PROJECT CHINA STONE

Socio-Economic Impact Assessment

18

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18 SOCIO-ECONOMIC IMPACT ASSESSMENT

18.1 INTRODUCTION

This section describes the socio-economic impact assessment (SIA) undertaken by Hansen Bailey as part of the Environmental Impact Statement (EIS) for Project China Stone (the project). The detailed results of the SIA are provided in the *Socio-Economic Impact Assessment Report (*Appendix N). The SIA addresses the socio-economic impacts associated with the construction, operation and decommissioning of the project. The SIA includes an assessment of the impacts of the project workforce.

The assessment of social impacts draws on the findings of the economic analysis undertaken by the Centre for International Economics (CIE) for the project (appended to the *Socio-Economic Impact Assessment Report,* Appendix N).

18.2 PROJECT ENVIRONMENT

18.2.1 Regional Environment

The project site is remote, being located approximately 270 km south of Townsville and 300 km west of Mackay at the northern end of the Galilee Basin coal resource area (Galilee Basin) (Figure 18-1). The closest townships are Charters Towers, approximately 285 km by road to the north, and Clermont, approximately 260 km by road to the south-east (Figure 18-1).

Galilee Basin Context

The Galilee Basin is located west of the Bowen Basin (Figure 18-1) and covers an area of approximately 247,000 km^2 (DSDIP 2014). While the Bowen Basin has been the epicentre of a boom in resource extraction over the past decade, to date the Galilee Basin has remained largely undeveloped, due to its remoteness and the significant associated infrastructure investment required in order to progress development in this area.

The Queensland Government has recognised the potential economic benefits of the development of the Galilee Basin and has committed to supporting growth through a number of strategies including the:

- Galilee Basin Development Strategy; and
- Galilee Basin Coal Infrastructure Framework.

The cumulative impacts of the expansion of mining in Queensland are expected to have broad effects, which are likely to include increases in:

- Labour demand;
- Skill shortages;
- Pressures on infrastructure in the Galilee Basin (roads, power, water);
- Utilisation of non-resident workers; and
- Economic specialisation of the Queensland economy in the mining sector.

While the recent slowdown in the mining industry has led to a decrease in the severity of many of these cumulative impacts, the project's socio-economic impacts have been conservatively assessed in a context of high mining sector growth.

There are currently no operating coal mines in the Galilee Basin. Six projects are currently seeking approval or have recently gained approval in the Galilee Basin (Table 18-1). Of these, four are located in the southern Galilee Basin near the township of Alpha (Figure 18-2). The project site is located in the northern Galilee Basin, approximately 125 km directly north of the closest Galilee Basin project and more than 250 km by road. The Carmichael Coal Mine and Rail Project (CCM&RP) is the only other current project in the northern Galilee Basin.

Table 18-1 Coal Mine Developments in the Galilee Basin

PROJECT	PROPONENT	LOCAL GOVERNMENT AREA	EXPECTED CONSTRUCTION (START DATE)	EXPECTED PEAK PRODUCTION (MILLION TONNES PER ANNUM)	PEAK OPERATIONS EMPLOYMENT
Northern Galilee Basin					
CCM&RP	Adani Mining Pty Ltd	Isaac Charters Towers	2016	60.0	3,800
Project China Stone	MacMines Austasia Pty Ltd	Isaac	2016	55.0	3,391
Southern Galilee Basin					
Alpha Coal	Hancock Coal Pty Ltd, Hancock Alpha West Pty Ltd and Hancock Coal Infrastructure Pty Ltd	Barcaldine	2017	30.0	1,970
Galilee Coal	Waratah Coal Pty Ltd	Barcaldine	2017	40.0	2,460
Kevin's Corner	Hancock Galilee Pty Ltd	Barcaldine	2018	30.0	1,600
South Galilee Coal	AMCI (Alpha) Pty Ltd and Alpha Coal Pty Ltd	Barcaldine	2017	17.0	1,290

Source: DNRM 2014, DRNM 2013, Relevant EIS documents

The southern Galilee projects have a distinctly different social setting to the northern Galilee projects. In particular, the southern Galilee projects have different transport and supply chain routes. They are also located in proximity to the established rural township of Alpha that will be directly impacted by these projects. In contrast, the northern Galilee projects are remotely located with no established local townships in proximity (Figure 18-2).

As a result of these factors, the potential for significant cumulative social impacts between the project and the southern Galilee projects is negligible. The potential significant cumulative social impacts of the project are limited to those related to the adjacent Carmichael Coal Mine Project.

18.2.2 Local Environment

The project site is located at the western limit of the Isaac Local Government Area (LGA), within the Mackay, Isaac and Whitsunday Region (Mackay Region), and adjoins the Charters Towers LGA, within the Townsville Region (Figures 18-3 and 18-4).

The project site is located across three large rural properties:

- Hyde Park;
- Dooyne; and
- Mooray Downs.

The Moonoomoo property adjoins the south-western boundary of the project site. These four properties have separate landholders and are used primarily for cattle grazing. Land ownership within and adjoining the project site is discussed in detail in Section 5 – Land Use.

The proposed Carmichael Coal Mine site adjoins the project site to the south (Figure 18-2). The Carmichael Project is a 60 Million tonnes per annum underground and open cut operation managed by Adani Mining Pty Ltd (Adani), which received state approval in May 2014.

There are currently no power, rail or water infrastructure connections to the immediate project area, and the project site is accessible only via the Gregory Developmental Road. The Gregory Developmental Road is a state-owned, two-lane sealed and unsealed road running from Georgetown in the north, through Charters Towers and south to Clermont (Figure 18-2). There are no towns along the 365 km stretch of the Gregory Developmental Road between Charters Towers and Clermont; only a roadhouse and service station known as Belyando Crossing. Current access to the project site from the Gregory Developmental Road is via 160 km of unsealed property access roads.

18.3 REGULATORY FRAMEWORK AND CORPORATE STANDARDS

The SIA has been undertaken to satisfy the requirements of the Terms of Reference (TOR) issued by the Department of State Development, Infrastructure and Planning (DSDIP) for the Project China Stone EIS. Following the release of the EIS TOR, DSDIP introduced a new *Social Impact Assessment Guideline* (DSDIP SIA Guideline) and a framework document *Managing the Impacts of Major Projects in Resource Communities* (DSDIP 2013a,b). The SIA methodology is consistent with the requirements of the DSDIP SIA Guideline and the framework document.

18.4 METHODOLOGY

The SIA methodology for the project included the following key components:

- Identification of the project Areas of Influence;
- Profiling of the project Areas of Influence through:
  - Collation and review of a range of data and documents to inform the socio-economic profile and values of the communities of the project Areas of Influence; and
  - Conduct of face-to-face consultation with a range of government and non-government stakeholders to validate the data and information gathered, and to inform the analysis of impacts.
- Prediction of economic impacts and benefits;
- Prediction of the potential social impacts, and ranking of these impacts using a risk based approach;

- Development of appropriate management measures to address these impacts through an outcomes-focused process; and
- Development of a framework to monitor progress towards achieving the desired management outcomes.

Consultation with relevant stakeholders was inherent in each step of the SIA. SIA consultation was conducted to gather information on community perceptions, to better understand the current social setting and to assist in the prediction of potential social impacts. EIS consultation focused on disseminating information about the project and understanding stakeholder's key issues of concern. Details of the EIS and SIA consultation conducted for the project are provided in Section 3 – Consultation.

The key SIA methodology components are further described in the following sections.

18.4.1 Identification of the Study Area

Due to the remote location of the project site and the lack of a distinct and concentrated local population base, the project Areas of Influence for the SIA were defined by the nature of their relationship to the project as well as their geographical proximity to the project site. Adopting this approach has facilitated the comprehensive assessment of the project's potential impacts.

Direct impacts identified through the assessment process are anticipated to occur in the:

- Surrounding Area – defined as the Australian Bureau of Statistics (ABS) Statistical Areas Level 1 (SA1) 3133909 and 3146303 (Figure 18-5);
- Local Area – Charters Towers and Isaac LGAs including the communities of Clermont and Charters Towers (Figure 18-3);
- Regional Area – Townsville and Mackay Regions (Figure 18-4); and
- Workforce Home Base Locations (Figure 18-4).

These areas are here-in referred to as the project Areas of Influence. Additional Areas of Influence were identified during project planning in order to enable the development of accurate project assumptions, including labour source regions and supply chain regions.

18.4.2 Profiling of the Socio-Economic Environment

A variety of desktop and consultative sources were used to profile the communities of the project Areas of Influence. The principal sources included:

- Literature review;
- Quantitative data collection and analysis;
- Project SIA consultation; and
- Project EIS consultation.

18.4.3 Economic Analysis

The economic impacts and benefits of the project have been estimated using computable general equilibrium (CGE) modelling. CGE modelling quantifies the economic impacts of the project with greater accuracy than standard input-output modelling through the inclusion of constraints on resources such as labour and capital.

The economic impacts and benefits of the construction and operations phases of the project have been examined separately. For both the construction and operations phases, the economic impacts are identified for the following geographical areas:

- Isaac and Charters Towers LGAs;
- Mackay and Townsville Regions; and
- State of Queensland.

18.4.4 Identification and Assessment of Potential Socio-Economic Impacts

Impact Identification and Assessment

Impacts and opportunities associated with the project were identified in accordance with the DSDIP SIA Guideline. In identifying the impacts and opportunities across each stage of the project, consideration was given to whether the social opportunities and impacts could be accurately, reasonably and reliably attributed to either:

- The project;
- A cumulative impact where the proportion of the impacts of the project can be readily and reasonably forecast and/or separated from the total cumulative impact or opportunity; or
- An existing issue, legacy or cumulative impact which is not the result of the project.

The majority of impacts likely to be experienced in the broader supply chain areas, labour source locations and workforce home base locations are indirect and indistinct in nature, and have only been identified and assessed where practicable as per the DSDIP SIA Guideline.

The significance of the impacts and opportunities were identified using a risk matrix consistent with the DSDIP SIA Guideline. Rankings in the risk matrix were assigned following stakeholder consultation and baseline profiling and reflect the objective likelihood of the impact (likelihood) and the compatibility of the impact with subjective values of the communities affected (consequence).

18.4.5 Impact Management and Monitoring

Management

The final risk ranking for each issue was determined from the risk matrix. The appropriate level of required management was determined based on the following definitions:

- Low – monitor and manage as necessary;
- Moderate – actively manage; and
- High – proactively manage.

Positive impacts do not require mitigation. Positive impacts were ranked in order to understand the level of effect these impacts may have on stakeholders, and where possible enhancement measures were identified.

The project has the potential to give rise to positive social changes, for example, increased employment, induced economic growth and increased resident population. In contrast, negative potential impacts of the project may result in negative social changes, for example, increased demand for emergency services and changes to rural amenity.

The potential impacts identified within the assessment are both positive and negative in nature. Strategies identified to manage potential adverse impacts and enhance positive impacts were informed through consultation conducted with key government regulators and service providers, Isaac Regional Council (IRC) and Charters Towers Regional Council (CTRC), and the communities of Charters Towers and Clermont. These strategies were

designed through an outcomes-focused approach to management, in order to allow for a flexible, adaptive management system.

A summary of the predicted social impacts and the proponent's commitments to maximise positive project impacts and manage negative impacts is provided in Section 18.7. A comprehensive description and assessment of the impacts and management commitments is provided in the project *Socio-Economic Impact Assessment Report* (Appendix N).

Monitoring and Reporting

The monitoring framework for the SIA is designed to measure the success of the identified management actions in achieving the proponent's desired management outcomes for each of the identified moderate to high risk impacts. This approach enables the management measures to be adapted if the desired outcomes are not being met. The proponent will report on an annual basis to relevant stakeholders from the commencement of the construction phase and for two years following the commencement of mining operations. The annual report will:

- Describe the actions to inform the communities of the Local Area about project impacts and show that community concerns about project impacts have been taken into account when reaching decisions;
- Describe the actions to enhance local and regional employment, training and development opportunities; and
- Describe the actions to avoid, manage or mitigate project-related impacts on local community services, social infrastructure and community safety and wellbeing.

18.5 EXISTING SOCIO-ECONOMIC BASELINE

A brief overview of the existing socio-economic baseline of the project Areas of Influence is provided in the following sections.

18.5.1 Surrounding Area

The Surrounding Area includes the project site and Belyando Crossing, as well as several small National Parks, rural land along the Flinders Highway and Gregory Developmental Road up to the boundary of Charters Towers Township, and the sparsely populated land south of the project site and west of Clermont Township (Figure 18-5).

In 2011 the Surrounding Area had a population of 679 persons (ABS 2014), of which approximately 3% were Indigenous. The Surrounding Area is characterised by large rural landholdings used for cattle grazing and over two-thirds of employed persons are employed in the agriculture, forestry and fishing sector, primarily as beef cattle farmers. A further 9% of employed persons in the Surrounding Area are employed in the mining sector, primarily in the metal ore industry.

A roadhouse, Belyando Crossing, is located at the intersection of the Belyando River and the Gregory Developmental Road. It offers food and accommodation in the form of powered, unwatered caravan sites, with limited facilities. Belyando Crossing is the only accommodation or fuel provider along the 365 km stretch of the Gregory Developmental Road between Charters Towers and Clermont. It is also the closest commercial facility to the project site.

18.5.2 Local Area

The Local Area includes the Charters Towers and Isaac LGAs, with a specific focus on the townships of Charter Towers and Clermont as the two closest urban centres to the project site (Figure 18-3).

Charters Towers Township

Originally a gold mining settlement, Charters Towers Township is now known as the agriculture and education centre of rural north-west Queensland. The township is located approximately 90 minutes drive west of Townsville

on the Flinders Highway and approximately 285 km by road to the north of the project site. Charters Towers Township is the regional centre for the Charters Towers LGA and the seat of the CTRC.

In 2011, Charters Towers Township had a population of 8,234 persons which equated to approximately two-thirds of the population of the Charters Towers LGA (ABS 2014). The Charters Towers Township population experienced a small decrease between 2001 and 2011 (QGSO 2013a).

The community of Charters Towers Township is well-balanced, with a diverse arts and culture sector and strong economic diversity. The town's low population growth however, highlights a growing need to continue to attract residents and businesses to the town in order to maintain sustainability. Although the mining sector accounted for 30% gross regional product (GRP) and employed approximately 13% of persons in the Charters Towers LGA in 2011, Charters Towers has remained largely unaffected by the mining boom to date and EIS consultation indicated that the township is eager to capitalise on development opportunities presented by mining developments in the future (CTRC 2013). In 2013, Hansen Bailey conducted a Business Capability Audit in Charters Towers and Clermont Townships. In Charters Towers Township, respondents to the Business Capability Survey reported that the main issues affecting local business conditions were low business confidence, support from local government and the availability of industrial land.

Agriculture and education are the township's main industries, with the Dalrymple Saleyard and numerous agriculture businesses servicing the surrounding landholders and eight schools, including three boarding schools and a school of distance education.

In 2011, the cost of housing in Charters Towers Township was low relative to Queensland, with median rents at $190 per week compared to the Queensland median of $300 per week (ABS 2014). However, consultation revealed that land development in Charters Towers Township is constrained by Native Title issues, and the CTRC identifies release of land for residential and industrial development as a major goal in the Economic Development Plan (CTRC 2013).

The unemployment rate in the Charters Towers LGA increased significantly from 5.5% in 2011 to a current rate of 11.5% (658 people). The unemployment rate in the Charters Towers Statistical Area 2 (SA2) (which broadly aligns with the Charters Towers Township) has also increased substantially, from 7.5% in 2011 to 14.7% (549 people) in 2015. The unemployment rates in the Charters Towers LGA and SA2 are almost double the Queensland unemployment rate of 6.5% (Department of Employment 2015).

The provision of emergency services in Charters Towers is adequate for the size of the township; however, emergency service providers noted that an expansion of resources would be required to service the growing exploration and mining activities in the Bowen and Galilee Basins. Queensland Fire and Rescue Service (QFRS) representatives indicated during consultation that the Charters Towers QFRS station does not have the appropriate equipment to engage in heavy-vehicle incident response, and as a result, technical assistance would be called out from Townsville in the event of a heavy-vehicle traffic incident along the Gregory Developmental Road. Emergency service response along the Gregory Developmental Road is hampered by poor communications infrastructure. QFRS and the Queensland Police Service (QPS) representatives reported frequent "black spots" along the road in which mobile communications are not possible and satellite phone service is unreliable.

Clermont Township

Clermont is located approximately 260 km by road to the south-east of the project site, within the Isaac LGA. The economy of the Isaac LGA is heavily dominated by the mining industry and has experienced rapid growth since 2008 as a result of the mining boom. The Isaac LGA economy is based primarily on the mining sector, with over 77% of GRP originating in this sector in the 2010/11 financial year, and almost 40% of persons employed in mining in 2011 (ABS 2014, Lawrence Consulting 2012).

Clermont Township is a rural mining community with a 2011 population of 2,510 persons (QGSO 2013). During the past decade, Clermont has been heavily impacted by mining, with rising wage levels and severe labour shortages experienced, and a gradual change in community character due to an increase in the number of non-resident workers in the town. The presence of Blair Athol Mine and Clermont Coal Mine within a daily commute from Clermont has led to an expectation of residential employment in the town, with residents and local government

representatives indicating that the town does not aspire to increase its non-resident workers population. In 2011, approximately 20% of the population of Clermont were non-resident workers, but this has since declined to just over 2% in 2013 as a result of the downturn in the mining industry (QGSO 2013b).

Blair Athol Mine, near Clermont, was closed ahead of schedule in November 2012, resulting in a reported decrease in business confidence in the township. However, the continuation of the Clermont Coal Mine and the development of mining projects in the southern Galilee Basin are likely to contribute to development in Clermont in the future.

The services and facilities available in Clermont are typical of most small rural towns in Queensland; the township has an average housing market with capacity for expansion, limited retail facilities and basic health and education services.

In 2015 the unemployment rate in the Clermont SA2 (which broadly aligns with the Clermont Township) was 3.6% (87 people) compared to 2.6% in the Isaac LGA and 6.5% in Queensland. The unemployment rate in the Clermont SA2 and the Isaac LGA has remained significantly below the Queensland rate of unemployment since 2011 (Department of Employment 2015).

Emergency services in Clermont are limited, with an auxiliary station for the QFRS and a permanent QPS station with five staff and one vehicle. Consultation revealed that the lack of a second QPS vehicle leaves the town under-policed when officers respond to incidents outside of the township. In the EIS for the CCM&RP, Adani commits to the provision of an additional vehicle to Clermont QPS to address this issue. QAS in Clermont has four permanent staff and one relief staff, along with two ambulances.

18.5.3 Regional Area

The Regional Area includes the Townsville and Mackay Regions, with particular focus on the cities of Townsville and Mackay (Figure 18-4).

Townsville Region

In 2011, the Townsville Region had a population of approximately 218,000 persons. It is expected to grow at an average rate of 3% between 2011 and 2036 (QGSO 2013a). The major population centres in the Townsville Region include Townsville City, the coastal centres of Ingham and Ayr and the rural centre of Charters Towers.

The region is economically diverse with a moderate specialisation in the public administration and safety industry (ABS 2014). The Townsville Region provides services and supply chains to mining projects throughout north-west and central Queensland. Approximately 3.4% of employed persons in the Townsville Region employed in the mining sector. The mining sector contributed approximately 7% of GRP for the Townsville Region in 2010/11 (TEL 2012). However, the size and diversity of the Townsville City economy has ensured that the economic specialisation seen in other mining regions such as the Mackay Region has not been felt in the Townsville Region.

The proponent has identified the Townsville Region, and in particular Townsville City, as a potential Home Base Location for a portion of the project workforce. Townsville City is the primary centre of the Townsville Region, and is widely regarded as the capital of North Queensland. Townsville City provides all the services expected of a moderately-sized city. With a population of approximately 175,000 persons in 2011, the city accounted for over 80% of the Townsville Region's population.

Townsville City is home to an Australian Defence Force presence of over 1,200 persons and a sizeable mining workforce, making the city well-accustomed to transient workforces. Townsville City is located on major national and state road and rail networks and has significant capacity for expansion. The city is also the operational base for emergency services in the Townsville Region and is home to a major domestic airport with international capabilities.

The latest unemployment data for the Townsville Region indicates the region had a labour force of 112,500 people and an unemployment rate of 8.9% compared to an unemployment rate of 6.5% in Queensland (OESR, 2015a).

Mackay Region

The Mackay Region includes the Mackay, Isaac and Whitsunday LGAs. In 2011, the Mackay Region had a population of 166,811 persons (ABS 2014). The population of the Mackay Region grew at the same rate as the population of Queensland between 2001 and 2011 (OESR 2012). Mackay City is the primary urban centre of the Mackay Region.

The extensive mining industry in the Bowen Basin has provided the Mackay Region with income, investment, employment and infrastructure. A number of townships in the Isaac LGA, including Moranbah, Dysart and Middlemount (Figure 18-3), were originally established as coal mining workforce towns and have maintained a mining presence over the course of their development.

The latest unemployment data for the Mackay Region indicates the region had a labour force of approximately 96,900 people and an unemployment rate of 7.1% compared to an unemployment rate of 6.5% in Queensland (OESR, 2015b). The unemployment rate in the Mackay Region was consistently lower than the Queensland unemployment rate between 2008 and 2013.

Approximately 14.4% of employed persons in the region were working in the mining sector in 2011, compared to 2.6% in Queensland. The mining industry contributed over 50% of GRP for the Mackay Region in 2011/2012 (MWREDC 2013).

Rapid mining industry growth has also created a number of associated adjustment problems for the Mackay Region. These include shortages in the skilled and unskilled labour market, congestion of rail and port infrastructure, economic specialisation and housing market volatility. Mining towns throughout the Mackay region experienced severe housing market volatility during the mining boom, leading to weekly rents of up to $2,000 for a three-bedroom house in some areas of the region and rapid price falls following the end of the boom in 2012 (McBryde 2013).

18.6 PROJECT WORKFORCE

18.6.1 Construction Phase Workforce

The construction phase for the project extends from Project Year 1 to Project Year 5 inclusive and involves:

- The construction of infrastructure and buildings;
- The early development for the open cut pit;
- The early development for the underground mining operations; and
- The commencement of operations of mine infrastructure.

During the construction phase, the size of the workforce will rise and fall to adjust to the requirements of the project. The average annual workforce for the project during the construction phase is approximately 3,249 persons. The anticipated peak workforce during the construction phase of 3,892 persons is associated with the fourth year of construction (Project Year 4). It is anticipated that the majority of the workforce during the construction phase will be employed as contractors.

18.6.2 Operations Phase Workforce

The project comprises two operations phases. The projected operations workforce will fluctuate over time, reflecting the changes in the mining activities.

Operations Phase 1

Operations Phase 1 (Project Years 6-31) involves concurrent open cut and underground mining operations. Operations Phase 1 will have an average annual workforce of 3,119 persons across the phase and a peak workforce of 3,391 persons in Project Year 8.

Operations Phase 2

Operations Phase 2 (Project Years 32-49) involves underground mining in the Northern Underground, and has an average annual workforce of 1,016 persons. The peak workforce in Operations Phase 2 is 1,377 persons in Project Years 32-33.

18.6.3 Workforce Recruitment and Occupational Characteristics

Construction Phase

During the construction phase, recruitment and management of the workforce will largely be the responsibility of contractors and subcontractors appointed to undertake various components of the project. The remoteness of the site and short term nature of most construction work positions will tend to limit opportunities for local recruitment during the construction phase. It is expected that the majority of construction phase workers will be non-resident workers who will reside in the accommodation village while on roster.

The occupational requirements of the construction phase workforce will vary according to the stages of construction. The anticipated occupational groupings of the construction phase workforce are detailed in Table 18-2.

Table 18-2 Workforce Occupations – Construction Phase and Operations Phase 1

OCCUPATION	CONSTRUCTION PHASE WORKFORCE (%)	OPERATIONS PHASE 1 WORKFORCE (%)
Managers	4	6
Professionals	4	6
Technicians and trades workers	33	33
Clerical and administration workers	2	4
Community and personal service	1	3
Machinery operators and drivers	45	40
Labourers	11	8
Total	100	100

Operations Phase

The required project operations workforce will be sourced through a range of recruitment processes, including local and national recruitment, apprentice, trainee and graduate programs and contract labour. It is anticipated that any positions filled nationally will relocate to Queensland for the role. A Labour Market Study was undertaken to inform the labour source locations for the project, which was conservatively based on a constrained labour market. Locations identified as having the capacity to support labour source recruitment included:

- Cairns Region;
- Townsville Region;
- Mackay Region;

- Fitzroy Region;
- Wide Bay Region; and
- South-East Queensland (SEQ) Region.

The proponent proposes to utilise a non-resident, long distance commuting workforce due to the remote location of the project site, the condition of the surrounding regional road network and the size of the workforce required for the project.

The occupational requirements of the project workforce will vary according to the stages of mine development and the operational requirements. The predicted occupational requirements for the workforce during Operations Phase 1 are summarised in Table 18-2.

The approach to workforce recruitment for the construction and operations phases will be revisited by the proponent prior to the commencement of the construction phase.

18.6.4 Operations Phase Workforce Arrangements

The workforce associated with project operations will be employed as non-resident workers. Non-resident workers are employees who commute to undertake work at the project site and live in the on-site accommodation village temporarily while working, and who have their usual place of resident elsewhere.

18.6.5 Operations Workforce Home Base Locations

The residential home base locations of the operations phase workforce have been predicted based on the findings of a background study (appended to the *Socio-Economic Impact Assessment Report,* Appendix N) conducted to inform the SIA. The home base locations of the project workforce have been predicted based on:

- Liveability (including cost of living, house prices, accessibility to services, amenity, economic diversity);
- Transport connections and airports;
- Growth and forward planning;
- Population and demography; and
- Labour force and training opportunities.

Given the remoteness of the mine site from the nearest population centres, it is unlikely that a significant proportion of the workforce would relocate to Clermont or Charters Towers townships to work at the proposed mine. The predicted home base locations of the workforce are:

- Cairns Region;
- Townsville Region;
- Charters Towers LGA;
- Wide Bay Region; and
- SEQ Region.

The potential home base locations were specifically chosen based on their sizeable population base and ability to absorb any relatively minor additional population growth that may arise from the project. Their large and diverse economies and their current level of service provision means that they are unlikely to be significantly impacted by a single project.

In addition the selection of multiple potential home base locations also aids to disperse the workforce and reduces the potential for any significant associated potential population influx into a single location.

Table 18-3 presents the predicted size of the resident workforce to be based in each of the identified Home Base Locations.

Table 18-3 Workforce Home Base Locations – Operations Phase 1

HOME BASE LOCATION	WORKFORCE (%)	OPERATIONS PHASE 1 WORKFORCE (NO.)
SEQ	40	1,250
Wide Bay	25	775
Townsville (excl. Charters Towers)	25	775
Cairns	9	290
Charters Towers	1	29
Total	100	3,119

The proportion of labour anticipated to be recruited from Charters Towers is assumed to be less than 1% of the project workforce (29 persons in Operations Phase 1), however this figure is not an upper limit. If a larger number of persons from Charters Towers apply for project positions and are found suitable, the proportion of the workforce from Charters Towers may increase. Positions likely to be filled by residents from Charters Towers include:

- Administration staff;
- Accommodation village operations staff;
- Hospitality staff;
- Trades and labours; and
- Apprenticeship and traineeship positions.

18.6.6 Workforce Accommodation Requirements

The following discussion of project accommodation requirements is based on workforce numbers from project planning. As more detailed project planning progresses these numbers may be updated.

Construction Workforce Accommodation

The construction workforce will be accommodated in an on-site accommodation village, the first stage of which is to be constructed as a priority during Project Year 1. The first stage of the accommodation village will have a capacity of approximately 1,120 persons. The workforce associated with the initial construction of the accommodation village will be housed in the existing exploration camp and progressively moved into the first stage of the accommodation village as construction progresses.

Operations Workforce Accommodation

The workforce associated with the operations phases will be accommodated in the second stage of the on-site accommodation village. This second stage will have a capacity of approximately 3,050 persons and will be constructed during Project Year 1 and Project Year 2.

The accommodation village will be designed to ensure a comfortable living space and access to natural elements. A green belt will separate the accommodation village from the industrial landscape of mining operations. The village will include a number of social and recreational facilities to ensure the wellbeing of the workforce, including a swimming pool, gyms, general store, laundries, coffee shops and cafes. A non-denominational religious centre will provide a space for culturally-appropriate activities.

The accommodation village will share services with the mine site, including:

- A permanent sick bay with 24/7 nursing staff;
- A link to an internet medical service and a relationship and agreement with emergency air services (Royal Flying Doctor Service);
- Firefighting, rescue and emergency services;
- On-site security and policing services; and
- A working relationship and agreements with the local police force for major security and/or safety issues.

A decision on whether the operations phase workforce accommodation village will be a wet or dry operation will be made later in the project planning process.

18.7 POTENTIAL IMPACTS AND MITIGATION MEASURES

The following sections provide a summary of the potential social impacts and opportunities arising from the project and the commitments of the proponent to the management of impacts.

18.7.1 Summary of Potential Impacts and Management Measures

Table 18-4 and Table 18-5 provide a summary of the potential negative and positive impacts associated with the project and highlight the key actions to enhance positive impacts and manage negative impacts. The adopted impact assessment approach is consistent with the requirements of the DSDIP SIA Guideline and specifically addresses Sections 6.2 and 7.2 of the TOR. Only the impacts and opportunities identified as moderate to high risks are described in detail in Table 18-4 and Table 18-5. A detailed analysis of impacts and a description of proposed management commitments are contained in the *Socio-Economic Impact Assessment Report* (Appendix N).

Table 18-4 Summary of Potential Opportunities and Enhancement Measures

POTENTIAL OPPORTUNITIES	ENHANCEMENT MEASURE
Economic Impacts	
■ Economic Growth	■ Prior to the commencement of the construction phase, the proponent will prepare and implement a Local Industry Participation Strategy and a Local Content Plan for the project. ■ The use of a non-resident long distance commuting workforce enables the dispersal of project related economic benefits to a number of regional centres.
Employment and Labour Market Dynamics	
■ Employment Growth	■ Prior to the commencement of the construction phase, the proponent will develop a project Recruitment Plan in consultation with the Queensland Department of Education and Training and the Federal Department of Employment. ■ During the operations phase the workforce will be employed predominantly on a non-resident long distance commuting basis (i.e. fly-in/fly-out (FIFO)). However, the proponent will re-evaluate the feasibility of bus-in/bus-out and, in the long term, FIFO out of Charters Towers in order to increase the employment opportunities for residents of the Local Area, if feasible.

POTENTIAL OPPORTUNITIES	ENHANCEMENT MEASURE
■ Indigenous Employment Growth	■ The proponent will develop an Indigenous Participation Plan (IPP) for the project, which will include commitments to: – A dedicated Indigenous liaison role; – Engaging with Indigenous employment agencies such as Jenagar and Myuma; and – A requirement for all contractors and subcontractors engaged on the project to have existing Indigenous employment standards, or adopt the proponent's Indigenous employment standards for the duration of their engagement.
■ Skills Enhancement	■ The proponent will prepare a detailed Training and Skilling Plan (TSP) prior to the commencement of the construction phase. The TSP will include: – Specific training targets for proponent and contract workforces; – A policy for granting higher education scholarships relevant to mining, to school leavers in workforce Home Base Locations; – Partnerships with secondary schools in the Local Area and regional training centres such as the Dalrymple Trade Training Centre; and – Engagement with Queensland Minerals and Energy Academy and the Queensland Resources Council to extend relevant programs to the Local Area.
Population and Demography	
■ Resident Population Growth in Regional Centres	■ The proponent will support sustainable residential population growth in regional centres by: – Nominating selected commuting collection points based on demographic and labour considerations and servicing capacity; – Extending the Employee Wellbeing Plan to these selected locations, as appropriate; and – Regular communication with relevant commuting coordinators and/or regional councils to confirm that project induced population growth can be managed within existing service delivery strategies.
Regional Development	
■ Increased Supply Chain Opportunities	■ The proponent will develop a Local Industry Participation Strategy prior to the commencement of the construction phase, which will address the Queensland Resource and Energy Sector *Code of Practice for Local Content* and include the proponent's Australian Industry Participation Plan and proposed Local Content Plan. ■ The Local Content Plan will include actions to: – Identify capable local industry; – Assist local industry and businesses within the Local Area to develop appropriate capabilities to tender for procurement opportunities; and – Inform local industry of project procurement opportunities. ■ In response to consultation, the proponent will also consider initiatives including: – Appoint a single point of contact for local businesses to contact in relation to project procurement opportunities; – Develop a publicly available local procurement policy which outlines procurement processes; and

POTENTIAL OPPORTUNITIES	ENHANCEMENT MEASURE
	– Establish formal and regular communications with local businesses in Charters Towers and Clermont to keep local business owners informed of project progress and upcoming procurement opportunities.
■ Increased Economic Activity	■ The proponent will engage with the CTRC in relation to the provision of support (financial and/or in-kind) to assist the CTRC with the development of infrastructure that enables the Charters Towers LGA to capitalise on the opportunities presented by the proximity of the project and the project's supply chain routes. ■ The geographically dispersed potential home base locations will ensure the distribution of project economic benefits to a range of locations across Queensland.
■ Increased Real Wage	■ Does not require management.
■ Improved Infrastructure and Services for Surrounding Area	■ The proponent will engage with the CTRC in relation to the provision of support (financial and/or in-kind) to assist the CTRC with the development of infrastructure that enables the Charters Towers LGA to capitalise on the opportunities presented by the proximity of the project and the project's supply chain routes. This may include supporting the CTRC in applications for Royalties for the Regions funding.

Table 18-5 Summary of Potential Social Impacts and Management Commitments

POTENTIAL SOCIAL IMPACTS	MANAGEMENT
Population and Demography	
■ Increased non-resident Worker Population in Surrounding Area	■ The proponent will keep the State Government, CTRC and the IRC informed of the size of the non-resident worker population associated with the project.
Employment and Labour Market Dynamics	
■ Labour Draw	■ Prior to the commencement of the construction phase, the proponent will develop a Recruitment Plan and TSP, in order to respond to existing and anticipated skill shortages of relevance to the project, and in doing so minimise negative labour force impacts.

POTENTIAL SOCIAL IMPACTS	MANAGEMENT
■ Labour Supply	■ Prior to the commencement of the construction phase the proponent will update the existing project labour study (Appendix D of Appendix N). ■ Prior to the commencement of the construction phase, the proponent will develop a Recruitment Plan and TSP. ■ The proponent will develop a Local Content Plan prior to the commencement of the construction phase to encourage the participation of local and under-represented groups in the construction and operations phase workforces and the project supply chain. ■ Prior to the commencement of the construction phase the proponent will develop an IPP. The aim of IPP is to increase Indigenous employment representation in all phases of the project. ■ The proponent is committed to making employment opportunities accessible to those groups which are traditionally under-represented in mining workforces e.g. women, Indigenous, and persons with a disability. All interested and appropriately skilled individuals will be considered for jobs on the project.
Employee Health and Wellbeing	
■ Health Implications of Employment Conditions	■ The proponent will establish an Employee Wellbeing Plan prior to the commencement of construction, which may include: – Mental health and isolation adjustment support for all employees for their first year of employment; – Engagement with FIFO Families to establish a project FIFO Families group within the identified Home Base Locations; – The establishment of an on-site activities calendar to enhance social network building among the workforce; and ■ Fast and reliable internet access and mobile services for all employees to encourage communication with partners and families.
Community Liveability	
■ Increased Traffic Movements and Reduced Road Safety	■ FIFO workforce arrangements and the provision of on-site accommodation, medical and recreational facilities will reduce local traffic impacts around the proposed mine. ■ The proponent will provide a one-off donation of a heavy vehicle rescue kit to Queensland Fire and Emergency Services in Charters Towers to improve local emergency service response to incidents. ■ The proponent will consult with the IRC, CTRC, Department of Transport and Main Roads, QPS, Adani and the Road Accident Action Group to determine the need for any additional driver rest areas along the primary project supply routes.
■ Change in Rural Character	■ The proponent will develop an ongoing program of landholder liaison for the preconstruction, construction and operations phases of the project. ■ The proponent will implement a grievance and dispute resolution procedure to ensure any complaints from landholders are handled quickly and effectively.

POTENTIAL SOCIAL IMPACTS	MANAGEMENT
■ Impacts on Property Management	■ The proponent will develop an ongoing program of landholder liaison for the preconstruction, construction and operations phases of the project. This program will form part of the proponent's Stakeholder Consultation Strategy. ■ The proponent will implement a complaints handling procedure at the commencement of the construction phase to ensure any complaints from landholders and other stakeholders are handled quickly and effectively.
■ Changes in Community Liveability in Home Base Locations	■ The proponent will keep local governments in the home base locations informed of project labour sourcing strategies and associated workforce numbers through regular face-to-face engagement. Where significant project induced permanent resident population growth is identified the Proponent will support the affected local government in responding to any demand generated by the population.
■ Impacts to Indigenous Peoples	■ The proponent will negotiate with the Wangan and Jagalingou People, the registered Native Title claimants, in accordance with the requirements of the *Native Title Act 1993* (Commonwealth).
Community Infrastructure and Services	
■ Increased Demand on Emergency Services	■ The proponent will make resources available to emergency service providers when at the mine site. This will include making office space and equipment available for use. ■ The proponent will coordinate project infrastructure upgrades, including communication infrastructure upgrades, with local emergency services and Adani to enable cost-effective expansion of emergency service communications along the Gregory Developmental Road. ■ The proponent will engage with Adani in relation to the proponent's participation in the Emergency Services Consultative Committee for the CCM&RP and the coordination of emergency response and sharing of resources, where appropriate.
■ Increased Demand for Community Services and Facilities in Home Base Locations	■ The proponent will keep local governments in the home base locations informed of project labour sourcing strategies and associated workforce numbers through regular face-to-face engagement. Where significant project induced permanent resident population growth is identified the Proponent will support the affected local government in responding to any demand generated by the population.

18.8 MONITORING AND REPORTING STRATEGY

The monitoring and reporting strategy is outlined in the *Socio-Economic Impact Assessment Report* (Appendix N). The proponent will report on an annual basis to relevant stakeholders from the commencement of the construction phase and for two years following the commencement of mining operations. The annual report will:

- Describe the actions to inform the communities of the Local Area about project impacts and show that community concerns about project impacts have been taken into account when reaching decisions;
- Describe the actions to enhance local and regional employment, training and development opportunities; and
- Describe the actions to avoid, manage or mitigate project-related impacts on local community services, social infrastructure and community safety and wellbeing.

FIGURES

PROJECT CHINA STONE

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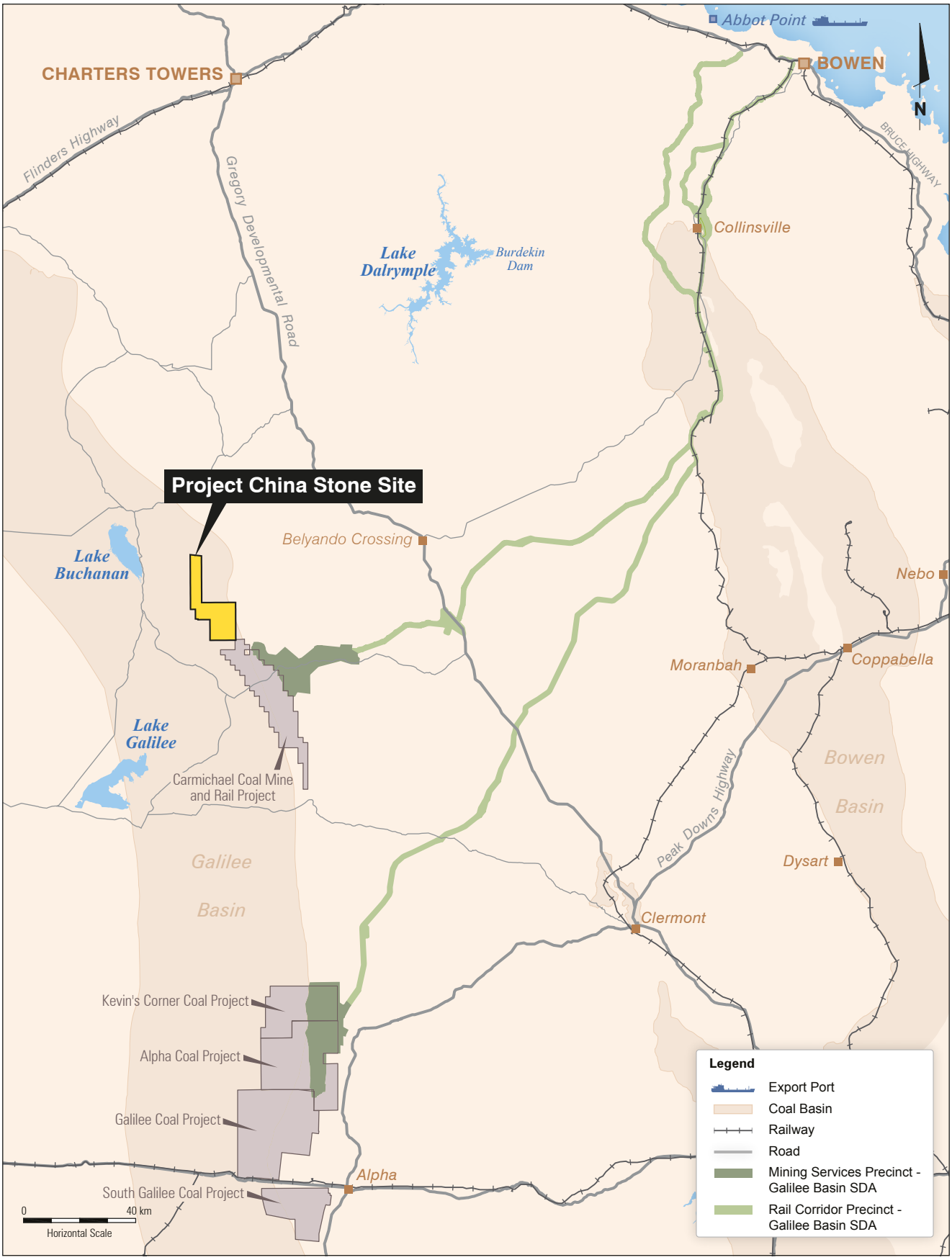
Project Location

FIGURE 18-1



PROJECT CHINA STONE

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Galilee Basin Developments

FIGURE 18-2

PROJECT CHINA STONE

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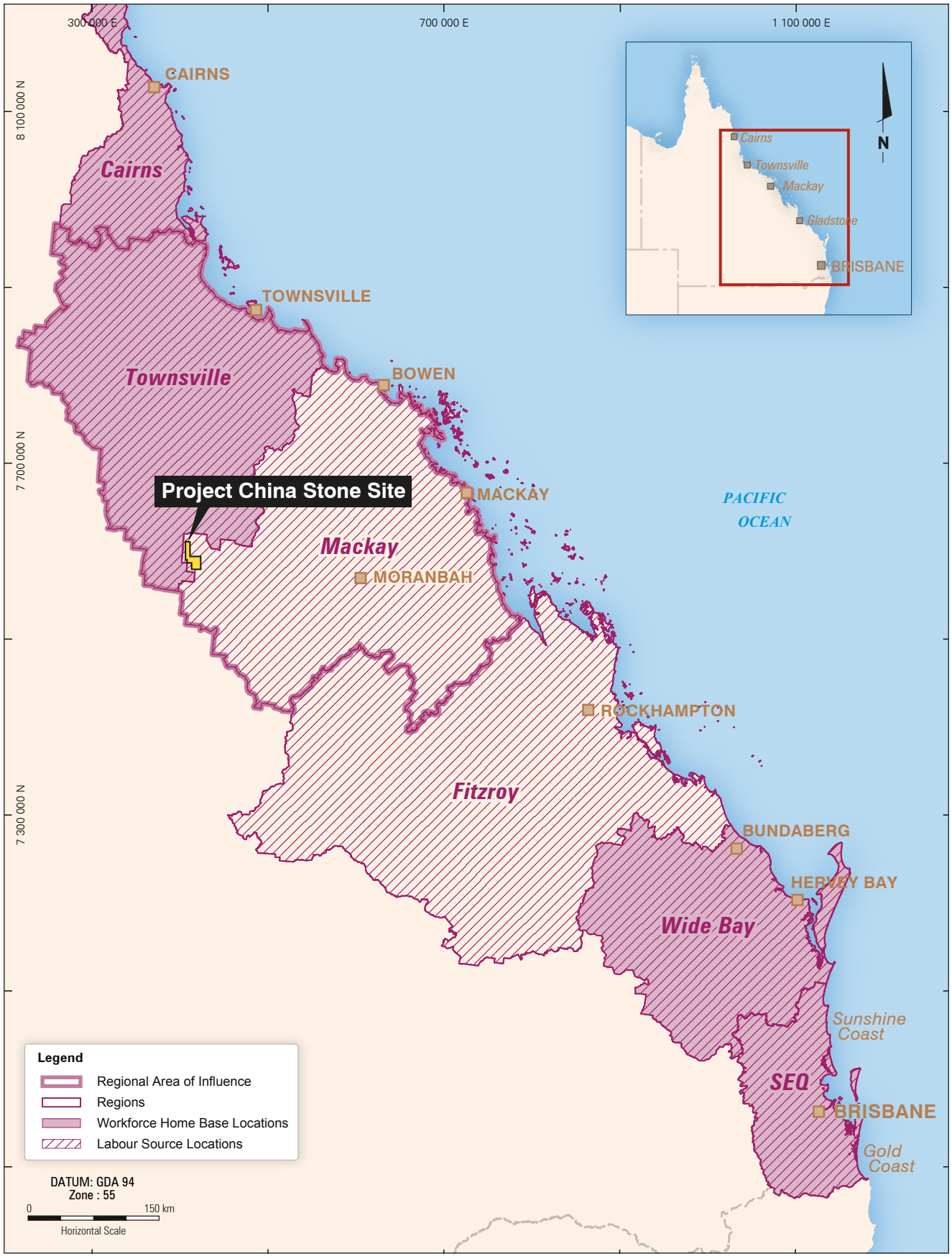
Local Area

FIGURE 18-3



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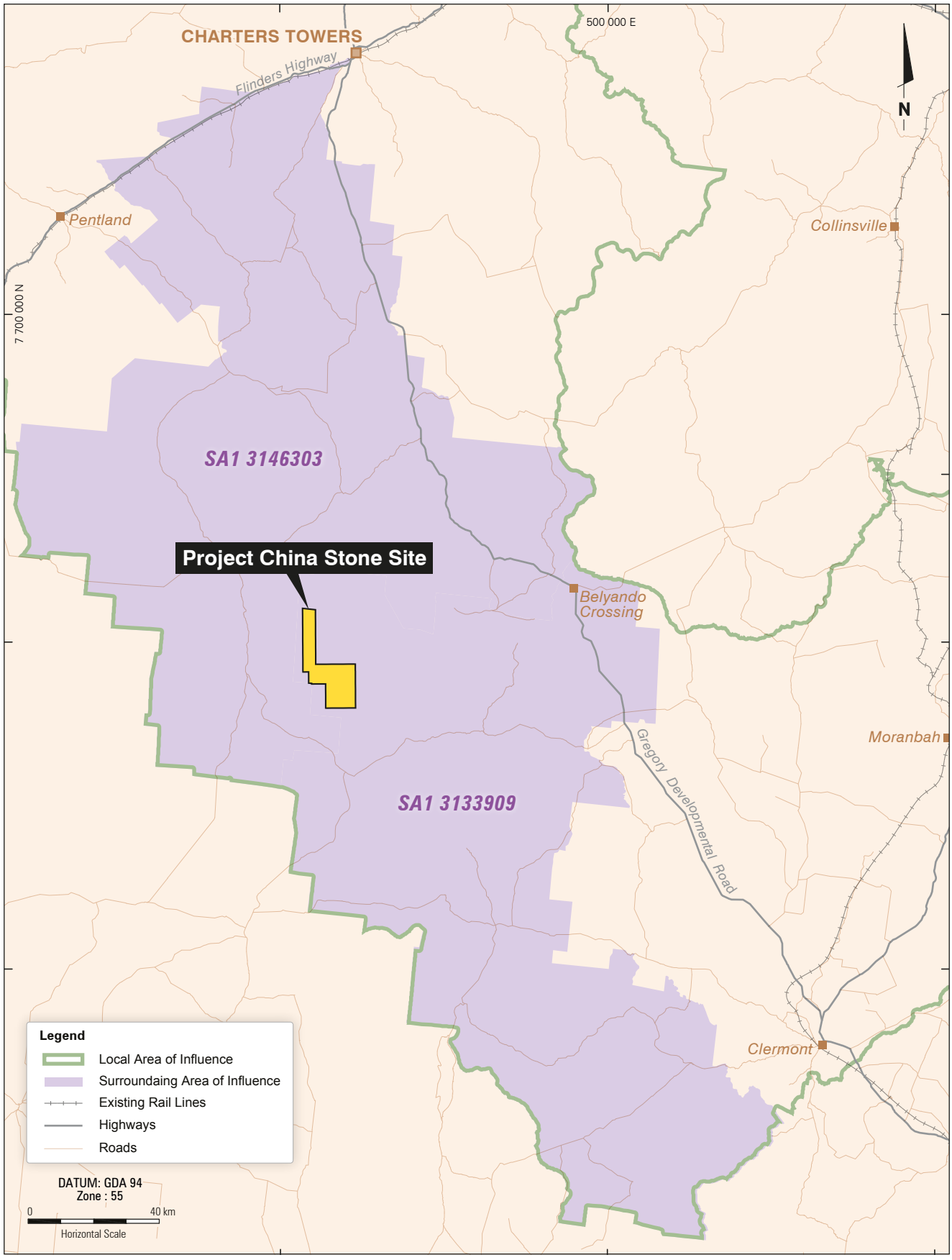
Statistical Regions

FIGURE 18-4



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Surrounding Area

FIGURE 18-5