

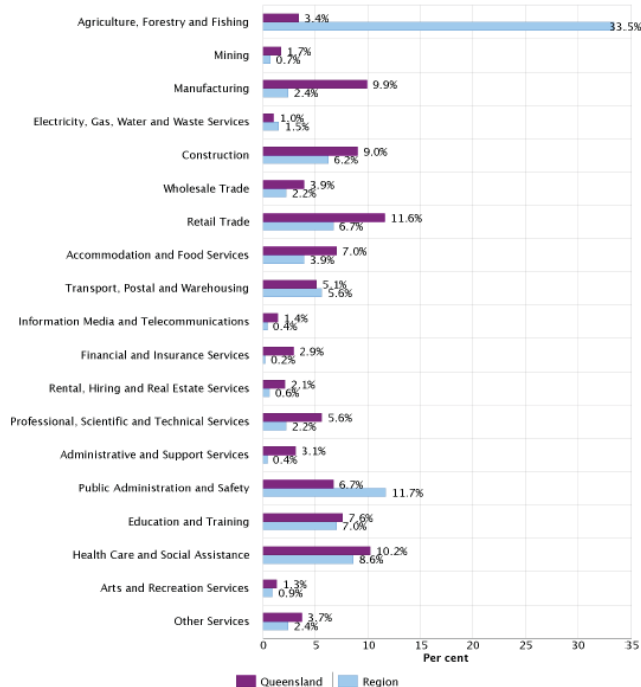
At the time of the 2006 Census, Agriculture, Forestry and Fishing was the largest industry of employment for the Barcaldine Regional Council LGA usual residents, with 547 or 33.5% of the region's employed labour force. Other industries with relative large numbers of employed persons included Public Administration and Safety (192 persons or 11.7%) and Health Care and Social Assistance (141 persons or 8.6%).

At the time of the 2006 Census, Mining was the largest industry of employment for the Isaac Regional Council LGA usual residents, with 3,965 persons or 38.9% of the region's employed labour force. Other industries with relatively large numbers of employed persons included Agriculture, Forestry and Fishing (1,065 persons or 10.5%) and Retail Trade (722 or 7.1%).

At the time of the 2006 Census, Accommodation and Food Services was the largest industry of employment for the Whitsunday Regional Council LGA usual residents, with 2,261 persons or 15.6% of the regions employed labour force. Other industries with relatively large numbers of employed persons included Retail Trade (1,685 persons or 11.6%) and Agriculture, Forestry and Fishing (1,589 persons or 11.0%).

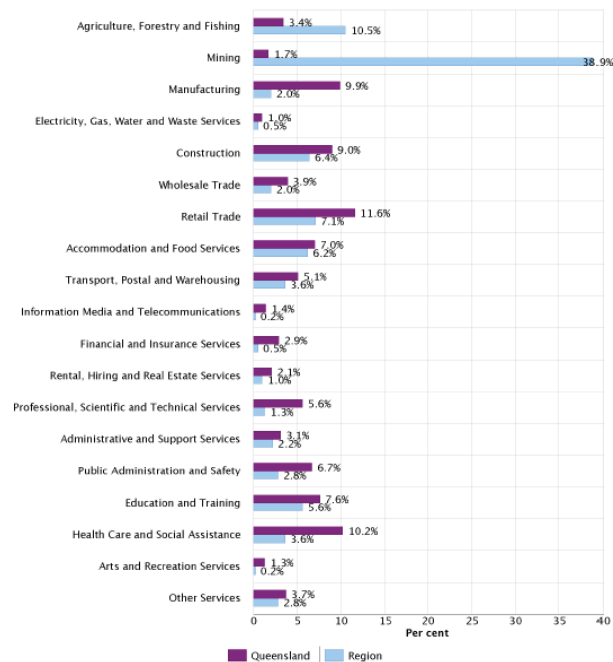
Figure 4-4 through to Figure 4-6 show the industry of employment for the Barcaldine, Isaac and Whitsunday Regional Council LGAs compared to Queensland.

Figure 4-4 Industry of Employment Barcaldine Regional Council LGA (2006)



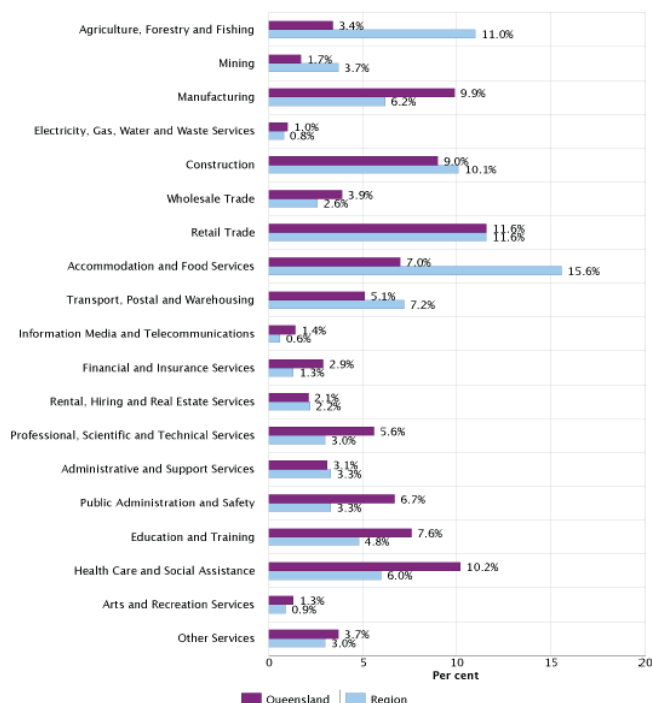
Source: OESR (2010b)

Figure 4-5 Industry of Employment, Isaac Regional Council LGA (2006)



Source: OESR (2010c)

Figure 4-6 Industry of Employment (2006), Whitsunday Regional Council



Source: OESR (2010d)

At the time of the 2006 Census, the Barcaldine Regional Council LGA contained:

- ▶ 198 or 12.2% technicians or trade workers.
- ▶ 125 or 7.7% machinery operators and drivers.
- ▶ 329 or 20.3% labourers.

At the time of the 2006 Census, the Isaac Regional Council LGA contained:

- ▶ 2,051 or 20.1% technicians or trade workers.
- ▶ 2,534 or 24.9% machinery operators and drivers.
- ▶ 1,254 or 12.3% of labourers.

At the time of the 2006 Census, the Whitsunday Regional Council LGA contained:

- ▶ 2,419 or 16.7% technicians or trade workers.
- ▶ 1,421 or 9.8% machinery operators and drivers.
- ▶ 2,612 or 18.1% labourers.

4.4.12 Individual Weekly Income

Table 4-19 sets out the gross individual income for people living in the Barcaldine, Isaac and Whitsunday Regional Council Local Government Areas at the time of the 2006 Census.

Table 4-19 Gross individual income, LGA (2006)

LGA	Persons earning less than \$400/week		Persons earning \$400 - \$999 per week		Persons earning \$1,000 - \$1,999 per week		Persons earning \$2,000 or more per week		Total
	Number	%	Number	%	Number	%	Number	%	Number
Barcaldine	1,065	42.1	879	34.8	279	11.0	59	2.3	2,527
% of Queensland	0.1	-	0.1	-	0.1	-	0.1	-	0.1
Isaac	4,324	29.4	3,106	21.1	3,200	21.7	2,014	13.7	14,717
% of Queensland	0.4	-	0.3	-	0.7	-	2.3	-	0.5
Whitsunday	8,261	34.5	8,920	37.2	2,760	11.5	486	2.0	23,955
% of Queensland	0.7	-	0.8	-	0.6	-	0.5	-	0.8
Queensland	1,231,009	39.7	1,063,471	34.3	431,711	13.9	88,509	2.9	3,097,996

Source: OESR (2010b, c and d)

At the time of the 2006 Census, there were 1,065 persons aged 15 years and over in the Barcaldine Regional Council Local Government Area who stated that their gross individual weekly income was less than \$400 (42.1% of all persons aged 15 years and over). This was lower than the 39.7% recorded in Queensland. In comparison, there were 59 persons aged 15 years and over in the Barcaldine Regional Council LGA who stated that their gross individual income was more than \$2,000 (2.3% of all persons aged 15 years and over). This is compared to 2.9% in Queensland.

At the time of the 2006 Census, there were 4,324 persons aged 15 years and over in the Isaac Regional Council Local Government Area who stated that their gross individual weekly income was less than \$400 (29.4% of all persons aged 15 years and over). This was lower than the 39.7% recorded in Queensland. In comparison, there were 2,014 persons aged 15 years and over in the Isaac Regional Council LGA who stated that their gross individual income was more than \$2,000 (13.7% of all persons aged 15 years and over). This is compared to 2.9% in Queensland.

At the time of the 2006 Census, there were 8,261 persons aged 15 years and over in the Whitsunday Regional Council Local Government Area who stated that their gross individual weekly income was less than \$400 (34.5% of all persons aged 15 years and over). This was lower than the 39.7% recorded in Queensland. In comparison, there were 486 persons aged 15 years and over in the Whitsunday Regional Council LGA who stated that their gross individual income was more than \$2,000 (2.0% of all persons aged 15 years and over). This is compared to 2.9% in Queensland.

4.4.13 Socio-Economic Index of Disadvantage

According to OESR (2010) the Socio-Economic Indexes for Areas (SEIFA) is a summary measure of the social and economic conditions of geographic areas across Australia. SEIFA comprises a number of indexes, which are generated at the time of the ABS Census of Population and Housing. In 2006, a Socio-Economic Index of Disadvantage (SEID) was produced, ranking geographical regions to reflect disadvantage of social and economic conditions. The index focuses on low-income earners, relatively

lower education attainment, high unemployment and dwellings without motor vehicles. Low index values represent areas of most disadvantage and high values represent areas of least disadvantage. Table 4-20 shows the percentage of the population in each quintile (one-fifth or 20% of the population) according to the SEID. Quintile 1 represents the most disadvantaged groups of persons, while quintile 5 represents the least disadvantaged group of persons. By definition Queensland has 20% of the population in each quintile.

Table 4-20 shows the Socio-Economic Index of Disadvantage (SEID) per quintile for the Barcaldine, Isaac and Whitsunday Regional Council populations at the time of the 2006 Census.

Table 4-20 SEID, LGA (2006)

LGA	Quintile 1 (most disadvantaged)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (least disadvantaged)
Barcaldine	45.7%	24.6%	4.0%	19.2%	6.5%
Isaac	5.1	7.1	24.5	46.0	17.3
Whitsunday	27.8	29.9	24.4	13.0	4.9
Queensland	20.0%	20.0%	20.0%	20.0%	20.0%

Source: OESR (2010) Queensland Regional Profiles for Barcaldine, Isaac and Whitsunday Regional Council

The Barcaldine Regional Council local government area had 45.7% of the population in the lowest quintile (most disadvantaged) and 6.5% in the highest quintile (least disadvantaged).

The Isaac Regional Council local government area had 5.1% of the population in the lowest quintile (most disadvantaged) and 17.3% in the highest quintile (least disadvantaged).

The Whitsunday Regional Council local government area had 27.8% of the population were in the lowest quintile (most disadvantaged) and 4.9 in the highest quintile (least disadvantaged).

4.4.14 Need for Assistance

Need for assistance includes people with a profound disability or severe disability. People with profound or severe disability are defined as needing help or assistance in one or more of the three core activity areas of self-care, mobility and communication because of a disability, long term health condition (6 months or more) or old age. Table 4-21 shows the persons in need of assistance in the Barcaldine, Isaac and Whitsunday Regional Council LGAs in 2006.

Table 4-21 Persons in need of assistance, LGA (2006)

LGA	Need for assistance		No need for assistance	Total
	Number	%	Number	Number
Barcaldine	96	2.9	2,986	3,263
% of Queensland	0.1	-	0.1	0.1
Isaac	267	1.3	17,407	19,823
% of Queensland	0.2	-	0.5	0.5



	Need for assistance		No need for assistance	Total
Whitsunday	1,135	3.9	24,830	29,335
% of Queensland	0.7	-	0.7	0.8
Queensland	154,707	4.0	3,491,383	3,904,533

Source: OESR (2010) Queensland Regional Profiles for Barcaldine, Isaac and Whitsunday Regional Council

At the time of the 2006 Census, there were 96 persons in need of assistance with a profound or severe disability in the Barcaldine Regional Council Local Government Area. This represents 2.9% of the total persons in the region. The Barcaldine Regional Council LGA represented 0.1% of the total persons in need of assistance in Queensland.

At the time of the 2006 Census, there were 267 persons in need of assistance with a profound or severe disability in the Isaac Regional Council Local Government Area. This represents 1.3% of the total persons in the region. The Isaac Regional Council LGA represents 0.5% of the total persons of need of assistance in Queensland.

At the time of the 2006 Census, there were 1,135 persons in need of assistance with a profound or severe disability in the Whitsunday Regional Council Local Government Area. This represents 3.9% of the total persons in the region. The Whitsunday Regional Council LGA represented 0.7% of the total persons in need of assistance in Queensland.

4.5 Housing

4.5.1 Barcaldine Regional Council

OESR recently released on housing in the Barcaldine Regional Council LGA. OESR found that dwelling activity had increased in the region in the year ending December 2009 with 14 approvals compared with five approvals in the previous year, which is an increase of 180% in dwelling activity. However dwelling approvals were relatively consistent in the years leading up to 2008, refer to Table 4-22

Table 4-22 New Dwelling Activity in the Barcaldine Regional Council LGA

Year to December	New dwelling approvals		
	House	Other	Total
2003	1	2	3
2004	4	2	6
2005	2	0	2
2006	4	0	4
2007	4	0	4
2008	5	0	5
2009	12	2	14

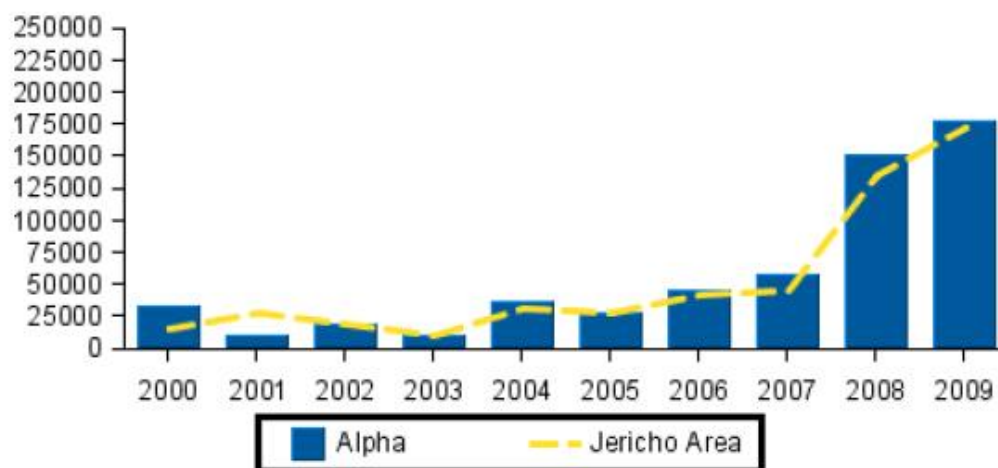
Source: OESR (2010b)

According to an OESR, in the 12 months ending 31 March 2010, there were nine residential dwelling unit approvals valued at \$2.5 million in the Barcaldine Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$7.9 million.

Alpha

RP Data provides the median house prices in Alpha (post code 4724) from 2000 – 2009, refer to Figure 4-7. The 'Jericho Area' in Figure 4-7 is the pre-amalgamated boundary of the Jericho Shire Council. Median house prices in the Alpha area have increased considerably 2008 and 2009 in comparison to prices from 2000 to 2007.

Figure 4-7 Median house prices in Alpha (post code 4724)



Source: RP Data (2010)

Table 4-23 provides information on available properties for sale and rent in Alpha (post code 4724) and surrounding suburbs based on a scan of www.realestate.com.au on 7 July 2010. GHD has relied on www.realestate.com.au for the different categorisation of properties ('house' or 'unit, townhouse, villa or apartment'). Not all properties listed for sale or for rent are usually advertised on www.realestate.com.au, so this information should be used as a guide only.

Table 4-23 Alpha – available properties for sale and rent

	House	Unit, townhouse, villa or apartment
For sale		
Number	40	0
Range of price	\$219,000 - \$369,000	0
For rent		
Number	5	0
Range of price (per week)	\$160 - \$230	0

Source: www.realestate.com.au (access 07-07-10)



The range of house prices in Alpha in July 2010 was \$219,000 to \$369,000 and there were 40 houses for sale. There were five houses for rent with weekly rent ranging from \$160 through to \$230. There were no units, townhouses, villas or apartments for sale or rent in Alpha in July 2010.

4.5.2 Isaac Regional Council

OESR recently released on housing in the Isaac Regional Council area. OESR found that dwelling activity had decreased in the region in the year ending December 2009 with 43 approvals compared with 126 approvals in the previous year. There was a peak in development approvals in 2005, refer to Table 4-24.

Table 4-24 New Dwelling Activity in the Isaac Regional Council LGA

Year to December	New dwelling approvals		
	House	Other	Total
2003	38	12	50
2004	43	23	66
2005	163	64	227
2006	132	2	134
2007	94	40	134
2008	58	68	126
2009	43	0	43

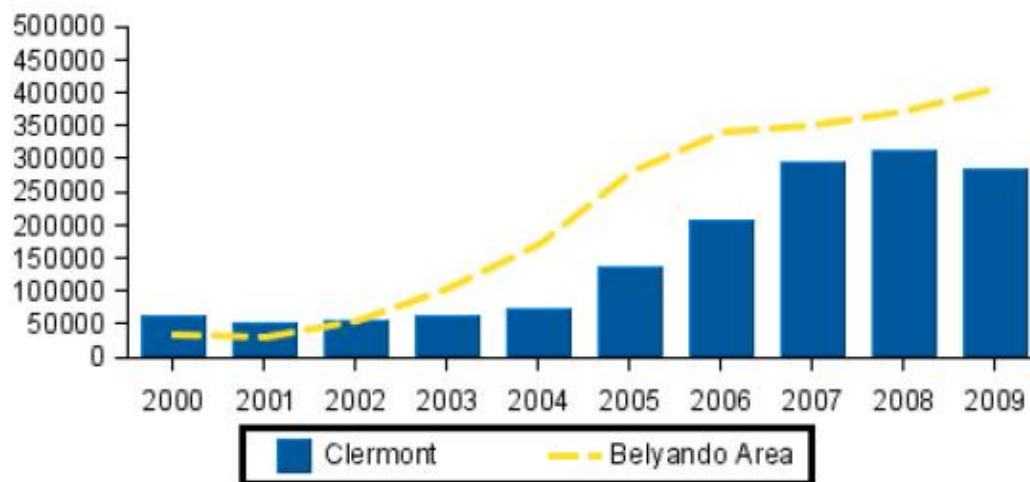
Source: OESR (2010c)

According to an OESR, in the 12 months ending 31 March 2010, there were 95 residential dwelling unit approvals valued at \$28.5 million in the Isaac Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$25 million.

Clermont

RP Data provides the median house prices in Clermont (post code 4721) from 2000 – 2009, refer to Figure 4-8. The 'Belyando Area' in Figure 4-8 is the pre-amalgamated boundary of the Belyando Shire Council. Median house prices in the Clermont area were relatively stable from 2000 – 2003 with an increase of prices from 2005 and a peak in 2008 and a decline in 2009.

Figure 4-8 Median house prices in Clermont (post code 4721)



Source: RP Data (2010)

Table 4-25 provides information on available properties for sale and rent in Clermont (post code 4721) and surrounding suburbs based on a scan of www.realestate.com.au on 7 July 2010. GHD has relied on www.realestate.com.au for the different categorisation of properties ('house' or 'unit, townhouse, villa or apartment'). Not all properties listed for sale or for rent are usually advertised on www.realestate.com.au, so this information should be used as a guide only.

Table 4-25 Clermont – available properties for sale and rent

	House	Unit, townhouse, villa or apartment
For sale		
Number	235	5
Range of price	\$225,000 - \$570,000	\$295,000 - \$450,000
For rent		
Number	7	19
Range of price (per week)	\$280 - \$420	\$280 - \$400

Source: www.realestate.com.au (access 07-07-10)

The range of house prices in Clermont in July 2010 was \$225,000 to \$570,000 and there were 235 houses for sale. There were 7 houses for rent with weekly rent ranging from \$280 through to \$420. The range of units, townhouses, villas or apartments prices in July 2010 was \$295,000 to \$450,000 and there were 5 units, townhouses, villas or apartments for sale. There were 19 units, townhouses, villas or apartments or rent in Clermont in July 2010 ranging from \$280 to \$400 per week.



4.5.3 Whitsunday Regional Council

The 2009 Planning and Forecasting Unit (Department of Infrastructure and Planning) *Demographic Analysis of Bowen/Abbot Point Study Area*⁶ made the following key points on housing and accommodation:

- The area contains a diverse mix of dwelling types, particularly high proportions of caravans, cabins and houseboats and improvised dwellings and tents which reflects the need to accommodate seasonal workers and visitors, including tourists and non-resident workers.
- Permanent dwellings are mainly detached houses, but high proportions of semi-detached dwellings in the Bowen township.
- There is a high rate of homes that are owned outright, but low rates of dwellings being purchased. PIFU interpreted pattern as an older population that owns dwellings outright but not a lot of new purchasers.
- More people are renting rather than purchasing. PIFU offered a number of reasons for this including:
 - A lack of commitment to the area for owner-occupiers;
 - A housing market dominated by investors; or
 - Housing affordability is a problem for purchases given the low incomes and increasing house and land prices.
- Median rents are relatively low across the area, but lowest in Collinsville in 2006. PIFU suggest that this is likely because of the rent subsidies received by mining workers.
- PIFU found that home purchase repayments levels are similar to the Queensland average in the Bowen township and the Bowen balance area, but lower in Collinsville and Merinda.
- PIFU noted that median house prices increased considerably since 2002. The price of houses in Bowen township for 2008 (\$356,000) and Bowen balance area of (\$350,000) are above average (and brought down by low prices in Collinsville) when compared to Gladstone, Mackay and Townsville.
- PIFU found that the number of house sales peaked in 2007, but declined markedly in 2008.
- PIFU stated that land sale prices have also increased since 2002, but the average for the area is lower than other LGAs (Gladstone, Mackay and Townsville). Prices in Bowen were considered by PIFU to be well above average and were influenced by new Greenfield developments.
- PIFU found that land sales in the area peaked in 2006.

OESR recently released information on housing in the Whitsunday Regional Council area. OESR found that dwelling activity decreased in the Whitsunday Regional Council area in the year ending December 2009 with 196 approvals compared to 287 approvals in the previous year which was a decrease of 31.7%, refer to Table 4-26.

⁶ The study area for the PIFU report was the statistical local area (SLA) for Bowen, which coincides with the pre-amalgamated local government area of Bowen Shire. The analysis adopts the urban centre/locality (UCL) boundaries from the 2006 Census to define the main towns of Bowen and Collinsville, as well as the village of Merinda. The area designated as Bowen (S) Balance in the PIFU study represents the remainder of Bowen SLA and includes the residential development of Whitsunday Shores located south of the Bowen UCL.

Table 4-26 New Dwelling Activity in the Whitsunday Regional Council LGA

Year to December	New dwelling approvals		
	House	Other	Total
2003	152	81	233
2004	199	135	334
2005	172	183	355
2006	226	234	460
2007	254	259	513
2008	177	110	287
2009	159	37	196

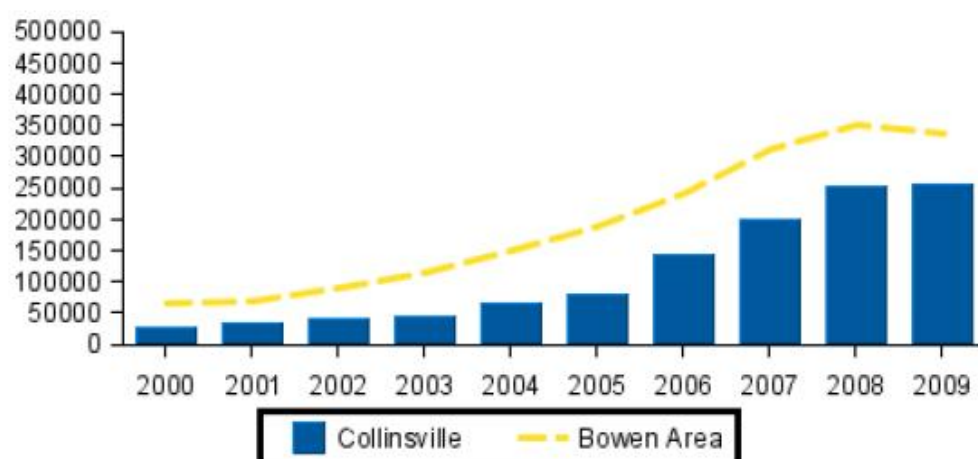
Source: OESR (2010d)

According to OESR in the 12 months ending 31 March 2010, there were 201 residential dwelling unit approvals valued at \$55.9 million in the Whitsunday Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$35.8 million.

Collinsville

RP Data provides the median house prices in Collinsville (post code 4804) from 2000 – 2009, refer to Figure 4-9. The 'Bowen Area' in Figure 4-8 is the pre-amalgamated boundary of the Bowen Shire Council. Median house prices in the Collinsville area have been slowly increasing since 2000 with a stabilisation from 2008 – 2009.

Figure 4-9 Median house prices in Collinsville (post code 4804)



Source: RP Data 2010

Table 4-27 provides information on available properties for sale and rent in Collinsville (post code 4804) and surrounding suburbs based on a scan of www.realestate.com.au on 7 July 2010. GHD has relied on

www.realestate.com.au for the different categorisation of properties ('house' or 'unit, townhouse, villa or apartment').

Table 4-27 Collinsville – available properties for sale and rent

	House	Unit, townhouse, villa or apartment
For sale		
Number	132	1
Range of price	\$120,000 - \$890,000	\$400,000
For rent		
Number	52	91
Range of price (per week)	\$190 – \$1,100	\$120 - \$925

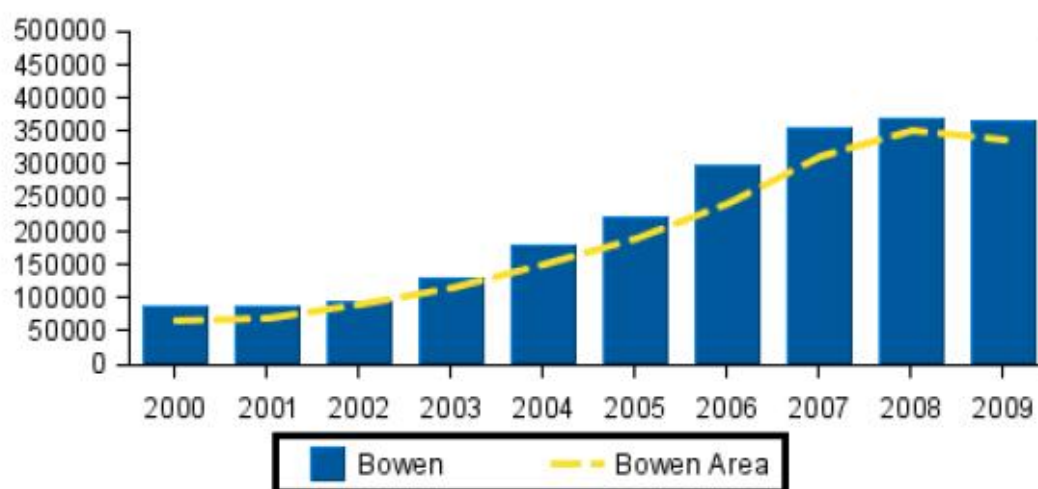
Source: www.realestate.com.au (access 07-07-10)

The range of house prices in Collinsville in July 2010 was \$120,000 to \$890,000 and there were 132 houses for sale. There were 52 houses for rent with weekly rent ranging from \$190 through to \$1,100. There was only one unit, townhouse, villa or apartment for sale in July 2010 and it was priced at \$400,000. There were 91 units, townhouses, villas or apartments or rent in Clermont in July 2010 ranging from \$120 to \$925 per week.

Bowen

RP Data provides the median house prices in Bowen (post code 4805) from 2000 – 2009, refer to Figure 4-10. The 'Bowen Area' in Figure 4-8 is the pre-amalgamated boundary of the Bowen Shire Council. Median house prices in the Bowen area have been slowly increasing since 2000 with a stabilisation from 2008 – 2009.

Figure 4-10 Median house prices in Bowen (post code 4805)



Source: RP Data (2010)



Table 4-28 provides information on available properties for sale and rent in Bowen (post code 4805) and surrounding suburbs based on a scan of www.realestate.com.au on 7 July 2010. GHD has relied on www.realestate.com.au for the different categorisation of properties ('house' or 'unit, townhouse, villa or apartment').

Table 4-28 Bowen – available properties for sale and rent

	House	Unit, townhouse, villa or apartment
For sale		
Number	580	110
Range of price	\$255,000 - \$2,800,000	\$175,000 - \$2,550,000
For rent		
Number	58	91
Range of price (per week)	\$190 - \$1,100	\$120 - \$925

Source: www.realestate.com.au (access 07-07-10)

The range of house prices in Bowen in July 2010 was \$255,000 to \$2,800,000 and there were 580 houses for sale. There were 58 houses for rent with weekly rent ranging from \$190 through to \$1,100. The range of units, townhouses, villas or apartments prices in July 2010 was \$175,000 to \$2,550,000 and there were 110 units, townhouses, villas or apartments for sale. There were 91 units, townhouses, villas or apartments or rent in Bowen in July 2010 ranging from \$120 to \$925 per week.

4.6 Value of Agricultural Production

Table 4-29 shows the value of agricultural production for the Barcaldine, Isaac and Whitsunday Regional Council LGAs in 2005 – 2006.

Table 4-29 Value of Agricultural production, LGA (2005-2006)⁷

LGA	Crops		Livestock slaughtering		Livestock products		Total
	\$M	%	\$M	%	\$M	%	\$M
Barcaldine	2.7	2.5	97.0	88.5	9.9	9.1	109.6
% of Queensland	0.1	-	2.4	-	2.4	-	1.3
Isaac	32.6	14.0	200.1	86.0	0.0	0.0	232.8
% of Queensland	0.8	-	4.9	-	0.0	-	2.7
Whitsunday	278.2	82.8	57.0	17.0	0.9	0.3	336.0
% of Queensland	6.7	-	1.4	-	0.2	-	3.9

⁷ The statistics on livestock slaughtering and meat production are based on data collected from abattoirs and other major slaughtering establishments and include estimates of animals slaughtered on farms and by country butchers and other small slaughtering establishments. Care should be taken when using this information as the figures only relate to slaughtering for human consumption and do not include animals condemned or those killed for boiling down. Definitions of livestock categories may differ between states and within states, particularly with regard to calves.
(<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/7125.0Explanatory%20Notes12006-07?OpenDocument>)



	Crops		Livestock slaughtering		Livestock products		Total
Queensland	4,167.9	47.9	4,125.2	47.4	415.8	4.8	8,708.9

Source: OESR (2010b, c and d)

The total value of agricultural production in the Barcaldine Regional Council Local Government Area in 2005-2006 was \$109.6 million, 1.3% of the total value of agricultural production in Queensland. Crops accounted for \$2.7 million or 2.5% of the regions total value of agricultural production, livestock slaughtering accounted for \$97.0 million (88.5%) and livestock products were valued at \$9.9 million (9.1% of the total). The region produced 0.1% of the total value of crops in Queensland and 2.4% of livestock slaughtering and 2.4% of livestock products.

The total value of agricultural production in the Isaac Regional Council Local Government Area in 2005 – 2006 was \$232.8 million, 2.7% of the total value of agricultural production in Queensland. Crops accounted for \$32.6 million or 14.0% of the region total value of agricultural production, livestock slaughtering accounted for \$200.1 million (86%) and livestock products were valued at \$0. The region produced 0.8% of the total value of crops in Queensland and 4.9% of the total value of Queensland livestock slaughtering.

The total value of the agricultural production in the Whitsunday Regional Council Local Government Area in 2005 – 2006 was \$336.0 million, 3.9% of the total value of agricultural production in Queensland. Crops accounted for \$278.2 million or 82.8% of the regions total value of agricultural production, livestock slaughtering accounted for \$57.0 million and livestock products were valued at \$0.9 million (0.3% of the total). The region produced 6.7% of the total value of crops in Queensland and 1.4% and 0.2% of the total value of Queensland livestock slaughtering and livestock products respectively.

4.7 Crime

Table 4-30 provides a summary of crimes in the pre-amalgamated LGAs.

Table 4-30 Small crime profiles, LGAs (pre-amalgamation) 2002-2003

Crime Category	Jericho, Aramac, Barcaldine, Blackall, Isisford and Tambo LGAs	Belyando and Nebo LGAs	Bowen LGA	Queensland Rate
Offence against the person*	42	299	168	-
LGA Rate (expressed per 100,000 persons)	661	2,483	1,352	1,110
Offence against property**	126	382	525	-
LGA Rate (expressed per 100,000 persons)	1,989	3,168	4,226	7,787
Other***	95	291	672	-
LGA Rate (expressed per 100,000 persons)	1,501	2,419	5,401	3,331

Source: OESR 2003

* Offences against the person includes homicide, serious assault, other assault, sexual offences, armed robbery, unarmed robbery, extortion, kidnapping and other.

** Offences against property includes unlawful entry with intent (dwelling, shop or other), arson, other property damage, motor vehicle theft, stealing from dwelling, shop or other, fraud, handling stolen goods.



*** Other includes drug offences, prostitution offences, liquor (excluding drunkenness), good order offences and stock related offences.

In 2002-2003 the crime profile of the pre-amalgamated LGA of Jericho, Barcaldine, Blackall, Isisford and Tambo had lower rates of crime than Queensland. In 2002-2003 the crime profile of the pre-amalgamated LGA of Belyando and Nebo had a higher crime rate of offences against the person but lower rates of offences against property and other crime than Queensland. In 2002-2003 the crime profile of the pre-amalgamated LGA of Bowen had had a higher crime rate of offences against the person but lower rates of offences against property and other crime than Queensland.

4.8 Social Infrastructure and Services

The definition of social infrastructure as per the South East Queensland Plan 2005-2026 is:

“Social infrastructure refers to communities’ facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community wellbeing. They include:

- ▶ Universal facilities and services such as education, training, health, open space, recreation and sport, safety and emergency services, religious, arts and cultural facilities and community meeting places.
- ▶ Lifecycle-targeted facilities and services, such as those for children, young people and older people.
- ▶ Targeted facilities and services for groups with special needs, such as families, people with a disability and Indigenous and culturally diverse people.”

There are a range of social infrastructure and services provided in the regional study area and these have been summarised in Table 4-31. The information contained in Table 4-31 is based on Regional Councils Plans and Reports.

Table 4-31 Social infrastructure and services in the regional study area

LGA	Social infrastructure and services
Barcaldine	The Barcaldine Regional Council Corporate Plan 2009-2014, describes community access to services as one of the regions dilemmas, with the communities not having enough population to support key infrastructure such as education and health care. They also recognise that services need to be provided to be able to attract people to move to the region. The Barcaldine Regional Council describes this situation as a ‘chicken and egg’ situation that raises important challenges. The rates base is relatively low and it is difficult to support infrastructure and services over a large geographical area. This makes the attraction of state and federal funding critical. They also acknowledge that the costs of service provision are increasing and the rationalisation of public funding has seen a continuing trend toward centralisation of services to major centres (usually outside the region). Small communities are struggling to maintain their hospital and schools. There are innovative service delivery models being implemented such as Rural Transaction Centres and the Queensland Government Agent Program, however high level services such as medical practitioners and associated infrastructure is a challenge.

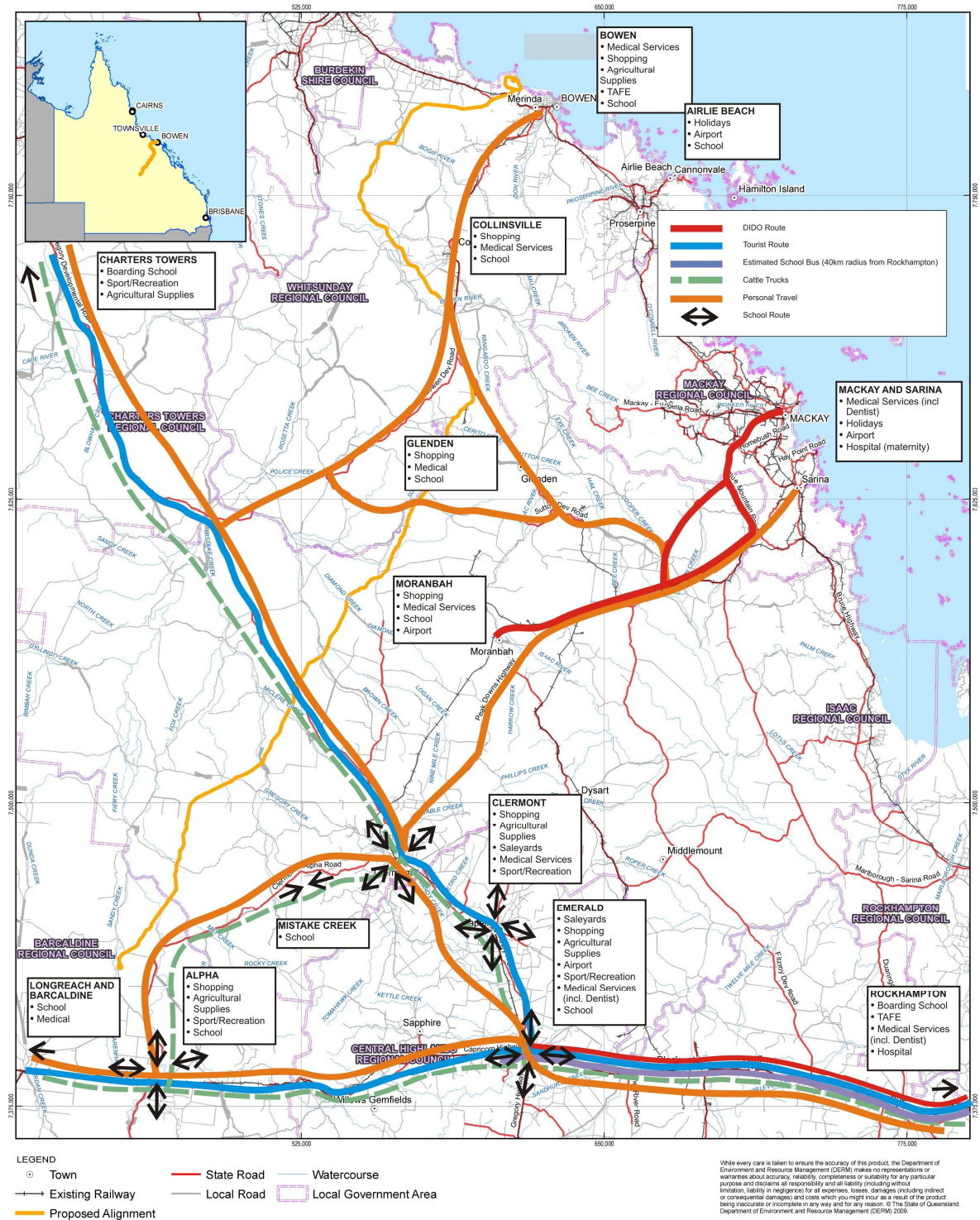
LGA	Social infrastructure and services
Isaac	Isaac Regional Council has described the following social infrastructure and services, built and natural recreational opportunities, lakes, dams and pristine coastal environments, well established sporting groups and facilities, attractive and a wide range of cycle ways and footpaths, local parks, playground equipment and public open spaces. The Isaac Regional Council LGA also contains eight libraries, fifteen schools, a TAFE facility and a training Excellence Centre. The region contains social and crisis accommodation. Other facilities include undercover arena at Nebo and art galleries which are able to be used for exhibitions which support local artists and an active arts culture. The local history that is catalogued and documented in libraries and museums and places of heritage preserved and managed by community volunteers. A Regional Arts Development Fund program that supports arts and cultural activity.
Whitsunday	Whitsunday Regional Council includes hospital facilities are available in Bowen, Proserpine and Collinsville providing the community with maternity, acute inpatient, accident and emergency and theatre services. Visiting specialists to the region include orthopaedic, paediatric, general surgery physician, obstetrician and gynaecologist. Other services both local and visiting include physiotherapy, speech therapy, social work, mental health, podiatry, dietetics and orthodontic. A range of disability services is available in the region including employment assistance, information services and respite care. Youth within the region are considered to be well catered for with youth centres/spaces situated in Bowen and Proserpine as well as Police Citizens Youth Clubs (PCYC) in Airlie Beach and exchange programs are available with the assistance of Lions and Rotary. Within the Region's towns most sports are available including football, golf, cricket, netball, tennis, swimming, soccer, sailing and more. As well as offering facilities such as skate bowls, skating rinks, Whitsunday PCYC and the Proserpine Entertainment Centre. The Whitsunday Region has thirteen primary schools, 3 high schools and the Barrier Reef Institute of TAFE operates two campuses.

Sources: Barcaldine Regional Council Corporate Plan 2009 -2014, Isaac Regional Council Vision 2020 2009-2019, Whitsunday Regional Council Corporate Plan 2009 - 2014

4.9 Use of the Regional Area

Figure 4-11 is a conceptual map showing how people living in the regional study area use existing services and facilities. The map is based on information provided during consultations for the SIA and is designed to show indicative use.

Figure 4-11 Use of the Regional Study Area⁸



⁸ Figure 4-11 does not show the Kilcummin School, however the Kilcummin School should be taken into consideration.

4.10 Regional and Community Planning

There are statutory regional plans (developed under the *Integrated Planning Act 1997*) which have legislative powers and non statutory plans which were developed before the commencement of statutory regional plans. As part of the *Blueprint for the Bush* initiative Queensland Government is developing a number of strategic regional plans across Queensland designed to build strong and sustainable communities. The regional study area covers three local government areas, and the relevant plans for each are described in Table 4-32 and the information from the plans and other sources have been used to describe the regional study area.

Table 4-32 Regional and Community Plans

LGA	Town Closest to Rail Corridor	Regional Plan	Community Plan
Barcaldine Regional Council	Alpha	Central West Regional Plan (statutory)	Barcaldine Region Community Plan (under SPA 2009)
Isaac Regional Council	Clermont	Whitsunday, Hinterland and Mackay Regional Plan (non-statutory)	The Isaac Region 2020 Vision 2009 – 2019 Currently verifying their Community Plan (under SPA 2009)
Whitsunday Regional Council	Collinsville and Bowen	Whitsunday, Hinterland and Mackay Regional Plan (non-statutory)	Community Plan (under SPA 2009) will be developed in the second half of 2010

4.11 Level Crossings (Road/Rail)

4.11.1 Definition of Level Crossings

In Australia, at-grade road/rail crossings are commonly referred to as 'level crossings' and there are thousands across the national rail network (CRC for Rail Innovation 2008). The CRC for Rail Innovation considers the road/rail intersections are unique in the transport sector as they present the only case of two different transport infrastructures being in place under different responsibilities and travelled by vehicles with dramatically different performances. According to the CRC for Rail Innovation, despite the fact the rail infrastructure in Australia has developed substantially over the past century, the original infrastructure of level crossings has changed very little. They describe level crossings occurring today across a variety of road access types (highways, other public roads, private roads and access for rail agencies), road user categories (motor vehicles, pedestrians, agricultural machinery and other work vehicles such as plant machinery) and rail use types (main lines, secondary main lines, branch lines, heavy haulage lines and restricted lines subject to seasonal use or tourism activities).

'Active' and 'passive' crossings are the two major types of railway crossings in Australia. Active crossings incorporate devices that warn motorists, when it is safe to use the crossing either by visual or auditory cues (boom gates and/or twin alternating flashing red lights). The Australia Standard (AS1742.7, 1993) 'Manual of uniform traffic devices – Part 7: Railway crossings' defines an 'active crossing' as:

Control of the movement of vehicular or pedestrian traffic across a railway level crossing by devices such as flashing light signals, gates or barriers, or a combination of these, where the device is actuated prior to and during the passage of a train through the crossing.

Passive crossings do not warn the motorists of the proximity of an approaching train (stop or give way signs only). The Australia Standard (AS1742.7, 1993) 'Manual of uniform traffic devices – Part 7: Railway crossings' defines a 'passive crossing' as:

Control of the movement of vehicular or pedestrian traffic across a railway level crossing by signs and devices, none of which are activated during the approach or passage of a train, and which rely on the road user detecting the approach or presence of a train by direct observation.

Passive crossings (n=6,060 or 64%) are the most common protection system for level crossings in Australia, followed by active crossings (n=1,518 or 28%) with the remainder having other control or protection. Queensland has the highest number of level crossings across the rail network with 37% of Australia's total number of level crossings (n=3,500), followed by Victoria (24%), Western Australia (16%) and New South Wales (12%).

4.11.2 Fatalities

The CRC for Rail Innovation provides a table (shown as Table 4-33) of the total number of deaths in Australia due to level crossing collisions each year from 1997 – 2002. The CRC for Rail Innovation makes note that the fatalities are due to collisions between trains and road vehicles or pedestrians on public streets. Deaths due to collisions between trains and road vehicles on private roadways are excluded as well as suicides. A suicide is defined as a death that the coroner has found to be a suicide.

Table 4-33 Level crossing accident fatalities

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
1997	19	15	5	1	4	0	0	0	44
1998	22	11	5	0	0	0	0	0	38
1999	5	9	1	0	4	0	0	0	19
2000	10	11	4	3	8	0	0	0	37
2001	20	13	6	1	2	0	0	0	42
2002	14	11	6	4	3	0	2	1	41

Source: CRC for Rail Innovation 2009

The CRC for Rail Innovation also provided data on car occupants killed due to being hit by a train at a level crossing (refer to Table 4-34). The CRC for Rail Innovation found that the 74 deaths (nation-wide) was less than 1% of the national road toll in the same period.

Table 4-34 Car occupants killed due to being hit by a train at a level crossing

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
1997	6	9	5	1	2	0	0	0	23
1998	5	4	4	0	0	0	0	0	13

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
1999	2	3	0	0	0	0	0	0	5
2000	1	2	2	0	3	0	0	0	8
2001	6	2	1	0	2	0	0	0	11
2002	3	4	1	4	1	0	1	0	14

Source: CRC for Rail Innovation 2009

Of all the road crashes which occur, the CRC or Rail Innovation concluded that those that involve a collision between a heavy vehicle and a train are the most severe. Although motor vehicles are predominantly found to be involved in more collisions at level crossings than heavy vehicles, in recent years there have been an increasing number of heavy vehicle-train collisions in Australia.

The CRC for Rail Innovation cites an Australian Transport Safety Bureau (ATSB) study of 87 fatal collisions at level crossings. The ATSB study found that the point of impact was more often at the front of the train rather than the side of the train as many crashes occur when cars misjudge distances and enter a level crossing when there is not enough room on the other side to exit. The majority of collisions occurred in rural or an urban centre away from a capital city (67%), where the majority of crossings are passive. The study found that weather conditions were of little significance in contributing to collisions at level crossings, with 85% of collisions occurring in fine weather and 84% on a dry road. Unintended road user error was found to be more common in level crossing collisions than other fatal road crashes. The influence of alcohol or drugs was significantly less common than other fatal road crashes. Fatigue was not considered to be a major factor in level crossing collisions compared to other fatal road crashes. Excessive speed was also less likely to be a major factor.

4.11.3 Near-Misses

The CRC for Rail Innovation suggest it is important to examine the occurrences of near-misses as well as collisions involving fatalities because of the large number of near-misses of trains with road vehicles at level crossings that do not involve a fatality but have the potential to result in a catastrophic event such as a train derailment. To date there is not exact numbers of near-misses at level crossings, however anecdotal evidence from train drivers suggests that such occurrences are far more frequent than reported.

The current definition of a level crossing 'occurrence' is:

Any collision of a train or rolling stock with either a road vehicle, person, level crossing safety equipment or gate, or any other occurrence that compromises safety at a level crossing. Includes: cases of road vehicles causing damage to gates, barriers or other equipment at level crossing; near miss incidents; any case of a train running onto a level crossing when not authorised to do so; any failure of equipment at a level crossing which could endanger users of the road or path crossing the railway.

The CRC for Rail Innovation provide data on the rail occurrences in Australia and this is repeated in Table 4-35.

Table 4-35 Rail occurrence data

		NSW	Vic	Qld	SA	WA	Tas	NT	Australia
2001	Jan-Jun	9	27	8	8	1	1	0	54
	July-Dec	6	9	14	9	0	0	0	38
2002	Jan-Jun	11	18	9	5	5	1	0	49
	July-Dec	7	16	12	6	0	2	1	44
2003	Jan-Jun	3	10	11	4	2	2	0	32
	July-Dec	9	27	9	7	1	1	0	54
2004	Jan-Jun	5	22	2	6	1	1	1	38
	July-Dec	8	8	11	5	1	2	0	35
2005	Jan-Jun	4	11	13	3	2	3	0	36
	July-Dec	2	15	7	5	4	2	0	35
2006	Jan-Jun	8	13	9	3	1	3	0	37
	July-Dec	2	14	13	7	3	2	2	43
2007	Jan-Jun	6	11	7	3	3	1	0	31

Source: CRC for Rail Innovation 2009

4.11.4 Existing Level Crossings in the Regional Study Area

Figure 4-12 and Figure 4-13 show two of the typical level crossings in the regional study area. Figure 4-12 is a photo of a level crossing just inside a property boundary and Figure 4-13 is a level crossing on a major road on the Bowen Development Road.

Figure 4-12 Level crossings in the regional study (entry to property)



Figure 4-13 Level crossings in the regional study (Bowen Development Road)



4.12 Summary of Regional Study Area

Each of the towns in relative proximity to the Project has different settlement histories. Alpha was established in 1884 to serve the construction of the railway and the town prosperity has mirrored the railway. Clermont was established in 1864 to serve the growing sheep industry and mining (including gold, copper and coal). Collinsville was established to serve the coal mining industry in 1866. Bowen was established in 1861 and is Queensland's oldest town and has a proud pioneering and World War II history.

People living in the regional study area defined themselves as having a strong sense of community and community pride. They would like to see the towns in their region to develop to encourage young people and families to stay, which supports the provision of community services and facilities, such as medical and educational services.

The regional study area has a diverse mix of land use including with agriculture (livestock and crops) and mining being the main industries.

The population of the regional study area has remained from 2004 to 2009 at 52,988. The population of the Barcaldine Regional Council LGA decreased from 2004 to 2009 from 3,443 to 3,376, a decrease of 0.4%. The population of the Isaac Regional Council LGA increased from 2004 to 2009 from 19,764 to 22,417, an increase of 2.6%. The population of the Whitsunday Regional Council LGA increased from 2004 to 2009 from 29,781 to 34,195, an increase of 2.8%.

The population of the regional study area is expected to increase from 2009 to 2031, from 59,988 to 86,056. Each of the regional council LGAs are expected to have an increase in their populations. The estimated resident population for the regional study area in 2009 was 59,988 (1.3% of the Queensland population). This consisted of:

- 3,376 (or 0.1% of the Queensland population) in the Barcaldine Regional Council LGA;
- 22,417 (or 0.5% of the Queensland population) in the Isaac Regional Council LGA;
- 34,195 (or 0.8% of the Queensland population) in the Whitsunday Regional Council LGA.



In 2009, OESR calculated the FTE population for the Bowen Basin, including the pre-amalgamated boundaries for the Belyando, and Bowen LGAs. The Belyando LGA had a FTE population estimate of 14,109 which included 17% non-resident workers. Bowen LGA had a FTE population estimate of 14,240 which included 2% of non-resident workers.

There were 12,555 families in the regional study area in 2006. There were 823 families in the Barcaldine Regional Council LGA, with 40.9% couple family with no children, 45.9% couple family with children and 12.0% one parent families. There were 4,663 families in the Isaac Regional Council LGA, with 35.2% couple family with no children, 55.7% couple family with children and 8.0% one parent families. There were 7,069 families in the Whitsunday Regional Council LGA, with 42.4% couple family with no children, 46.7% couple family with children and 10.9% one parent families. The Barcaldine and Isaac Regional Council LGAs had a higher percentage of couple families with children which is consistent with the rest Queensland, however Whitsunday Regional Council LGA had a higher percentage of couple families with no children.

In 2006 the Barcaldine and Whitsunday Regional Council LGAs had a similar population pyramid to the Queensland. Isaac Regional Council had a significantly lower percentage of older people (that is people aged 65 and above) compared to Queensland. This may be representative of the higher percentage of people in the labour force age groups (15-64) in the LGA.

There were 41,056 people born in Australia in the regional study area and 5,433 born overseas:

- ▶ 89.4% of the Barcaldine Regional Council LGA were born in Australia and 4.6% born overseas (3.0% born in English speaking countries and 1.7% born in non-English speaking countries.
- ▶ 81.7% of the Isaac Regional Council LGA were born in Australia and 7.4% were born overseas (5.1% in English speaking countries and 2.3% in non-English speaking countries.
- ▶ 75.0% of the Whitsunday Regional Council LGA were born in Australia and 13.1% were born overseas (8.3% in English speaking countries and 4.7% in non-English speaking countries.

There are 1,742 who identified as being Indigenous in the regional study area.

At the time of the 2006 Census, 42.1% of people aged 15 years and over in the Barcaldine Regional Council LGA stated their gross individual weekly income was less than \$400, and 2.3% who stated their gross individual weekly income was higher than \$2,000. At the time of the 2006 Census, 29.4% of people aged 15 years and over in the Isaac Regional Council LGA stated their gross individual weekly income was less than \$400 and 13.7% stated their gross individual income was more than \$2,000. At the time of the 2006 Census, 34.5% of people aged 15 years and over in the Whitsunday Regional Council Local Government Area stated their gross individual weekly income was less than \$400 and 2.0% stated their gross individual income was more than \$2,000.

In the March quarter of 2010, the Barcaldine Regional Council LGA had 2,071 people in the labour force and an unemployed rate of 2.8%. At the time of the 2006 Census Agriculture, Forestry and Fishing was the largest industry of employment in the Barcaldine Regional Council LGA (33.5% of the population). The Barcaldine Regional Council LGA had 12.2% of their labour force employed as technicians or trade workers, 707% as machinery operators or drivers and 20.3% as labourers.

In the March quarter of 2010, the Isaac Regional Council LGA had 12,947 people in the labour force and an unemployment rate of 1.4%. At the time of the 2006 Census, Mining was the largest industry of employment in the Isaac Regional Council LGA (38.9%). The Isaac Regional Council LGA had 20.1% of



their labour force employed as technicians or trade workers, 24.9% as machinery operators or drivers and 12.3% as labourers.

In the March quarter of 2010, the Whitsunday Regional Council LGA had 18,631 people in the labour force and an unemployment rate of 6.3%. At the time of the 2006 Census, Accommodation and Food Services was the largest industry of employment in the Whitsunday Regional Council LGA (11.6%). The Whitsunday Regional Council LGA had 16.7% of its labour force employed as technicians or trade workers, 9.8% as machinery operators or drivers and 18.1% as labourers.

Median house prices in the Alpha area have increased considerably 2008 and 2009 in comparison to prices from 2000 to 2007. According to an OESR, in the 12 months ending 31 March 2010, there were 9 residential dwelling unit approvals valued at \$2.5 million in the Barcaldine Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$7.9 million. According to www.realestate.com.au, the range of house prices in Alpha in July 2010 was \$219,000 to \$369,000 and there were 40 houses for sale. There were 5 houses for rent with weekly rent ranging from \$160 through to \$230. There were no units, townhouses, villas or apartments for sale or rent in Alpha in July 2010.

Median house prices in the Clermont area were relatively stable from 2000 – 2003 with an increase of prices from 2005 and a peak in 2008 and a decline in 2009. According to an OESR, in the 12 months ending 31 March 2010, there were 95 residential dwelling unit approvals valued at \$28.5 million in the Isaac Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$25 million. According to www.realestate.com.au the range of house prices in Clermont in July 2010 was \$225,000 to \$570,000 and there were 235 houses for sale. There were seven houses for rent with weekly rent ranging from \$280 through to \$420. The range of units, townhouses, villas or apartments prices in July 2010 was \$295,000 to \$450,000 and there were 5 units, townhouses, villas or apartments for sale. There were 19 units, townhouses, villas or apartments or rent in Clermont in July 2010 ranging from \$280 to \$400 per week.

Median house prices in the Collinsville and Bowen area have been slowly increasing since 2000 with a stabilisation from 2008 – 2009. According to www.realestate.com.au the range of house prices in Collinsville in July 2010 was \$120,000 to \$890,000 and there were 132 houses for sale. There were 52 houses for rent with weekly rent ranging from \$190 through to \$1,100. There was only one unit, townhouse, villa or apartment for sale in July 2010 and it was priced at \$400,000. There were 91 units, townhouses, villas or apartments or rent in Collinsville in July 2010 ranging from \$120 to \$925 per week. According to www.realestate.com.au the range of house prices in Bowen in July 2010 was \$255,000 to \$2,800,000 and there were 580 houses for sale. There were 58 houses for rent with weekly rent ranging from \$190 through to \$1,100. The range of units, townhouses, villas or apartments prices in July 2010 was \$175,000 to \$2,550,000 and there were 110 units, townhouses, villas or apartments for sale. There were 91 units, townhouses, villas or apartments or rent in Bowen in July 2010 ranging from \$120 to \$925 per week. According to OESR in the 12 months ending 31 March 2010, there were 201 residential dwelling unit approvals valued at \$55.9 million in the Whitsunday Regional Council LGA. The value of non-residential building approvals in the Barcaldine Regional Council was in the 12 months ending 31 March 2010 was \$35.8 million.

At the time of the 2006 Census, there were 96 persons (2.9% of population) in need of assistance with a profound or severe disability in the Barcaldine Regional Council Local Government Area. At the time of the 2006 Census, there were 267 persons (1.3% of the population) in need of assistance with a profound



or severe disability in the Isaac Regional Council Local Government Area. At the time of the 2006 Census, there were 1,135 persons (3.9% of the population) in need of assistance with a profound or severe disability in the Whitsunday Regional Council Local Government Area.

At the time of the 2006 Census, the Barcaldine Regional Council local government area had 45.7% of the population in the lowest quintile (most disadvantaged) and 6.5% in the highest quintile (least disadvantaged). At the time of the 2006 Census, the Isaac Regional Council local government area had 5.1% of the population in the lowest quintile (most disadvantaged) and 17.3% in the highest quintile (least disadvantaged). At the time of the 2006 Census, the Whitsunday Regional Council local government area had 27.8% of the population were in the lowest quintile (most disadvantaged) and 4.9 in the highest quintile (least disadvantaged).

In 2002-2003 the crime profile of the pre-amalgamated LGA of Jericho, Barcaldine, Blackall, Isisford and Tambo had lower rates of crime than Queensland. In 2002-2003 the crime profile of the pre-amalgamated LGA of Belyando and Nebo had a higher crime rate of offences against the person but lower rates of offences against property and other crime than Queensland. In 2002-2003 the crime profile of the pre-amalgamated LGA of Bowen had had a higher crime rate of offences against the person but lower rates of offences against property and other crime than Queensland.

The total value of agricultural production in the Barcaldine Regional Council Local Government Area in 2005-2006 was \$109.6 million (1.3% of Queensland production). This consisted of 2.5% crops, 88.5% livestock slaughtering and 9.1% livestock products). The total value of agricultural production in the Isaac Regional Council Local Government Area in 2005 – 2006 was \$232.8 million (2.7% of Queensland production). This consisted of 14.0% crops, 86% livestock slaughtering. The total value of the agricultural production in the Whitsunday Regional Council Local Government Area in 2005 – 2006 was \$336.0 million (3.9% of Queensland production). This consisted of 82.8% crops, 17.0% livestock slaughtering and 0.3% livestock products.

The Barcaldine Regional Council Corporate Plan 2009-2014, describes community access to services as one of the regions dilemmas, with the communities not having enough population to support key infrastructure such as education and health care. Isaac and Whitsunday Regional Councils described themselves as having adequate community infrastructure.



5. Social Baseline Study – Local Study Area

5.1 Introduction

This section addresses section 4.1.3 of the TOR. The local study area for the Project is focused on the landholders who will be directly impacted by the Project during both construction and operation. Information contained in this section of the SIA is based on publicly available data, data from the broader EIA community consultation process and the SIA case studies undertaken with landholders. The demographic data accessed from the ABS is a broader area than the directly impacted landholders, so where possible information on the landholders impacted by the Project has been added in and discussed.

5.2 Settlement Patterns

The majority of properties in the local study area have the following characteristics:

- ▶ Are the homes of people living on the property;
- ▶ Are the location of family owned and operated beef cattle businesses, minimal cropping also occurs on some properties.

Some of the properties have been in the families for a number of generations, with many at the stage of 'handover' from one generation to another. Other properties have been recently purchased. The longer a property has been in a family the greater the connection the individuals who live and work on it have to the property. A number of the properties are also held under corporate ownership, or are one of a network of properties with local farm managers being present on the property.

5.3 Identity, Values and Aspirations

During the SIA case studies, landholders were asked to describe themselves and the people who live in their area, they used words such as hard working, salt of the earth, stable, passionate about their land and all that is associated with it (the people, horses, cattle, dogs and wildlife) because of the "hard slog" to get where they are, honest and trustworthy; and close and protective family networks.

The landholders explained that their strong and passionate connection to their property. Landholders explained that their property is part of their identity. An indication of this was when meeting landholders at the EIA Community Information Sessions; they would introduce themselves and say which property they were from. The connection and identity is based on many years (in some cases generations) of hard work and sacrifice to develop, maintain and improve their property and business. Landholders described working from dawn to dusk and of overcoming the many challenges of living on the land, including fires, floods and droughts while raising a family and maintaining a viable business.

Landholders said they had a high quality of life and described their lifestyle as being quiet, uninterrupted and uncomplicated. One of the landholders explained themselves as being secluded not isolated. Each of the landholders spoke of the quietness on their properties, one landholder said "the silence is deafening."

Landholders described themselves as being different from people living in the city, having a different set of values and a different concept of risk and time. They especially see the difference between people who live and work in the agricultural industry compared to the mining industry.



They explained the importance of their social networks and working together as a family and working with their neighbours. Families held high significance in the importance of working the property as part of reinforcing the family bonds. "There is a very close connection between the families in [the different] region, they actively support each other through the good and bad times."

Some of the landholders said that the properties were great places to raise children and that "kids from the country never get bored and learn responsibility from a very early age which makes them have high levels of common sense and motivation." Another landholder explained that "the property is a great place to raise children because of the freedom and responsibility children learn on a working cattle station." Those landholders who had children no longer living on the property explained that their children still had strong connections to the property and it was part of their identity.

5.4 Demographic Overview

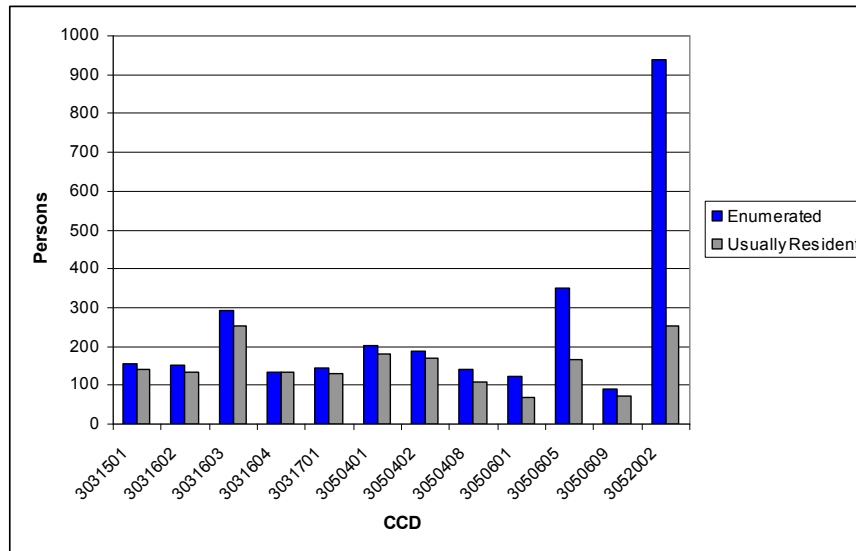
The following section describes the demographic and socio-economic profile of the local study area. The ABS CCDs which have been used for data collection and reporting is geographically larger than the properties which may be impacted by the Project, however this was the smallest ABS geographical area able to be reported on. Data for some indicators such as demographic indicators and population projections are not available for the local study area due to data collection and reporting limitations.

5.4.1 Total Population

The total enumerated population in the local study area in 2006 was 2,912 persons. In contrast, the usually resident population in 2006 was 1,806 persons. This means that at the time of the 2006 census there were 1,106 people or over 60% of the population in the local study area who were not usually resident there. Two Census Collection Districts (3052002 and 3050605) accounted for the vast majority of the difference between usually resident and enumerated population (ABS 2006c, ABS 2006d) in the local study area, refer to Figure 5-1. As these CCD's are located in close geographic proximity to the towns of Collinsville, it can be assumed that differences are mostly explained by non resident mining workers.

During the SIA case studies, landholders were asked the number of people who live on their property. Of the eight case studies, there were an average of three people living permanently on each property, however the largest number was six. Landholders explained that there were often more people on the property (living part time) depending on the work that needed to be undertaken, e.g. mustering, where the number of people living on the property could increase by up to fourteen people.

Figure 5-1 Enumerated and Usually Resident Population of CCD's, Local Study Area (2006)



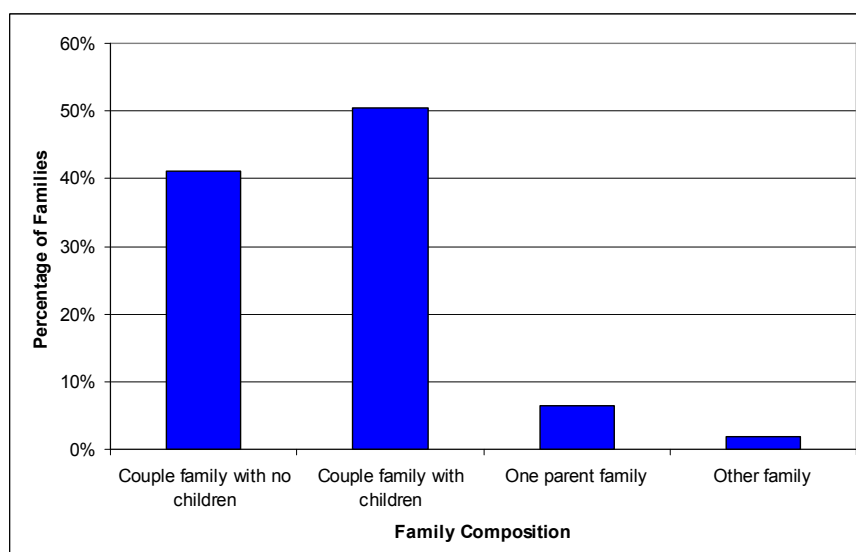
Source: ABS 2006c, ABS 2006d

5.4.2 Family composition

Figure 5-2 shows the family composition of the population in the local study area at the time of the 2006 Census. 'Couple family with children' was the most common family type (50% of all families), followed by 'couple family with no children' (41%). There were a few one parent families and very few other family types in the area (6% and 2% respectively).

During the SIA case studies, landholders explained that many of the properties to be impacted by the Project were in a stage of transition, of one generation handing over to the next, so there could be two generations living on one property or one family getting ready to leave and the next generation getting ready to relocate.

Figure 5-2 Family Composition, local study area (2006)



Source: ABS 2006a

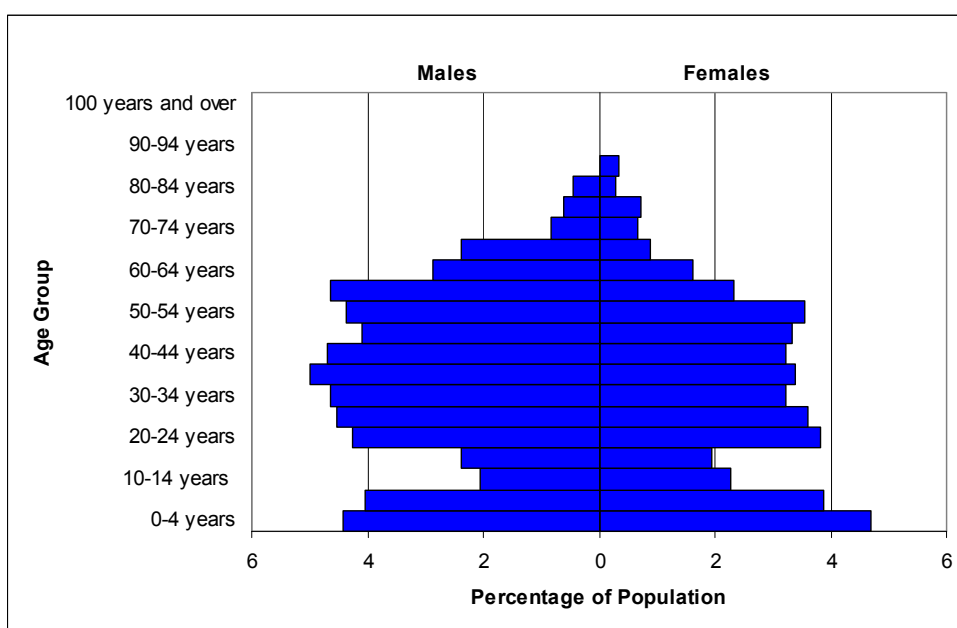
5.4.3 Age and Gender Distributions

Figure 5-3 shows the age/sex distribution of the population in the local study area at the time of the 2006 Census. A number of distinct features emerge:

- ▶ There are significantly more males than females. The male to female ratio is 129 to 100 which reflects the higher ratio of females leaving the region at a school age and not returning.
- ▶ There are comparatively very few children and young persons between the age of 10 and 20 years. This is reflective of the high percentage of high school students who relocate to Rockhampton for boarding school.
- ▶ There are very few persons over the age of 70 years which reflects the low levels of aged care in the region.

The median age in the local study area is 35 years, which is similar to the Queensland median of 36 years (ABS 2006a, ABS 2006b).

Figure 5-3 Population Pyramid, local study area (2006)



Source: ABS 2006a

5.4.4 Cultural and Ethnic Characteristics

During the SIA case studies, landholders explained that there was a significant (although minor) presence of backpackers working in the area, which may account for the diversity in cultural and ethnic characteristics.

Country of Birth

Table 5-1 shows the top five countries of birth of the population in the local study area at the time of the 2006 census. The majority of the population, 1,482 persons or 82%, were born in Australia, followed by



New Zealand (35 persons or 2%) and the United Kingdom (17 persons or 1%). The only non European country among the top five countries of birth was Indonesia, with 4 persons identified as being born there. Due to the low value and the ABS introduced random error, this may however reflect a distortion of the real value.

Table 5-1 Country of Birth, local study area (2006)

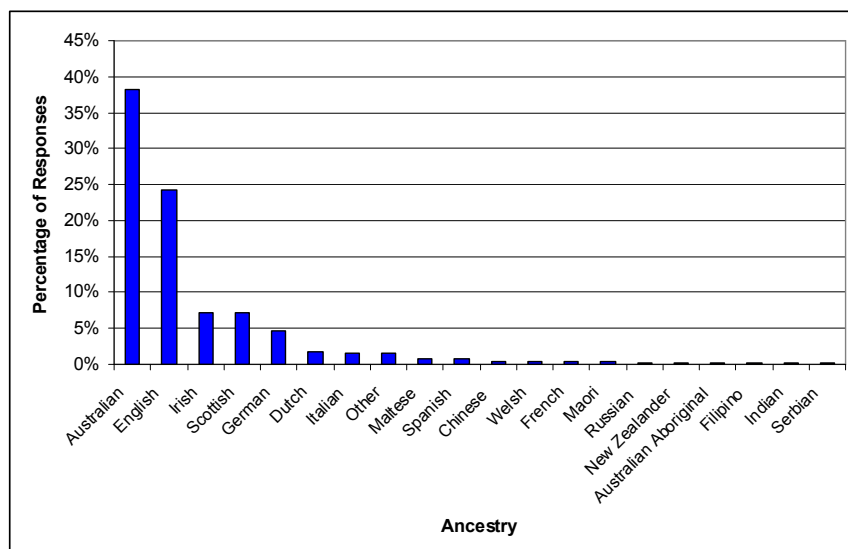
Country of Birth	Persons	Percentage of Population
Australia	1,482	82%
New Zealand	35	2%
United Kingdom	17	1%
Italy	10	1%
Indonesia	4	<1%
Other	23	1%
Not Stated	235	13%
Total	1,806	100%

Source: ABS 2006a

Ancestry

Figure 5-4 shows the ancestry of the people in the local study area. The highest percentage of people identified as being of Australian ancestry, followed by English, Irish, Scottish and German.

Figure 5-4 Ancestry⁹



Source: ABS 2006a

Language Spoken At Home

Table 5-2 shows the languages spoken at home in the local study area at the time of the 2006 Census. The majority of the population (87%) of the population spoke English at home and all other languages each accounted for one percent of the population, or less.¹⁰

Table 5-2 Language Spoken at Home, local study area (2006)

Language	Number of Persons	Percentage of Population
Speaks English Only	1,579	87%
Italian	11	1%
Other	5	<1%
Serbian	4	<1%
Not Stated	204	11%
Total	1,806	100%

Source: ABS 2006

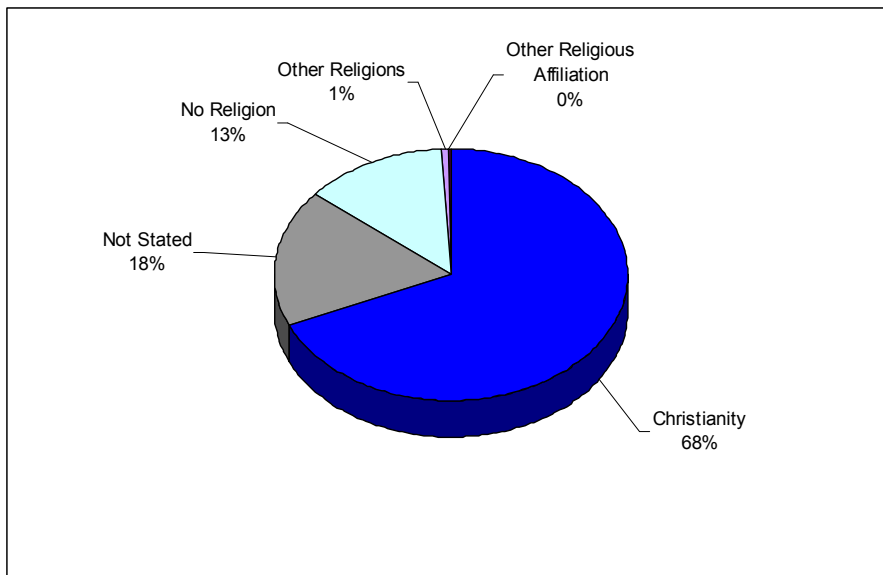
⁹ Note that in the ABS 2006 questionnaire, ancestry is a multiple response question. The total number of responses will therefore not necessarily equal the total number of persons. In this case, the total number of responses was 2,356 whereas the total number of persons was 1,804. Note also that the list of ancestries is based on the 30 most common responses in the 2001 census. The 'Other' category therefore comprises all other less common ancestries. If two responses from one person are categorised in the 'Other' category, only one is counted. 'Other' further comprises ancestries not identified individually and inadequately described. Furthermore, due to ABS introduced random error, the categories exhibiting a very small percentage may be distorted.

¹⁰ The 'Other' category comprises languages not identified individually, inadequately described and 'Non-verbal, so described'.

Religion

Figure 5-5 shows the religious affiliation of the population in the local study area at the time of the 2006 Census. The majority of the population identified as belonging to the Christian faith (68%). Most of the remainder did not state their religion (18%), or stated they had no religion (13%). Other religions accounted for only 14 persons.

Figure 5-5 Religious Affiliation¹¹, local study area (2006)



Source: ABS 2006a

5.4.5 Indigenous Population

In 2006, 44 persons identified as indigenous in the local study area, with 26 males and 18 females. The indigenous population constituted 2% of the usual resident population (ABS 2006a).

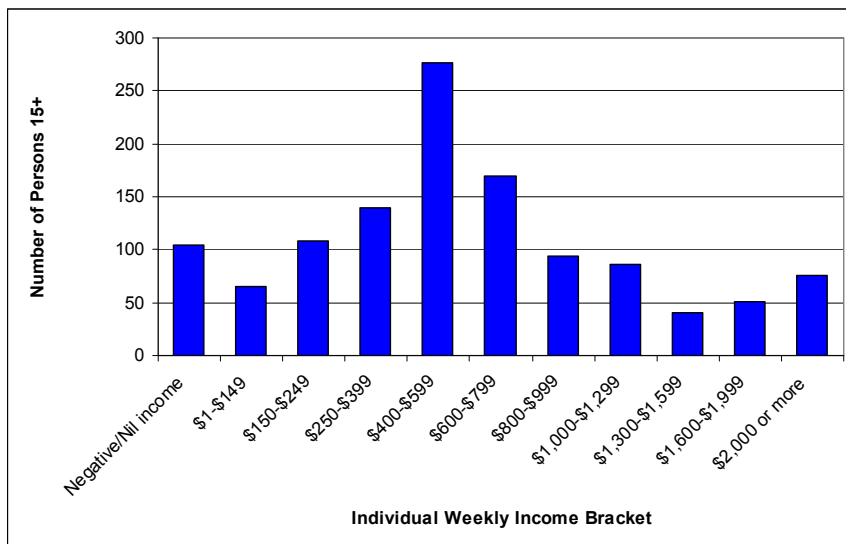
5.4.6 Income

Individual Income

Figure 5-6 shows the distribution across the income brackets for the population of the local study area at the time of the 2006 Census. There was a convergence in the middle of the income brackets, with \$400-\$599 being the largest group, which is supported by the median weekly individual income of \$539, which is higher than the Queensland median of \$476 (ABS 2006a, ABS 2006b). There was also a relatively large group with no or negative income.

¹¹ Note that the category 'Other Religions' comprises 'Australian Aboriginal Religions' and 'Other Religious Groups', whereas the category 'Other Religious Affiliation' comprises 'Religious Belief, nfd', 'Not defined', 'New Age, so described' and 'Theism'.

Figure 5-6 Gross Weekly Individual Income

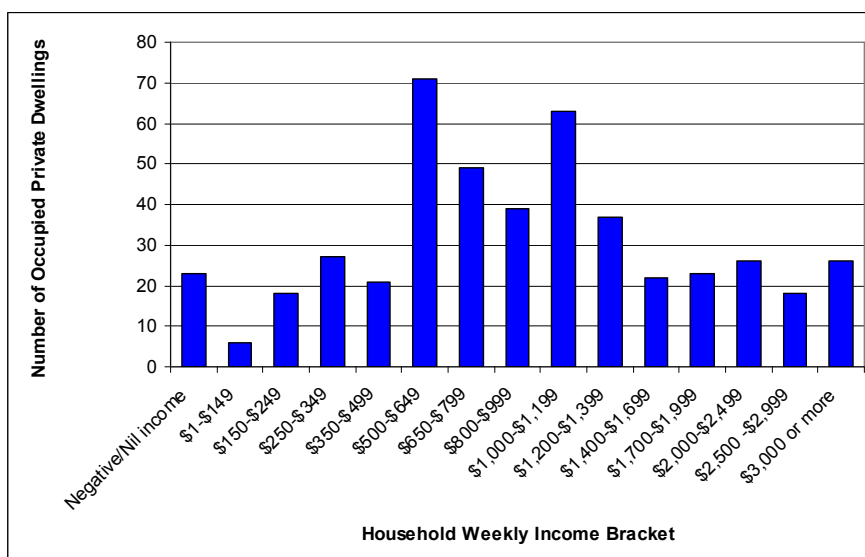


Source: ABS 2006a

Household Income

The household income across the different income brackets for the local study area in 2006 is shown in Figure 5-7. Similar to the individual income, there is convergence in the middle income brackets, with \$500-\$645 being the largest category. The median weekly household income in the local study area was \$897, which is lower than the Queensland median of \$1,033 (ABS 2006a, ABS 2006b).

Figure 5-7 Gross Weekly Household Income, local study area (2006)



Source: ABS 2006a



5.4.7 Labour Force

Employment Status

Table 5-3 shows the labour force status of the population in the local study area. The total labour force participation was high (72.6%). Very few people were unemployed, with the unemployment rates at 1%.

Table 5-3 Labour Force Status¹², local study area (2006)

Labour Force Status	Males	Females	Total
Employed, of which	639	594	381
- full time	564	250	814
- part time	33	96	129
- away from work	42	35	77
Unemployed, looking for work	7	3	10
Unemployment rate	1.1%	0.8%	1.0%
Total Labour Force	646	384	1,030
Not in the Labour Force	77	144	221
Labour Force Participation Rate	78.2%	64.8%	72.6%
Total Persons 15+	825	594	1,419

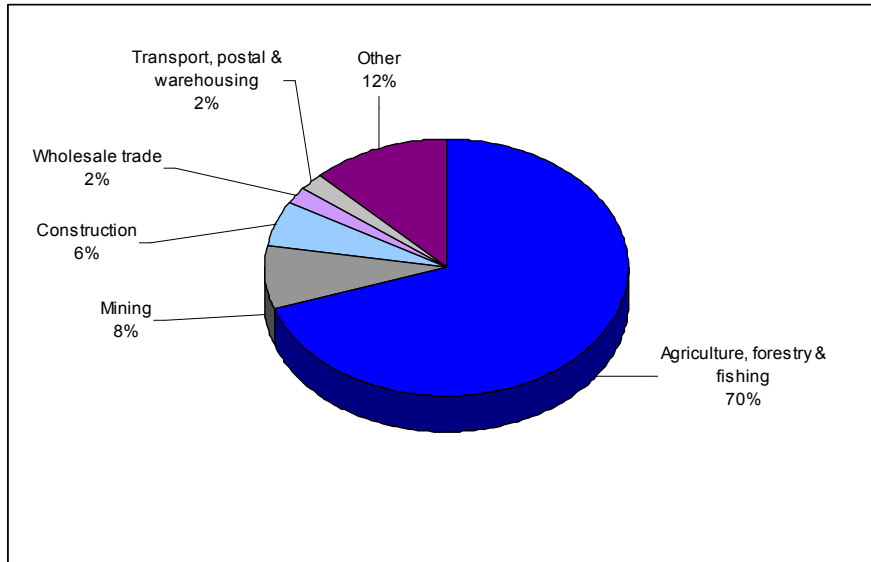
Source: ABS 2006a

Industry

Figure 5-8 shows the industries of employment for the local study area in 2006. The main industry in which people were employed (aged 15 and above) was Agriculture, Forestry and Fishing at 70%. Other industries included Mining (8%) and Construction (6%).

¹² Note that the unemployment rate is the percentage of unemployed persons to the total labour force. The labour force participation rate is calculated as the percentage of the total labour force to the population over 15 years of age. The total labour force consists of all persons employed and unemployed looking for work.

Figure 5-8 Industry of Occupation¹³, local study area (2006)



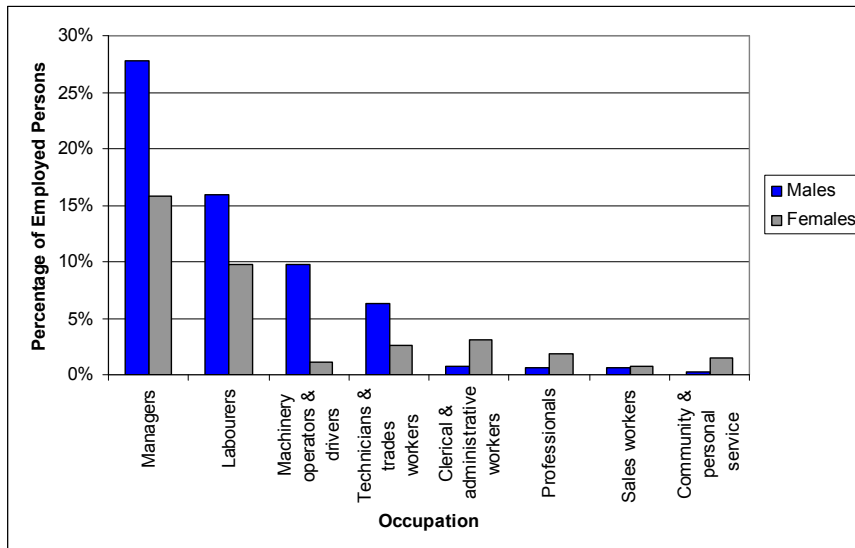
Source: ABS 2006a

Occupation

Figure 5-9 shows the types of occupations in the local study area in 2006. For both women and men, Manager was the most common type of occupation (444 persons), followed by Labourers (261 persons) and Machinery Operators and Drivers (110 persons). In conjunction with the large dominance of agriculture in the local study area, the large number of managers is likely to reflect a large number of self employed property owners and/or employed managers.

¹³ All industries with less than 20 persons employed have been aggregated in the "other" category. These include Manufacturing, Accommodation and Food Services, Retail Trade, Education and Training, Health Care and Social Assistance, Professional, Scientific and Technical Services, Administrative and Support Services, Electricity, Gas, Water and Waste Services, Financial and Insurance Services, Other Services and Rental, Hiring and Real Estate Services. There is also a 'Not Stated' category which has been excluded from the figure.

Figure 5-9 Occupations for Males and Females, local study area (2006)



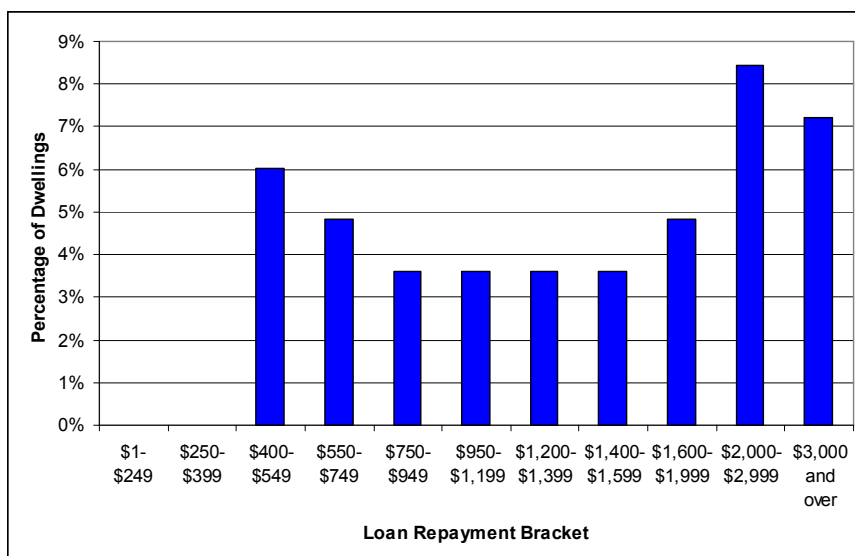
Source: ABS 2006a

5.4.8 Housing Costs

Monthly Housing Repayments

The housing loan repayments in the local study area were relatively high in 2006. Figure 5-10 shows that the largest repayment bracket was \$2,000 to \$2,999 per month, followed by \$3,000 and over. It should be noted that 54% of the respondents did not state their housing loan repayment levels and with the only 81 dwellings being purchased at the time, it is difficult to draw any certain conclusions from the data.

Figure 5-10 Monthly Housing Loan Repayment, local study area (2006)

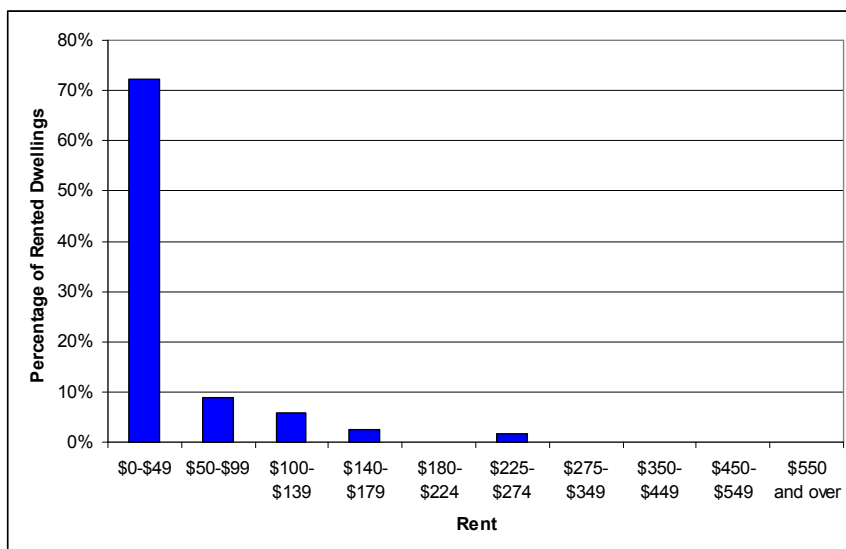


Source: ABS 2006a

Weekly Rent

In contrast to the high housing loan repayments, rents were generally low in the local study area (refer to Figure 5-11). More than 70% of the 191 rented dwellings were being rented for less than \$49 per week. These very low rents may indicate a large proportion of employer subsidised rental housing.

Figure 5-11 Weekly Rent, local study area (2006)

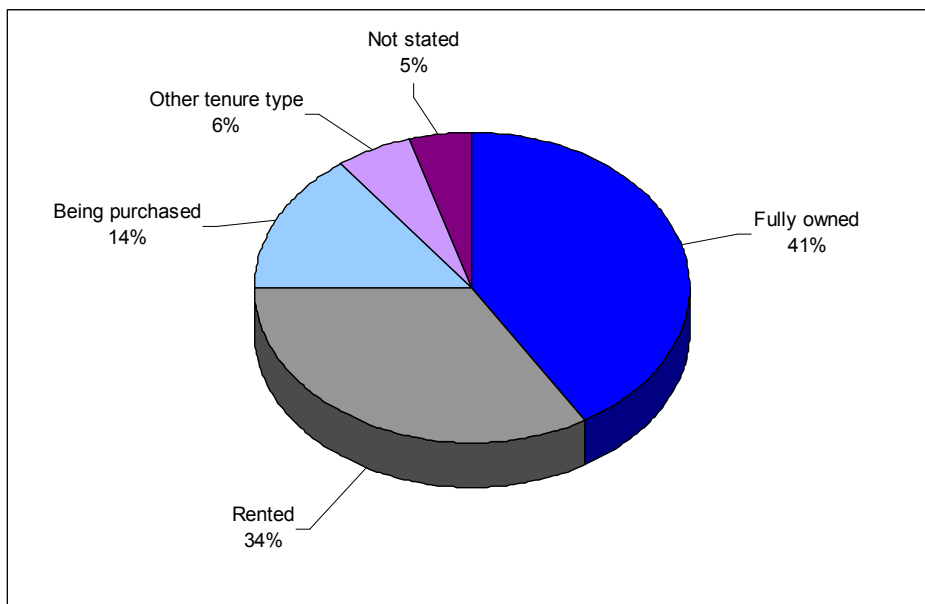


Source: ABS 2006a

Housing Tenure Type

There were a total of 599 occupied private dwellings in the local study area in 2006. Of these, 41% were fully owned, 34% rented and 14% being purchased (refer to Figure 5-12). The stock of dwellings being purchased was relatively low, possibly indicating that few people had recently moved to or purchased a dwelling in the area.

Figure 5-12 Tenure Type, local study area (2006)



Source: ABS 2006a

Landlord Type

Table 5-4 shows the landlord type for all rented dwellings in the local study area. The largest landlord category was “other landlord type” which includes employers (private and government). The largest group of renters in the local study area were possibly renting from their employers who may provide subsidised housing. No dwelling was rented from a state or territory housing authority or community or church group, indicating that there was no social housing available within the local study area.

Table 5-4 Landlord type, local study area (2006)

Landlord Type	Number of Rented Dwellings	Percentage of Rented Dwellings
Real estate agent	4	2%
State or territory housing authority	0	0%
Person not in the same household	34	18%
Housing co-operative/community/church group	0	0%
Other landlord type ¹⁴	82	43%
Landlord type not stated	69	37%
Total	189	100%

Source: ABS 2006a

¹⁴ The category comprises dwellings being rented through a residential park, employer-government and employer-other employer (private).



5.4.9 Social and Economic Index

The Index of Relative Disadvantage only includes variables of relative disadvantage including proportion of low income houses in the area, proportion of people who do not speak English well, proportion of households who pay low rent and proportion of people with no post-school qualifications (please refer to the ABS website for a full list of variables). Table 5-5 shows the Index of Relative Socio-Economic Disadvantage (IRSD) of the different CCDs in the local study area.

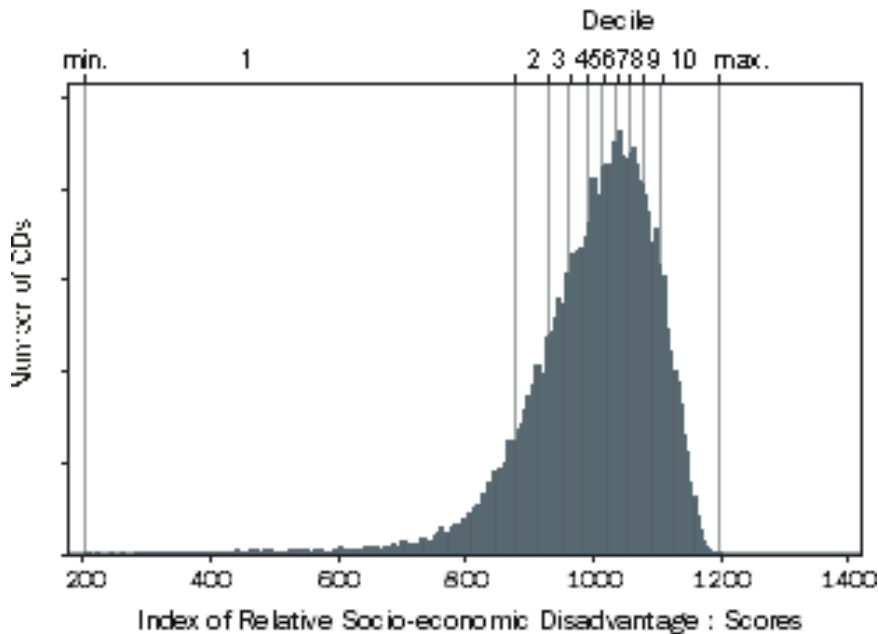
Table 5-5 Index of Relative Socio-Economic Disadvantage, local study area (2006)

Geographical Location	CCD	Score	Ranking within Queensland		
			Rank	Decile	Percentile
<div>↑ Most south-west</div> <div>↓ Most north-east</div>	3031701	1044	4990	7	67
	3031501	1089	6471	9	87
	3031602	1034	4569	7	62
	3031603	1060	5533	8	75
	3031604	1069	5831	8	79
	3052002	1015	3867	6	52
	3050601	1022	4104	6	56
	3050609	1054	5335	8	72
	3050605	986	2823	4	38
	3050401	921	1243	2	17
	3050402	945	1724	3	24
Most north-east	3050408	932	1460	2	20

Source: ABS 2008

The IRSD is used for distinguishing between relatively disadvantaged areas. Figure 5-13 is used to interpret the data contained in Table 5-5. The long tail on the left side of the histogram shows the relatively disadvantaged areas. The CCDs with mid range scores are neither particularly disadvantaged nor lacking disadvantage relative to other areas.

Figure 5-13 ISRD Scores Histogram



Source: <http://www.abs.gov.au/>

The CCDs to the south west of the local study area were more disadvantaged than those in the middle of Project or the north-eastern area of the local study area.

5.5 Social Infrastructure and Services

5.5.1 Location of Services

There is no social infrastructure located within the local study area. There were some service providers who would travel to the landholders; however the majority of people living in the area need to travel to towns where services are provided. The only social service that comes to landholders is the Central Queensland Rescue Helicopter (based in Mackay) and/or ambulance. Table 5-6 sets out the location of social services accessed by the landholders who participated in the SIA case studies. The location of services was dependant on the location of the landholder who participated in the case study.

Table 5-6 Location of Social Services

Service	Location
Medical and health care	Clermont, Emerald, Moranbah, Collinsville, Bowen, Mackay, Townsville or Brisbane. Women living on the properties have to travel to Rockhampton or Townsville two weeks prior to their date for delivery.
Childcare	Families provide their own childcare on the property.
Emergency Services	Come from Alpha, Clermont, Moranbah, or Rockhampton, however landholders provide their own fire fighting services.
Transport	Landholders are dependant on their vehicles, cattle trucks come from Clermont, Emerald or Townsville.

Service	Location
Education	Local state schools, school of the air, Remote Area Frontier Services, Mistake Creek, Emerald, Charters Towers, Rockhampton and Brisbane for boarding school
Sport and recreational	Moranbah, Clermont, Collinsville and Bowen
Shopping	Alpha, Emerald, Moranbah, Clermont, Collinsville and Bowen
Mail	Either delivered twice a week or a mail service provided at Clermont and Nebo.
Communications	Landlines and some mobile phone access and satellite broadband internet connection

5.5.2 Recreation

There are a number of high priority social and recreational events, these include the regional shows, camp drafting and rodeo events. There are a number of information social events such as the Easter and Boxing Day family events. The Bowen River is an area which is used by local residents for fishing, camping and recreation throughout the year. Access to the Bowen River is near the Bowen River Hotel. Figure 5-14 is a photo of the Bowen River Hotel where an annual rodeo is held in June each year.

Figure 5-14 Bowen River Hotel



5.6 Land Use

There will be 37 properties impacted by the Project. Based on the SIA case studies there is on average three people living on each property, with up to two families living on some and up to fourteen contractors brought in at a time to undertake mustering. Contractors can also live on the property while they are working. Each of the landholders explained the characteristics of their properties and how they are in a constant state of development, “there is always work to do and improvements to be made”.

Each of the landholders who participated in the SIA case studies had aspirations to continue developing and upgrading their properties. Each had business plans to maximise the efficiencies of their properties. Many of the landholders who participated in the SIA case studies were planning on handing the businesses and properties over to at least one of their children. Landholders explained that their land use is guided by their business plan and government legislation.

Landholders explained the high level of effort that went into developing and implementing the business plans based on decades of working their property. They also explained that it takes many years to benefit from the implementation of the business plan and the high capital costs to change the operation. One landholder explained that because his business was based on cattle, the lifecycle of the cattle was critical to the business plan and it can take up to three and half years to get a financial return on a beast. The return period can be much longer (10 to 15 years) if the property is undertaking a genetic improvement program. In addition, unexpected influences on the business such as droughts, floods, fires, changing market prices and conditions and changing government legislation and regulation need to be considered.

Each of the landholders who participated in the SIA case studies was also very passionate about their cattle. Each landholder who participated in the SIA case studies had a different breed or crossbreed of cattle to suit their particular circumstances. Landholders explained the different characteristics of their cattle, and always made the distinction between introduced cattle and cattle that are born and bred in a similar location. The following section provides a very brief overview of the issues relating to cattle that may be impacted by the Project. Figure 5-15 is a photo of some of the cattle on one of the SIA case study properties.

Figure 5-15 Cattle



Regardless of the breed, cattle are referred to as either:

- Heifers – females before they have had their first calf;
- Cows – females after they have had their first calf;
- Weaners – calves that have been separated from their mothers;
- Steers – de-sexed males;



- Bulls – intact males.

A property will be split into paddocks for the various types of cattle and their purpose, e.g.:

- Fattening or bullock paddock – used to fatten up cattle to be sold, maximising weight for age;
- Breeder paddocks – cows and calves (prior to weaning)
- Weaner paddock – calves that have been separated from their mothers;
- Bull paddock – to separate the bulls from cows in the non-breeding season.

Paddock number and sizes vary depending on the type of operation, terrain, pasture quality and proximity to infrastructure (yards, water etc). Cattle are often traded between properties, and 'introduced' animals will face different environmental conditions to the previous property. The animal's reaction to this is dependant on the breed and handling conditions.

The following is a quote from a landholder who participated in the SIA case studies:

“With the 22 head at the cup and saucer on 31 May 2010, I stood at the gate with my arms over it and one black steer touched my hand with its nose. The older cattle get, the more sensitive to noise they become. From weaning age at 6-9 months to 12-14 months well handled weaners are good as long as they do not get a fright at night. If they do rush at night they never really settle. From 2-3 years old cattle can become harder to muster. Cattle are very intelligent, especially Brahman.”

Required Infrastructure

Landholders provided a list of resources required for a viable cattle grazing property including (but not limited to):

- Pastures (usually improved by the landholder) with additional feeding points for supplementary fodder when required;
- Water - usually a system of bores/dams/tanks with reticulation to troughs if required;
- Fencing, laneways, stock yards and other associated infrastructure for husbandry and drafting purposes;
- Shade (usually provided by natural vegetation);
- Vehicles and machinery such as trail bikes, quad bikes, 4WD, tractor, slasher, grader etc;
- Access to local and State roads;
- Internal private roads and tracks;
- Animals such as working dogs and horses; and
- People to manage the property and companion animals (including improvement and maintenance of the above).

There are a number of factors taken into consideration when designing the layout and infrastructure of a property including:

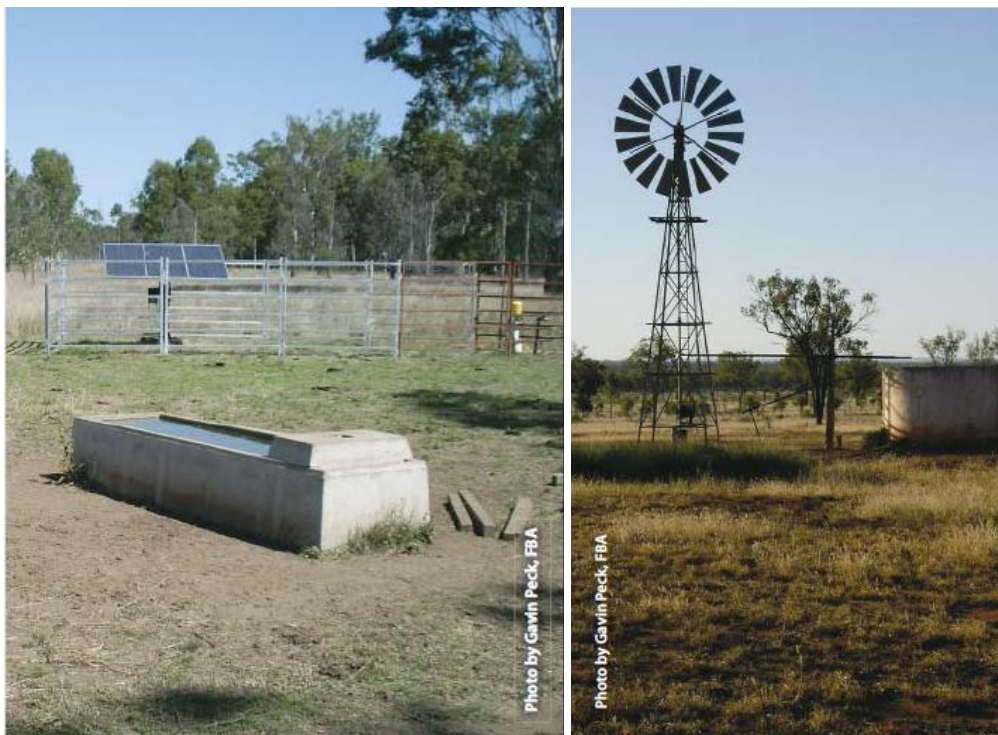
- Terrain;
- Purpose of property (e.g. to breed or fatten cattle);
- Breed and type of cattle (paddocks);

- ▶ Carrying capacity of the property and paddocks;
- ▶ Mustering (including moving cattle on and off the property using cattle trucks); and
- ▶ Moving cattle around the property (between paddocks using lane ways).

Watering Points

According to the Fitzroy Basin Association (n.d.) water is the most powerful attractant to cattle on grazing properties and placement of watering points can determine the grazing patterns and pressure across a paddock. The amount of water required by cattle is determined by the age and stage in lifecycle of the animals (e.g. lactating cows need more water than young stock). There are a number of different types of watering points including, dams, troughs and cup and saucers. The water can be reticulated from the water source to the watering point using pumps (windmills or powered) and pipelines. It is recommended that there is more than one watering point in each paddock to reduce the pressure at each water point. Figure 5-16 provides an example of a watering point and watering point infrastructure.

Figure 5-16 Example of a watering point and watering point infrastructure



Source: <http://www.fba.org.au/publication/downloads/Property-planning-Using-off-stream-watering-points-FINAL.pdf> (accessed 16-06-10)

Fencing

Landholders use different types of fencing for different purposes and different breeds of cattle. Figure 5-17 is an example of recently constructed fencing and shows the reinforced corner strainer post with stays, gate, four barbed wires, steel posts every 3-4 meters and intermediate droppers every 1-2 metres. It is important for the top rung of wire to be barbed wire as this acts as a deterrent to cattle leaning over the fence. It is important that wire is stretched when the fence is constructed, otherwise it will slacken over time and the fence will begin to collapse. The position of gates in the fence is important as it allows

the landholder to move animals, vehicles and machinery between laneways and paddocks. Laneways are important because they allow the landholders to move cattle between stockyards and paddocks without the risk of mixing with other mobs. Ensuring gates remain closed (unless deliberately left open) is essential to efficient management because mixing of mobs could otherwise occur. Consequences include bulls mixing with cows outside the breeding season or increased workload required to muster mixed mobs for drafting and return to the correct paddock.

Figure 5-17 Fencing



Stockyards

Stock yards are an integral piece of infrastructure that are strategically placed in relation to other infrastructure such as internal access roads, external access roads, laneways, paddocks and water sources. Figure 5-18 and Figure 5-19 are photos showing stock yards and cattle trucks.

Figure 5-18 Cattle in cattle train with stockyards in the background



Source: http://www.dpi.qld.gov.au/27_10366.htm (accessed 16-06-10)

Figure 5-19 Stock yards and cattle truck



Source: http://www.dpi.qld.gov.au/27_10367.htm (accessed 16-06-10)

One of the Project impacts on a property could be that infrastructure will need to be replanned and changes implemented which may not be simply a case of rebuilding fences, laneways, stock yards, watering points etc. Landholders have spent many years (and sometime generations) ensuring that their

property is run as efficiently as possible for the highest return on their cattle. Each property will need to be individually assessed, including decisions on the need to change existing enterprise types.

Working Dogs

Working dogs are critical to working with cattle, particularly if there is only limited human labour available. A working dog can undertake the work of one or two people. It can take up to six or seven years to train a lead working dog and it is not until the dog is about three years old that the owner will know the true potential of the dog. Landholders have close working bonds with their working dogs and some explained during the SIA case studies that losing a working dog is like grieving for a member of the family.

Potential impacts on working dogs need to be considered because of the loss to landholders if a dog is injured or killed due to the construction or operation of the Project. The chance of a working dog being injured or killed is increased when the dogs are working and focused on mustering cattle.

Mustering

Mustering is an integral component of managing a cattle property and its logistics depend on the layout of infrastructure as well as climatic conditions. Mustering can take place any number of times each year, the timing and extent of mustering will depend on the purpose. Mustering can be undertaken for veterinary purposes, weaning, branding, breeding or to arrange for sale. The terrain and distance to be travelled will influence how the cattle are mustered. Mustering can be done on foot, with horses (refer to Figure 5-20) with trail bikes or quad bikes (refer to Figure 5-21) or with aircraft, e.g. helicopters (refer to Figure 5-22).

Figure 5-20 Mustering cattle with horses



Source: http://www.dpi.qld.gov.au/27_10364.htm (accessed 16-06-10)

Figure 5-21 Mustering cattle with trail bikes and quad bikes



Source: http://www.dpi.qld.gov.au/27_10357.htm (accessed 16-06-10)

Figure 5-22 Mustering cattle with helicopter



Source http://www.dpi.qld.gov.au/27_10356.htm (accessed 16-06-10)

High ground and camping and cattle tracks

Landholders explained that cattle always find the highest ground in a paddock to camp (camping is when the cattle ruminate (digest grass), rest or sleep and usually happens at night and the middle of the day). They also find the highest ground when it is cold or wet. Figure 5-23 is a photo taken of cattle exhibiting this behaviour while undertaking SIA case studies. The photo was taken at approximately 2.00pm and it was approximately 19 degrees and had been raining.

Figure 5-23 Example of cattle on high ground on a cold and wet day



Trotter *et al* (n.d.) completed research into the location and movement of livestock and time of peak grazing of steers in a paddock in Inverell (New South Wales). The research supported the observations of landholders, showing that the cattle preferred camping at night on the elevated areas. Research by Ganskopp *et al* (2000) found that in rangeland pastures in Oregon (United State of America) that cattle establish least-effort routes between distant points in rugged terrain and reported that in some instances man-made trails have been used to encourage uniform use of forages or facilitate livestock passage through dense vegetation or rugged terrain.

It is important that the Project corridor be fenced as soon as possible during the construction stage of the Project to prevent cattle from entering the worksite. If the corridor is not fenced:

- ▶ Cattle will graze on the construction site when there is no movement or noise thus exposing them to injury when work or movement re-commences;
- ▶ Cattle will have a natural instinct to enter the cleared area, particularly if it becomes a path of least resistance to their watering point in the paddock;
- ▶ Cattle will have a natural instinct to camp on the railway line.

Cattle are the basis for the landholders business and if they lose animals because of the construction or operation of the Project, it will affect the profitability of the business.



Noise

Noise can interrupt an animal's usual pattern of behaviour including watering. Based on previous experience of the landholder and the data collected for the example, the landholder concluded that if there is no vehicle noise for 3-4 days the cattle will return to the watering point. Research undertaken by Grandin (1989 with updates in 1991 and 2002) from Colorado State University found that cattle are more sensitive to high frequency noises than humans. The auditory sensitivity of cattle is greatest at 8,000hz, in comparison the human ear is most sensitive at 1,000 to 3,000hz. Cattle will move away from a noise as small as a piece of rustling plastic and are stressed by noise such as banging gates, machinery, people yelling and barking dogs. Research by Grandin has shown that unexpected loud or novel noises can be stressful to livestock and can elicit fear responses in cattle (Waynert *et al* 1999). Cattle will readily adapt to reasonable levels of continuous sound, such as white noise, instrumental music or miscellaneous sound. Research by Waynert *et al* 1999 shows that breed and temperament will contribute to an individual animal's response to a fear-evoking stimulus and previous handling plays an important part in determining response. This may be why cattle born and bred next to a noise source "get used to it" and why introduced cattle may take some time to adapt. Feedback from landholders participating in the SIA case studies said that Brahman cattle and weaners are more likely to be stressed by noise and rush as a consequence.

5.7 Summary of Local Study Area

The local study area is predominantly based on agriculture including livestock and crops. People living in the local study area defined themselves as hard working, family orientated, having a quiet lifestyle with strong connections to their property. The majority of the properties in the local study area are primary producers, with cattle breeding and fattening or crops being the main source of income. People who live in the area are highly passionate about their property and their businesses due to the large component of physically hard and long working hours it takes to run the property successfully. The properties are people's homes not just the location of their business and they have a strong connection or a strong sense of place.

There area also a number of properties owned by corporation or that form part of a large network of properties. These properties are occupied by farm managers for all or part of the time.

The total enumerated population in the local study area in 2006 was 2,912 people. During the SIA case studies, landholders were asked the number of people who live in their property. Of the eight case studies, there was an average of three people living permanently on each property, however the largest number was six. Landholders explained that there were often more people on the property (living part time) depending on the work that needed to be undertaken, e.g. mustering, where the number of people living on the property could increase by up to fourteen people.

'Couple family with children' was the most common family type (50% of all families), followed by 'couple family with no children' (41%). There were a few one parent families and very few other family types in the area (6% and 2% respectively).

During the SIA case studies, landholders explained that many of the properties to be impacted by the Project were in a stage of transition, of one generation handing over to the next, so there could be two generations living on one property or one family getting ready to leave and the next generation getting ready to relocate.



There are significantly more males than females in the local study area. The male to female ratio is 129 to 100 which reflects the higher ratio of females leaving the region at a school age and not returning. There are comparatively very few children and young persons between the age of 10 and 20 years. This is reflective of the high percentage of high school students who relate to Rockhampton for boarding school. There are very few persons over the age of 70 years which reflects the low levels of aged care in the region. The median age in the local study area is 35 years, which is similar to the Queensland median of 36 years (ABS 2006a, ABS 2006b).

The majority of the population, 1,482 persons or 82%, were born in Australia, followed by New Zealand (35 persons or 2%) and the United Kingdom (17 persons or 1%). The only non European country among the top five countries of birth was Indonesia, with 4 persons identified as being born there. Due to the low value and the ABS introduced random error, this may however reflect a distortion of the real value. During the SIA case studies, landholders explained that there was a significant (although minor) presence of backpackers working in the area, which may account for the diversity in cultural and ethnic characteristics.

In 2006, 44 persons identified as indigenous in the local study area, with 26 males and 18 females. The indigenous population constituted 2% of the usually resident population (ABS 2006a).

In 2006, the majority of people in the local study area had reported gross individual weekly income of \$400-\$599, which is supported by the median weekly individual income of \$539, which is higher than the Queensland median of \$476 (ABS 2006a, ABS 2006b). There was also a relatively large group with no or negative income.

The total labour force participation was high (72.6%). Very few people were unemployed, with the unemployment rates at 1%. For both women and men, Manager was the most common type of occupation (444 persons), followed by Labourers (261 persons) and Machinery Operators and Drivers (110 persons). In conjunction with the large dominance of agriculture in the local study area, the large number of managers is likely to reflect a large number of self employed property owners and/or employed managers.

In 2006 the largest home loan repayment bracket in the local study area was \$2,000 to \$2,999 per month, followed by \$3,000 and over. It should be noted that 54% of the respondents did not state their housing loan repayment levels and with the only 81 dwellings being purchased at the time, it is difficult to draw any certain conclusions from the data. More than 70% of the 191 rented dwellings were being rented for less than \$49 per week. These very low rents may indicate a large proportion of employer subsidised rental housing.

The CCDs to the south west of the local study area were more disadvantaged than those in the middle of Project or the north-eastern area of the local study area.

There is no social infrastructure located within the local study area. There were some service providers who would travel to the landholders; however the majority of people living in the area need to travel to towns where services are provided. The only social service that comes to landholders is the Central Queensland Rescue Helicopter (based in Mackay) and/or ambulance.



6. Workforce Profile

6.1 Introduction

This section of the SIA Report addresses Part B, section 4.1.4 of the TOR.

6.2 Construction Stage

The construction stage of the Project is scheduled to occur from September 2011 through to March 2014. The Project will be constructed on six separable portions to allow for the concurrent construction programs, reducing the overall time of construction and negative construction impacts on landholders and other stakeholders.

6.2.1 Key Tasks

The following construction activities will be undertaken for the construction stage of the Project:

- ▶ Civil works including, earthworks, drainage, road construction, and bridge construction; and
- ▶ Track construction including track laying, installation of signalling and communications.

A detailed list of the tasks to be undertaken during the construction stage is available in Section 2 of the EIS.

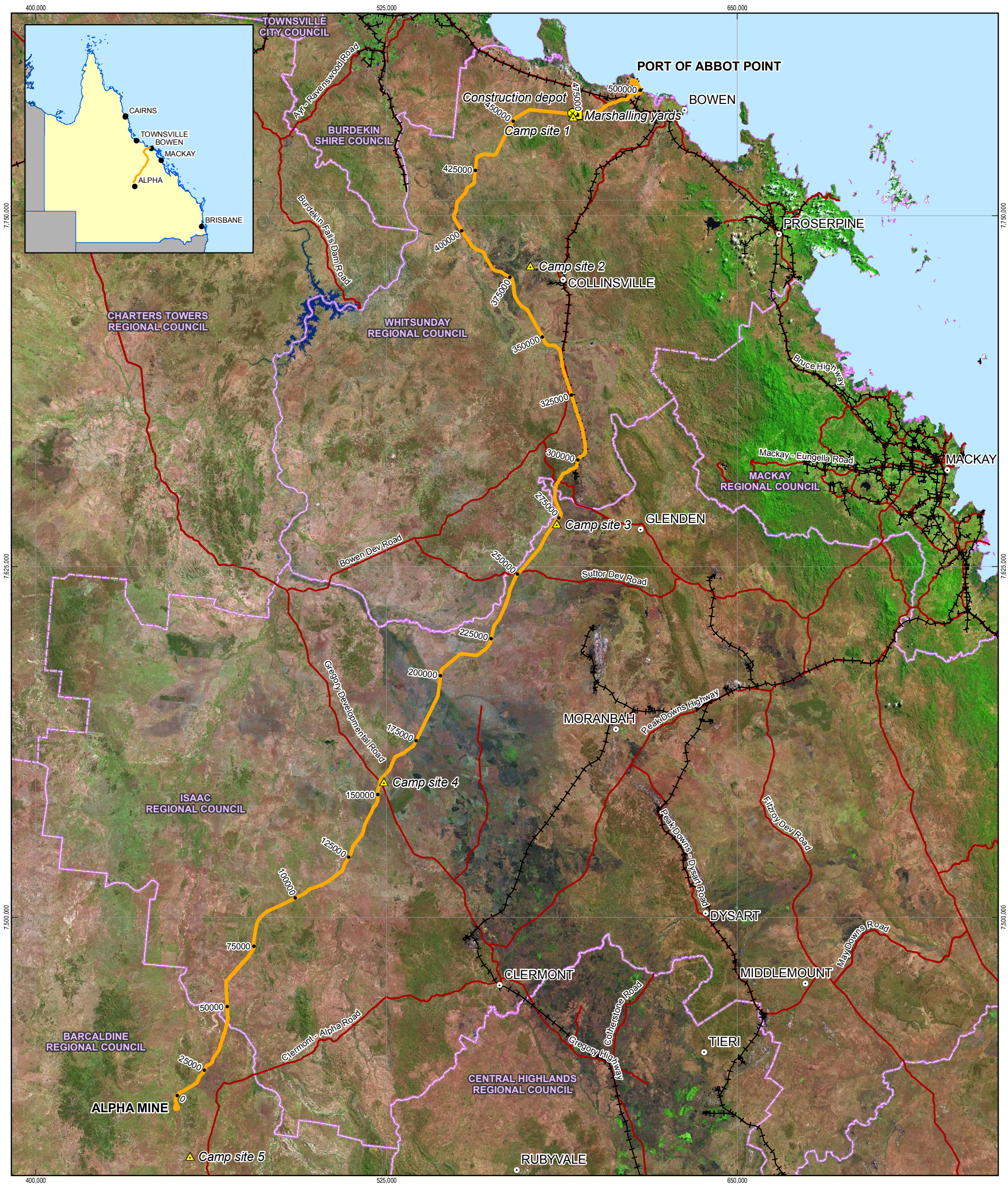
6.2.2 Source of Workforce

The construction stage of the Project will be a primarily fly-in/fly-out (FIFO) operation, with HPPL and their contractors maximising local employing and sub-contracting. It is expected the workforce not sourced locally will consist of individuals who are the most appropriate for the role, and these people may be from the regional area, Queensland, Australia or overseas. It is expected however, that the majority of the employment will be sourced within Australia.

6.2.3 Accommodation Camps

There will be five accommodation camps located along the Project corridor. The construction camp for the proposed mine (known as Alpha mine) will be utilised. Other camps will be constructed and are referred to as Gregory Highway, Eaglefield, Collinsville¹⁵ and Salisbury Plains. Figure 6-1 shows the location of the accommodation camps. The camps have been equally spaced along the rail alignment to minimise travel for the construction personnel. The camps have also been positioned in the vicinity of an existing access or main road to aid in the transport of goods to the camp and to minimise interaction of camp traffic with construction traffic.

¹⁵ Please note that this is not the town of Collinsville.

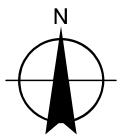


- LEGEND**
- Town
 - Camp
 - Marshalling Yards
 - Depot
 - Proposed Alignment
 - State Road
 - Existing Railway
 - Local Government Area

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1:1,250,000 (at A3)
0 5 10 20 30 40 50
Kilometres
Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55



HANCOCK PROSPECTING PTY LTD

Alpha Coal Project
Environmental Impact Statement

ESTIMATED LOCATION OF CONSTRUCTION CAMPS

Job Number | 41-22090
Revision | A
Date | 04-08-2010

Figure: 6-1

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Table 6-1 sets out the location of the accommodation camps within the regional Council LGAs.

Table 6-1 Location of construction camps within Regional Council Areas

Accommodation Camp	Regional Council Area
Alpha	Barcaldine Regional Council
Gregory Highway	Isaac Regional Council
Eaglefield	Isaac Regional Council
Collinsville	Whitsunday Regional Council
Salisbury Plains	Whitsunday Regional Council

HPPL are likely to contract a camp manager to manage the camps and will develop an industry standard code of conduct for the camp. The Code of Conduct will include guidelines on:

- Inductions (including access to properties);
- Occupational health and safety;
- Alcohol and drugs;
- Communication; and
- Local travel and access to communities.

The temporary construction camps will need to be largely self sufficient. The temporary construction camps will contain the following facilities:

- Accommodation units;
- Central dining/kitchen hall;
- Enclosed food storage (including cold storage), preparation and serving areas;
- Wet mess;
- Laundry facilities;
- Potable water supply;
- Septic sewerage system sufficient to accommodate the number of workforce personnel;
- First Aid station and designated vehicle (a paramedic will be on site at all times);
- Fuel, chemical and waster storage;
- Electrical and communications infrastructures (e.g. phone, internet);
- Recreational facilities; and
- Parking facilities.

Each of the camps will require a Development Application to be lodged and approved by the relevant Regional Councils prior to construction. Other details associated with the approvals process for the construction camps (such as building codes, health, safety and waste disposal) are addressed in Section 6 of the EIS.

6.2.4 Workforce Numbers

The estimated number of workforce required for the construction stage of the Project is 3,820 persons. Table 6-2 sets out the estimated workforce numbers for each of the proposed camps during the key works to be undertaken for the construction stage of the Project.

Table 6-2 Estimated workforce per construction camp

	Alpha Mine	Gregory Highway	Eaglefield	Collinsville	Salisbury Plains
Early works	67	67	67	67	67
Major works	591	586	596	586	711
Other	2	2	2	2	2
Total	660	790	800	790	780

The accommodation camp planned manning levels (i.e. the expected accommodation requirements) for each of the camps is set out in Figure 6-2 through to Figure 6-6.

Figure 6-2 Estimated workforce to be accommodated at the Alpha Accommodation Camp (Rail)

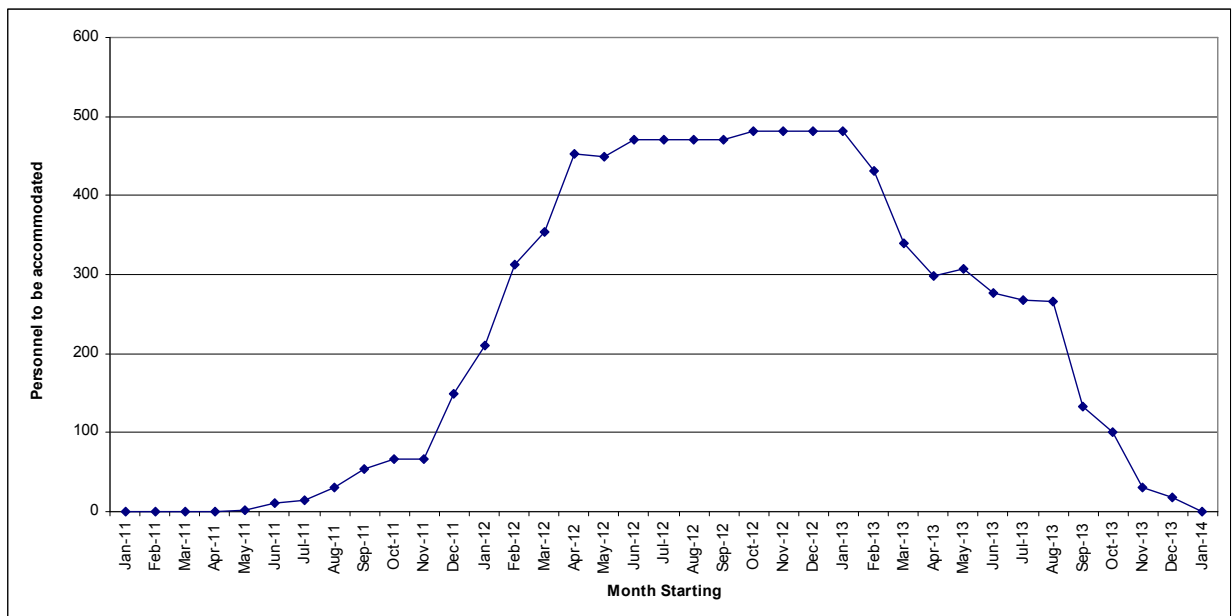


Figure 6-3 Estimated total for all personnel to be accommodated at the Gregory Highway Accommodation Camp

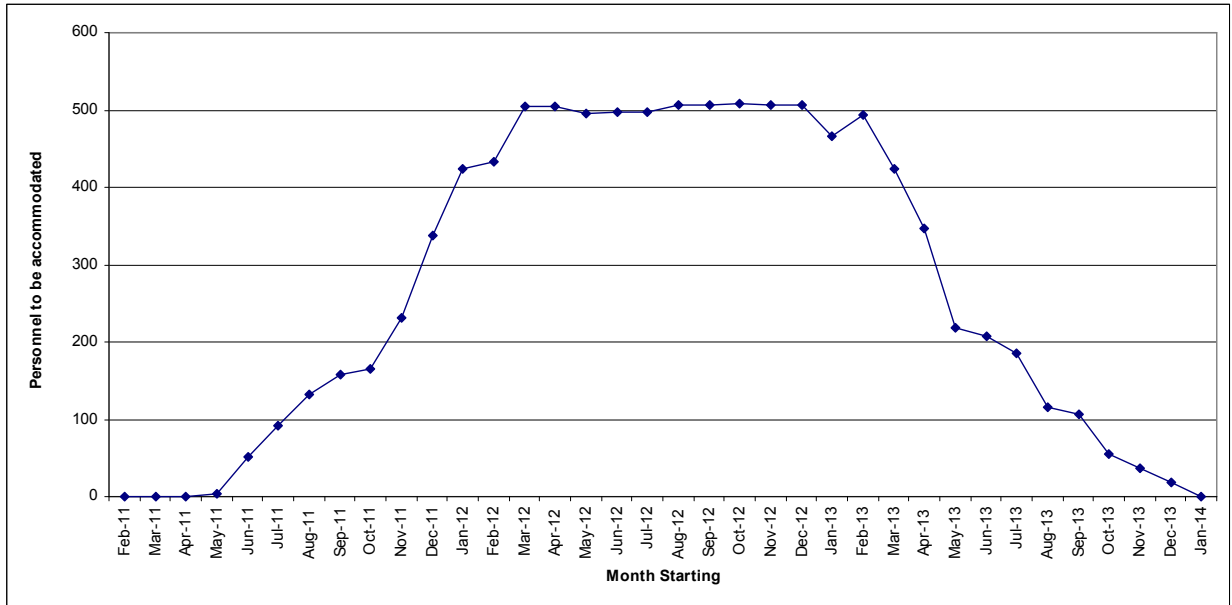


Figure 6-4 Estimated total for all personnel to be accommodated at the Eaglefield Accommodation Camp

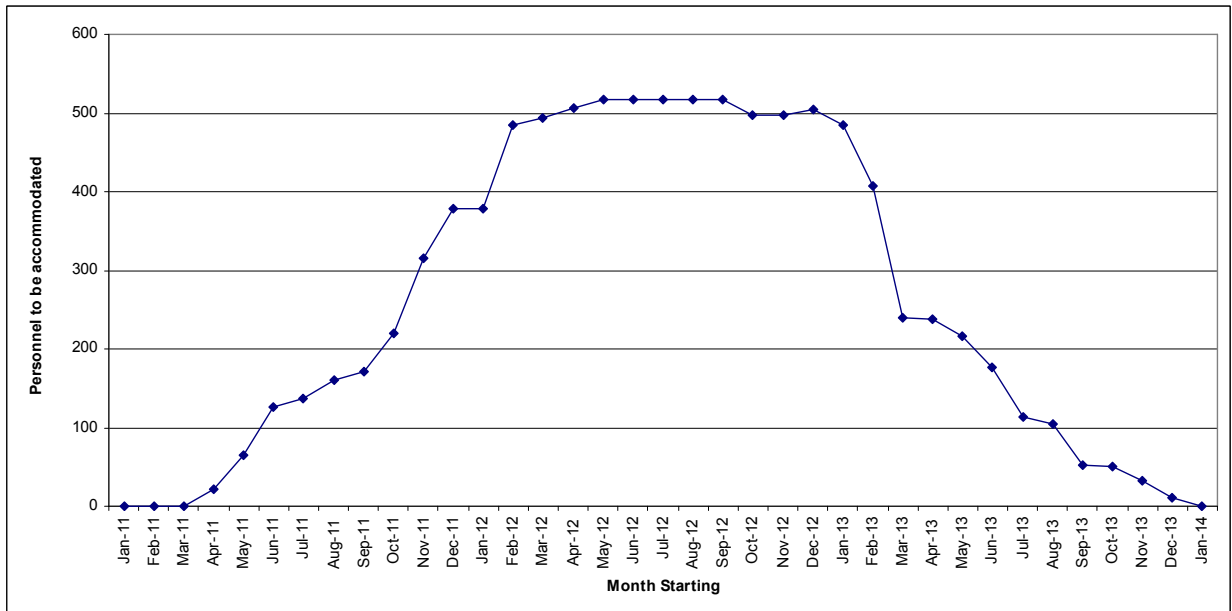


Figure 6-5 Estimated total for all personnel to be accommodated at the Collinsville Accommodation Camp

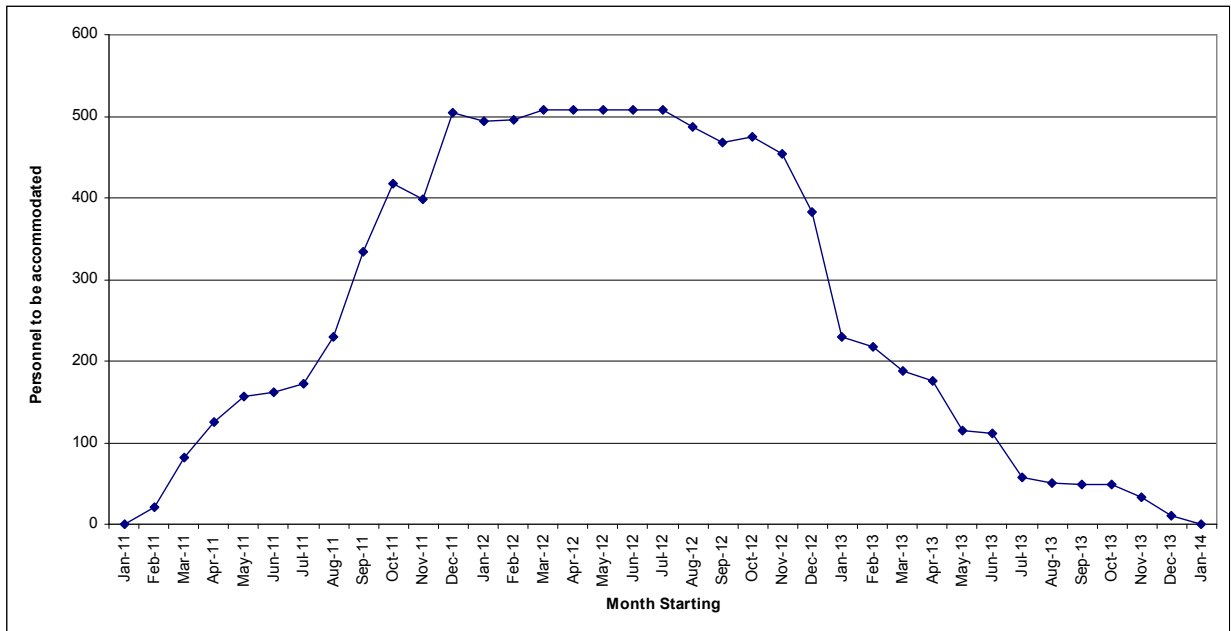


Figure 6-6 Estimated total for all personnel to be accommodated at the Salisbury Plains Accommodation Camp

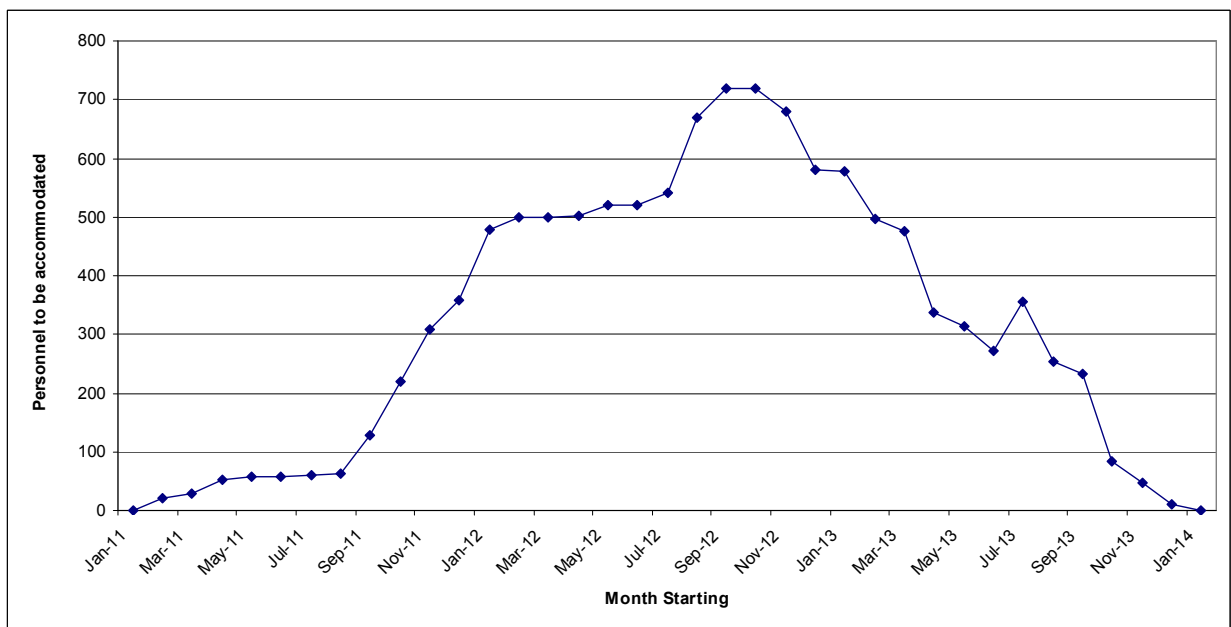


Table 6-3 shows the accommodation camp timeframes and the peak workforce. The Alpha, Eaglefield and Merinda camps will remain open for operational workforces however at a significantly lower level of accommodation which is estimated at 40 people, refer to Section 6.3 for further information.



Table 6-3 Estimated Operation of Construction Camps and Peak Workforce Month and Numbers

Construction Camp	First workforce	Final workforce	Peak Workforce Months	Peak Workforce
Alpha (rail)	May 2011	December 2013	October to December 2012	482
Gregory Highway	May 2011	December 2013	August 2012 – December 2013	507-508
Eaglefield	April 2011	December 2013	May 2012 – September 2013	517-518
Collinsville	February 2011	December 2013	March 2012 – July 2013	507-508
Merinda	February 2011	December 2013	September and October 2012	719-720

Table 6-3 is reflective of the construction schedule to start works at the northern end of the Project (Abbot Point) and then progress to the southern end (Alpha) and also reflects that there will be concurrent construction works. The Merinda accommodation camp will have the highest numbers of workers as this is where the sleeper production and other associated works will be based.

6.2.5 Skills Base

During construction there is a variety of skills required including labourers, tradespeople, machinery operators (such as backhoes, bulldozers, graders etc), and technical expertise such as engineers, project engineers, surveyors and site supervisors.

6.2.6 Rosters

Rosters during the construction of the Project are expected to be either:

- ▶ 1 month roster, 3 weeks (21 days) on and 1 week off (7 days); or
- ▶ Fortnight roster, 10 days on 4 days off.

6.2.7 Transportation of Workforce

Table 6-4 sets out the expected transport of the workforce, which is dependant on the location of the accommodation camp.

Table 6-4 Transportation of construction workforce

Accommodation Camp	Transport (base)	Method of transport
Alpha	Alpha	Bus to site from Alpha airport
Gregory Highway	Alpha	Bus to site from Alpha airport
Eaglefield	Mackay	Bus to site from Mackay airport



Accommodation Camp	Transport (base)	Method of transport
Collinsville	Proserpine	Bus to site from Proserpine airport
Salisbury Plains	Merinda	Bus to site from Proserpine airport

HPPL will provide bus services from the respective bases to the construction camps. HPPL will discourage workers from driving themselves to work, unless identified as:

- ▶ A local employee or contractor; or
- ▶ Contractors who require on-site transport (e.g. vehicle and machinery maintenance)

6.2.8 Recruitment Schedules and Policies

HPPL has an existing website where interested individuals and contractors can register their interest for work during construction and operation, <http://projectgateway.icn.org.au>.

HPPL will develop an employment and procurement policy guided by industry standards and relevant government guidelines that will reflect:

- ▶ Maximising local employment (including work readiness if appropriate);
- ▶ Maximising Indigenous employment; and
- ▶ Employment of apprentices and trainees (including work readiness if appropriate).

HPPL will work with contractors to ensure that their policy is applied when working on the Project.

6.3 Operational Stage

6.3.1 Key Tasks

Key tasks during the operational stage of the Project include train crew, signalling, communication, and maintenance (including rolling stock and track). A rail yard including provisioning, stabling and maintenance facilities will be required. It is expected that the rail yard will be located near the Port of Abbot Point on land that has been identified by HPPL as suitable for this facility. Refer to Section 2 of the EIS for more details on the yard/maintenance facility.

6.3.2 Source of Workforce

Residential

The residential workforce will be associated with the northern end of the Project, including the rail yard, maintenance (of locomotives and rolling stock), signalling and communications etc. The residential workforce is expected to be made up of 50% local employment (because of the existing skills and experience in the region, refer to Section 4.4.11) and 50% relocations.

Fly-in/Fly-out

The fly-in/fly-out (FIFO) workforce will be based in the three accommodation camps (two permanent and one fly camp) along the Project corridor and will be responsible for track safety and maintenance.



6.3.3 Workforce Numbers

The estimates of the operational workforce required for the Project is provided in Table 6-5. Table 6-5 sets out the estimated workforce numbers with and without Automated Train Operation (ATO)¹⁶.

Table 6-5 Estimated operational workforce numbers

Year	Without ATO	With ATO
2013	120	120
2014	126	126
2015	157	157
2016	165	165
2017	182	182
2018	204	204
2019	216	216
2020	226	220
2021	226	212
2022	226	208
2023	226	202
2024	226	196
2025	226	196

6.3.4 Residential Workforce Relocations without ATO

HPPL expect to source 50% of their residential workforce from the Whitsunday Region and 50% to relocate to the Whitsunday Regional Council area from other areas. Table 6-6 shows the estimated workforce for the operational stage of the Project from 2013 through to 2025 without ATO operating and estimates (high, medium and low) of the operational workforce relocating. It is expected that the majority of the operational workforce who will have to relocate, will chose to live in the Whitsunday Regional Council area, predominantly around Bowen or Merinda as this is where the rail yards will be located.

There will be an increase in the operational workforce numbers from 120 in 2013 to 226 in 2025. If 75% of the workforce relocates to the Whitsunday Regional Council area, there will be 120 in the first year of operation and 170 at the peak of employment in 2020. If 50% of the workforce relocates to the Whitsunday Regional Council area, there will be 60 in the first year of operation and 113 at the peak of employment in 2020. If 25% of the workforce relocate to the Whitsunday Regional Council area, there will be 30 in the first year of operation and 57 at the peak of operation in 2020.

¹⁶ Automatic train operation (ATO) is a system which enables partial or complete automatic train piloting and driverless functions. Without ATO two train drivers would be required, with ATO it is expected that one driver would be utilised. The single driver ensures mitigation of risks associated with failures or emergencies.



Table 6-6 Estimated operational workforce numbers, high, medium and low series of workforce relocations (no ATO)

Year	Estimated workforce	High (75%)	Medium (50%)	Low (25%)
2013	120	90	60	30
2014	126	95	63	32
2015	157	118	79	39
2016	165	124	83	41
2017	182	137	91	46
2018	204	153	102	51
2019	216	162	108	54
2020	226	170	113	57
2021	226	170	113	57
2022	226	170	113	57
2023	226	170	113	57
2024	226	170	113	57
2025	226	170	113	57

Table 6-7 shows the high series or 75% of the estimated workforce and the assumed workforce relocations (25% single, 25% with partners and 50% with immediate family) without ATO. It has also been assumed that the workforce will relocate to the Whitsunday Regional Council area. The first year of operation will see a relocation of 185 people in 2013 and a peak of population change in 2020 at 349 people.

Table 6-7 Estimated operational workforce, high series relocations (no ATO)

Estimated Workforce	75% estimated workforce	Worker household*
Dec 2013	90	234
Dec 2014	95	247
Dec 2015	118	307
Dec 2016	124	322
Dec 2017	137	356
Dec 2018	153	398
Dec 2019	162	421
Dec 2020	170	442
Dec 2021	170	442
Dec 2022	170	442



Estimated Workforce	75% estimated workforce	Worker household*
Dec 2023	170	442
Dec 2024	170	442
Dec 2025	170	442

* multiplier of 2.6, average size household in Australia is 2.6

As described in Section 4.4.4, the population of the Bowen LGA is expected to grow and the Project's operational workforce will assist in this population growth. Table 6-8 shows the expected population growth in the Bowen LGA with the operational workforce household without ATO. The population increases over time will only be below 3%.

Table 6-8 Bowen LGA population projections with estimated workforce and relocations (no ATO)

	2006	2011	2016	2021	2026*	2031*
Bowen (S)	13,135	14,179	15,127	16,050	16,962	17,862
Project (without ATO)	0	0	322	442	442	442
Total	13,135	14,179	15,381	16,398	17,310	18,211
% change	0.00%	0.00%	2.19%	2.75%	2.61%	2.47%

* It has been assumed that the estimated workforce will remain the same in 2026 and 2031 as it is estimated for 2025.

6.3.5 Residential Workforce Relocations With ATO

HPPL expect to source 50% of their residential workforce from the Whitsunday Region and 50% to relocate to the Whitsunday Regional Council area from other areas.

Table 6-9 shows the estimated workforce for the operational stage of the Project from 2013 through to 2025 with ATO operating and estimates (high, medium and low) of the operational workforce relocating. There will be an increase in the operational workforce numbers from 120 in 2013 to 196 in 2025. If 75% of the workforce relocates to the Whitsunday Regional Council area, there will be 120 in the first year of operation and 165 at the peak of employment in 2020. If 50% of the workforce relocates to the Whitsunday Regional Council area, there will be 60 in the first year of operation and 110 at the peak of employment in 2020. If 25% of the workforce relocates to the Whitsunday Regional Council area, there will be 30 in the first year of operation and 55 at the peak of operation in 2020.

Table 6-9 Estimated operational workforce numbers, high, medium and low series of workforce relocations (with ATO)

Year	Estimated workforce	High (75%)	Medium (50%)	Low (25%)
2013	120	90	60	30
2014	126	95	63	32
2015	157	118	79	39
2016	165	124	83	41



Year	Estimated workforce	High (75%)	Medium (50%)	Low (25%)
2017	182	137	91	46
2018	204	153	102	51
2019	216	162	108	54
2020	220	165	110	55
2021	212	159	106	53
2022	208	156	104	52
2023	202	152	101	51
2024	196	147	98	49
2025	196	147	98	49

Table 6-10 shows the high series or 75% of the estimated workforce and the assumed workforce relocations (25% single, 25% with partners and 50% with immediate family) without ATO. It has also been assumed that the workforce will relocate to the Whitsunday Regional Council area. The first year of operation will see a relocation of 175 people in 2013 and a peak of population change in 2020 at 363 people.

Table 6-10 Estimated operational workforce, high series relocations of single, partner and family relocations (with ATO)

Estimated workforce	75% of estimated workforce	Worker household*
Dec 2013	90	234
Dec 2014	95	247
Dec 2015	118	307
Dec 2016	124	322
Dec 2017	137	356
Dec 2018	153	398
Dec 2019	162	421
Dec 2020	165	429
Dec 2021	159	413
Dec 2022	156	406
Dec 2023	152	395
Dec 2024	147	382
Dec 2025	147	382

* multiplier of 2.6, average size household in Australia is 2.6

As described in Section 4.4.4, the population of the Bowen LGA is expected to grow and the Project's operational workforce will assist in the population growth. Table 6-10 shows that with the expected



population growth in the Bowen LGA including the operational workforce household without ATO operating). The population increases over time will only be below 3%.

Table 6-11 Bowen LGA population projections with estimated workforce and relocations (with ATO)

	2006	2011	2016	2021	2026*	2031*
Bowen (S)	13,135	14,179	15,127	16,050	16,962	17,862
Project (without ATO)	0	0	332	413	382	382
total	13,135	14,179	15,400	16,400	17,285	18,186
% change	0.00%	0.00%	2.19%	2.57%	2.25%	2.14%

* It has been assumed that the estimated workforce will remain the same in 2026 and 2031 as it is estimated for 2025.

6.3.6 Fly-in/Fly-out

There will be three permanent accommodation camps located along the corridor for the operational stage of the Project. The permanent camps will be located at Alpha and, Merinda and there will be a 'fly' camp maintained at Eaglefield. Table 6-12 sets out the estimated workforce to be located at the permanent and fly camps associated with the Project.

Table 6-12 Estimated Permanent Camp Manning Numbers

Permanent and Fly Camps	Permanent Workforce Requirements
Alpha (rail component only)	40
Eaglefield	40
Salisbury Plains	40

HPPL are likely to contract a camp manager to manage the camps and will develop an industry standard code of conduct for the camp. The Code of Conduct will include guidelines on:

- ▮ Inductions (including access to properties);
- ▮ Occupational health and safety;
- ▮ Alcohol and drugs;
- ▮ Communication; and
- ▮ Local travel and access to communities.

The permanent camps will need to be largely self sufficient. The camps are to be made from demountable single units built on concrete slabs or gravel. The camps will contain the following facilities:

- ▮ Accommodation units;
- ▮ Central dining/kitchen hall;
- ▮ Enclosed food storage (include cold storage), preparation and serving areas;
- ▮ Wet mess;



- ▶ Laundry facilities;
- ▶ Potable water supply;
- ▶ Septic sewerage system sufficient to accommodate the number of workforce personnel;
- ▶ First Aid station and designated vehicle;
- ▶ Electricity and communications;
- ▶ Fuel, chemical and waster storage;
- ▶ Recreational facilities; and
- ▶ Parking facilities.

A fire management plan will be prepared in consultation with the local fire service for each camp, identifying fire wardens, warning signal and evacuation and emergency procedures. All residents of the camp should be made aware of the requirements outlined in the fire management plan during induction training.

6.3.7 Skills Base

During operational stage of the Project there is a variety of skills required including labourers, tradespeople, train crew, machinery operators (such as backhoes, bulldozers, graders etc), and technical expertise such as signalling and communication and operational control.

6.3.8 Transportation of Workforce

Table 6-13 sets out the expected transport of the workforce, which is dependant on the location of the accommodation camp.

Table 6-13 Transportation of operational FIFO workforce (permanent and fly camps)

Accommodation Camp	Transport (base)	Method of transport
Alpha	Alpha	Bus from Alpha airport
Eaglefield	Mackay	Bus to site from Mackay airport
Salisbury Plains	Proserpine	Bus to site from Proserpine airport

HPPL will provide bus services from the respective bases to the fly camps. In order to reduce risk associated with driver fatigue, HPPL will discourage workers from driving themselves to work, unless identified as:

- ▶ A local employee or contractor; and
- ▶ Contractors which require transport (e.g. vehicle and machinery maintenance).

6.3.9 Recruitment Schedules and Policies

HPPL will develop an employment and procurement policy guided by industry standards and relevant government guidelines that will reflect:

- ▶ Maximising local employment (including work readiness if appropriate);
- ▶ Maximising Indigenous employment ; and



- ▶ Employment of apprentices and trainees (including work readiness if appropriate).

HPPL will work with contractors to ensure that their policy is applied when working on the Project.

7. SIA Consultation Process – Summary of Findings

7.1 Local Study Area

Landholders could participate in the SIA consultation process in a number of ways:

- As an SIA case study;
- Participation in EIA Public Consultation events (either Community Information Sessions or the Alpha or Clermont Regional Shows); or
- Participation in landholder meetings in either Clermont or Collinsville.

Information provided by landholders has been used to identify social impacts that are currently occurring (associated with the feasibility stage of the Project) and to predict potential social impacts which will occur in the construction and operational stages of the Project.

Feedback from landholders ranged from complete objection (refer to Case Study C), anger and disappointment (refer to quote from landholder below and feedback during EIA Public Consultation events), resignation to the Project proceeding (refer to Case Studies for landholders have already been impacted by resource development) and being able to identify potential opportunities associated with the Project (feedback during EIA Public Consultation events).

One of the impacted landholders provided a letter describing the impacts on their property and a section of the letter is quoted below:

“So now, for Hancock Coal, a very wealthy company to make more money you will destroy the livelihood of 10 people and crush us to a life we don’t know. Where will it leave us? We are Country People, we don’t complain, we put up with droughts, floods, low cattle prices, high taxes and a Government that would rather see us sink than swim and after all of that we are still here, until Hancock Coal, the richest coal company in Australia wants to make more money and comes in and destroys our income and livelihood.

How can or will Hancock Coal sleep at night when for them to earn more money dollars destroys lives of families and their income?”¹⁷

Each of the landholders who participated as a SIA consultation process had similar concerns and issues with the Project, these are summarised in Table 7-1.

Table 7-1 Summary of issues raised by landholders

Issue	Feasibility Stage	Construction Stage	Operation Stage
Uncertainty and frustration of not being able to plan for the future	✓	✓	
Decrease in physical, mental and emotional health (noise, dust, stress and anxiety)	✓	✓	✓
Increased pressure on family and social networks (break down of relationships)	✓	✓	✓
Distraction from running the business and living life	✓	✓	✓

¹⁷ Name of the letter’s withheld at the request of the author.



Issue	Feasibility Stage	Construction Stage	Operation Stage
Anger and frustration, there appears to be one set of rules for the mining companies and another for the landholders.	✓	✓	✓
Decrease in property value	✓	✓	✓
Lack of communication between HPPL and landholders	✓		
Decrease in the viability of the business due to increased costs direct (e.g. loss of land and implementing new management strategies) and indirect (e.g. skills shortage and increase in insurance, rates and rent)	✓	✓	✓
Increased pressure on existing infrastructure networks (e.g. mobile phone and internet access)		✓	
Concern for safety and security because of the workers, in particular the construction camps (e.g. construction workers trespassing and/or hunting (pigs and/or kangaroos) on landholders properties outside contract conditions)		✓	
Severance of connection to the land		✓	✓
Changes to property management and business operations		✓	✓
Environmental impacts (change in flooding and drainage regime, rubbish and waste management, noise, dust)		✓	✓
Cumulative impacts with other infrastructure developments already constructed or planned to be constructed on the property		✓	✓
Increased risk of fire		✓	✓
Increased spread of weeds		✓	✓
Loss of working animals and stock		✓	✓
Disturbance to cattle (noise and dust) and loss of viable land (cattle won't use areas because of impacts) and pastures (coal dust)		✓	✓
Providing uncontrolled access to properties		✓	✓
Decrease in the quality of public roads		✓	
Decreased road safety due to the size and number of extra vehicles on the roads which are not designed for them		✓	
Decreased quality of life, decrease in the positives of living on the property (e.g. seclusion)		✓	✓
Decreased safety of families and employees on the properties plus animals (cattle, horses and dogs)		✓	✓
Loss of access within property		✓	✓
Impacts on wildlife and changes to their habitats (e.g. loss of trees in the proposed corridor)		✓	✓
Decreased safety at rail crossings on private land and public roads		✓	✓

Landholders in the local study area know of the experiences of the Bowen Basin either first hand (their property is already being impacted) or they know of someone who is either mining or its associated



infrastructure (e.g. infrastructure and assets operated by Queensland Rail). HPPL has to address legacy issues of the Bowen Basin, even though they are one of the first projects in the Galilee Basin.

Many of the landholders were willing to work with HPPL to develop the Project as long as they, their family and their business was respected as there was a recognition of HPPL and the landholders being future long term neighbours.

7.2 Regional Study Area

7.2.1 Barcaldine Regional Council LGA

The Project Team met with the Barcaldine Regional Council (Councillors and staff) on Tuesday 4 May 2010. The Regional Council had previously received Project updates from HPPL. Table 7-2 contains background information and a list of issues raised by Barcaldine Regional Council.

Table 7-2 Issues Raised by the Barcaldine Regional Council

Topic	Issue Raised
Background information	<ul style="list-style-type: none">▶ The town of Alpha was originally a railway town but now is preparing to become a mining town.▶ Top issues for Council for Alpha and Jericho are:<ul style="list-style-type: none">– Availability of land (there are only 30 quarter acre blocks available (currently being developed by Council), land availability is restricted because of flooding, water availability and existing power and sewerage capacity;– Lack of water and the need for infrastructure upgrade (Alpha town currently relies on bore water but the aquifers are only shallow);– Unreliable power and the need for infrastructure upgrade;– Sewerage system needs an infrastructure upgrade.▶ Alpha has the following transport options:<ul style="list-style-type: none">– 2 passenger trains per week (to Longreach);– 2 passenger bus services per day (Greyhound and Paradise);– 2 freight trucks per week;– 1 freight train per week; and– No commercial flights.▶ Council is aware that they may need to make amendments to the planning scheme to allow for future development, e.g. industrial areas.▶ Communication services are limited (still mobile phone (Next G) black spots in town).
Social impact issues	<ul style="list-style-type: none">▶ Safety, predominantly road safety, e.g. line of sight on crest of hills such as the turn off to Pine Hill▶ Alpha is already being impacted, a vacant flat four years ago could be purchased for \$6,000 - \$8,000 now it could sell for \$150,000. A house block four years ago could be purchased for \$8,000 - \$12,000 now sells for \$32,000. There is a lot of interest in housing in Alpha, however houses and house sites are not available.▶ Properties have not been changing hands like they used to, there is a low steady transition now. People from the coast are heading west and people out west are heading east.



Topic	Issue Raised
	<ul style="list-style-type: none"> There has been a recent change in the population of Alpha, the number of older people has decreased. There is a 'vacuum' of young people, they leave to attend boarding school until their mid 20's when they might return (usually to get a job in the mines). The boys tend to return but the girls rarely do. Council would like to see local training and apprenticeship programs for young people (not just boys) to keep young people in the community. The Council said that they need support to increase the quality and number of medical services currently provided. Staff and volunteers do their best but if more people are going to move to the region then there needs to be an improved level and type of medical service provided (at the moment there is no doctor and the Queensland Ambulance Service ambulance is operated on a volunteer basis). There has been reduction in the numbers of people in Alpha coinciding with the reduction of government services provided to regional areas.
Environmental concerns	<ul style="list-style-type: none"> Impacts of the Project (predominantly the proposed mine) on ground water as the landholders have a high reliance on ground water because of the intermittent streams.
Cumulative impact issues	<ul style="list-style-type: none"> Council is trying to manage the opportunities created by all the proponents and their projects to ensure a positive outcome for their region, however waiting on information from the mining companies prior to making any changes (e.g. employment numbers during construction and operation). They explained that locals had seen the 'hype' before and nothing happened and are sceptical of local opportunities. Council is struggling to attract and retain staff because of the housing impacts, can't meet the employment conditions of the mines (the mines are attracting all the tradesmen). There was the suggestion that the mines could job share with the Councils. Concern about the skills shortage impacts on property owners who already struggle to get employees and contractors because of the mines.
Landholder impacts	<ul style="list-style-type: none"> Fencing of the rail corridor and maintenance responsibilities.
Project design	<ul style="list-style-type: none"> Don't want HPPL to build their own airport, would like the existing airport to be upgraded and made common user infrastructure the general public can also use it (increasing services which can be made available in Alpha). The construction and operation needs to take into consideration the school bus service. Jericho has the land to develop, so maybe an alternative to Alpha for an operational workforce (including service industries) to be located.

The Alpha Community Information Session was held on Tuesday 4 May 2010 from 5.00 to 8.00pm at the Alpha Town Hall. A total of 19 people attended the Session. Table 7-3 contains a list of issues raised by people who participated in the Alpha Community Information Session.

Table 7-3 Issues Raised at the Alpha Community Information Session

Topic	Issue Raised (as described by participant)
Social impact issues	<ul style="list-style-type: none"> ▶ The fly-in/fly-out nature of the workforce versus growing the local community (having the workforce based in Alpha or surround towns). Having a locally based workforce would increase the loyalty to the job and to the local community (including local spending benefiting local businesses). ▶ The social impact assessment should have been started in 2007 when the mine component of the Project was announced. Social impacts (such as an increase in property values) started to occur in 2007. ▶ Some older people have sold their properties and left Alpha because of the concerns of the Project. ▶ Need to look at the other towns in the region for development, such as Barcaldine and Jericho as options for a permanent workforce (rather than FIFO). ▶ There are a number of families who would relocate to Alpha if there was secure employment for one or both of the parents, Alpha needs young families. ▶ HPPL need to have a local liaison person based in town to keep the residents informed. ▶ Need to see the properties as people's homes, not just businesses. ▶ There are already people driving out to Alpha looking for work. ▶ Alpha needs to receive some of the benefits of the Project, don't just bypass town (e.g. better roads, better services (particularly medical services), education (more students, hence teachers at the school)). ▶ Potential impacts on the local Queensland Ambulance Service which is currently run by volunteers from the local area. ▶ Currently there is no incentive to relocate to Alpha, there are no services, how can Alpha compete with Brisbane (assumed base of the FIFO operation) with all its services and facilities? ▶ Need to support the elderly so they can stay in town. They are an important part of the community.
Economic issues	<ul style="list-style-type: none"> ▶ Alpha needs the financial benefits that could flow from the Project. ▶ Concern about bringing in an overseas workforce. ▶ Farmers also in business, they need to keep their 'shareholders' happy as well. ▶ If there is a FIFO operation, there will be no direct economic benefit for Alpha. Don't want the same situation happen to Alpha as what is happening to Clermont (Clermont is wearing the cost of mining but not receiving the benefits). ▶ There are already speculators in town pushing the house prices up, it is no longer affordable. House prices are already comparable to the coast. ▶ FIFO has a vicious circle, the property prices increase but there are not workers staying in town. ▶ Local businesses in town need some guarantee that the Project is going ahead so they can prepare to make the most of it. ▶ Need to have a local employment and procurement policy to support local businesses and contractors.



Topic	Issue Raised (as described by participant)
Cumulative impacts	<ul style="list-style-type: none"> Impacts on the water table from the HPPL mine but also the other proposed mines. Water is life and need water to run the properties. Coal mining versus primary production (the region is part of the food belt of Queensland). People asked if there were going to be two railway lines constructed and operated (referring to HPPL and Waratah proposed Projects).

Issues raised at the Alpha Regional Show were:

- Employment and procurement opportunities (e.g. local contractors).
- General interest in where the Project (mine and rail) is proposed to be constructed.
- Impacts on landholders and suggestions for how they could be managed.
- General support for the Project (mine and rail) and opportunities for the region to grow (population) and increased service provision.

7.2.2 Isaac Regional Council LGA

The Project Team met with the Isaac Regional Council (staff) on Wednesday 5 May 2010. Table 7-4 contains background information and a list of issues raised by Isaac Regional Council.

Table 7-4 Issues Raised by the Isaac Regional Council

Topic	Issue Raised
Background information	<ul style="list-style-type: none"> The diversity of towns in the Isaac Region. Clermont was described as a traditional town, with the history of Clermont based in sheep farming, then the transition to gold and copper mining then coal, but being actively supported by the beef industry (which grew after the shearers strikes). Other towns in the Region were described as: <ul style="list-style-type: none"> Moranbah, Middlemount, Glenden and Dysart – mining; Coppabella – rail; Nebo – agriculture and more recently mining. The Isaac Regional Council LGA is responsible for 75% of Queensland GDP but only receives 0.1% back from the State Government in service delivery (per capita basis). The Isaac Regional Council is currently validating their Community Plan for Clermont under the <i>Sustainable Planning Act 2009</i>. The Community Plan will have a 10 year life and contains the vision of the people living in the Region. It will be completed by July 2010. Clermont will be impacted by the Project because of the social networks between people in the region, how people access the region (e.g. road networks including the Alpha to Clermont Road) and location of services and facilities (e.g. recreational facilities and health services). Clermont is ready to grow, there are already houses ready for purchase and rent, education and medical services are provided. There are two general practitioners, Queensland Ambulance Services, police and dentist in town. Clermont is facing a decreasing population with the closure of the Blair Athol mine, the new Clermont mine will not require the number of positions that were required at Blair Athol.

Topic	Issue Raised
	<ul style="list-style-type: none"> With the existing mines (Moranbah and Dysart) in the area relying on a drive-in/drive-out model, the travel of fatigued workers is a large local issue. The level of legislated involvement of Councils in EISs is restricted to being able to make comments on the draft TOR and draft EIS which sets up a negative relationship potentially based on conflict, this should be expanded to a more positive negotiation based approach.
Social impact issues	<ul style="list-style-type: none"> Impacts on people living in the Region need to be taken into consideration. It was explained that people living in the Region identified the Project as being beneficial to the region if opportunities are provided (e.g. local employment and procurement). The staff of the IRC also pointed out that people in the region are aware of the negative impacts of development and would like to see these minimised. HPPL needs to work with Council to ensure that future plans (including the construction camps) are taken into consideration for forward planning of the Region.
Economic impact issues	<ul style="list-style-type: none"> The importance of having opportunities created for those towns and regions that will be impacted by the Project. The fly-in/fly-out (FIFO) arrangements do not create local opportunities. There is a strong business group in Clermont (a subcommittee of the Clermont Progress Association) who would like Council to negotiate with the mining companies on their behalf to ensure that local opportunities are realised. The business group sees economic development of the region as the way to achieve a sustainable Clermont, by having a permanent and growing population.
Cumulative impact issues	<ul style="list-style-type: none"> The Region is already experiencing the cumulative impacts of a number of mining projects.
Landholder impacts	<ul style="list-style-type: none"> Impacts on landholders need to be explored in consultation with them and documented in the SIA. Key issues reported by landholders to the Council include fencing, severance of paddocks, safe occupational crossing for cattle, people and machinery, safety of people living and working on the properties and the impacts of coal dust on cattle.

The Clermont Community Information Session was held on Wednesday 5 May 2010 from 3.00 to 7.00pm at the Clermont Community Hall. A total of 41 people attended the Session. Table 7-5 contains a list of issues raised by people who participated in the Clermont Community Information Session.

Table 7-5 Issues Raised at the Clermont Community Information Session

Topic	Issue Raised (as described by participant)
Social impact issues	<ul style="list-style-type: none"> Concern over crossing of the Gregory Development Road (Charters Towers to Clermont), it is already busy, particularly on the change on mine shifts and the presence of road trains. There is a need for an overpass on level crossings. Need to have emergency evacuation procedures for the construction camps and for the relevant services to be aware of these plans. There needs to be on site security for camps. Need to stop the 'roo shooting' and there could be looting of local properties. Need to have a locally based community liaison officer (similar to Rio Tinto) and an overall liaison officer for the whole project. If the project is going to be using the Alpha-Clermont Road, it needs to be upgraded and maintained at the higher standard.



Topic	Issue Raised (as described by participant)
Economic issues	<ul style="list-style-type: none"> Concern about bringing in an overseas workforce. Need to employ locally (unlike Rio Tinto). No local benefits from a FIFO workforce. Consider transporting workforce from Clermont to Alpha (source of local employment).
Cumulative impact issues	<ul style="list-style-type: none"> People asked if there were going to be two railway lines constructed and operated (referring to HPPL and Waratah proposed Projects).

Issues raised at the Clermont Regional Show were:

- Employment and procurement opportunities (e.g. local contractors).
- General interest in where the Project (mine and rail) is proposed to be constructed.
- Impacts on landholders and suggestions for how they could be managed.
- General support for the Project (mine and rail) and opportunities for the region to grow (population) and increased service provision.

7.2.3 Whitsunday Regional Council LGA

Collinsville

The Project Team met with the Whitsunday Regional Council (staff) on Thursday 6 and Friday 7 May 2010. Table 7-6 contains background information and a list of issues raised by Whitsunday Regional Council regarding Collinsville.

Table 7-6 Issues Raised by the Whitsunday Regional Council (Collinsville)

Topic	Issue Raised
Background information	<ul style="list-style-type: none"> The diversity in the Whitsunday Region and the different development and focus of the major towns: <ul style="list-style-type: none"> Arlie Beach – tourism; Proserpine – agriculture; Bowen – agriculture and recently heavy industrial; and Collinsville – mining mixed with agricultural. Council representative explained that mining brings people to the Region; however it also takes them away. Workers are supported to have a drive-in/drive out rather than incentives to live with their families in Collinsville, however there aren't the services to support families living in Collinsville (e.g. child care). It is hard to plan and implement for a sustainable community with the highly transient population. Collinsville has a high proportion of drive-in/drive-out workers. For those people who permanently live in Collinsville, there is a high sense of pride of living in Collinsville and people have wonderful sense of community. Collinsville has an ageing population and older people want to age in place, they don't want to relocate to the coast. There is only one nursing home in Collinsville and it is at capacity. There needs to be an increase in the services provided to older people so they can remain in Collinsville. WRC will start working on their Community Plan in the new financial year (2010-



Topic	Issue Raised
	2011).
Social impact issues	<ul style="list-style-type: none"> Many people who live in Collinsville spend their recreational time along the Bowen River, camping and fishing.
Economic impact issues	<ul style="list-style-type: none"> Would like Collinsville to be a sustainable community, however it needs families to relocate to Collinsville to achieve this, not just a drive-in/drive-out workforce.

The Collinsville Community Information Session was held on Thursday 6 May 2010 from 3.00 to 7.00pm at the Collinsville Community Centre. A total of 17 people attended the Session. Table 7-7 contains a list of issues raised by people who participated in the Collinsville Community Information Session.

Table 7-7 Issues Raised at the Collinsville Community Information Session

Topic	Issue Raised (as described by participant)
Social impact issues	<ul style="list-style-type: none"> Health impacts of the Project on people who live along the railway corridor. Impacts on how people use the Bowen River, it is the community's main recreational area for camping, fishing and general relaxing. Safety of railway. Need to upgrade the Peter Delemont Road, there aren't enough passing lanes, particularly if there is going to be construction traffic on the road. Collinsville is a mining town (not an agricultural town), it needs the workers and the contractors associated with mining to stay alive. The railway needs to be fenced to protect people and animals.
Economic issues	<ul style="list-style-type: none"> Need to employ locally. Need to employ local Indigenous youth. Operational workforce should be based in Collinsville, there is space for up to 5,000 workers. Local procurement policy, support local hotels and suppliers.
Environmental concerns	<ul style="list-style-type: none"> Air quality; Freshwater aquatic flora and fauna; Land disturbance; Sensitive environmental areas; and Soils.
Cumulative impact issues	<ul style="list-style-type: none"> Impacts on existing services (especially health services in the region). Impacts on the Bowen River (plants, animals and health of the river). People asked if there were going to be two railway lines constructed and operated (referring to HPPL and Waratah proposed Projects).

Bowen

Table 7-8 contains background information and a list of issues raised by Whitsunday Regional Council regarding Bowen.

Table 7-8 Issues Raised by the Whitsunday Regional Council (Bowen)

Topic	Issue Raised
Background information	<ul style="list-style-type: none"> Temporary accommodation in Bowen is limited due to the tourists and seasonal workers who relocate to Bowen (April to September). Accommodation such as caravan parks, hotels, backpackers – the lower cost temporary accommodation. Availability of affordable housing in Bowen is a growing issue as Bowen has pockets of highly disadvantaged community. As house prices increase, there is a portion of the community who become displaced. Concerns about the quality of the facilities at the Merinda accommodation camp. Council representative explained that there are many people who are not staying at the Merinda Camp because of the apparent poor facilities and consequently are preferring to rent.
Social impact issues	<ul style="list-style-type: none"> The majority of people who live in the Bowen district would like the region to develop, but not at the cost or displacing people. Impact of the accommodation camp at Merinda should be looked at.
Environmental impact issues	<ul style="list-style-type: none"> The environmental impacts of development, e.g. impacts on the wetlands near Abbot Point are major concern for people living in the Bowen district.

The Bowen Community Information Session was held on Friday 7 May 2010 from 3.00 to 7.00pm at the Barrier Reef TAFE. A total of 17 people attended the Session. Table 7-9 contains a list of issues raised by people who participated in the Bowen Community Information Session.

Table 7-9 Issues raised at the Bowen Community Information Session

Topic	Issue Raised (as described by participant)
Social impact issues	<ul style="list-style-type: none"> Ensure there is adequate infrastructure to support future population growth in the area. Need to recognise cultural heritage values. Bowen needs to be sustainable and maybe this Project can help in achieving that. What about the construction workers who stay on after the Project is over? Opportunity for local clubs to gain extra members.
Economic issues	<ul style="list-style-type: none"> Source of local employment and business. Don't have the FIFO shifts too long, need to respect families.
Environmental concerns	<ul style="list-style-type: none"> Sustainable development; Freshwater aquatic flora and fauna; Coastal processes; Groundwater; and Noise and vibration.
Cumulative impact issues	<ul style="list-style-type: none"> Environment, social and economic impacts of the Project. Multiple projects impacting on Bowen (not just this Project).



8. Potential Social Impacts and Opportunities

8.1 Introduction

This section addresses Part B, section 4.1.5 of the TOR. It identifies and assesses the type, level and significance of the Project's social impacts (both beneficial and adverse) on the social and cultural area of influence (local and regional study area) for the feasibility, construction and operational stage of the Project.

8.2 Significance of Social Impacts

The significance of social impacts has been identified using a risk matrix, taking into consideration the likelihood and consequence of impacts (refer to Table 8-1), stakeholder group, duration of impact, spatial extent of impact and stakeholder importance of impact. Appendix D contains the full methodology for identifying the significance of impacts. The risk ratings are based on experience from applications of previous similar assessments.

Table 8-1 Assessment of likelihood and consequence of identified social impacts

Likelihood of Social Impact	Consequence of Social Impact				
	Insignificant	Minor	Moderate	Major	Extreme
Almost Certain	Medium	Medium	High	Excessive	Excessive
Very Likely	Low	Medium	High	High	Excessive
Likely	Low	Low	Medium	High	Excessive
Possible	Negligible	Low	Medium	High	High
Unlikely	Negligible	Low	Low	Medium	High
Very Unlikely	Negligible	Negligible	Low	Medium	Medium

Social impacts and their significance were identified based on the Project information at the time of writing the SIA report and takes into consideration the information provided by landholders, feedback during EIA Public Consultation events, Regional Councils and comparative studies.

Given the potential nature of social impacts during the construction and operational stage of the Project, GHD has adopted the relevant International Association for Impact Assessment Social Impact Assessment principles, including the precautionary and uncertainty principle when predicting social impacts. The predicted social impacts and their significance may change as more information about the Project is known (during the feasibility study, e.g. detailed design) and the Project is being constructed and operated. Therefore actual social impacts of the Project will not be known for certain when writing this report. A monitoring program has been developed in order to provide information on whether potential social impacts actually occur or not.



8.3 Feasibility Stage

8.3.1 Overview

Landholders have identified that they are already experiencing social impacts because of the Project, including impacts to:

- Health and well being;
- Economic and material wellbeing; and
- Family and community.

8.3.2 Health and Wellbeing

Health Impacts¹⁸

Landholders explained that the Project was impacting on their health (emotions and physical health). Landholders explained that the health impacts of the feasibility stage related to the uncertainty of the Project and the decreased ability to make decisions over their own lives and businesses. Emotions described by landholders were:

- Stress;
- Anxiety;
- Fear;
- Anger;
- Frustration;
- Helplessness;
- Grieving; and
- Apathy.

Physical signs of decreased health described by landholders were:

- Depression;
- Weight loss or gain;
- Increased blood pressure;
- Loss of sleep; and
- Increase in smoking and drinking.

The significance of the impact is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Moderate	High	Landholders	Negative	Medium	Local	High

¹⁸ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.

Loss of Aspirations

Landholders described that they were feeling the loss of their aspirations for their family, home, property and business. Feelings towards the Project are increased because some landholders are in a state of transition, with properties and businesses being handed over to the next generation. For landholders in this situation, it is a key aspiration and they feel the responsibility of handover the property and business in an efficient, viable and sustainable condition. The receiving generation also have feelings of responsibility to maximise the opportunity they have been given. The loss of this aspiration leads to feelings of guilt and grieving because it cannot be achieved in the way they have worked for over many decades. The significance of the loss of aspirations is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Moderate	High	Landholders	Negative	Medium	Local	High

Loss of Sense of Belonging and Attachment to Place

Landholders described their strong connection to the land on which their home and business is based (as described in Section 5.6 and SIA Case Studies). The relationship between people and place needs to be acknowledged in order for the importance of this impact to be realised. Some landholders described that they had started the grieving process of losing part of their land. Landholders also described the increasing presence of resource companies in the region and how this was leading to a loss of the bush and their lifestyle, leading to a loss of a sense of belonging to an area where they and their children grew up and know. The significance of the loss of sense of belonging and loss of attachment to place is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Major	High	Landholders	Negative	Long	Local	High

8.3.3 Economic and Material Wellbeing

Decrease in Property Value

Landholders who will have the Project on their property state that their property value has already decreased. That is, they consider they would not be able to sell their property for the same price now as compared to prior to the Project being announced. The significance of this impact is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Moderate	High	Landholders	Negative	Long	Local	High

Decrease in economic resilience

Landholders consider that the decrease in land value will have a flow on impact to their ability to borrow money against the value of property and hence impacts on the viability of their businesses which depend on the property. The significance of this impact is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Long	Local	High

8.3.4 Family and Community

Decrease in Family Cohesion

Landholders explained that the uncertainty associated with the Project was causing a decrease in family cohesion. A decrease in family cohesion is significant for landholders (as explained in Section 5.3 and SIA Case Studies). Examples provided by landholders of the loss of family cohesion included:

- Partners fighting over matters which weren't significant prior to the Project; and
- Different family members reacting differently to the Project; and
- Indecision on how to react to the Project as a group causing tensions.

The significance of the loss of family cohesion is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Very likely	Major	High	Landholders	Negative	Medium	Local	High

Decrease in Community Cohesion

Landholders described a decrease in community cohesion, particularly between the landholders impacted by the Project. The decrease in community cohesion was linked to the process of identifying preferred Project alignments and negotiating compensation is between HPPL and the relevant landholder, there will be situations where some landholders will ensure they get the beneficial alignment for them but the flow on design for their neighbour will be negative. There is also a perception that certain landholders will be able to negotiate a better financial package than others because of their increased capacity (knowledge and resources). Some landholders explained that the SIA Case Study process was also adding to the decrease in community cohesion, because it was HPPL and GHD who decided who participated. The decrease in community cohesion is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Likely	Major	High	Landholders	Negative	Long	Local	High



8.3.5 Summary of Impacts and Opportunities During the Feasibility Stage

Social impacts and opportunities during the Feasibility Stage of the Project are summarised in Table 8-2. These impact ratings reflect high levels of uncertainty and emotion expressed by landholders during the early stage of the project. Land acquisition processes had not commenced at this stage.

Table 8-2 Summary of unmitigated social impacts and opportunities in the feasibility stage

Impact	Stakeholder Group	Existing Project Description				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Health and Wellbeing						
Health impacts ¹⁹	Landholders	High	Negative	Medium	Local	High
Loss of aspiration	Landholders	High	Negative	Medium	Local	High
Loss of sense of belonging and attachment to place	Landholders	High	Negative	Long	Local	High
Economic and Material Wellbeing						
Decrease in property value	Landholders	High	Negative	Long	Local	High
Decrease in economic resilience	Landholders	Medium	Negative	Long	Local	High
Family and Community						
Decrease in family cohesion	Landholders	High	Negative	Medium	Local	High
Decrease in community cohesion	Landholders	High	Negative	Long	Local	High

¹⁹ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



8.4 Construction Stage

There are a range of potential social impacts and opportunities resulting from the construction stage and associated social change processes. The potential social impacts have been categorised into:

- Demographic;
- Geographic;
- Services and Facilities;
- Health and social wellbeing;
- Quality of the living environment; and
- Economic and material wellbeing.

8.4.1 Demographic

Temporary increase in population

Section 6.2 provides the estimated workforce numbers and characteristics for the construction stage of the Project. The influx of Project construction workers will change the demographic make up of the local and regional study areas. The demographic change will be temporary and focused in the construction camp locations (as described in Section 6). The numbers of people planned to stay in the accommodation camps plus the expected population for the different regional council areas is shown in Table 8-3.

Table 8-3 LGA population projections with estimated construction workforce

	LGA		
	Barcaldine	Isaac	Whitsunday
Estimated population in 2012 ²⁰	3,515	24,131	35,303
Estimated construction workforce	660	1,590	1,570
Construction Camps	Alpha	Gregory Highway and Eaglefield	Collinsville and Salisbury Plains
Total	4,175	25,721	36,873
% Change	18.7%	6.6%	4.4%

The temporary increase of population in the Barcaldine and Isaac Regional Council LGA's is significant, that is there is an increase of over 5% (Burdge 2004). The significant temporary increase of the population will be managed by HPPL by:

- Having a fly-in/fly-out (FIFO) workforce;
- Providing self contained accommodation for the workforce;
- Providing transport for the FIFO workforce (to reduce the amount of Project associated vehicles);
- Adopting an industry standard Code of Conduct for the workforce;

²⁰ Refer to Table 4-10

- Providing paramedic services on site and working with emergency services (police, fire and rescue and ambulance) to develop an Emergency Response Plan to reduce impacts on current services and facilities.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Minor	Medium	Regional communities	-	Medium	Local	Medium

Concern of construction workforce and construction camps

Landholders raised strong concerns about the behaviour of the construction workforce, particularly when accommodated in the construction camps. These concerns are based on previous experience of either their own or others in their social networks of construction workers. There is concern for the safety of women and children in homes close to the construction camps. The concern of the construction workforce and construction camps will be managed by HPPL by:

- Providing self contained accommodation for the workforce;
- Providing transport for the FIFO workforce (to reduce the amount of Project associated vehicles);
- Adopting an industry standard Code of Conduct for the workforce;
- Implementation of Occupational Health and Safety policies; and
- Induction and tool box meetings where workers will be reminded of the Code of Conduct and the consequences for not meeting it.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Very unlikely	Major	Low	Landholders	Negative	Medium	Local	High

8.4.2 Services and Facilities

Impact on housing availability

There is no requirement for housing in the towns near the Project during the construction stage of the Project because of the FIFO workforce. Therefore there won't be any impacts on housing availability in the Barcaldine, Isaac or Whitsunday Regional Council LGAs.

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Very Unlikely	Minor	Negligible	-	-	-	-	-



Community services and facilities

There will be a temporary increase in the populations of the Barcaldine, Isaac and Whitsunday Regional Council LGAs during construction. However given the FIFO nature of the construction stage there is not expected to be any pressure placed on community services and facilities in the region. The significance of this impact for is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Minor	Low	Regional Communities	Negative	Medium	Regional	High

8.4.3 Geographic

Conversion of land use

Land that is currently being utilised for agricultural purposes will be converted to a construction site. This is a change of land use from agricultural to mining Infrastructure. This impact is evaluated in XX.

Physical severance

Landholder Property

Some of the landholders will have their property (or properties) split (rather than the corridor aligning with an existing boundary) requiring new property management focused on the construction of the Project to be developed and implemented (refer to Section 5.6). The physical splintering of a landholder's property will be managed by HPPL by:

- ▶ Working with landholders to design the most appropriate corridor on their property within Project constraints;
- ▶ Negotiating a Landholder Compensation Package that will address residual issues that could not be addressed by moving the corridor.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Medium	Local	High

Regional Community

The Project may physically split road access to towns where landholders and members of the regional community regularly travel for work, school and recreation. Figure 4-11 shows the general use of the Regional area and shows the approximate location of where the Project will cross existing State roads. The physical splintering of the regional community will be managed by HPPL by:

- ▶ Working with the responsible parties (local or state government) to ensure the roads are maintained to a required standard during construction;



- ▶ Developing the construction schedule so that road access is not cut; and
- ▶ Developing and implementing a Traffic Management Plan to ensure road safety is not compromised.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Very Unlikely	Minor	Negligible	Regional communities	Negative	Medium	Local	Medium

Physical construction impacts

The physical construction impacts are outlined in other technical studies of the EIS. Landholders believe that the following physical construction impacts will occur:

- ▶ Drainage from the construction corridor onto the landholders property;
- ▶ Transfer of weeds along the alignment and on to neighbouring properties;
- ▶ Vehicle access to and from the corridor, potential damage to internal road and track networks and pasture on the properties;
- ▶ Construction workers not leaving gates how they found them;
- ▶ Construction workers not being aware of landholder's infrastructure (such as roads, water, sewerage, power lines, fencing, stock yards and communication).

The physical construction impacts will be managed by HPPL by:

- ▶ Developing and implementing a Construction Environmental Management Plan;
- ▶ Adopting an industry standard Code of Conduct for the workforce;
- ▶ Induction and tool box meetings where workers will be reminded of the Code of Conduct and the consequences for not meeting it;
- ▶ Implementation of Occupational Health and Safety policies; and
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Minor	Low	Landholders	Negative	Medium	Local	High

8.4.4 Health and Social Wellbeing

Decrease in Health

Based on the health impacts that landholders are already described as part of the feasibility stage of the Project, there is the potential for landholders to experience a decrease in health during construction. The health of landholders could be affected in the following ways:

- ▶ Emotional e.g. stress, anxiety, frustration and depression)²¹; and
- ▶ Perceived and real physical impacts associated with emotions and a decrease in the quality of the living environment (e.g. exposure to noise, dust, vibration and artificial light associated with construction) and the change in visual amenity. XX

Landholders may also experience financial stress which has been linked to relationship breakdown, gambling, substance abuse and domestic violence (Wesley Mission 2006).

The potential health impacts will be managed by HPPL by:

- ▶ Developing and implementing a Construction Environmental Management Plan; and
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Major	High	Landholders	Negative	Medium	Local	Medium

Loss of Aspirations

Landholders may lose their aspirations associated with their family, property and business during construction. The significance of the loss of aspirations is summarised below:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Medium	Local	High

Loss of Autonomy

Landholders will lose their ability to make decisions over the corridor for the Project and may include the Project into consideration during their decision making. The potential loss of autonomy will be managed by HPPL by meeting the conditions in the landholder compensation package. If the management strategy is implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Minor	Medium	Landholders	Negative	Medium	Local	High

²¹ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



8.4.5 Quality of the Living Environment

Decrease in the quality of the living and working environment

The quality of the living environment may decrease for landholders who are living or working within the catchment areas of the relevant environmental impacts. Identification and significance of these impacts are being addressed in other EIS technical studies, however, the perceived decrease in the quality of the living and working environment is being addressed in this report. The perceived decrease in the quality of the living environment has links to the decrease of mental and physical health as described in the previous section. Landholders believe that their living and working environment will be impacted by noise, dust, vibration, artificial light, change in visual amenity etc.

The decrease in the quality of the living environment will be managed by HPPL by:

- ▶ Developing and implementing a Construction Environmental Management Plan (including reporting);
- ▶ Adopting an industry standard Code of Conduct for the workforce;
- ▶ Induction and tool box meetings where workers will be reminded of the Code of Conduct and the consequences for not meeting it;
- ▶ Implementation of Occupational Health and Safety policies; and
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Medium	Local	High

Changes to natural environment

The natural environment will change with the construction of the Project. Identification and significance of these impacts are being addressed in other EIS technical studies, however the perception of these changes is being addressed in this report. Landholders who participated in the SIA case studies raised the potential impacts on the native wildlife and impacts to their habitats. The changes to the natural environment will be managed by HPPL by developing and implementing a Construction Environmental Management Plan. If the management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Minor	Medium	Landholders	Negative	Medium	Local	Medium

Decrease in personal safety and increase in hazard exposure

With the presence of the construction workforce, construction vehicles and the actual construction, there is the potential for a decrease in the personal safety of landholders and others using the same areas as the construction workforce (e.g. roads). The main areas of decreased safety relate to road safety and fire.



Road Safety

The potential for decreased road safety will be managed by HPPL by:

- Working with the responsible parties (local or state government) to ensure the roads are maintain to a required standard during construction;
- Developing the construction schedule so that road access is not cut;
- Developing and implementing a Traffic Management Plan to ensure road safety is not compromised;
- Working with emergency services (police, fire and rescue and ambulance) to develop an Emergency Response Plan; and
- Implementation of Occupational Health and Safety policies.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Extreme	High	Road Users	Negative	Medium	Regional	High

Fire

With the presence of the construction workforce, construction vehicles and the actual construction, there is an increased potential for a fire to be started. Landholders who participated in the SIA case studies raised their fear and concern about fires being accidentally started by the construction workforce and the extreme consequences for their families and businesses. The consequences of a fire are extreme particularly with the prevailing wind and fuel (pasture). The Queensland Fire Service is at least a one hour drive from the bases in regional centres, therefore the landholders have to fight any fires with the assistance of their neighbours. The potential for increased risk of a fire will be managed by HPPL by:

- Working with the responsible parties (local or state government) to ensure the roads are maintain to a required standard during construction;
- Developing the construction schedule so that road access is not cut;
- Developing and implementing a Traffic Management Plan to ensure road safety is not compromised;
- Developing and implementing a Construction Environmental Management Plan;
- Working with emergency services (police, fire and rescue and ambulance) to develop an Emergency Response Plan;
- Implementation of Occupational Health and Safety policies; and
- Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Extreme	High	Landholders	Negative	Medium	Regional	High



Increase in crime and decreased security

With the presence of the construction workforce, construction vehicles and the actual construction, there is a potential for an increase in crime and decreased security. There is a genuine concern from landholders that there will be an increase in crime (predominantly theft) because of the alternative access provided to their properties (construction corridor), the increased number of people in the area (construction workforce) and layout and current security of the property. There is a concern that other people (besides the construction workforce) will use the construction corridor to access properties, including pig hunters. The potential for increased crime and decreased security will be managed by HPPL by:

- Providing self contained accommodation for the workforce;
- Adopting an industry standard Code of Conduct for the workforce;
- Implementation of Occupational Health and Safety policies;
- Induction and tool box meetings where workers will be reminded of the Code of Conduct and the consequences for not meeting it.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Major	Medium	Landholders	Negative	Medium	Local	High

8.4.6 Economic and Material Wellbeing

Increase in Workload for Landholders

During the construction stage of the Project, the workload of landholders may increase due to the loss of access to the land in and on either side of the corridor and the need to trial new management strategies and relevant infrastructure. The workload associated with the landholder's duty of care responsibilities will also increase for employees and contractors to the property (inc. safety induction). Landholders also reported that they will have to increase their workload to manage the real or potential impacts of fire management. Managing the construction impacts will also increase the workload of the landholders e.g. meeting with HPPL, management of weeds, trailing and getting cattle used to the construction impacts. The potential for increased workload for landholders will be managed by HPPL by:

- Developing and implementing a Construction Environmental Management Plan;
- Adopting an industry standard Code of Conduct for the workforce;
- Implementation of Occupational Health and Safety policies; and
- Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Likely	Moderate	Medium	Landholders	Negative	Medium	Local	High



Decrease in income, economic prosperity and resilience

During the construction stage of the Project, the landholders may have a decreased income due to the decrease in the quantity and potential decrease in the quality (health) of stock, decreased access to land and modifications to infrastructure. If there is a decrease income, there may be flow on impacts on to the economic prosperity and resilience of the business, in particular the ability for the landholder to access bank loans etc. The potential decrease of economic prosperity and resilience as a result of the construction stage of the Project will be partly managed by HPPL by meeting the conditions in the Landholder Compensation Package. If the management strategy is implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Moderate	Medium	Landholders	Negative	Medium	Local	High

Disturbance to cattle and other animals

Cattle and other animals may be disturbed by the construction of the Project. Some landholder believe that their cattle and other animals maybe negatively impacted by the noise and dust associated with the construction, construction vehicles and construction workforce. The potential for cattle disturbance will be managed by HPPL by:

- ▶ Developing and implementing a Construction Environmental Management Plan;
- ▶ Monitoring the impacts of the construction stage on cattle.

The significance of a decrease in the health of cattle is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Medium	Local	High

Decrease in viable land

Depending on the Project corridor alignment and the existing layout of the property, some landholders may not only lose land for the Project corridor but also 'residual land' that is too small to be utilised or the land for the corridor does not leave enough cleared land for the paddock to be viable. Landholders are currently restricted in clearing trees on their properties so the opportunity to provide improved pasture is limited. The decrease in viable land will be managed by HPPL by:

- ▶ Working with landholders to design the most appropriate corridor on their property within Project constraints;
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Medium	Local	High



Decrease in property value

Having the Project associated with a property may decrease its value. The value of the land during construction may also decrease because the landholder would not have had a chance to make the infrastructure and pasture upgrades required to maximise the value of the land. The decrease in property value will be managed by HPPL by:

- ▶ Working with landholders to design the most appropriate corridor on their property within Project constraints;
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Landholders	Negative	Medium	Local	High

Increase in local employment opportunities

The Project will present increased opportunities for local employment in the region. HPPL will develop local employment and local procurement strategies. If these management strategies are implemented, the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Minor	Low	Regional Community	Positive	Medium	Regional	Medium

Increase in skills shortage

During SIA consultations the potential impact of the Project putting pressure of the local skills shortage was raised both by local business operators, landholders and Regional Councils. There is a concern of landholders (based on current trends) that it will be harder to attract contractors to work in the agricultural industry because of the competition in wages and working conditions. This is the same for local businesses in the regional towns and local councils. This is supported by the unemployment data from Section 5.4.7 which shows the relatively low unemployment in the Barcaldine Regional Council LGA (2.8%), Isaac Regional Council LGA (1.4%) and Whitsunday Regional Council LGA (6.3%) so the local employment would probably come from people with existing jobs in the region or contractors. HPPL will work with local businesses to ensure the HPPL's impact on the current skills shortage is minimised. This may include discussions on job sharing (e.g. sharing workers with trade qualifications), and apprenticeships and traineeships. If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Local businesses	Negative	Medium	Regional	High



8.4.7 Summary of potential social impacts and opportunities during the construction stage of the Project

Potential social impacts and opportunities during the Construction Stage of the Project are summarised in Table 8-4.

Table 8-4 Summary of the potential social impacts and opportunities during the construction stage of the Project

Potential Impact	Stakeholder Group	Existing Project Description				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Demographic						
Temporary increase in population	Regional Communities	Medium	-	Medium	Regional	Medium
Concern of construction workers and construction camps	Landholders	Low	Negative	Medium	Local	High
Services and Facilities						
Housing availability	Regional Communities	Negligible	-	-	-	-
Community Services and Facilities	Regional Communities	Low	Negative	Medium	Regional	Medium
Geographic						
Conversion of land use	Landholder's property	High	Negative	Long	Local	High
Physical splintering	Landholders	Medium	Negative	Medium	Local	High
	Regional communities	Negligible	Negative	Medium	Regional community	Medium
Physical construction impacts	Landholders	Low	Negative	Medium	Local	High
Health and Wellbeing						
Decrease in health ²²	Landholders	High	Negative	Medium	Local	High
Loss of aspirations	Landholders	Medium	Negative	Medium	Local	High
Loss of autonomy	Landholders	Medium	Negative	Medium	Local	High
Quality of the living environment						

²² Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Potential Impact	Stakeholder Group	Existing Project Description				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Decrease in the quality of the living and working environment	Landholders	High	Negative	Medium	Local	High
Changes to the natural environment	Landholders	Medium	Negative	Medium	Local	Medium
Decrease in personal safety and increase to hazard exposure						
► Road safety	Road users	Medium	Negative	Medium	Regional	High
► Fire	Landholders	High	Negative	Medium	Regional	High
Increase in crime and decrease in security	Landholders	Medium	Negative	Medium	Local	High
Economic and Material Wellbeing						
Increase in workload for landholders	Landholders	Medium	Negative	Medium	Local	High
Decrease in income, economic prosperity and resilience	Landholders	Medium	Negative	Medium	Local	High
Disturbance to cattle	Landholders	Medium	Negative	Medium	Local	High
Loss of viable land	Landholders	Medium	Negative	Medium	Local	High
Decrease in property values	Landholders	Medium	Negative	Medium	Local	High
Increase in local employment opportunities	Local employees	Low	Positive	Medium	Regional	Medium
Increase in skills shortage	Local businesses	Medium	Negative	Medium	Regional	High



8.5 Operational Stage

There are a range of potential social impacts and opportunities resulting from the operational stage and associated social change processes. The potential social impacts have been categorised into:

- Demographic;
- Services and Facilities;
- Geographic;
- Health and social wellbeing;
- Quality of the living environment;
- Economic and material wellbeing;
- Family and community;

8.5.1 Demographic

Increase in population

The majority of the residential operational workforce will be based in the Whitsunday Regional Council LGA. Section 6.3 describes the estimated workforce for the operational stage of the Project with and without ATO. Under both scenarios (with and without ATO), the increase of the residential operational workforce in the Whitsunday Regional Council LGA will be just above 1.0%. Therefore the population of the Whitsunday Regional Council LGA is not expected to increase significantly.

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Insignificant	Negligible	Regional Communities	Negative	Medium	Regional	High

8.5.2 Services and Facilities

Decrease in housing availability

Given the population increase of the Whitsunday Regional Council LGA will be less than 1.0% (refer to Section 6.3), it is expected that the estimated workforce and their families will be able to be accommodated in the housing market (rental and purchasing) at the time of relocation, therefore not significantly impacting on housing availability in the LGA.

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Minor	Low	Regional Communities - Bowen	Negative	Medium	Regional	High



Increased pressure on community services and facilities

Given the population increase of the Whitsunday Regional Council LGA will be less than 1.0% (refer to Section 6.3), it is expected that the estimated workforce and their families will not place any extra significant pressure on the existing community services and facilities in the LGA.

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Minor	Low	Regional Communities	Negative	Medium	Regional	High

8.5.3 Geographic

Conversion of land use

Land that is currently being utilised for agricultural purposes will be converted to a railway and associated infrastructure associated with a coal mine. This is a change of land use from agricultural to mining infrastructure. The significance of this impact for different stakeholder groups is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Moderate	High	Landholders	Negative	Long	Local	High

Physical splintering

Landholders

Landholders will have their property (or properties) split requiring new property management focused on the operational stage of the Project to be developed and implemented (refer to Section 5.6). The physical splintering of a landholder's property will be managed by HPPL by meeting commitments in the Landholder Compensation Package. If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Minor	Medium	Landholders	Negative	Long	Local	High

Physical operational impacts

There will be physical operational impacts and these are explained in other EIS technical studies. Landholders are concerned about the potential physical impacts to their properties during operation, these include (but are not limited to):

- ▶ Drainage from the corridor onto the landholders property;
- ▶ Change of flooding regime (overland flow);
- ▶ Transfer of weeds along the alignment and on to neighbouring properties;



- Vehicle access to and from the corridor, potential damage to internal road and track networks and pasture on the properties;
- Workers not leaving gates how they found them;
- Workers not being aware of landholder's infrastructure (such as roads, water, sewerage, power lines, fencing, stock yards and communication).

The physical operational impacts will be managed by HPPL by:

- Developing and implementing an Environmental Management Plan;
- Adopting an industry standard Code of Conduct for the workforce;
- Induction and tool box meetings where workers will be reminded of the Code of Conduct and the consequences for not meeting it;
- Implementation of Occupational Health and Safety policies; and
- Meeting Landholder Compensation Package commitments.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Likely	Moderate	Medium	Landholders	Negative	Medium	Local	High

8.5.4 Health and social wellbeing

Decrease in health²³

Based on the health impacts that landholders are already described as part of the feasibility stage of the Project, there is the potential for landholders to experience a decrease in health during operation of the Project. The health of landholders could be decreased in the following ways:

- Emotional e.g. stress, anxiety, frustration and depression); and
- Perceived and real physical impacts associated with emotions and a decrease in the quality of the living environment (e.g. exposure to noise, dust, vibration and artificial light associated with operation) and the change in visual amenity.

Landholders could also experience financial stress which has been linked to relationship breakdown, gambling, substance abuse and domestic violence (Wesley Mission 2006).

The potential health impacts will be managed by HPPL by:

- Developing and implementing an Environmental Management Plan; and
- Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance

²³ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Possible	Major	High	Landholders	Negative	Medium	Local	Medium
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8.5.5 Quality of the living environment

Decrease in the quality of the living environment

The quality of the living environment may decrease for landholders who are living or working within the catchment areas of the relevant environmental impacts. Identification and significance of these impacts are being addressed in other EIS technical studies, however, the perceived decrease in the quality of the living and working environment is being addressed in this report. Some landholders believe that their living and working environment will be impacted by noise, dust, vibration, artificial light, changed to the visual amenity etc leading to a decrease in the quality of the living environment. A decrease in the quality of the living environment may lead to a loss of 'homeliness' or a break in the "connection to place". This is when someone loses the feeling that that a place has, a feeling of being 'home' or having a 'home'. The perceived decrease in the quality of the living environment will be managed by HPPL by:

- ▶ Developing and implementing an Environmental Management Plan (including reporting); and
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Likely	Moderate	Medium	Landholders	Negative	Long	Local	High

Changes to natural environment

The natural environment will change with the construction of the Project. Identification and significance of these impacts are being addressed in other EIS technical studies, however the perception of these changes is being addressed in this report. Landholders who participated in the SIA case studies raised the potential impacts on the native wildlife and impacts to their habitats. The changes to the natural environment will be managed by HPPL by developing and implementing an Environmental Management Plan (including reporting). If the management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Almost Certain	Moderate	Medium	Landholders	Negative	Long	Local	Medium

Decrease in personal safety and increase in hazard exposure

During the operation of the Project, there may be a decrease in the personal safety of landholders, employees and contractors. The main areas of decreased safety relate to train safety and fire.

Train Safety

The potential for an accident with a train will be managed by HPPL by:

- ▶ Meeting all required safety standards;



- Working with emergency services (police, fire and rescue and ambulance) to develop an Emergency Response Plan; and
- Implementation of Occupational Health and Safety policies.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Extreme	High	Road Users	Negative	Medium	Regional	High

Fire

With the presence of the trains, maintenance workforce and vehicles, there is an increased potential for a fire to be started. Landholders who participated in the SIA case studies raised their fear and concern about fires being accidentally started by the construction workforce and the extreme consequences for their families and businesses. The consequences of a fire are extreme particularly with the prevailing wind and fuel (pasture). The Queensland Fire Service is at least a one hour drive from the bases in regional centres, therefore the landholders have to fight any fires with the assistance of their neighbours. The potential for increased risk of a fire will be managed by HPPL by:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Extreme	High	Landholders	Negative	Long	Regional	High

Increase in crime and decrease in security

With the presence of the Project corridor (including a maintenance road) there is increased access to properties (although access to the corridor including the maintenance road to unauthorised people is illegal), there is an increased potential for crime and decreased security either directly or indirectly. Landholders concerns in relation to increases in crime (predominantly theft) because of the alternative access provided to their properties (Project corridor), the increased number of people in the area (maintenance workforce) and current security of the property. There is also a concern that other people (other than maintenance workers) will use the corridor to access landholder properties (such as pig hunters).

The potential for increased crime and decreased security will be managed by HPPL by:

- Adopting an industry standard Code of Conduct for the workforce;
- Implementation of Occupational Health and Safety policies;
- Induction and tool box meetings where workers will be reminded of the Code of Conduct and the consequences for not meeting it.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Major	High	Landholders	Negative	Long	Local	High





8.5.6 Economic and material wellbeing

Increase in workload

The landholder's workload may increase. This could be linked to the new management strategies and relevant infrastructure once operation starts. The workload associated with the landholder's duty of care responsibilities will also increase for employees and contractors to the property (inc. safety induction). Landholders also reported that they may have to increase their workload to manage the real or potential impacts of fire and weed management. The potential for increased workload for landholders will be managed by HPPL by:

- ▶ Developing and implementing an Environmental Management Plan;
- ▶ Adopting an industry standard Code of Conduct for the workforce;
- ▶ Implementation of Occupational Health and Safety policies; and
- ▶ Meeting the conditions in the Landholder Compensation Package.

If the above management strategies are implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Likely	Moderate	Medium	Landholders	Negative	Medium	Local	High

Decrease in income, economic prosperity and resilience

During the operational stage of the Project, the landholders may have a decreased income due to the decrease in the quantity and quality (health) of stock, decreased access to land and modifications to infrastructure compared to the property without the Project. The decreased income will have flow on impacts on to the economic prosperity and resilience of the business, in particular the ability for the landholder to access bank loans etc. There could also be increased costs associated with increased insurance (work cover). The potential for increased workload for landholders will be managed by HPPL by meeting the conditions in the Landholder Compensation Package.

If the management strategy is implemented the significance of the potential impact will be:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Moderate	Low	Landholders	Negative	Medium	Local	High

Disturbance to cattle and other animals

Cattle and other animals may be disturbed by the operation of the Project (e.g. noise of trains) during operation. Some landholders are concerned about the impact of the Project on the physical health of their cattle (particularly introduced weaners). However, there is no scientific research into the disturbance to cattle and other animals due to the operation of a Project similar to this one.

The potential for cattle disturbance will be managed by HPPL by:

- ▶ Developing and implementing an Environmental Management Plan (including reporting);
- ▶ Monitoring the impacts of the operational stage on cattle (including reporting).



The significance of a decrease in the health of cattle is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Moderate	Low	Landholders	Negative	Medium	Local	High

Loss of cattle and or other animals

The operational stage of the project (trains and maintenance vehicles) may decrease the safety and increase in hazard exposure for cattle and other animals (such as working dogs and horses) associated with managing the property. Some landholders explained that significance of losing cattle, working dogs or horses is a large financial costs but also an emotional cost. The significance of a decrease in the health of cattle is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Unlikely	Moderate	Low	Landholders	Negative	Long	Local	High

Increased rates and rents

Based on the experience of landholders who will be impacted by the Project in the Bowen Basin, there may be a gradual increase in Regional Council rates (freehold) and State Government rents (lease hold) based on the increase in land values. For landholders this increase in rates or rent will be more significant because of the decreased income associated with loss of land decreasing the number cattle. The significance of this impact is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Moderate	Medium	Regional Communities	Negative	Long	Regional	Medium

8.5.7 Family and community

Alterations to family structure

Due to the decreased size of the property, the property may not be able to sustain as many family members as it did prior to the Project. This has flow on impacts to the maintenance of family and social networks. The significance of the increased workload is summarised as:

Likelihood	Consequence	L/C Rating	Stakeholder Group	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Possible	Major	High	Landholders	Negative	Long	Regional	Medium



8.5.8 Summary of Impacts and Opportunities During the Operational Stage

Potential social impacts and opportunities during the Construction Stage of the Project are summarised in Table 8-5.

Table 8-5 Summary of social impacts and opportunities in the operational stage

Potential Impact	Stakeholder Group	Existing Project Description				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Demographic						
Increase in population	WRC LGA	Negligible	-	-	-	-
Services and facilities						
Housing availability	WRC LGA	Low	Negative	Long	Regional	High
Community services and facilities	WRC LGA	Low	Negative	Long	Regional	High
Geographic						
Conversion of land use	Landholders	High	Negative	Long	Local	High
Physical splintering	Landholders	Medium	Negative	Long	Local	High
Physical operational impacts	Landholders	High	Negative	Long	Local	High
Health and Wellbeing						
Decreased in health ²⁴	Landholders	High	Negative	Long	Local	High
Quality of the living environment						
Decrease in the quality of the living environment	Landholders	Medium	Negative	Long	Local	High
Changes to the natural environment	Landholders	Medium	Negative	Long	Local	Medium
Decrease in personal safety and increase to hazard exposure						

²⁴ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Potential Impact	Stakeholder Group	Existing Project Description				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
► Train safety	Landholders	High	Negative	Long	Local	High
► Fire	Landholders	High	Negative	Long	Regional	High
Increase in crime and decreased security	Landholders	High	Negative	Long	Regional	High
Economic and Material Wellbeing						
Increase in workload	Landholders	Medium	Negative	Long	Local	High
Decrease in income, economic prosperity and resilience	Landholders	Low	Negative	Long	Local	High
Disturbance to cattle and other animals	Landholders	Low	Negative	Long	Local	High
Loss of cattle and/or other animals	Landholders	Low	Negative	Long	Local	High
Increased rates and rents	Regional communities	Medium	Negative	Long	Regional	Low
Family and Community						
Alterations to family structure	Landholders	High	Negative	Long	Regional	Medium



9. Management Strategies

9.1 Introduction

Section 8 referred to management strategies which could be implemented to reduce potential negative social impacts and enhancement strategies to maximise opportunities. This section contains the details of the management strategies.

9.2 Overview of Management Strategies

Table 9-1 provides an overview of the management strategies cross referenced to the different Project stages and potential impact categories.



Table 9-1 Overview of management strategies

Management Strategy	Impact Category																
	Feasibility			Construction							Operation						
	HW	EM	FC	D	G	SF	HW	QLE	EM	FC	D	G	SF	HW	QLE	EM	FC
Project Design				✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Good Neighbour Policy	✓	✓	✓	✓			✓	✓	✓	✓		✓		✓	✓	✓	✓
Individual Landholder Compensation Package	✓	✓			✓		✓	✓	✓	✓		✓		✓	✓	✓	✓
Regional Stakeholder Engagement Program						✓		✓	✓	✓					✓	✓	✓
HPPL Community Development Fund					✓												
Employment and Economic Development Strategy									✓							✓	
<i>Other technical study management strategies</i>																	
EMP (dust, noise, ecological)							✓	✓	✓					✓	✓		
Traffic Management Plan					✓			✓				✓					
Emergency Response Plan								✓							✓		

D- demographic, G – Geographic, SF – Services and Facilities, HW – Health and Wellbeing, QLE – Quality of the Living Environment, EM – Economic and Material Wellbeing, FC – Family and Community, EMP – Environmental Impact Management Plan



9.3 Project Design

HPPL is responsible for the Project design. The following Project design decisions reduce the significance of potential social impacts:

- Location of corridor (HPPL is already in negotiations with landholders to reduce potential impacts through minor modifications of the rail alignment, re-establishment of impacted infrastructure such as dams, stockyards, fences, and the provision of stock and farm equipment crossings;
- Location of construction camps (HPPL is already in negotiations with landholders on the location of the construction camps to reduce the significance of the potential social impacts);
- Location of passing lanes (HPPL is already in negotiation with landholders on the location of the passing lanes to reduce the potential social impacts);
- Order of construction (including timings of construction (dry/wet season, night/day works, movement of construction vehicles taking into consideration local road usage and local and regional community events);
- Location of wash down points (for weeds);
- Type of fencing;
- Design of wagons to carry coal (HPPL is already considering a wagon design to reduce the impacts of coal dust);
- Maintenance program for engines and other machinery;
- Maintenance program for corridor and infrastructure;
- Policies related to staying in construction camps and not in temporary accommodation, design of construction camps to encourage workers to stay;
- Provision of medical services for workforce while at work (not relying on local/regional services which are already over utilised and under-resourced);
- Maintenance of public infrastructure utilised by the Project (e.g. roads);
- Occupational Health and Safety for employees, contractors and sub-contractors;
- Source of workforce during construction and operation;
- Reduced physical impacts on neighbouring properties (e.g. weeds, drainage, flooding regime);
- Support provided to landholders during natural disasters (e.g. flooding and fires);
- Facilitate the provision of health services for landholders during the Project, e.g. provision of counselling services, physical health checks etc.
- Employment of landholder liaison officers to keep landholders up to date with the Project and provide feedback directly to HPPL. HPPL aims to have consistent landholder liaison officers across the key project stages. Where there is a transition between land liaison officers, a succession plan to incorporate a relevant handover period will be developed. The handover period will include the transition of the relationship between the landholders and the landholder liaison officers.



9.4 Good Neighbour Policy

HPPL and their neighbours will develop a Good Neighbour Policy which directly acknowledges their relationship, issues to be managed and relevant management plans. Neighbours of the Project are the landholders whose land the Project will be built and operated on and other nearby properties. The Good Neighbour Policy will be designed, implemented and reviewed during the feasibility, construction and operational stages of the Project. It will be developed in consultation with landholders, identifying the respective roles and responsibilities of HPPL and landholders.

Features of the Good Neighbour Policy are:

- Neighbourhood Consultative Committee (NCC). The NCC will operate over the feasibility, construction and operational stages of the Project, with each NCC deciding the frequency of meetings.
- HPPL and landholders to gain an understanding of their similarities and differences in values and lifestyles. This could include identifying ways to support the existing social networks and events that embrace values such as the regional shows and sporting events such as camp drafting.
- HPPL and landholders to provide accurate and timely information in plain English (not using technical engineering/agricultural jargon).
- Identification of decisions which need to include both HPPL and landholders to participate in relevant decisions.
- Process for dispute resolution between HPPL and landholders.
- Take into consideration the transition periods between Project stages:
 - Feasibility to construction;
 - Construction to operation;
 - Operation to closure.
- Establish and maintain a landholder complaints database.

9.4.1 Specific to the Construction Stage of the Project

There will need to be policies and processes designed specifically to address impacts in the construction phase of the Project, these include (but are not limited to):

- Construction camp protocol (inc. consumption of alcohol).
- Construction workforce protocol (e.g. notification to landholders, access to properties)
- Construction Communications Program including:
 - Land liaison officers appointed for landholders with mandate to follow up and resolve issues as they arise;
 - Provision of work programs;
 - Notification of type and timings of works near or on landholders properties with as much notice as possible;
- Identification of Project workforce (including direct employees, contractors and subcontractors):
 - Personal identification by wearing Project work shirts which are easily identifiable from a distance; and



- Vehicle identification (e.g. sticker/magnet with Project name on sides and rear of vehicle).
- ▮ Relevant health and safety, e.g.
 - Drug and alcohol testing of the construction workforce;
 - Signs along the alignment making workforce aware of people and animals
 - GPS in project vehicles to track location and speed.
 - Speed limits in corridors and while accessing private property
 - Road awareness training (e.g. being aware of other people, vehicles, machinery and animals on the roads, how to drive on dirt roads etc)
 - Having more than one person per vehicle, to reduce the number of vehicles on public and private roads.
 - Safe working environments – no smoking in working areas, cleaning up rubbish etc
- ▮ Information to be included in the workforce induction program and daily tool box meetings
- ▮ Access to properties.
- ▮ Fence the construction corridor and ensure all Project traffic and materials are kept within the corridor and landholder property is kept out (e.g. cattle, machinery etc).
- ▮ Access across the corridor is provided to landholders during and after fence construction
- ▮ Induction programs and tool box meetings to contain reminders regarding landholder awareness;
- ▮ Weed management:
 - Do not use hire vehicles unless absolutely necessary
 - Wash down facilities and protocols
- ▮ Monitoring the construction impact on the pasture and cattle and the flow on impacts to the operation of landholder businesses. The design of the pasture and cattle monitoring program should be developed by landholders, HPPL and an agreed external research institution, e.g. University of New England or the CSIRO. Both the University of New England and the CSIRO are developing research tools to monitor pasture and cattle movement using remote sensors and GPS.

9.4.2 Specific to the Operational Stage of the Project

There will need to be policies and processes designed specifically to address impacts in the operational phase of the Project, these include (but are not limited to):

- ▮ Workforce protocol (e.g. notification to landholders, access to properties)
- ▮ Operations Communication Program including:
 - Land liaison officers appointed for landholders with mandate to follow up and resolve issues as they arise;
 - Provision of work programs;
 - Notification of type and timings of works near or on landholders properties with as much notice as possible;
 - Access to 'Train Control' so landholders can have access to real-time information on train movements;
- ▮ Identification of Project workforce (including direct employees, contractors and subcontractors):



- Personal identification by wearing Project work shirts which are easily identifiable from a distance; and
 - Vehicle identification (e.g. sticker/magnet with Project name on sides and rear of vehicle).
- Relevant health and safety, e.g.
 - Drug and alcohol testing of the workforce;
 - Signs along the alignment making workforce aware of people and animals
 - GPS in project vehicles to track location and speed.
 - Speed limits in corridors and while accessing private property
 - Road awareness training (e.g. being aware of other people, vehicles, machinery and animals on the roads, how to drive on dirt roads etc)
 - Having more than one person per vehicle, to reduce the number of vehicles on public and private roads.
 - Safe working environments – no smoking in working areas, cleaning up rubbish etc
- Information to be included in the workforce induction program and daily tool box meetings
- Access agreement to properties with established protocols.
- Fence maintenance.
- Induction programs and tool box meetings to contain reminders regarding landholder awareness;
- Weed management:
 - Do not use hire vehicles unless absolutely necessary
 - Wash down facilities and protocols
- Fire maintenance.
- Processes and protocols of a train derailment or accident impacting on a landholder's property.
- Monitoring the construction impact on the pasture and cattle and the flow on impacts to the operation landholder businesses. The design of the pasture and cattle monitoring program should be developed by landholders, HPPL and an agreed external research institution, e.g. University of New England or the CSIRO. Both the University of New England and the CSIRO are developing research tools to monitor pasture and cattle movement using remote sensors and GPS.

9.5 Individual Landholder Compensation Package

Compensation package will be negotiated with individual landholders and this is a confidential process, between the HPPL and the landholder.

9.6 Stakeholder Engagement Program

Engagement with stakeholders is an important component to managing and monitoring the potential social impacts of the Project. The Stakeholder Engagement Strategy is outlined in the draft Social Impact Management Plan.



9.7 Community Development Fund

HPPL has an existing community development fund and this will be maintained throughout the construction and operational stages of the Project.

9.8 Employment and Economic Development Strategy

HPPL will develop an employment and procurement policy guided by industry standards and relevant government guidelines that will reflect:

- ▶ Maximising local employment (including work readiness if appropriate);
- ▶ Maximising Indigenous employment (including work readiness if appropriate); and
- ▶ Employment of apprentices and trainees.

HPPL will work with contractors to ensure that their policy is applied when working on the Project.

9.9 Other Technical Study Management Strategies

There are other technical study management strategies which will address some of the potential social impacts during the construction and operation of the Project, these include:

- ▶ Construction Environmental Management Plan;
- ▶ Operational Environmental Management Plan;
- ▶ Traffic Management Plan;
- ▶ Emergency Management Plan.

9.10 Significance of Impacts once management strategies are applied

The significance of the identified impacts changes once management strategies are applied. The following tables set out the original significance of the identified impacts and then the change after the management strategy has been applied.



9.10.1 Feasibility Stage

Social impacts and opportunities during the Feasibility Stage of the Project are summarised in Table 9-2.

Table 9-2 Summary of social impacts and opportunities in the feasibility stage

Impact	Stakeholder Group	Existing Project Description					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Health and Wellbeing											
Health impacts ²⁵	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Loss of aspiration	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Economic and Material Wellbeing											
Decrease in property value	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Decrease in economic resilience	Landholders	Medium	Negative	Long	Local	High					Medium
Family and Community											
Decrease in family cohesion	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Loss of sense of belonging and attachment to place	Landholders	High	Negative	Long	Local	High	High	Negative	Long	Local	Medium
Decrease in community cohesion	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium

²⁵ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



9.10.2 Construction Stage

Potential social impacts and opportunities during the Construction Stage of the Project are summarised in Table 9-3.

Table 9-3 Summary of the potential social impacts and opportunities during the construction stage of the Project

Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Demographic											
Temporary increase in population	Regional communities	Medium	-	Medium	Regional	Medium	Low	-	Medium	Regional	Low
Concern of construction workers and construction camps	Landholders	Low	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Services and Facilities											
Community services and facilities	Regional Communities	Low	Negative	Medium	Regional	High	Low	Negative	Medium	Regional	Medium
Housing availability	Regional communities	Negligible	-	-	-	-	Negligible	-	-	-	-
Geographic											
Conversion of land use	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	High
Physical splintering	Landholders property	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
	Regional communities	Negligible	Negative	Medium	Regional community	Medium	Negligible	Negative	Medium	Regional community	Low
Physical construction impacts	Landholders	Low	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Health and Wellbeing											
Decrease in health ²⁶	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium

²⁶ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Loss of aspirations	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Loss of autonomy	Landholders	Medium	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Quality of the living environment											
Decrease in the quality of the living environment	Landholders	High	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Changes to the natural environment	Landholders	Medium	Negative	Medium	Local	Medium	Low	Negative	Medium	Local	Low
Decrease in personal safety and increase to hazard exposure											
► Road safety	Road users	High	Negative	Medium	Regional	High	High	Negative	Medium	Regional	High
► Fire	Landholders	High	Negative	Medium	Regional	High	High	Negative	Medium	Regional	High
Increase in crime and decrease in security	Landholders	Medium	Negative	Medium	Local	High	Low	Negative	Medium	Local	High
Economic and Material Wellbeing											
Increase in workload for landholders	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Decrease in income, economic prosperity and resilience	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Disturbance to cattle	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Low
Loss of viable land	Landholders	Medium	Negative	Medium	Local	High	Low	Negative	Medium	Local	Medium
Decrease in property values	Landholders	Medium	Negative	Medium	Local	High	Medium	Negative	Medium	Local	Medium
Increase in local employment opportunities	Local employees	Low	Positive	Medium	Regional	Medium	Medium	Positive	Medium	Regional	Medium
Increase in skills shortage	Local businesses	Medium	Negative	Medium	Regional	High	Medium	Negative	Medium	Regional	Low



9.10.3 Operational Stage

Potential social impacts and opportunities during the Construction Stage of the Project are summarised in Table 9-4.

Table 9-4 Summary of social impacts and opportunities in the operational stage

Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
Demographic											
Increase in population	WRC LGA	Negligible	-	-	-	-	Negligible	-	-	-	-
Services and facilities											
Housing availability	WRC LGA	Low	Negative	Long	Regional	High	Low	Negative	Long	Regional	Low
Community services and facilities	WRC LGA	Low	Negative	Long	Regional	High	Low	Negative	Long	Regional	Low
Geographic											
Conversion of land use	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Physical splintering	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Physical operational impacts	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Health and Wellbeing											
Decreased in health ²⁷	Landholders	High	Negative	Long	Local	High	Medium	Negative	Long	Local	Medium
Quality of the living environment											
Decrease in the quality of the living environment	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Changes to the natural environment	Landholders	Medium	Negative	Long	Local	Medium	Low	Negative	Long	Local	Medium
Decrease in personal safety and increase to hazard exposure											

²⁷ Medical or psychological testing has not been undertaken by a suitably qualified medical practitioner as part of the SIA.



Potential Impact	Stakeholder Group	No Management Strategy					Management Strategy Applied				
		L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance	L/C Rating	Status of Impact	Duration of Impact	Spatial Extent of Impact	Stakeholder Importance
► Train safety	Landholders	High	Negative	Long	Local	High	High	Negative	Long	Regional	Medium
► Fire	Landholders	High	Negative	Long	Regional	High	High	Negative	Medium	Regional	Medium
Increase in crime and decreased security	Landholders	High	Negative	Long	Regional	High	Medium	Negative	Medium	Regional	Medium
Economic and Material Wellbeing											
Increase in workload	Landholders	Medium	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Decrease in income, economic prosperity and resilience	Landholders	Low	Negative	Long	Local	High	Low	Negative	Long	Local	Medium
Disturbance to cattle and other animals	Landholders	Low	Negative	Long	Local	High	Low	Negative	Long	Local	Low
Loss of cattle or other animals	Landholders	Low	Negative	Long	Local	High	Low	Negative	Long	Local	Low
Increased rates and rents	Regional communities	Medium	Negative	Long	Regional	Low	Low	Negative	Long	Regional	Low
Family and Community											
Alterations to family structure	Landholders	High	Negative	Long	Regional	Medium	Medium	Negative	Long	Regional	Medium



10. Monitoring Program and Reporting Strategy

10.1 Introduction

10.2 Monitoring Program

A monitoring program has been developed to:

- ▶ Verify if potential impacts actually occurred or not;
- ▶ To identify any unexpected impacts;
- ▶ To evaluate the effectiveness of the management strategies;
- ▶ Capture information to advise impacted communities and government on progress and achievements; and
- ▶ Facilitate dialogue with stakeholders.

Only impacts with a medium, high or excessive impact significance prior to management strategies being implemented have been included in the monitoring strategy.

The context of the social impact monitoring of the Project has been designed to provide Project specific feedback. The monitoring program containing recommended tools that will need to be discussed with landholders, State Government, Regional Councils and other proponents to ensure that the information gathered is relevant and can be used for other purposes (e.g. regional planning).

10.2.1 Monitoring Program Tools

The tools listed in the monitoring program have been identified to ensure that they can be consistently applied across the Project lifecycle to ensure consistency of results. There are a number of different tools identified to ensure the appropriate data collection for each of the impacts. Where possible a number of impacts are monitored using the same tool and provision for cross-referencing of results. Participation in the monitoring will be on a voluntary basis and the results will be de-identified for publication beyond the Project, e.g. State Government reporting under the draft SIMP Guidelines.

The monitoring tools (and indicators) also include a combination of qualitative and quantitative data and stakeholder and HPPL proactive monitoring. The monitoring tools will be implemented in conjunction with monitoring programs included in other technical management plans, such as the environmental management plan, traffic management plan and emergency response plan.

Feedback from Land Access Agents

Land access agents will work with landholders throughout the life of the Project. One of the roles of the land access agents will be to record conversations with landholders to capture and report on impacts as they are occurring. This type of monitoring is based on landholders discussing impacts as they arise with the land access agents, who will record them and address as required.

Landholder Survey

A landholder survey will be developed to capture and report on impacts on a regular basis throughout the life cycle of the Project. Delivery of the landholder survey will be on monthly basis during construction and a yearly basis during operation.



Local Researcher Program (LRP)

The Local Researcher Program (LRP) will operate to the Balingup Model. The Balingup Model was developed by Professor Daniela Stehlik and Dr Amma Buckley and is a participatory inquiry using a community-as-researcher approach. It is an example of participatory action research.

The purpose of the LRP is to actively involve people from the host communities in the social impact monitoring program. It is one technique that can reduce the 'same ten people' always participating in the consultation programs (these people are usually attracted to community reference groups etc). The LRP will run in conjunction with other social monitoring tools and community engagement processes (e.g. community awareness campaign, stakeholder engagement and information plan and issues management protocol).

The LRP could be an annual project or run every two – three years. Potential local researchers will be invited to participate in the LRP through a formal advertised application process. Local researchers will be paid for their travel costs and a fee for undertaking their research. The project team will need to identify an acceptable rate for travel disbursements and fees for undertaking the research.

Each of the local researchers will be identified based on the following selection criteria:

- ▶ a resident of a host community;
- ▶ not a member of the reference groups;
- ▶ a willingness to participate in the research process and actively participate in discussions;
- ▶ a willingness to work according to the LRP guidelines; and
- ▶ an ability to gather information through appropriate community channels.

Outcome of the LRP will be an insight into the social impacts as felt by members of host communities along the railway. Results of the LRP will be included in relevant reporting.

Complaints Database

HPPL will maintain a complaints database. A 1300 number will be advertised as part of the Project for interested parties to contact HPPL. All calls to the 1300 number will be logged on a database. Complaints will be monitored throughout the Project.

Business and Service Providers Survey

Business and service providers will be monitored on a quarterly basis to identify impacts. Business and service providers will be given the option of completing the survey in person, over the telephone or on line to allow increased feedback. Businesses and service providers will be notified of the survey by letter.

Property Analysis

Impacts on property values will be monitored on a quarterly basis.

Cattle Monitoring

A cattle monitoring program will be developed. There is very limited data available on the impacts of trains transporting coal on cattle. There are a number of research bodies who could design and implement the research with HPPL and landholders, including the University of New England and the CSIRO.



Photo Montage

Photos and video of the current environment, the construction process and the operation of the railway will be recorded to show the changes to the natural environment and to record for historical purposes. The photos and videos will need to be taken from the same location to ensure consistency.

10.2.2 Overview of the monitoring program

A monitoring program has been developed for each of the Project stages and is summarised in the following tables.



Table 10-1 Monitoring Program - Feasibility Stage

Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Health and Wellbeing					
Health impacts ²⁸	Communication with landholders about the Project (inc. land liaison officers)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Loss of aspiration	Communication with landholders about the Project (inc. land liaison officers)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Loss of sense of belonging and attachment to place	Communication with landholders about the Project (inc. land liaison officers)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Economic and Material Wellbeing					
Decrease in property value	Track property values in the region and other trends that may impact on property values.	For the individual compensation packages to cover the loss in property value.	HPPL	Quarterly	Property values
Decrease in economic resilience	Communication with landholders about the Project (inc. land liaison officers)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Family and Community					
Decrease in family cohesion	Communication with landholders about the Project (inc. land liaison officers)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Decrease in community cohesion	Communication with landholders about the Project (inc. land liaison officers)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided

²⁸ There has not been any psychological testing undertaken by a medical practitioner as part of the SIA.



Table 10-2 Monitoring Program – Construction Stage

Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Demographic					
Concern about construction workers and construction camps	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and landholders	As required	Type and length of support provided. Complaints from landholders about workforce or construction camps
Temporary increase in population	Changes to population numbers and characteristics (review ABS data) compared to Human Resources data on workforce (including relocations and camp numbers)	Not to increase the population of the local and regional study area by more than 5%	HPPL	PIFU/OESR – annual ABS Census – every 5 years	Population numbers across the local and regional study area Other projects and policies impacting the local and regional study area that will change the population numbers.
Services and Facilities					
Housing availability	Track property values in the region and other trends that may impact on property values.	Not to impact on housing prices	HPPL	Quarterly	Property values Housing availability and affordability Other projects and policies impacting the local and regional study area that will impact on available and affordable housing.
Decrease in infrastructure quality	Refer to Traffic Management Plan	-	-	-	-
Geographic					
Conversion of land use	Recording of the land use conversion over the life of the Project	To provide a photo reference of the conversion of land use	HPPL and landholders	At key stages during the construction phase	Visual amenity Topography
Physical splintering					



Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Landholder's property	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	To reduce the type and frequency of physical splintering	HPPL and landholders	As required	Ability to access Time to access
Regional community	Communication with regional community members about the Project (inc. stakeholder engagement specialists and complaints database)	To reduce the type and frequency of physical splintering	HPPL and members of the regional community	As required	Ability to access Time to access
Physical construction impacts	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	To reduce the type and frequency of physical construction impacts	HPPL and landholders	As required	Physical construction impacts as reported by landholders
	Refer to Environmental Management Plan	-	-	-	-
Health and Wellbeing					
Decrease in health	Communication with landholders about the Project (landholder survey)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Loss of aspirations	Communication with landholders about the Project (landholder survey)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Loss of autonomy	Communication with landholders about the Project (landholder survey)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Quality of the living environment					
Decrease in the quality of the living environment	Refer to Environmental Management Plan	-	-	-	-



Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Changes to the natural environment	Refer to Environmental Management Plan	-	-	-	-
Decrease in personal safety and increase to hazard exposure					
▮ Road safety	Refer to Traffic Management Plan	-	-	-	-
▮ Fire	Refer to Hazard and Risk Management Plan	-	-	-	-
Increase in crime and decrease in security	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	To not increase crime or decrease security	HPPL and landholders	As required	Type and frequency of crime
	Police reports	To not increase crime or decrease security	HPPL	As required	Type and frequency of crime
Economic and Material Wellbeing					
Increase in workload for landholders	Communication with landholders about the Project (landholder survey)	Limit the type and amount of increased workload	HPPL and landholders	As required	Type extra work and hours to do the work
Decrease in income, economic prosperity and resilience	Communication with landholders about the Project (landholder survey)	Limit the decreased income, economic prosperity and resilience of landholders	HPPL and landholders	Quarterly	Income and profit (increase , constant or decrease). Monitor markets and policies that may also impact on business viability.
Disturbance to cattle and other animals	Monitor cattle	Limit the disturbance to cattle	HPPL and landholders	As required	Cattle movements and growth
	Communication with landholders about the Project (landholder survey)		HPPL and landholders	As required	Cattle movements and growth



Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Loss of viable land	Monitor cattle reaction and habits (e.g. areas where they graze, camping locations etc)	Limit the loss of viable land	HPPL and landholders	As required	Pasture quality, cattle movements and growth
Decrease in property values (landholders)	Track property values in the region and other trends that may impact on property values.	For the individual compensation packages to cover the loss in property value.	HPPL	Quarterly	Property values
Increase in property values (regional communities)	Track property values in the region and other trends that may impact on property values.	For the individual compensation packages to cover the loss in property value.	HPPL	Quarterly	Property values
Increase in local employment and contracting opportunities	Review of Human Resources and procurement data	Maximise local	HPPL	Quarterly	Number of positions offered and advertised locally and the number of local people employed.
Increase in skills shortage	Communication with landholders about the Project (landholder survey)	Reduce impacts on existing skills shortage	HPPL and landholders	Quarterly	Staff retention Recruitment rates
	Business and service providers survey	Reduce impacts on existing skills shortage	HPPL and business and service providers	Quarterly	Staff retention Recruitment rates



Table 10-3 Monitoring Program – Operational Stage

Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Demographic					
Increase in population	Changes to population numbers and characteristics (review ABS data) compared to Human Resources data on workforce (including relocations and camp numbers)	Not to increase the population of the local and regional study area by more than 5%	HPPL	PIFU/OESR – annual ABS Census – every 5 years	Population numbers across the local and regional study area Other projects and policies impacting the local and regional study area that will change the population numbers.
Services and facilities					
Housing availability	Track property values in the region and other trends that may impact on property values.	Not to impact on housing prices	HPPL	Quarterly	Property values Housing availability and affordability Other projects and policies impacting the local and regional study area that will impact on available and affordable housing.
Community services and facilities	Business and service providers survey	Not to significantly impact on community services and facilities	HPPL and business and service providers	Quarterly	Project human resources data Feedback from service providers
Geographic					
Conversion of land use	Recording of the land use conversion over the life of the Project	To provide a photo reference of the conversion of land use	HPPL and landholders	At key stages during the construction phase	Visual amenity Topography
Physical splintering					
<ul style="list-style-type: none"> Landholders 	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	To reduce the type and frequency of physical splintering	HPPL and landholders	As required	Ability to access Time to access



Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Physical operational impacts	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	To reduce the type and frequency of physical operational impacts	HPPL and landholders	As required	Physical construction impacts as reported by landholders
	Refer to Environmental Management Plan	-	-	-	-
Health and Wellbeing					
Decreased in health	Communication with landholders about the Project (landholder survey)	If a landholder requires support, it is provided in a timely and sensitive manner.	HPPL and service providers (if required) and landholders	As required	Type and length of support provided
Quality of the living environment					
Decrease in the quality of the living environment	Refer to Environmental Management Plan	-	-	-	-
Changes to the natural environment	Refer to Environmental Management Plan	-	-	-	-
Decrease in personal safety and increase to hazard exposure					
▮ Train safety	Refer to Hazard and Risk Management Plan	-	-	-	-
▮ Fire	Refer to Hazard and Risk Management Plan	-	-	-	-
Increase in crime and decreased security	Communication with landholders about the Project (inc. land liaison officers, complaints database and landholder survey)	To not increase crime or decrease security	HPPL and landholders	As required	Type and frequency of crime
	Police reports	To not increase crime or decrease security	HPPL	As required	Type and frequency of crime
Economic and Material Wellbeing					



Potential Impact	Monitoring Tool	Target and Outcomes	Responsibility	Timing	Indicators to be monitored
Increase in workload	Communication with landholders about the Project (landholder survey)	Limit the type and amount of increased workload	HPPL and landholders	As required	Type extra work and hours to do the work
Decrease in income, economic prosperity and resilience	Communication with landholders about the Project (landholder survey)	Limit the decreased income, economic prosperity and resilience of landholders	HPPL and landholders	Quarterly	Income and profit (increase, constant or decrease). Monitor markets and policies that may also impact on business viability.
Disturbance to cattle and other animals	Monitor cattle	Limit the disturbance to cattle	HPPL and landholders	As required	Cattle movements and growth
	Communication with landholders about the Project (landholder survey)		HPPL and landholders	As required	Cattle movements and growth
Increased rates and rents					
Regional community	Monitor rates with Regional Councils and rents with local real estates (service provider and business survey)		HPPL and Regional Councils	Quarterly	Rates and rents
Family and Community					
Alterations to family structure	Communication with landholders about the Project (landholder survey)	Not to adversely affect family structure of the landholders	HPPL and landholders	As required	Number of family and relationship living on the property.



10.3 Reporting Strategy

10.3.1 Reporting to stakeholders

HPPL will report the findings of the monitoring strategy as part of the Good Neighbour Policy, Regional Stakeholder Engagement Program and Cumulative Impact Management. Where impacts have been monitored on landholders, results will be de-identified.

10.3.2 Reporting to the Social Impact Assessment unit

As per the draft SIMP Guidelines, HPPL will report on the monitoring program to the Social Impact Assessment Unit of the Department of Infrastructure and Planning on an annual basis during construction.

HPPL will report on the operational impacts of the Project to the Social Impact Assessment Unit of the Department of Infrastructure and Planning every three years.

As per the draft SIMP Guidelines, reports prepared for the Social Impact Assessment Unit will include:

- ▶ An overview of the effectiveness of implementation;
- ▶ An assessment of progress against nominated performance indicators;
- ▶ An explanation of why any actions were not undertaken as planned and if required; and
- ▶ Recommendations to improve future performance.

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Appendix A

Cross Reference SIA TOR and SIA Report



Cross Reference SIA TOR and SIA Report

Ref #	SIA TOR	SIA Report
4.1	Social	
	<p>The Social Impact Assessment (SIA) should be conducted in consultation with the DIP Social Impact Unit. Matters to be considered include the social and cultural area, community engagement, a social baseline study, a workforce profile, potential impacts and mitigation measures and management strategies.</p> <p>It is recognised that the nature of the assessment may need to take into account the relative profiles of the mine, the rail corridor, and the port facilities, and their respective workforces for construction and operation.</p>	
4.1.1	Social and cultural area	Section 3
	<p>The SIA should define the project's social and cultural area of influence taking into account:</p> <ul style="list-style-type: none"> the potential for social and cultural impacts to occur at the local, district, regional and state level the location of other relevant proposals or projects within the local area, district, or region the location and types of physical and social infrastructure, settlement and land use patterns the social values of the local area, district, and region that might be affected by the project (e.g. including integrity of social conditions, visual amenity and liveability, social harmony and wellbeing, and sense of community) Indigenous social and cultural characteristics such as native title rights and interests and cultural heritage. 	
4.1.2	Community engagement	Section 7
	<p>Consistent with national and international good practice and industry commitment to the concept of a 'social licence to operate', the proponent should engage at the earliest practical stage with likely affected parties to discuss and explain the project, and to identify and respond to issues and concerns regarding social impacts.</p> <p>Therefore, this section of the SIA should detail the community engagement processes through which the proponent conducted open and transparent dialogue with stakeholders with an interest in the project's planning and design stages and future operations including affected local authorities and relevant state authorities. Engagement processes will involve consideration of social and cultural factors, customs and values, including relevant consideration of linkages between environmental, economic, and social impact issues is required.</p>	
4.1.3	Social baseline study	Section 4 and 0
	<p>In concert with a community engagement process, a targeted baseline study of the people residing in the project's social and cultural area is required to identify the project's critical social issues, the potential adverse and positive social impacts, and assist in the development of mitigation and benefit strategies and measures to address these issues. The social baseline study should be based on qualitative, quantitative, and participatory methods, be supplemented by community engagement processes, and reference relevant data contained in local and state government publications, reports, plans, guidelines and documentation, including regional plans and, where available, community plans.</p> <p>The social baseline study should describe and analyse a range of demographic</p>	

and social statistics as determined relevant to the project's social and cultural area including:

- ▮ major population trends/changes that may be occurring irrespective of the project
- ▮ total population (the total enumerated population for the social and cultural area and the full time equivalent (FTE) transient population), 18 years and older
- ▮ estimates of population growth and population forecasts resulting from the proposal
- ▮ family structures
- ▮ age and gender distributions
- ▮ education, including schooling levels
- ▮ health and wellbeing measures
- ▮ cultural and ethnic characteristics
- ▮ the Indigenous population including age and gender
- ▮ income including personal and household
- ▮ labour force by occupation and industry
- ▮ housing costs (monthly housing repayments (percent of dwellings in each category), and weekly rent (percent dwellings in each category), housing tenure type and landlord type, household and family type
- ▮ housing availability and affordability: the rental market (size, vacancy rate, seasonal variations, weekly rent by percentage dwellings in each category); the availability and typical costs of housing for purchase, monthly housing repayments by percentage dwellings in each category; and the availability of social housing
- ▮ disability prevalence
- ▮ the social and economic index for areas, index of disadvantage—score and relative ranking
- ▮ crime, including domestic violence
- ▮ any other indicators determined through the community engagement process as relevant

The social baseline study should take account of current social issues such as details of:

- ▮ the social infrastructure including community and civic facilities, services and networks that help individuals, families, groups and communities meet their social needs, maximise their potential for development, and enhance community wellbeing (for definition see South East Queensland Plan 2005-2026 Implementation Guidelines No. 5: www.dip.qld.gov.au/resources/guideline/Implementationguideline5.pdf)
 - ▮ settlement patterns including the names, locations, size, history and cultural aspects of settlement in the social and cultural area
 - ▮ the identity, values, lifestyles, vitality, characteristics and aspirations of communities in the social and cultural area, including Indigenous communities
-
- ▮ land use and land ownership patterns including rural properties, farms, croplands and grazing areas including on-farm activities near the proposed activities, the number of properties directly affected by the project, and the number of families directly and indirectly affected by the project including Indigenous traditional owners and their families, property owners, and families of workers either living on the property or workers where the property is their



Ref #	SIA TOR	SIA Report
	<p>primary employment</p> <ul style="list-style-type: none"> use of the social and cultural area for forestry, fishing, recreation, business and industry, tourism, aquaculture, and Indigenous cultural use of flora and fauna (e.g. bush tucker and medicinal plants). 	
4.1.4	Workforce Profile	Section 6
	<p>The SIA should include a profile of the workforce which describes:</p> <ul style="list-style-type: none"> the number of personnel to be employed, the skills base of the required workforce and the likely sources (i.e. local, regional or overseas) for the workforce during the construction and operational phases for each component of the project the estimated number of people to be employed during construction and operation, and arrangements for their transport to and from the project areas, including proposed use of regional or charter air services estimates should be provided according to occupational groupings and variations in the workforce numbers for the duration of the project and show anticipated peaks in worker numbers during the construction period. <p>The SIA should provide an outline of recruitment schedules and policies for recruitment of workers, addressing recruitment of local and non-local workers including Indigenous workers and people with a disability</p> <p>If re-locatable camp sites are to be used to accommodate the workforce, details on the number, size, location (shown on a map), management, proximity to the construction site, and typical facilities for these sites should be provided. Information should outline any local government or other regulatory approvals required for establishment and operation of such camps, including building, health and safety and waste disposal purposes.</p> <p>The section should provide information in relation to the location of other major projects or proposals under study within the social and cultural area together with workforce numbers.</p>	
4.1.5	Potential impacts	Section 8
	<p>This section of the SIA should assess and describe the type, level and significance of project's social impacts (both beneficial and adverse) on the local and cultural area, based on outcomes of community engagement processes and the social baseline study. Further it should:</p> <ul style="list-style-type: none"> describe and summarise outcomes of community engagement processes including the likely response of the affected communities, including Indigenous people include sufficient data to enable affected local and state authorities to make informed decisions about how the project may affect their business and plan for the continuing provision of social infrastructure in the project's social and cultural area. If the project is likely to result in a significant increase in the population of the area, then the proponent should consult the relevant management units of the state authorities and summarise the results of the consultations. <ul style="list-style-type: none"> address and describe the impacts including direct, indirect and secondary impacts resulting from any existing projects and the proposed project including the important cause and effect relationships between human activities and resources, ecosystems, traditional Indigenous lands, and human communities. An assessment of the size, significance, and likelihood of these impacts should be considered at the local and regional level taking into account the following possible issues: 	

- key population/ demographic shifts; disruptions to existing lifestyles, the health and social wellbeing of families and communities; social dysfunction including alcohol and drugs, crime, violence, and social or cultural disruption due to population influx
- the needs of vulnerable groups including women, children and young people, the aged and people with a disability
- Indigenous peoples including cultural property issues
- local, regional and state labour markets, with regard to the source of the workforce. This information is to be presented according to occupational groupings of the workforce. In relation to the source of the workforce, information is required as to whether the proponent, and/or contractors, is likely to employ locally or through other means and whether there are initiatives for local employment business opportunities.
- proposed new skills and training related to the project including the occupational skill groups required and potential skill shortages anticipated
- comment on how much service revenue and work from the project (e.g. provisioning, catering and site maintenance) would be likely to flow to the project's social and cultural area, particularly if a fly-in, fly-out workforce is proposed
- impacts of both construction and operational workforces, their families, and associated contractors on housing and accommodation availability and affordability, and land use and land availability. The capability of the existing housing stock, including rental accommodation, to meet any additional demands created by the project is to be discussed at a local, regional and state scale including direct impacts on Indigenous people.

The SIA will include an evaluation of the potential cumulative social impacts resulting from the project including an estimation of the overall size, significance and likelihood of those impacts. Cumulative impacts in this context is defined as the additional impacts on population, workforce, accommodation, housing, and use of community infrastructure and services, from the project, and other proposals for resource development projects in the area which are publicly known or communicated by DIP, if they overlap the proposed project in the same time frame as its construction period.

4.1.6 Mitigation measures and management strategies

Refer to Section 9 and 10

For identified social impacts, social impact mitigation strategies and measures should be presented to address:

- ▮ the recruitment and training of the construction and operational workforces and the social and cultural implications this may have for the host community, including if any part of the workforce is sourced from outside the social and cultural area
- ▮ housing and accommodation issues, in consultation with relevant local authorities and state government agencies, with proposals for accommodating the project workforce and their families that avoid, mitigate or offset any short and medium term adverse effects on housing affordability and availability, including the rental market, in the social and cultural area
- ▮ the demographic changes in the profile of the region and the associated sufficiency of current social infrastructure, particularly health and welfare,



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education, policing and emergency services

- ▶ the adequate provision of education, training and employment for women, people with a disability, and Indigenous peoples.

The proponent should describe any consultation about acceptance of proposed mitigation strategies and how practical management and monitoring regimes are proposed to be implemented.

A draft social impact management plan should be presented that promotes an active and ongoing role for impacted communities and local authorities through the project life cycle from planning through to approvals, construction, operations and decommissioning should be developed. The draft plan should cover:

- ▶ assignment of accountability and resources
 - ▶ updates on activities and commitments
 - ▶ mechanisms to respond to public enquiries and complaints
 - ▶ mechanisms to resolve disputes with stakeholders
 - ▶ periodic evaluation of the effectiveness of community engagement processes
 - ▶ practical mechanisms to monitor and adjust mitigation strategies and action plans
 - ▶ action plans to implement mitigation strategies and measures.
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Appendix B

SIA Stakeholders



SIA Stakeholders and Consultations

Stakeholder	Date Consulted	Type of Consultation
SIAU (DIP)	29 October 2009	Meeting
Barcaldine Regional Council (staff and Councillors)	4 May 2010	Meeting
Alpha (inc. residents and directly impacted landholders)	4 May 2010	Community Information Session
Isaac Regional Council (staff)	5 May 2010	Meeting
Clermont (inc. residents and directly impacted landholders)	5 May 2010	Community Information Session
Whitsunday Regional Council (staff)	6 and 7 May 2010	Meeting
Collinsville (inc. residents and directly impacted landholders)	6 May 2010	Community Information Session
Bowen (inc. residents)	7 May 2010	Community Information Session
Directly impacted landholders	8 – 18 May 2010	SIA Case Studies
Alpha (inc. residents and directly impacted landholders)	19 May 2010	Static display at Show
Clermont (inc. residents and directly impacted landholders)	26 May 2010	Static display at Show
Directly impacted landholders	28 and 29 June 2010	Landholder meeting



Appendix C

SIA Case Studies

The information contained in the case studies is the opinion of the landholders based on the information they had about the Project at the time. GHD has not amended the case studies without the permission of the landholders.



Case Study A

The information contained in the case study has been provided by landholders on a voluntary basis. Identifiers have been removed as the landholder has requested to remain anonymous.

Baseline Information

The property is currently operated as a cattle property, however it has already been impacted by a number of projects over the recent history including pipelines and resource exploration and development.

The property and associated business has already been replanned a number of times and this project adds to the frustration of trying to run a viable cattle business. There is a strong feeling in the region that the mining and infrastructure companies have more power than the landholders because of their ability to gain approval from the State Government to compulsory acquire land.

Prior to the mining and infrastructure companies coming into the region it “used to be heaven on earth”. It was tranquil, quiet and peaceful with a high quality of life. The landholder had big plans for his property, but these are not able to be realised.

Since the relatively recent resource development, the quality of life has significantly decreased, not only from an environmental perspective (increase in noise and decrease in air quality) but also from a social and personal perspective – increase in stress and anxiety, “mentally, I am stuffed”. Having another project planned to significantly impact on the property signals the end of the business and willingness to live on the property. Each project is like having a death in the family; it involves grieving and having to move on. The landholder described his property as his mother, it is like someone who looks after you when you are down, rejoices with you when times are good. The property is more than a home and a place to run a business.

The landholder said that there was nothing left that was positive about living on his property – the mining and infrastructure projects had taken it all away.



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Having to redesign the property and the associated business plan (again).	Negative	n/a	n/a
Uncertainty about the project.	Negative	<p>Hancock Coal to provide detailed work programs to landholders – don't use engineering jargon or project management jargon.</p> <p>Liaise with landholders to design the alignment and discuss how to reduce the impacts on the landholders and their business (consistence liaison officer across the project).</p> <p>Hancock Coal decision makers should be meeting with the landholders and held accountable for their decisions to the landholders.</p>	n/a
Impact on landholder's time, change of focus from running property to dealing with project (property comes second).	Negative	n/a	n/a



Construction Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
<p>Impacts of construction workforce on landholders:</p> <ul style="list-style-type: none"> ▮ Roads ▮ Powerlines ▮ Dams ▮ Cattle 	Negative	<p>Fence the alignment prior to construction.</p> <p>Liaise with landholders during construction, listen to landholder complaints, follow through and provide feedback to the landholders (consistent liaison officer across the project).</p> <p>Undertake a condition report of where and the condition of the landholder's infrastructure – fix up if damaged.</p> <p>Hancock Coal to provide detailed work programs to landholders – don't use engineering jargon or project management jargon.</p> <p>Educate the construction workforce on working in rural areas, including</p> <ul style="list-style-type: none"> ▮ etiquette, ▮ common sense, ▮ appreciation and respect for values and lifestyles of the people's properties on which they will be working. ▮ Respect that cattle are the corner stone for business for landholders, that cattle are living things (leave the gates the way they were found). 	n/a
Decrease in the financial viability of the business.	Negative	<p>Compensation to take into consideration:</p> <p>The costs (financial and personal) to landholders if the project is started and then stalled for some reason and/or the increase in timeframes during construction.</p>	n/a
Changes to working cattle during construction.	Negative	Provide access across the construction alignment.	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Impact on drainage and erosion on the landholders property.	Negative	Clearing of the corridor should include drainage lines for water during construction – don't just bank up the top soil etc on the side of the alignment	n/a
Cumulative impacts on the property and landholders with other projects.	Negative	n/a	n/a
Economic impact on the business time associated with the – decrease in production, decrease in income and revenue, changes to infrastructure and updating of business plan (trying to get a positive return on investments with less land and increased disturbance to cattle), impacts on capitalisation plans to date.	Negative	Include in compensation agreements. Undertake a condition report of where and the condition of the landholder's infrastructure – fix up if damaged.	n/a
The time lapse between updating the property infrastructure and business plan and the time it takes for the cattle to get used to the changes.	Negative	n/a	n/a
Rubbish on landholders property.	Negative	Construction workers to take all rubbish with them, cover up rubbish if it is in the tray of a vehicle. Have someone from the project monitor for rubbish at sites where construction workers have been. Liaise with landholders during construction, listen to landholder complaints, follow through and provide feedback to the landholders (consistent liaison officer across the project).	
Decreased safety of landholders, their workers and construction workers.	Negative	Have "black boxes" in the project vehicles. Liaise with landholders during construction, listen to landholder complaints, follow through and provide feedback to the landholders (consistence liaison officer across the project).	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Impact on landholder's time – having to deal with the problems caused by the construction workforce.	Negative	Make construction workers responsible for their actions. Liaise with landholders during construction, listen to landholder complaints, follow through and provide feedback to the landholders (consistence liaison officer across the project).	n/a
Increased risk of fire.	Negative	Keep work sites clean and tidy. Remove combustibles if and when possible.	n/a
Increased spread of weeds – can't eliminate but can reduce as much as possible.	Negative	Provide wash down facilities. Do not use rental cars on the alignments or to access landholder properties.	n/a



Operational Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Increase in rates and rent for the properties in the region despite the reduction in the amount of land (mining creates a false valuation of land values).	Negative	n/a	n/a
Ongoing impacts	Negative	Liaise with landholders during operation, listen to landholder complaints, follow through and provide feedback to the landholders (consistent liaison officer across the project).	n/a
Economic impact on the business time associated with the – decrease in production, decrease in income and revenue, changes to infrastructure and updating of business plan (trying to get a positive return on investments with less land and increased disturbance to cattle), impacts on capitalisation plans to date.	Negative	Include in compensation agreements Undertake a condition report of where and the condition of the landholder's infrastructure – fix up if damaged.	n/a
Loss of stock.	Negative	Fence and maintain the fence (and land along fence e.g. removal of trees) along the alignment. Compensation for the loss of stock.	n/a



Other

It will be important to monitor the disturbance to cattle for the life of the project, get baseline now and then continue through construction and operation.



Case Study B

The information contained in the case study has been provided by landholders on a voluntary basis. Identifiers have been removed as the landholder has requested to remain anonymous.

Baseline Information

The Property is currently a peaceful place with a quiet environment that allows for an enjoyable lifestyle. The downside of the quiet and enjoyable lifestyle is the decreased level of service provision. The region is enjoying improved environmental conditions since the recent drought. However, there are challenges for primary producers because of the increase in government regulation (e.g. tree clearing) and the decline in beef prices.

There are people working full time and part time on the property, together with a family who resides on the land. There are a minimum of three musters per year.

The property is run as a beef production business. The property owners would like to further develop the property, however are restricted by current government legislation in relation to tree clearing.

Access to the property is provided via public roads in the region and there are internal tracks linking the associated property infrastructure (e.g. paddocks, watering points and stock yards) and provide access to neighbouring properties.

The property owners have developed a property management system that allows for the most efficient use of the property, maximising the profits of the business.

There are a number of government policies, infrastructure or resource development projects leading to increased impacts of this Project, including:

- ▶ Large infrastructure projects;
- ▶ Resource exploration;
- ▶ Impact of rail on other properties;
- ▶ Tree clearing policies; and
- ▶ Regulations for beef production.



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Uncertainty – not being able to plan for the future	Negative	n/a	n/a



Construction Stage

Impacts identified in construction are based on the assumption that the railway corridor will be fenced prior to construction and all works will take place within the corridor only. The fences need to be appropriate for cattle (barbed wire on the top strand, 4 barbed wires, pipe or posts every 3-4 meters with droppers). The impacts have not been prioritised as they are all equally important.

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Noise impacts on people living and working on the property caused by machinery and construction workers.	Negative	Don't build it at all. Keep noise to a minimum. Construction workforce to stay within the corridor.	Noise monitors.
Noise impacts on cattle (higher impacts on introduced cattle compared to cattle that were born next to the noise source).	Negative	Don't build it at all.	Monitor the movement and growth of introduced cattle.
Dust impacts on people living and working on the property.	Negative	Don't build it at all. Keep dust to a minimum and use of water trucks	Dust monitoring.
Decrease in business profits due to loss of production linked to decreased quantity of stock.	Negative	Don't build it at all.	n/a
Reduced access into and within the Property.	Negative	Don't build it at all. Provide and maintain permanent public and associated private road access into and within the property, to avoid the railway corridor (for people and stock).	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Increased risk and decreased safety of people living and working on the property – access to and within the property.	Negative	Provide and maintain permanent public and associated private road access into and within the property to avoid the railway corridor (for people and stock)	n/a
The current alignment of the railway cuts the property leaving a total amount significant amount of unworkable land, (land that has been severed from the property)	Negative	Don't build it at all. Realign to reduce amount a unworkable land. Compensation for the loss of workable land (as well as the land lost to the rail alignment)	n/a
Other areas of severed land are large enough to be worked however they have been cut off from required infrastructure (e.g. cattle yards, watering points).	Negative	Don't build it at all. Negotiation with landholders about the location of the railway Provide access for cattle and machinery to required infrastructure, for example underpasses or overpasses and/or provide compensation to landholders to establish new infrastructure	Monitor the movement and growth of cattle



Operational Stage

The impacts have not been prioritised as they are all equally important.

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Increased risk and decreased safety of people living and working on the property – access to and within the property	Negative	<p>Don't build it at all.</p> <p>Provide and maintain permanent public and associated private road access into and within the property to avoid the railway corridor (for people and stock)</p> <p>Where there is a railway crossing over a public road, provide warning lights as a bare minimum or boom gates.</p>	n/a
Coal dust impacts	Negative	<p>Don't build it at all.</p> <p>Design train carriages to reduced coal dust.</p>	Monitor the coal dust
Noise impacts on people living and working on the property	Negative	Don't build it at all.	Monitor noise
Noise impacts on cattle (introduced versus cattle were born next to the railway)	Negative	Don't build it at all.	Monitor the movement and growth of introduced cattle
Inconvenience – harder to muster and difficulty of moving stock	Negative	Don't build it at all.	n/a
Presence of operational workforce	Negative	<p>Don't build it at all.</p> <p>Stay within the corridor.</p>	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Loss of cattle on railway	Negative	<p>Don't build it at all.</p> <p>Hancock Coal to maintain the fences and railway corridor.</p> <p>Hancock Coal to provide compensation for loss of stock, if struck by trains.</p>	n/a
Increased risk of fire started by the trains	Negative	<p>Maintain the locomotives and tracks (maintain spark arresters on the locomotives).</p> <p>Maintain fire breaks (slashing and/or controlled burning).</p> <p>Compensation for fires started by the trains.</p>	Monitor the number, location and extent of fires.
Decrease in business profits due to loss of production linked to decreased quantity of stock	Negative	n/a	n/a



Other

It is important that the results of the monitoring program be released.



Case Study C

The information contained in the case study has been provided by landholders on a voluntary basis. Identifiers have been removed as the landholder has requested to remain anonymous.

Baseline Information

The property currently operates as a cattle station. Working on a cattle station is hard work, it starts at dawn and doesn't end till dusk. Mustering is a large part of working on a cattle station. Mustering includes:

- ▶ Drafting;
- ▶ Branding and marking; and
- ▶ Tagging.

It is getting harder to attract skilled people to work on cattle stations in the region due to the comparatively higher wages paid by the mines. It is also getting harder to make money out of cattle because of the closure of abattoirs.

The property is accessed by public roads and has an internal network of private roads and other required infrastructure such as windmills, watering points, dams, stock yards etc.

The property is currently impacted by a number of other projects including:

- ▶ Large infrastructure projects;
- ▶ Resource exploration;
- ▶ Impact of existing railways on other properties;



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Detailed design phase takes longer because the engineers do not listen to local knowledge.	Negative	DO NOT BUILD THE PROJECT	n/a
Stress and anxiety of landholders if the compensation agreement does not include all the relevant information, i.e. rail alignment changes or key infrastructure locations are decided after the compensation agreement.	Negative	DO NOT BUILD THE PROJECT	n/a
Inconsistency of staff working with landholders.	Negative	DO NOT BUILD THE PROJECT Have consistent staff working with landholders	n/a
Increased significance of impacts if there is another drought.	Negative	DO NOT BUILD THE PROJECT Take into consideration the impacts on the properties, property owners, workers and animals during the drought.	n/a
Decrease in property value.	Negative	DO NOT BUILD THE PROJECT	n/a



Construction Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Noise impacts on the homesteads close to the corridor alignment.	Negative	DO NOT BUILD THE PROJECT Redesign the railway so it keeps away from homesteads.	n/a
Pressure on existing water sources such as bores if the project uses ground water during construction.	Negative	DO NOT BUILD THE PROJECT	n/a
Alignment splits productive paddocks in half and severs the required paddock infrastructure (e.g. watering points, stock yards etc).	Negative	DO NOT BUILD THE PROJECT Access points to cross the railway will need to be provided.	n/a
Changes to water drainage.	Negative	DO NOT BUILD THE PROJECT	n/a
Increased risk of fire	Negative	DO NOT BUILD THE PROJECT Need to identify: <ul style="list-style-type: none"> Who is going to put out a fire if one starts Need to take into consideration the whirly winds that occur after lunch Need to be able to notify landholders and authorities if there is a fire Take into consideration the impact of fire and other infrastructure, e.g. powerlines, gas pipelines etc 	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Noise and dust will make the lives of people living and working on the property unbearable.	Negative	DO NOT BUILD THE PROJECT	n/a
Inconsistency of staff working with landholders.	Negative	DO NOT BUILD THE PROJECT Have consistent staff working with landholders.	n/a
Cattle being hurt or killed during construction.	Negative	DO NOT BUILD THE PROJECT The corridor needs to be fenced prior to construction starting.	n/a
Loss of access to land either side of the construction corridor.	Negative	DO NOT BUILD THE PROJECT Provide access across the construction corridor prior to construction.	n/a
Decrease in property value.	Negative	DO NOT BUILD THE PROJECT	n/a



Operational Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Downstream impacts of coal dust on the Great Barrier Reef.	Negative	DO NOT BUILD THE PROJECT Hancock Coal should be made to meet the same restrictions as landholders in relation to downstream impact prevention on the Great Barrier Reef.	n/a
Increased risk of fire	Negative	DO NOT BUILD THE PROJECT Need to identify: <ul style="list-style-type: none"> Who is going to put out a fire if one starts Need to take into consideration the whirly winds that occur after lunch Need to be able to notify landholders and authorities if there is a fire Take into consideration the impact of fire and other infrastructure, e.g. powerlines, gas pipelines etc. 	n/a
Mustering will be made more difficult; need to consider the impacts of the railway noise and dust while mustering (e.g. mustering with helicopters).	Negative	DO NOT BUILD THE PROJECT	n/a
Inconsistency of staff working with landholders.	Negative	DO NOT BUILD THE PROJECT Have consistent staff working with landholders.	n/a
Decrease in property value.	Negative	DO NOT BUILD THE PROJECT	n/a



Other

Need to have clear communications protocols.

It is important to provide copies of the draft EIS to landholders for free.



Case Study D

The information contained in the case study has been provided by landholders on a voluntary basis. Identifiers have been removed as the landholder has requested to remain anonymous.

Baseline Information

The property is the home and place of business for current and future generations of the family.

The property as a home

The significance of the property as a home and the associated connection to the land can not be underestimated. As a home, the property (and not just the house) is where memories are made. The property is intricately linked to the family identity; it is their heritage.

The property as a business

The property also supports a viable cattle business. The property owners have a strong and passionate connection to the land based on the many years invested in developing the property so it and the business work as efficiently and sustainably as possible. The property has been developed as per the business plan, focusing on fattening beef cattle for market (weight for age). The development of the property has involved the blood sweat and tears of the individual family members working together over a number of generations. The family have successfully managed the property through floods and droughts.

The business plan includes the following conditions:

- ▶ requirements of the relevant cattle markets (domestic and/or export);
- ▶ conditions, taking into consideration the geographical characteristics of the land and water sources, type of pastures, weather conditions (e.g. level of humidity, dry/wet seasons) and parasites (e.g. ticks and flies);
- ▶ carrying capacity of the land;
- ▶ temperament of the cattle (which can change as the cattle get older); and
- ▶ financial commitments.

The implementation of the business plan can take a number of generations of cattle to determine if the decisions were successful or not, for example the decision to change or mix breeds of cattle, the method of working the paddocks and using different types of infrastructure (e.g. different types of water point infrastructure).

The cattle industry is known as being “reliably unreliable” because of the changing market requirements, price offered for cattle and the different environmental conditions – all of which are out of the control of the property and business owner. However there is a level of enjoyment of running a cattle property including:

- ▶ the lifestyle;
- ▶ working with family;
- ▶ the clean environment (don't have the noise, smog or pollution like the cities).



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
The start of the severance of the connection to the land and associated animals.	Negative	Do not proceed with the project.	n/a
<p>Uncertainty – unable to plan for the future until Hancock Coal decide if the project and the final alignment.</p> <p>The pressure of having to decide and plan now for the future with a high degree of unknowns.</p>	Negative	<p>Let the landholders know as soon as possible if the project is going ahead or not.</p> <p>Allow landholders time to plan for the changes, e.g. amend business plans, reconfigure fencing and other infrastructure etc.</p> <p>Hancock Coal and the State Government to provide landholders with the future projections/plans for the corridor, e.g. putting gas or water pipelines in the corridor.</p> <p>Landholders need to know of other infrastructure being planned for the corridor (e.g gas or water pipelines. If there is to be more than the railway, the government needs to compensate the landholders for all the planned infrastructure not just the railway. Because the government will be paid from the gas royalties and SunWater charges for water (user pays).</p> <p>Ensure the project is finalised as much as possible prior to negotiating the compensation agreements.</p> <p>Compensation agreements take into consideration more than just the land value, to take into consideration</p> <ul style="list-style-type: none"> ▶ the financial impacts on the business and the operation of the business; ▶ Compensation to take into consideration if 	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		<p>there are 'new land titles' and the potential for increased rates from the Council;</p> <ul style="list-style-type: none"> ▸ If the land impacted is freehold and through compensation packages landholders have to purchase more land, then the land purchase is made freehold by the State Government (if it is not already freehold). Also the landholders should NOT be charged stamp duty or other costs associated with buying the new property. 	
Anger – Hancock Coal driving decisions on the property.	Negative		n/a
Decrease in property value. Property value would realistically decrease by 10% of the market value, plus an additional 3% CPI increase each year for 30 years (or the time the railway is impacting on the property) on freehold land.	Negative	Financial compensation	n/a
Divisions between families and existing social networks.	Negative	People will just have to work it out.	n/a



Construction Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
The cattle business will go broke because of the disturbance to cattle.	Negative	Work with Hancock Coal to prevent the business from going broke. Compensation package to be finalised and relevant payments made prior to construction beginning.	n/a
Change the grazing and feeding pattern of the cattle.	Negative	Reconfigure fencing and infrastructure (e.g. roads, watering points, stockyards) when the alignment is being fenced. Hancock Coal to pay and organise the fencing to take place. Provide access across the corridor during construction – do not cut the access during the construction. Need to leave some high ground for the cattle to stand on during the wet season and winter (colder temperatures).	n/a
Change in the way mustering is undertaken due to the reconfiguration of fences and construction noise (large impact).	Negative	This is something landholders will have to work through.	n/a
Decrease in property value.	Negative	To be negotiated between Hancock Coal and the landholders prior to the project starting.	n/a
Noise disturbing cattle, introduced cattle feed away and stay away from noise even if there is good pasture and water sources and cattle (especially weaners) rushing at night with the noise. Cattle already rush with natural noises such as a plain turkey being spooked or wild pigs (sow and piglets) travelling walking through the paddock.	Negative	Monitoring of cattle prior to construction, during construction and during operation – monitoring to be undertaken by an objective third party (e.g. university). Monitoring program to be designed in consultation with landholders. Hancock Coal and landholders agree to use the evidence.	Monitoring the cattle together with a third party, must be started as soon as possible.



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		<p>It would be up to Hancock Coal to prove that cattle were not being impacted, rather than landholders having to prove that the cattle is being impacted.</p> <p>It is important to listen to the landholders about how it is impacting their business.</p>	
Concern for the safety of women and children living on the property.	Negative	<p>Construction camps should:</p> <ul style="list-style-type: none"> ▶ have a no drug and no alcohol policy (dry camp) ▶ have random testing of construction workforce ▶ rosters that allow construction workers to see their families on a regular basis ▶ only allow construction workers out of the camps to work or to go home ▶ no hunting when not on roster (e.g. if workers live locally) ▶ Fence the construction camp within the construction corridor so workers do not access properties. If working on the project – stay on the Hancock Coal land. 	n/a
Decreased safety of animals such as working dogs and horses because of the vehicles associated with construction travelling along and to the corridor. It can take up to seven years to train a lead working dog. Working dogs are critical to running the property, particularly mustering. Loosing a working dog is the equivalent of loosing an family member and employee.	Negative	<p>Warning signs to be erected along the corridor to warn people driving along the corridor that there could be animals in the corridor (particularly prior to fencing).</p> <p>Speed limit on vehicles travelling in the corridor.</p> <p>Induction training for employees and contractors to include awareness about how</p>	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		landholders use their working dogs and the importance of keeping to the speed limit and being aware. Have to get the working dogs used to the new noises and people.	
Pig and kangaroo hunting – increased access to landholders properties because of the construction corridor.	Negative	The alignment and camps need to have appropriate security to ensure the workers do not go hunting or tell their mates about good hunting spots along the alignment.	n/a
Impact from fire (large impact if there is a fire)	Negative	Landholders will have to work with Hancock Coal.	n/a
Impacts from parthenium weed.	Negative	Landholders may have to destock some paddocks during the wet season.	n/a
Changes to the environment.	Negative	Design the railway to take into consideration the geographically isolated storms which can flood small dry creeks and gullies.(



Operational Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Noise disturbing cattle, introduced cattle feed away and stay away from noise even if there is good pasture and water sources and cattle (especially weaners) rushing at night with the noise. Cattle already rush with natural noises such as a plain turkey being spooked or wild pigs (sow and piglets) travelling walking through the paddock.	Negative	Loss of production will have to be addressed in the compensation package. Build more secure fencing to keep the cattle in the paddocks (e.g. cattle rail on the corners of the paddocks)	Monitoring the cattle together with a third party, must be started as soon as possible.
Impacts of coal dust – cattle will not eat the pasture with coal dust on it.	Negative	Design and use covers for the wagons so there is no coal dust.	n/a
Impacts of coal dust on people living and working near the alignment.	Negative	Design and use covers for the wagons so there is no coal dust.	n/a
Decreased safety for landholders and their employees because of the high frequency of working near or going over the railway (e.g. to check watering points, mustering, maintenance etc)	Negative	Inform the landholders of how many trains per day and when. Provide access across the railway for landholders, either overpasses or underpasses.	n/a
Decreased safety of animals such as working dogs and horses because of the train and maintenance vehicles. It can take up to seven years to train a lead working dog. Working dogs are critical to running the property, particularly mustering. Loosing a working dog is the equivalent of loosing an family member and employee.	Negative	Warning signs to be erected along the corridor to warn people driving along the corridor that there could be animals in the corridor. Speed limit on vehicles travelling in the corridor. Induction training for employees and contractors to include awareness about how landholders use their working dogs and the importance of keeping to the speed limit and being aware. Train the working dogs and allow them to get used to the train. However this will take	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		more time and distract from running the business as it used to be prior to the railway, so it will increase the workload.	
<p>Pig and kangaroo hunting – increased access to landholders properties because of the construction corridor.</p> <p>This will be a very sensitive issue for Hancock Coal and the landholders. There is an existing history of pig hunters causing problems for landholders. If not handled sensitively, the pig shooters could “drop a match” (which they have threatened some landholders with) and burn out property and their neighbours as well.</p>	Negative	<p>Security.</p> <p>Train drivers to report any vehicles/people in the corridor (pig hunters may have their lights turned off to access the corridor and when a train is coming).</p> <p>Fly the alignment on a random basis (dawn and dusk – when pig hunters are moving).</p>	n/a
Impact from fire.	Negative	Spark arresters are to be installed and maintained.	n/a
Impacts from parthenium weed where there is black soil and natural grasses near and away from the corridor.	Negative	Landholders will have to destock a paddock during the wet season.	n/a



Other

Example of Cattle Disturbance

As part of the SIA case studies, the SIA team met with some landholders on their property. One of the landholders took the SIA team for a drive around the property to better explain the potential impacts. During the drive, a particular watering point was accessed in a 1,800 – 2,000 acre paddock with 200 head of cattle (weaners) that had been weaned for two to three weeks. The landholder kept a record of the number of weaners at the watering point (refer to the table below). The landholder made the conclusion that that if there is no vehicle noise, the cattle will return to the watering point after three to four days.

Date	Access to Watering Point	Number of Cattle
15 May 2010	4WD	18-20
16 May 2010	4WD	0
17 May 2010	4WD	0
18 May 2010	4WD	0
19 May 2010	4WD	0
20 May 2010	Tractor & Slasher	33
21 May 2010	4WD	0
22 May 2010	4WD	0
23 May 2010	4WD	0
24 May 2010	4WD	0
25 May 2010	4WD	0
28 May 2010	4WD	0
29 May 2010	4WD	0
30 May 2010	4WD	22
31 May 2010	did not go out	-
1 June 2010	4WD	0
2 June 2010	4WD	0
3 June 2010	4WD	0
4 June 2010	4WD	0
5 June 2010	4WD	0
6 June 2010	4WD	0
7 June 2010	4WD	0
8 June 2010	did not go out	-
9 June 2010	4WD	1 steer
10 June 2010	4WD	0



Date	Access to Watering Point	Number of Cattle
11 June 2010	4WD	0
12 June 2010	4WD	0
13 June 2010	4WD	0
14 June 2010	4WD	0
15 June 2010	4WD	0
16 June 2010	4WD	0
17 June 2010	4WD	7
18 June 2010	4WD	12
19 June 2010	4WD	approx 35
20 June 2010	4 Wheeler Motorbike	5

Cumulative impacts of a number of projects in the feasibility stage, Hancock Coal, Waratah Coal, pipelines etc.

The importance of monitoring impacts.



Case Study E

The information contained in the case study has been provided by landholders on a voluntary basis. The landholder has requested to remain anonymous and so any identifiers have been removed.

Baseline Information

The property currently supports a positive and uncomplicated lifestyle that presents an alternative to living in urban centres and the pressures that come with the urban lifestyle (e.g. travelling to work, traffic etc).

There are strong social networks between the diversity of people who live in the region. The people living in the region have a strong work ethic and an equally strong ethic to celebrate life's successes. However, the isolation can present its own challenges to maintain social networks external to the region (e.g. the limited communication channels such as the internet and mobile phone networks).

The property is focused on cattle production. There are a number of different people living and working on the property depending on the amount and type of work to be undertaken. For example, the number of people working on the property increases during mustering which occurs two times a year (minimum). Management of the property takes into consideration the wet season and other environmental variables and constraints (such as the black soil).

Property owners would like to further develop the property to ensure the sustainability of the business.

The property can be accessed by a public road and the property is accessed and managed internally through a series of roads, tracks and cattle laneways.

There are a number of infrastructure or resource development projects leading to increased impacts of this Project, including:

- ▶ Large infrastructure projects; and
- ▶ Resource exploration.



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Uncertainty about the future.	Negative	Landholder liaison officer Updates on progress of project Advise prior to entry – applicable to all contractors and workers associated with the project.	



Construction Stage

Impacts identified during construction are based on the assumption that the railway corridor will be fenced prior to construction and all works will take place within the corridor only. The fences need to be appropriate for cattle (barbed wire on the top strand, 4 barbed wires, pipe or posts every 3-4 meters with droppers). Extra barbed wire may need to be inserted in lower areas, e.g. washaways and gullies etc.

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Decreased safety of landholders and other public road users due to an increased traffic volumes and different types of vehicles on the public access road to the property	Negative	<p>Fence the alignment for and then stay within the alignment, however when driving outside the alignment:</p> <ul style="list-style-type: none"> Common courtesy for existing public road users. Drive to road conditions (public and private). Include public and private road safety in toolbox meetings. Set a speed limit for Project vehicles on public and private roads. Ask landholders for information when they will be mustering, moving cattle or cattle trucks on the public and private roads and modify the construction traffic movement to reduce impact on landholders. Car pool – reduce the number of 4WDs on the public and private roads. No speeding through homestead areas, no exhaust breaking, no sounding of horn etc at any time. Awareness of possibility of stock, quad bikes, horse 	Queensland Police to conduct random speed testing (cameras).



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		<p>riders etc being on the road at any time.</p> <ul style="list-style-type: none"> Awareness of visual difficulties on blind bends, gullies and when driving directly into the sun at both dawn and dusk. <p>Contractors' liaison officer must be willing to act on landholders' advice about workers behaviour and issues of concern.</p>	
Increased pressure on the communications network (mobile phones and internet), current networks slow down at night when people are on the phone and using the internet.	Negative	Design telecommunication networks to allow landholders access it (e.g. mobile phone and internet).	Community liaison person working with landholders to keep them informed and following up on feedback from landholders.
Decrease in the security of people and infrastructure	Negative	<p>Have closed accommodation camps.</p> <p>Notify landholders in advance if construction workers do have to come onto property.</p>	Community liaison person working with landholders to keep them informed and following up on feedback from landholders.
Construction noise - people	Negative	<p>Keep construction to daylight hours only.</p> <p>Keep accommodation camps away from homesteads.</p>	Noise monitoring
Construction noise – spooking cattle. It is a lot harder to work with cattle that have been disturbed, they are less manageable, particularly during calving.	Negative	<p>Provide regularly updated work schedules.</p> <p>Landholders will have to relocate cattle away from the construction areas. However the cattle are territorial and will try to go back to the paddock – this could result in fencing damage.</p> <p>Compensation for extra mustering to move stock and</p>	Monitor cattle movements in relation to construction noise.



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		associated labour and materials.	
Dust impacts on pastures	Negative	Wet down the public and private roads being used by construction traffic and other causes of dust.	Air quality monitoring
Reduction of public and private road quality used by the construction traffic	Negative	<p>Upgrade public and private roads to a standard required prior to construction traffic using them; maintain roads so other road users are not negatively impacted.</p> <p>Upgrade grids to handle increased volume of heavy vehicles.</p> <p>Regular cleaning out of grids to ensure effectiveness in stopping stock from crossing.</p> <p>Awareness of machine operators working on roads as to appropriate road surface materials.</p>	n/a
Use of helicopters causing cattle to be less manageable especially at mustering time, unsettled cattle leads them breaking fences and disturbed at calving time etc	Negative	<p>Regular updated work schedules.</p> <p>Provide as much notification to landholders as possible as to the days and time the helicopters are planned to be used.</p> <p>Compensation to cover additional mustering and associated labour and material costs.</p>	n/a
Damage or breaking fences, clearing soil away from	Negative	Awareness of machine operators.	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
existing posts, pickets etc.			
Erosion in paddocks caused by dish drains (channelling water runoff from the roads)	Negative	Awareness of machine operators.	n/a
Increased chance of fires caused during construction	Negative	<p>Implement “No smoking” working environment.</p> <p>Construction sites and vehicles to carry appropriate fire fighting equipment – do not rely on the landholders or QFS to provide fire fighting resources.</p> <p>Construct fire breaks prior to construction.</p> <p>Compensation for loss of pasture, stock and infrastructure should be the last resort – prevention should be the highest priority.</p>	n/a
Redevelopment and implementation of management plans for the property to take into consideration the construction and operation of the railway (reconfiguration of property infrastructure e.g. water points, stock yards, fences, laneways and access tracks across the property).	Negative	<p>Compensation for the redevelopment and implementation of management plans and the loss of grazing land.</p> <p>Provide access between paddocks for people, cattle and machinery (e.g. underpasses or overpasses).</p> <p>When the alignment is being fenced, the fencing contractor also fences the reconfigured infrastructure).</p>	n/a
Spreading of weeds	Negative	<p>Stay inside the alignment.</p> <p>Provide appropriate revegetation and rehabilitation.</p> <p>Carry out appropriate weed control management plan</p>	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		(in consultation with landholders) to avoid the spread of weeds outside the easement.	
Impacts on the black soil including erosion, weed spread and sediments, nutrients having repercussions on the reef.	Negative	Applicable revegetation and prevention methods, weed management and barricading.	n/a
Tree clearing	Negative	In consultation with landholders rehabilitate where possible, burn (if appropriate) or remove felled trees (don't leave them behind as it will act as fuel for fires).	n/a
Security problems – gates being interfered with.	Negative	Gates must be left the way they were found. Contractors' liaison officer must be willing to act on landholders' advice about workers behaviour and issues of concern.	n/a



Operational Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Noise impacts on people – increased noise impact at night	Negative	n/a	Noise monitoring
Noise impacts on cattle (particularly when sounding horns at public and private road crossings)	Negative	n/a	Noise monitoring
Decreased safety for people associated with public road crossings and crossings on the property	Negative	Installation and maintenance of boom gates. Provide under or over passes.	
Decreased safety for cattle	Negative	Maintain cattle grids and fences at public and private road crossings.	
Increased chance of fire – locomotives and carriages	Negative	Maintain fire breaks on both sides of the track. Provide fire fighting resources to landholders along the alignment, so property owners can protect their property if there is a fire. Compensation for loss of pasture/stock should be the last resort.	
Due to isolation, landholders may be the first on the scene of an accident	Negative	Emergency contacts for landholders.	



Other

It is important that the results of the monitoring program be released.

Monitor other impacts:

- ▶ Water flow and quality – ground and stream water;
- ▶ Soil – wash outs and erosion; and
- ▶ Revegetation and rehabilitation.



Case Study F

The information contained in the case study has been provided by landholders on a voluntary basis. The landholder has requested to remain anonymous so any identifiers have been removed.

Baseline Information

The property is home and a cattle business. The recent developments in the region have meant that changes are occurring on the property and to people living there. There are already impacts on the property from other projects (such as pipelines and resource exploration and development) and the associated workforces. “The bush isn’t the bush anymore”; with the transition of agricultural communities to mining communities, with their different values and ways of living.

The existing mining industry has created a skills shortage for property owners who find it increasingly difficult to attract workers and contractors because they can’t meet the conditions offered by the mining companies. With the resource development industries in the region and associated impacts, it is becoming harder and harder to make a profit.

There are also government restrictions put on the landholders, they can’t clear paddocks due to new regulations that prevent tree clearing.

It is important that people working on the project understand cattle and their characteristics, for example:

- ▶ They ‘spook’ easily, any strange noise can scare the cattle and they are reluctant to return to the location where they were spooked;
- ▶ Herds consist of leaders, followers and there are a portion who do their own thing; and
- ▶ Cattle can be inquisitive, they will investigate strange situations when they feel safe to do so.



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Uncertainty makes it difficult to plan for the future, currently "living in limbo"	Negative	<p>Provide landholder with the information they need and in a timely fashion so changes can be made to the property business plans, cattle and infrastructure.</p> <p>Ensure that there is a consistency of people working with landholders, so they don't have to keep repeating themselves to different people across the project timeframes.</p> <p>Finalise the alignment with landholders to reduce the impacts.</p> <p>Understand the different values of people in rural areas to those in the cities – different concept of time (what is considered a short and long time).</p>	n/a
Frustration with another project impacting the viability of the property.	Negative	n/a	n/a
Decreased property value.	Negative	Compensation	
Decrease in the ability of landholders to borrow money from the banks – banks know about what is going on and will be less likely to lend money to landholders.	Negative	n/a	n/a
Decrease in the physical and mental health of landholders (e.g. increase in stress levels leading to an increase in blood pressure, lack of sleep and an increase in anti-social behaviour).	Negative	n/a	n/a
Breakdown of family units as families decide on the best way to deal with the situation.	Negative	n/a	n/a



Construction Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Increased timeframes to construct the railway.	Negative	Plan for the wet season and any unforeseen actions that may delay the construction.	n/a
Cattle being disturbed (noise and dust).	Negative	n/a	Monitor cattle disturbance
Loss of access to infrastructure (e.g. stock yards, watering points etc).	Negative	Provide access across the construction alignment. Redesign alignment to reduce impact on paddocks and infrastructure.	n/a
Wildlife being disturbed (noise and dust).	Negative	n/a	n/a
Decreased safety of workforce – increase in insurance costs and increased work for landholders to conduct inductions of how to work on the property during the construction of the railway.	Negative	n/a	n/a
Increased risk of fire, particularly during the dry season, if there has been a 'good wet season' there is more fuel to burn during the dry.	Negative	Mitigation should focus on fire prevention	n/a
More people having access to the property.	Negative	All vehicles and workers should be easily identifiable as working on the Hancock Coal project, e.g. the same work shirts and logos on vehicles.	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Increased spread of weeds, it needs to be understood that seeds can fall in the corridor however, they can be transferred on to the neighbouring land and grow there. By having the alignment watered down on a regular basis (for dust suppression) it creates a false environment for weeds to grow.	Negative	<p>Focus on not transferring the seeds in the first place.</p> <p>Spray for obnoxious weeds at the start of the construction, end of construction and as required in between.</p> <p>Fence and stay within the construction alignment.</p> <p>Have supervised wash down points (including the removal of wheels).</p>	n/a



Operational Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Increase in the rates and rent paid on the property, however will have less land and less cattle to pay the bills.	Negative	n/a	n/a
Decreased safety of workforce – increase in insurance costs and increased work for landholders to conduct inductions of how to work on the property during the operation of the railway.	Negative	n/a	n/a
Increased risk of fire, particularly during the dry season, if there has been a 'good wet season' there is more fuel to burn during the dry.	Negative	Mitigation should focus on fire prevention.	n/a
Permanent changes to the business model and layout of the property.	Negative	n/a	n/a
Increased spread of weeds, it needs to be understood that seeds can fall in the corridor however, they can be transferred on to the neighbouring land and grow there. By having the alignment watered down on a regular basis (for dust suppression) it creates a false environment for weeds to grow.	Negative	<p>Focus on not transferring the seeds in the first place.</p> <p>Spray for obnoxious weeds as required during the operation of the railway.</p> <p>Fence and stay within the alignment when conducting maintenance works on the line.</p> <p>Have supervised wash down points (including the removal of wheels).</p>	n/a
Increased levels of stress for people and cattle when trying	Negative	n/a	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
to get them from one side of the railway to the other.			
Restructuring of the business plan as get used to the changes and the time lag to see if the business plan is working or not.	Negative	Allow for unforeseen impacts in the compensation negotiations	n/a
Decreased safety of workforce – increase in insurance costs and increased work for landholders to conduct inductions of how to work on the property during the construction of the railway.	Negative	n/a	n/a
Decrease in the productivity (weight for age) of stock leading to a decrease in the viability of the business.	Negative	n/a	n/a
Disruption to cattle (noise, coal dust on pastures).	Negative	Have a system of “reverse environmental offsets”, where Hancock Coal provide land that is able to be cleared for property owners to stock.	n/a
Decrease in property value (was the retirement fund).	Negative	n/a	n/a



Other

Interested in knowing the results of the monitoring.



Case Study G

The information contained in the case study has been provided by landholders on a voluntary basis. The landholder has requested to remain anonymous and so any identifiers have been removed.

Baseline Information

The property has been in the family for a number of generations. There is a high level of passion for the land and its' lifestyle. It is quiet and peaceful, it isn't like the rat race in the city.

The property is a great place to raise children because of the freedom and responsibility children learn on a working cattle station. It is important to understand that the property is not isolated, rather secluded. The seclusion of property allows for a quietness and peacefulness which is one of reasons why the owners love to live on the property.

The property also has its challenges, managing the stock and infrastructure through droughts, floods, bush fires and downturns in the beef markets.

The owners plan to continue to develop the property, including pastures and water points to increase production. Running a successful cattle property is all about getting the cattle to put on weight in an efficient and effective manner. The owners would like to hand over the property to their children in a condition that is as sustainable as possible. The property is currently run as a successful family business which involves all generations of the family. By working as a family it increases the family bonds. Children off cattle properties are taught how to be business savvy, often raising their own poddy calves and seeing them through the whole breeding process.

Access to the property is via a public road and there is a network of internal private roads and tracks with associated infrastructure to operate the cattle.

People in this region are honest and hard working, "salt of the earth". There is a very close connection between the families in the region. They actively support each other through the good and bad times.



Feasibility Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Reduction in the financial value of the property as soon as the alignment was announced by Hancock Coal.	Negative	n/a	n/a
Stress of the unknown, potential for mental illnesses such as depression and anxiety.	Negative	Provide information on the increase in the numbers of trains on the line over time (beyond the life of the Alpha Coal Project).	n/a
Inability to make informed decision about the future, particularly in relation to property management and upgrade.	Negative	Compensation for the re-planning of property and business for the time that the railway is operating.	n/a
Pressure placed on relationships within the family.	Negative	n/a	n/a
Pressure placed on relationships between families in the region.	Negative	n/a	
Taking the focus away from the property, time spent dealing with the Hancock Coal and their consultants/contractors.	Negative	n/a	n/a
Concern for the safety and security of women and young families on properties near construction camps.	Negative	<p>Location of the accommodation camp shouldn't be near homesteads or on properties where there are women and young families.</p> <p>Community consultation with the camp managers, present the code of conduct for the camp to a landholder meeting and seek feedback.</p> <p>Fence the alignment prior to construction and do not allow the</p>	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		construction workforce outside the construction alignment.	
Increased land take associated with the passing lanes.	Negative	Location of the passing lanes should be on larger sized properties where the 'land take' is not as significant compared to smaller sized properties.	n/a
<p>Replan the future of operation of property and business to take into consideration (the railway will be a permanent part of the property):</p> <ul style="list-style-type: none"> Access across the alignment during construction and operation; Realignment of fences, stock yards, watering points and other associated infrastructure. 	Negative	Compensation for the re-planning of property and business for the time that the railway is operating.	n/a
Anger that there appears to be one set of rules for landholders and another set for the mining companies, e.g. the ability to clear trees and GBR reporting conditions.	Negative	n/a	n/a



Construction Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Construction camps – concern of the construction workforce.	Negative	Construction workers/contractors to carry identification. If a construction worker breaks the code of conduct – they should lose their job	n/a
Construction workers, materials and equipment impacted on landholders property and business operations.	Negative	Fence the alignment prior to construction and do not allow the construction workforce, materials and equipment outside the construction alignment. The fence needs to be designed to suit the soil in which it is to be erected. Plan the construction of the railway to take into consideration of existing and future infrastructure e.g. water pipelines from tanks and/dams to watering points, power lines etc.	n/a
Skills shortage for the properties in the region (lessons learnt from other areas with mines and associated infrastructure).	Negative	n/a	n/a
Increased risk of fires (increased amount of fuel after a big wet seasons).	Negative	No smoking on site. Build fire breaks prior to construction and maintain throughout the life of the project. Keep the construction site tidy and free of any combustibles.	n/a
Decrease in public and private road quality.	Negative	Do not construct in the wet. Conduct a baseline study on the current road conditions.	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
		Upgrade the roads to a suitable condition for the traffic and maintain.	
Decrease in the seclusion of the property because of the access the construction corridor will provide. Significant increase in the number of people who will be able to see the properties along the alignment.	Negative	Increase security on the property to protect materials, equipment and people.	n/a
Potential for the construction workforce to see the properties as potential places for pig and kangaroo hunting. The construction workforce to tell their mates.	Negative	Increase security on the property to protect materials, equipment and people.	n/a
Increase in insurance costs	Negative	Should be covered in the compensation agreements.	n/a
Increased speed of weeds (weeds and weather go together).	Negative	n/a	n/a
Extra traffic on the roads.	Negative	n/a	n/a
Strange people on the roads and working on the alignment (therefore next to the property).	Negative	n/a	n/a
Stress of the construction, potential for mental illnesses such as depression and anxiety.	Negative	n/a	n/a
Increase in the duty of care for family members and workers. Increase in the insurances covering the business.	Negative	Should be covered in the compensation agreements.	n/a
Job and contracting opportunities for local people.	Positive	n/a	n/a



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Out of pocket expenses for professional fees e.g. solicitors and consultants	Negative	Needs to be compensated	n/a



Operational Stage

Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Loss of life of a family member(s) or person working on the property, particularly if have to cross two railways (main line and passing line).	Negative	Safe access across the railway.	n/a
Added stress of the Project	Negative	n/a	n/a
Ongoing training and inductions for employees and contractors on the property to meet safety regulations	Negative	n/a	n/a
Loss of cattle, particularly if have to cross two railways (main line and passing line).	Negative	Order of preference: 12. move alignment so people and cattle do not have to cross it. 13. box culvert with holding facility on both sides of the corridor 14. truck the cattle across with holding facility on both sides of the corridor 15. walk cattle across with holding facility on both sides of the corridor	n/a
Increased risk of fire (locomotives, vehicles and maintenance) to pasture, infrastructure and livestock. Added on going expense to own and maintain a grader to build and maintain fire breaks and containment areas (before and after outbreaks) in the vicinity of the rail line to have any chance of containing fires in the rail corridor. Prevention is better than cure. Will not be able to leave the property unattended during times of higher danger from fire outbreaks	Negative	Maintain fire breaks on both sides of the alignment. More fire fighting equipment needed. Fit spark arrestors.	



Impact	Negative/Positive	Mitigation/Enhancement	Monitoring
Access maintained for people, stock and equipment.	Negative	Realign the corridor to reduce the impact on the property and business (corridor to follow the property boundaries)	
Duty of care to future workers on the property.	Negative	Maintain the fences, creek crossings and fire breaks.	
Change to the drainage, potentially increase of flooding, which leads to water logging and loss of pasture	Negative	Do not skimp on installing culverts, culverts for the smallest shallow dips.	
<p>Change in grazing habits of cattle (particularly introduced cattle) because of the rail operation:</p> <ul style="list-style-type: none"> ▶ Lights; ▶ Reflection from the locomotives and wagons; ▶ Noise (locomotives and wagons); ▶ Coal dust on pastures. <p>Cattle won't settle down or be content therefore they will age and won't put on enough weight fast enough.</p>	Negative		



Other

Need to plan for unforeseen impacts.

Monitoring to include:

- ▶ Noise;
- ▶ Weeds;
- ▶ Complaints associated with the construction camp;
- ▶ Complaints associated with the construction and operation'
- ▶ Health impacts including mental illnesses.



Appendix D

SIA Significance Identification Matrix



Social impact significance matrix

A social impact significance matrix was employed as the main tool for assessing the significance of the potential social impacts. The matrix is a table which lists and describes the various impacts that have been identified as possibly resulting from the proposed project. The table does not weight impacts against each other, rather they are displayed and assessed individually, to paint a picture of the impacts and allow an overall discussion regarding the proposal. The purpose of the significance matrix is also to identify priority areas for mitigation and management actions.

It is acknowledged that assessing the significance of social impacts involves subjective judgements on behalf of the assessor (Stanley, Clouston and Binney 2004, Lawrence 2007). Social impacts are felt or experienced by stakeholders, and different stakeholders may therefore assign differing significances to the same impacts, depending on their particular situation. Two strategies have been used to manage and reduce the subjective nature of the assessment process:

- ▶ By clearly outlining the assessment processes, criteria and arguments the SIA team have used to assign significance a larger degree of transparency in the process is achieved.
- ▶ By basing the assessment on a variety of sources, including extensive consultation with directly impacted stakeholders, the robustness of the significance assessment is augmented.

All the data sources used throughout the previous steps in the SIA have been analysed to determine impact significance.

The completion of the social impact significance matrix involves the following components:

- ▶ Identification of impacted stakeholders
- ▶ Likelihood/consequence rating
- ▶ Status of impact
- ▶ Duration of impact
- ▶ Spatial extent of the impact
- ▶ Stakeholder importance

The process of assessing the significance of the social impacts is undertaken for the current project design. Based on this, a social impact management plan is developed, involving impact mitigation and enhancement. A second assessment is then carried out taking proposed mitigation and enhancement measures into account, identifying whether there is a risk of a residual impact.



Significance assessment process

Step 1: Identification of Impacted Stakeholders

This considers the stakeholders likely to be impacted by the proposed project. The stakeholder groups are not ranked but used for descriptive purposes only. Each impact is linked to at least one stakeholder group.

Step 2: Likelihood / Consequence Rating

This step involves, first, assessing the likelihood that the impact will occur (refer to Table 1). Second, it involves assessing the consequence of each of the identified social impacts. The consequence refers to the consequence *on the impacted stakeholder*.

As the consequence refers to the consequence on the impacted stakeholder, it is not possible to provide an exhaustive definition for each rating and for all stakeholders. Rather the proposed descriptions consist of indicative criteria for a number of stakeholder groups.²⁹ Table 2 and Table 3 show indicative criteria for assessing the consequences on the stakeholders.

The results are then combined into a likelihood/consequence matrix, assigning a significance rating to the social impact (refer to Table 4).

Table 1 Descriptions of likelihood

Likelihood	Description
Almost Certain	The identified social impact will occur (100%)
Very likely	There is a 75% certainty that the impact will occur.
Likely	The identified social impact is likely to occur (60% certain)
Possible	It is possible for the social impact to occur (40% certain)
Unlikely	The identified social impact is unlikely to occur (25% certain)
Very unlikely	It will be very unlikely for the social impact to occur (5% certain)

Table 2 Indicative criteria for negative social impacts

Rating	Indicative criteria
Extreme	<i>Individuals and families:</i> Death and serious injury, disability, personal bankruptcy, severe stress and mental illness, severance of strong connections to places and communities
	<i>Businesses:</i> bankruptcy, close down of business
	<i>Communities:</i> Tensions leading to widespread violence, rapid geographic change of large proportion of local area, rapid large scale population changes such as relocation of majority of population, destruction of cultural objects of large significance

²⁹ While every reasonable care has been taken to remain neutral, the indicative criteria are still likely to exhibit a bias related to the context in which they have been developed. It is important to remember that they constitute a professional judgement based on the experience of the SIA team. Groups of stakeholders may assign different ranks to the criteria identified.



Rating	Indicative criteria
Major	<i>Project proponent:</i> multiple fatalities caused by project, serious nation wide impact to projects reputation, media coverage at the state level by more then one source
	<i>Individuals and families:</i> Injury, serious illness, severe financial hardship, long term unemployment, severance of connections to places and communities, severe stress
	<i>Businesses:</i> Severe financial hardship, large noticeable impact to business in terms of changing revenue, number of employees
	<i>Communities:</i> Large scale social tensions, rapid geographic and social change to a significant proportion of area or population, rapid change to way of life or, profanisation of important cultural objects and geographical areas
Moderate	<i>Project Proponent:</i> Single fatality or permanent major disability of a member of the public or construction workforce, improvement or damage to the project's reputation at the local level, media coverage at the state level by one source or local level by more than one source. Proliferous calls from dissatisfied or supportive stakeholders
	<i>Individuals and families:</i> Recoverable but long term illness, severe nuisances and disruptions, short term financial hardship, short term unemployment, disruption to family life, stress
	<i>Businesses:</i> Short term financial hardship, noticeable impacts to business in terms of changing revenue, number of employees
	<i>Communities:</i> localised or occasional social tension, geographic change to part of the area, social change to small proportion of community such as relocation of a minority of community, loss of some important areas/buildings such as parks and meeting places
Minor	<i>Project proponent:</i> Recoverable accidents, improvement or damage to the project's reputation, media coverage at the local level by more than one source, several calls from dissatisfied or supportive stakeholders
	<i>Individuals and families:</i> Short term recoverable illness, manageable nuisances and disruptions, changing employment situations (but not deteriorating), easily manageable stress
	<i>Businesses:</i> Changing but not deteriorating business conditions, practical challenges with minor financial implications
	<i>Communities:</i> Social tension between individual members of community, social or geographic change to small part of community
Insignificant	<i>Project proponent:</i> Incident leading to medical treatment, improvement or damage to the project's reputation within industry, media coverage at the local level, calls from a few dissatisfied or supportive stakeholders
	<i>Individuals and families:</i> minor nuisance or disruptions, no accidents or illness
	<i>Businesses:</i> Practical challenges, no financial implications
	<i>Communities:</i> harmoniously managed social changes, localised (very small proportion of community) change to geographic or social set up
	<i>Project proponent:</i> On site first aid incident, improvement or damage to the project's reputation, no media coverage, no calls from dissatisfied or supportive stakeholders

Table 3 Indicative criteria for positive social impacts

Rating	Indicative criteria
Extreme	<i>Individuals and families:</i> Significantly increased health and social and emotional wellbeing. Sustainable increase in economic prosperity, such as long term employment opportunities and career prospects to men and women. Significantly increased access to training and education. Significantly increased access to services.
	<i>Businesses:</i> Significantly increased business opportunities and profits for the long term
	<i>Communities:</i> Significantly increased general community wellbeing. Significant and sustainable reduction in violence and crime, and positive changes to community aspirations. Recognition of, support for and long term preservation of cultural objects, artefacts and practices.
	<i>Project proponent:</i> Very strong and widespread community support for project. Sustained positive nationwide media coverage.
Major	<i>Individuals and families:</i> Increased health and social and emotional wellbeing. Widespread employment opportunities. Increased access to training and education.
	<i>Businesses:</i> Noticeable increase in business opportunities, increased profits.
	<i>Communities:</i> Strongly increased community wellbeing, significant reduction in crime and violence, positive changes to community aspirations. Recognition of and support for cultural practices, objects and artefacts.
	<i>Project Proponent:</i> Strong support for the project. Nationwide positive media coverage.
Moderate	<i>Individuals and families:</i> Increase to health and wellbeing for some individuals. Some employment, training and education opportunities.
	<i>Businesses:</i> Increased revenues and profits.
	<i>Communities:</i> Increased community wellbeing, reduction in crime and violence. Recognition of cultural practices, objects and artefacts.
	<i>Project proponent:</i> Some local support for the project, some local, regional and nationwide positive media coverage
Minor	<i>Individuals and families:</i> Increased access to services, short term employment opportunities. Some training opportunities.
	<i>Businesses:</i> Business conditions changing slightly to the positive.
	<i>Communities:</i> Slightly increased community wellbeing.
	<i>Project proponent:</i> Occasional local and regional positive media coverage.
Insignificant	<i>Individuals and families:</i> Some short term employment opportunities. Health and social wellbeing virtually unchanged.
	<i>Businesses:</i> Practical benefits, no financial implications.
	<i>Communities:</i> Community wellbeing virtually unchanged. Some changes (not negative) to cultural practices, objects and artefacts.
	<i>Project proponent:</i> Localised neutral media coverage



Table 4 Assessment of likelihood and consequence of social impact

Likelihood of Social Impact	Consequence of Social Impact				
	Insignificant	Minor	Moderate	Major	Extreme
Almost Certain	Medium	Medium	High	Excessive	Excessive
Very Likely	Low	Medium	High	High	Excessive
Likely	Low	Low	Medium	High	Excessive
Possible	Negligible	Low	Medium	High	High
Unlikely	Negligible	Low	Low	Medium	High
Very Unlikely	Negligible	Negligible	Low	Medium	Medium

Step 3: Stakeholder Group to be impacted

List the stakeholder groups who will feel the impact.

Step 4: Status of Impact

The status of the impact considers whether the impact is positive, negative or neutral. It is important to remember that the same impact can have a different status for different stakeholders.

Step 5: Duration

The duration of the impact refers to for how long the social impact will potentially occur, refer to Table 5.

Table 5 Duration of the social impact

Rating	Description
Long	Lasting beyond the construction phase of the project
Medium	Lasting for the full duration of the construction phase of the project.
Short	Less than the full duration of the construction phase of the project.



Step 6: Spatial Extent

This considers the geographical scale of the proposed impact. The social impacts of the project may be felt within the physical extent of the project, or at the local, regional, or state/national level, refer to Table 6.

Table 6 Spatial Extent of the social impact

Rating	Proposed Description
State/National	In all levels of study areas
Regional	In both the local and regional study areas
Local	In the local study area
Project footprint	Only within the physical footprint of the project

Step 7: Stakeholder importance

The stakeholder importance describes how important an impact is to the affected stakeholders. Establishing the importance of an impact complements the significance determination as it allows the affected stakeholders themselves to describe how important an impact is to them. A social impact identified as being non-significant by the SIA practitioner may be very important to the affected stakeholders, and vice versa.

Information regarding stakeholder importance has been gathered solely during consultation. Importance ratings are provided in Table 7.

Table 7 Acceptability of the social impact

Rating	Proposed Description
High	A majority of the affected stakeholders have indicated that the social impact is very important to them.
Medium	Some stakeholders have indicated that the social impact is important to them, some have indicated it is of little importance.
Low	A majority of affected stakeholders have indicated that the impact is of little importance to them. Few stakeholders have indicated it is important.



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