

# **VICKERY EXTENSION PROJECT**

## **ENVIRONMENTAL IMPACT STATEMENT**

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# **APPENDIX R**

## **SOCIAL IMPACT ASSESSMENT**



# VICKERY EXTENSION PROJECT SOCIAL IMPACT ASSESSMENT

## CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>5</b>
<b>1. INTRODUCTION .....</b>	<b>10</b>
1.1 Purpose.....	10
1.2 Approved Mine.....	10
1.3 Vickery Extension Project.....	10
1.4 Social impact assessment requirements.....	12
1.4.1 SEARs.....	12
1.4.2 SIA Guideline.....	13
1.5 SIA Methodology .....	14
1.5.1 Scoping and preliminary significance assessment .....	15
1.5.2 SIA engagement.....	15
1.5.3 Social baseline.....	16
1.5.4 Impact and benefit assessment .....	16
1.5.5 Mitigation, management and monitoring .....	17
<b>2. SCOPE OF ASSESSMENT .....</b>	<b>17</b>
2.1 Project activities.....	17
2.1.1 Construction Workforce .....	18
2.1.2 Operations Workforce .....	18
2.1.3 Workforce accommodation .....	19
2.1.4 Coal transport .....	19
2.2 Social impacts and benefits of the Approved Mine.....	20
2.3 Stakeholder inputs to Project and EIS process.....	20
2.3.1 Approved Mine consultation.....	21
2.3.2 Project consultation .....	21
2.3.3 Project consultation summary .....	25
2.4 SIA engagement .....	26
2.5 Area of Social Influence .....	37
2.5.1 Private properties near the Project.....	37
2.5.2 Nearest communities .....	37
2.5.3 LGAs .....	40
2.5.4 New England North West Region and NSW .....	40
2.5.5 Kamilaroi nation .....	41
2.5.6 Statistical geography.....	41
2.6 Assessment focus.....	41
<b>3. SOCIAL BASELINE .....</b>	<b>46</b>
3.1 Surroundings.....	46
3.1.1 Settlement pattern .....	46
3.1.2 Amenity.....	48
3.1.3 Natural heritage .....	49
3.1.4 Mining development.....	50
3.2 Culture.....	51
3.2.1 Aboriginal cultural values .....	51

3.2.2	Historic heritage.....	52
3.2.3	Rural values.....	52
<b>3.3</b>	<b>Community.....</b>	<b>54</b>
3.3.1	Governance .....	54
3.3.2	Population characteristics .....	57
3.3.3	Future population.....	62
3.3.4	Community cohesion .....	63
<b>3.4</b>	<b>Way of life .....</b>	<b>64</b>
3.4.1	Rural way of life .....	64
3.4.2	Employment and Economic Strengths .....	64
3.4.3	Employment Opportunities within the Region.....	65
3.4.4	Housing .....	72
3.4.5	Recreation .....	76
<b>3.5</b>	<b>Health and wellbeing.....</b>	<b>77</b>
3.5.1	Physical health.....	77
3.5.2	Mental health .....	78
3.5.3	Vulnerability to crime.....	79
<b>3.6</b>	<b>Access to services and facilities.....</b>	<b>81</b>
3.6.1	Childcare and education .....	81
3.6.2	General practitioners.....	82
3.6.3	Hospital and health services .....	83
3.6.4	Police and emergency services .....	84
3.6.5	Community services.....	85
<b>3.7</b>	<b>Social indicators summary .....</b>	<b>87</b>
<b>4.</b>	<b>IMPACT ASSESSMENT.....</b>	<b>89</b>
<b>4.1</b>	<b>Surroundings.....</b>	<b>89</b>
4.1.1	Access and connectivity.....	89
4.1.2	Acoustic amenity.....	90
4.1.3	Visual amenity .....	92
4.1.4	Flooding.....	93
4.1.5	Use of the natural environment.....	94
4.1.6	Siding Springs Observatory .....	94
<b>4.2</b>	<b>Personal and property rights.....</b>	<b>94</b>
4.2.1	Effects on livelihoods .....	95
4.2.2	Effects on enjoyment of private property .....	96
4.2.3	Landholder rights and aspirations .....	97
4.2.4	Access to decision making.....	98
<b>4.3</b>	<b>Culture.....</b>	<b>98</b>
4.3.1	Aboriginal cultural values .....	98
4.3.2	Aboriginal social use of Project area .....	99
4.3.3	Historic cultural heritage .....	100
<b>4.4</b>	<b>Community.....</b>	<b>100</b>
4.4.1	Population.....	100
4.4.2	Community character.....	104
4.4.3	Community cohesion .....	104
<b>4.5</b>	<b>Way of life .....</b>	<b>106</b>

4.5.1	Rural way of life .....	106
4.5.2	Employment.....	106
4.5.3	Indigenous employment.....	108
4.5.4	Housing .....	109
4.5.5	Local and regional business opportunities .....	111
<b>4.6</b>	<b>Health and wellbeing .....</b>	<b>112</b>
4.6.1	Physical health.....	112
4.6.2	Mental health .....	113
4.6.3	Benefits to wellbeing .....	114
4.6.4	Traffic safety .....	114
4.6.5	Potential for impacts on vulnerable groups .....	114
<b>4.7</b>	<b>Access to services and facilities .....</b>	<b>115</b>
4.7.1	Health and emergency services.....	115
4.7.2	Education and childcare.....	117
4.7.3	Council and community services.....	118
<b>4.8</b>	<b>Cumulative impacts.....</b>	<b>119</b>
<b>4.9</b>	<b>Impacts of non-approval .....</b>	<b>121</b>
<b>4.10</b>	<b>Impacts of Project Closure .....</b>	<b>121</b>
<b>4.11</b>	<b>Evaluation of Significance of Social Impacts and Benefits .....</b>	<b>122</b>
<b>5.</b>	<b>MANAGEMENT STRATEGIES .....</b>	<b>150</b>
5.1	Stakeholder Engagement and Community Participation.....	151
5.2	Neighbour Amenity and Quality of Life.....	155
5.3	Community Infrastructure and Wellbeing .....	158
5.4	Housing and Workforce Management.....	161
5.5	Local Business Opportunities .....	164
5.6	Mine Closure and Decommissioning .....	166
5.7	Monitoring and reporting .....	166

## EXECUTIVE SUMMARY

### Introduction

Whitehaven Coal Limited (Whitehaven) is seeking Development Consent for the Vickery Extension Project (the Project). The Project was declared as State Significant Development (SSD) on 19 February 2016, and Development Consent is therefore being sought from the New South Wales (NSW) Minister for Planning or delegate under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).

The approved Vickery Coal Project (herein referred to as the Approved Mine) is an approved, but yet to be constructed, project involving the development of an open cut coal mine and associated infrastructure, and would facilitate a run of mine (ROM) coal production rate of up to approximately 4.5 million tonnes per year (Mtpa) for a period of 30 years.

The Project would incorporate and extend the operations of the Approved Mine, including the construction of a Project Coal Handling and Preparation Plant and Project rail spur. The Project mine life would be 25 years.

The Project is expected to require a construction workforce of up to 500 personnel and operational workforce of up to 450 personnel. Whitehaven anticipates that the Project operational workforce would be made up of approximately 70% local and approximately 30% non-local hires. For the purposes of impact assessment, it has been assumed that the workforce would reside in the following locations:

- Gunnedah (54% of workforce).
- Boggabri (21% of workforce).
- Narrabri (13% of workforce).
- Manilla (9% of workforce).
- Other (3% of workforce)

An Environmental Impact Statement is being prepared for the Project in accordance with Secretary's Environmental Assessment Requirements (SEARs), originally issued in February 2016 following submission of the Project Description and Preliminary Environmental Assessment (PEA) for the Project. The SEARs were finalised in July 2018 after Whitehaven provided notification of changes to the Project layout and rail spur alignment in comparison to the description of the Project in the PEA.

### Social Impact Assessment Guideline

This Social Impact Assessment (SIA) has been prepared in accordance with the SEARs and in general accordance with the NSW Department of Planning and Environment's (DP&E's) Social Impact Assessment Guideline for State Significant Development (SIA Guideline), published in September 2017. It is noted the PEA and SEARs for the Project were issued prior to the publication of the SIA Guideline and so some scoping elements of the SIA Guideline that would otherwise inform a project's SEARs were not required for the Project.

### Area of Social Influence

The Project is a State Significant Development and has the potential to result in significant socio-economic benefits at the State level. The net benefits of the Project to NSW residents are estimated in the Economic Assessment prepared for the Project (EIS Appendix J).

The SIA assesses material social impacts, defined in the SIA Guideline as 'impacts that matter the most, and/or pose the greatest risk to those expected to be affected'. The primary region of influence includes the Gunnedah and Narrabri LGAs, where the Project is located and where the majority of its employees are expected to reside. The Gunnedah and Narrabri LGAs had a total population of approximately 25,000 in 2016. The Kamilaroi people's traditional connection to the region is also acknowledged.

The SIA includes a focus on Boggabri which is the closest township (at greater than 10 kilometres) to the Project. Boggabri is expected to host the majority of the Project construction workforce in an existing accommodation camp located on the outskirts of the town, and is expected to experience changes in population (estimated to be in the order of 5 to 10%) due to operational employees and their families moving to the town. Given the location of the Project and the smaller population of Boggabri township (at approximately 850 people in 2016), the potential social benefits and impacts due to the Project are likely to be noticeable to the residents of Boggabri.

The SIA also includes a focus on properties from which the Project may be audible or visible, where land owners may experience amenity-related impacts and associated social impacts.

### **Consultation Process**

This SIA has drawn on several sources to establish a social baseline for the area and identify potential changes to social conditions, including:

- Review of studies, consultation and community feedback received for the Approved Mine.
- Consideration of the SEARs for the Project, which identify key issues requiring specialist assessment beyond this SIA.
- Review of plans, strategies and the demography of the Project region.
- Review of the findings of other relevant EIS studies.
- Consultation undertaken by Whitehaven for the Project, which has included the presentation of the final Project layout to local land owners and other stakeholders, and draft results from the EIS studies.
- Consultation undertaken by Elliott Whiteing specifically for this SIA, which included:
  - Interviews with Gunnedah and Narrabri Shire Council representatives;
  - Meetings with members of organisations representing broader community views, including the Red Chief Local Aboriginal Land Council, Boggabri Business Promotion and Community Progress Association, and the Vickery Community Consultative Committee.
  - Workshops and interviews with service providers including education, health and emergency services; and
  - Interviews with property owners located in close proximity to the Project mining area and rail spur.

The outcomes of consultation informed the summary of potential benefits and impacts of the Project provided below.

## Potential Impacts and Benefits

### *LGA Level:*

- There was general support and acknowledgement of the benefits of the Project and existing mining operations to the LGAs (and the towns of Gunnedah and Narrabri, specifically), particularly with respect to local employment opportunities and the associated benefits of:
  - employment pathways that enable people to stay in the region, including the region's younger people;
  - providing employment opportunities for people who may currently be socio-economically disadvantaged;
  - the potential for increased, sustainable population growth due to new residents (and their families) moving to the region;
  - support for local businesses due to increased trade (from employee expenditure and Whitehaven's direct expenditure); and
  - diversifying employment in the region (e.g. beyond agriculture), particularly during periods such as the current drought.
- While benefits were generally acknowledged by SIA consultation participants, this was qualified with the need for Whitehaven to work collaboratively with the community and local governments to manage any associated incremental changes to social character and stresses to social infrastructure, such as:
  - access to services and facilities (including health, emergency and childcare services);
  - draw of labour from other industries;
  - vocational training to maximise local employment opportunities.
- Although local recruitment would be prioritised, a portion of the Project's operational workforce (and family members) is assumed to be new residents to the region and are likely to represent population growth in the order of 1.4% in the Gunnedah LGA and 0.9% in the Narrabri LGA compared to the projected 2021 population. This would not be expected to significantly impact on social character or services, and may offset population decline that could otherwise occur in the absence of the Project.
- Key measures recommended to mitigate and manage potential social impacts at the LGA level include:
  - Ongoing and meaningful consultation with the community, particularly in regard to the expected timing of construction and operation of the Project, to allow for planning for any increased service requirements and training opportunities;
  - Encouraging local businesses to participate in the Project's supply chain; and
  - Implementation of policies that encourage employees to live locally and participate in local organisations.

### *Boggabri:*

- A key theme of consultation with community members was the concern that Boggabri, to date, had not experienced the same level of benefits that Gunnedah and Narrabri had experienced as a result of the region's existing mining operations.



- For the Project, concerns were that:
  - Social benefits would continue to be experienced at Gunnedah/Narrabri, but not in Boggabri, where services and community members would see an increased non-local population during construction, with potential for changes to social character or service access; and
  - There may be stresses on housing availability/affordability (particularly for lower income residents) if supply lags behind demand during operations.

Key measures recommended to mitigate and manage potential social impacts in Boggabri include:

- Ongoing and meaningful consultation with the Boggabri community in regard to the expected timing of construction and operation of the Project to allow for planning for any increased business opportunities, service requirements and training opportunities.
- Assisting Boggabri (and the Narrabri Shire Council) to promote the town to employees as an attractive place to reside.
- Use of the accommodation camp for the construction workforce (which by nature is temporary), which mitigates short-term increases in housing demand, and discouragement of the construction workforce from using other forms of accommodation in Boggabri that would otherwise serve permanent residents and tourists.
- Implementation of employment policies and procedures that prevent any anti-social behaviour of employees, including during the construction period.
- A focus on Boggabri's community development as part of Whitehaven's Voluntary Planning Agreements and sponsorship and donations program.

*Local Land owners:*

- The majority of land owners interviewed for the SIA were concerned about the potential for the Project to impact on their properties' amenity and/or the area's rural character (regardless of predicted compliance with regulatory levels, where relevant), and/or on water resources, flooding characteristics or property values.
- Other specialist studies in the EIS comprehensively predict and assess potential impacts to noise, air quality, water resources, flooding, visual amenity and agricultural resources (noting the Project is located on land owned by Whitehaven or for which there is an existing land access agreement).
- The EIS describes the range of mitigation measures to be implemented for the Project to minimise impacts to surrounding land owners to levels that are as low as is reasonable or feasible, in consideration of thresholds of acceptability specified by the NSW government in regulatory policies. A property owner's right to mitigation or acquisition upon request for residual impacts is determined by NSW government policies such as the Voluntary Land Acquisition and Mitigation Policy (e.g. mitigation and acquisition rights for predicted and actual noise and air quality impacts above specified thresholds) and the NSW Aquifer Interference Policy (e.g. "make good" provisions for actual groundwater impacts above specified thresholds).
- It is anticipated that if the Project is approved, it would be subject to conditions of Development Consent requiring compliance with regulatory thresholds, with ongoing monitoring and reporting required by Whitehaven to demonstrate compliance, as well as independent auditing and regulatory auditing/enforcement to confirm compliance. Whitehaven would also maintain a community complaints system to allow the community to report concerns, which would trigger an investigation and appropriate response.

- Notwithstanding, there is potential for some local land owners to experience impacts on enjoyment of their properties due to visual amenity impacts, Project-related noise and/or the feeling that rural character would be changed by an increase in mining activity.
- Some land owners also identified that they are experiencing fears and anxiety regarding the Project's potential to impact on property values, environmental values or flooding.
- In addition to the mitigation measures described in the EIS, and ongoing compliance monitoring, the following key measures are recommended:
  - A strategy for ongoing communication with local land owners (e.g. within 5 km of the Project mining area and approximately 2 km of the Project rail spur) to discuss property specific issues and mitigation plans.
  - At the request of property owners, development of property-specific management plans which address property owners' specific concerns.
  - The results of monitoring that demonstrate compliance with environmental standards specified in any approval conditions or the EIS are made publicly available and are communicated to the property owners and via the CCC to other community members on a regular basis.
  - Maintenance of a community complaints system, with investigation, responses and where required, management actions undertaken for all complaints.

#### *Environmental qualities*

- Stakeholders consistently stated the Project should be operated in a manner that minimises impacts to the surrounding environment, and avoids impacts on the Namoi River, its flood plains and the Upper Namoi Alluvium groundwater system.
- In this regard, Whitehaven's decision to remove the Blue Vale Open Cut from the Project mine plan to move the Project further away from the Namoi River was viewed positively.

Measures to avoid, mitigate, manage and offset the potential environmental impacts of the Project are described in the EIS and its specialist studies.

## **1. INTRODUCTION**

### **1.1 Purpose**

Whitehaven Coal Limited (Whitehaven) is seeking Development Consent for the Vickery Extension Project (the Project). The Project was declared as State Significant Development (SSD) on 19 February 2016, and Development Consent is therefore being sought from the NSW Minister for Planning or delegate under Part 4 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).

An Environmental Impact Statement (EIS), including Social Impact Assessment (SIA), is required as part of the Development Consent application process.

This report documents the Vickery Extension Project SIA as follows:

- Section 1 outlines the requirements for SIA and the methodology applied;
- Section 2 describes the results of the SIA scoping process and the focus of assessment;
- Section 3 details the social baseline for the Project's social area of influence;
- Section 4 details the Project's impacts and benefits, including an evaluation of their significance to local and regional communities; and
- Section 5 describes the Project's social impact management, mitigation, enhancement and monitoring strategies.

### **1.2 Approved Mine**

The former Vickery Coal Mine and the former Canyon Coal Mine are located approximately 25 kilometres (km) north of Gunnedah, in New South Wales (NSW). Open cut and underground mining activities were conducted at the former Vickery Coal Mine between 1986 and 1998 and at the former Canyon Coal Mine between 2000 and 2009. The former Vickery and Canyon Coal Mines have been rehabilitated following their closure.

The approved Vickery Coal Project (herein referred to as the Approved Mine) is an approved, but yet to be constructed, project owned by Whitehaven involving the development of an open cut coal mine and associated infrastructure, and would facilitate a run of mine (ROM) coal production rate of up to approximately 4.5 million tonnes per year (Mtpa) for a period of 30 years.

### **1.3 Vickery Extension Project**

The Project would incorporate and extend the operations of the Approved Mine, which is located approximately 12 km southeast of Boggabri and 25 km north of Gunnedah, within the Narrabri and Gunnedah Local Government Areas (LGAs).

The Project would include construction and operation of a Project Coal Handling and Preparation Plant (CHPP), train load-out facility and rail spur, and associated infrastructure for water management, energy supply and road access.

The construction period would require up to 500 full-time equivalent (FTE) personnel (compared to the Approved Mine's requirement for a peak construction workforce of approximately 50 FTE personnel).

At full development, the Project's operational workforce would be in the order of 450 FTE on-site personnel (compared to approximately 250 FTE on-site personnel for the Approved Mine operational workforce). Over the life of the Project, an average of 344 FTE jobs would be created (compared to an average of 213 jobs for the Approved Mine).

Table 1-1 provides a summary comparison of the Approved Mine and Project components.

**Table 1-1: Approved Mine and Project Summary**

Project Component	Summary of the Approved Mine	Summary of the Project
Mine life	Approximately 30 years.	Approximately 25 years.
Mining method	Open cut mining to a depth of approximately 250 m below ground level.	Unchanged from the Approved Mine.
Open cut extent	One open cut.	Extension of the Approved Mine's open cut.
Annual production rate	Up to 4.5 Mtpa of ROM coal.	Up to approximately 10 Mtpa ROM coal.
Total resource	135 Mt ROM coal.	179 Mt ROM coal.
Management of waste rock, coal rejects and final landform	Co-disposal of waste rock and coal rejects from the Whitehaven CHPP within the Western and Eastern Emplacements and within the footprint of the open cut voids.  The Project area currently includes five final voids associated with historic mining activity. The final landform would include three final voids (Northern and Southern voids and existing Blue Vale final void).	Co-disposal of waste rock and coal rejects within the Extended Western Emplacement and within the footprint of the open cut void.  No requirement to construct the approved Eastern Emplacement.  The final landform would reduce the number of final voids from five to two (the Project open cut final void and the existing Blue Vale final void).
Coal handling, processing and transport infrastructure	On-site coal crushing and screening facilities.  Use of the Approved Road Transport Route to haul ROM coal from the Project to the Whitehaven CHPP for processing.  Use of the Whitehaven CHPP, train load-out and rail spur infrastructure to transport product coal to market.	Use of the Approved Road Transport Route to haul ROM coal from the Project to the Whitehaven CHPP until the Project CHPP, train load-out facility and rail spur infrastructure reach full operational capacity.  Ability to receive ROM coal via road from other Whitehaven mining operations for stockpiling and/or processing at the Project CHPP.  On-site processing of up to approximately 13 Mtpa of ROM coal (combined) from the Project and other Whitehaven mining operations.  Use of the Project train load-out facility and rail spur infrastructure to transport up to approximately 11.5 Mtpa of product coal (combined) to market from the Project and other Whitehaven mining operations.
Water management	On-site water management system comprising water management storages and collection drains, up-catchment diversions, sediment control and open cut dewatering.	Unchanged from the Approved Mine.
Water supply	Mine water supply to be obtained from inflows to open cut areas, sediment dams and storage dams, plus surface water and/or groundwater licences as required.	Unchanged from the Approved Mine, with an additional groundwater supply bore field and associated pipeline.
Workforce	Up to 50 full-time construction workforce plus additional contract personnel.	Up to 500 full-time equivalent construction personnel.  Up to 450 full-time equivalent on-site operational personnel.

Project Component	Summary of the Approved Mine	Summary of the Project
	Up to 250 full-time on-site operational personnel plus additional contract personnel.	
Operating hours	Mining would occur 24 hours per day, seven days per week.	Unchanged from the Approved Mine.

Source: Section 1 of the EIS

## 1.4 Social impact assessment requirements

### 1.4.1 SEARs

The Secretary's Environmental Assessment Requirements (SEARs) were issued for the Project on 19 February 2016 and updated in March 2018, and again in July 2018. The requirements of the SEARs have been addressed in the EIS via relevant specialist assessments (Table 1-2).

**Table 1-2: Specialist Assessments prepared in response to the Project SEARs**

Issue Identified in the SEARs	Specialist Assessment Prepared for the Project EIS	Appendix of the Project EIS
Water	Groundwater Assessment	Appendix A
	Surface Water Assessment	Appendix B
	Flood Assessment	Appendix C
Noise	Noise and Blasting Assessment	Appendix D
Air	Air Quality and Greenhouse Gas Assessment	Appendix E
Biodiversity	Biodiversity Assessment Report and Biodiversity Offset Strategy	Appendix F
	Aquatic Ecology Assessment	Appendix N
Land	Agricultural Impact Statement	Appendix H
	Geochemistry Assessment	Appendix M
	Land Contamination Assessment	Appendix Q
Heritage	Aboriginal Cultural Heritage Assessment	Appendix G
	Historic Heritage Assessment	Appendix K
Transport	Road Transport Assessment	Appendix I
Visual and Light	Visual Assessment	Appendix L
Hazards	Environmental Risk Assessment	Appendix O
	Preliminary Hazard Analysis	Appendix P
Social and Economic	Social Impact Assessment (This report)	Appendix R
	Economic Assessment	Appendix J

Specific to the SIA, the SEARs require: “an assessment of the likely social impacts of the development on the local and regional community generally in accordance with the *Social Impact Assessment Guidelines for State Significant Mining, Petroleum Production and Extractive Industry Development (2017)*.”

The SEARs also require consultation with relevant Local and State Government authorities, service providers, community groups and affected land owners, and identification of the issues that were raised in consultation and how they have been addressed in the EIS.

The SIA has been prepared in accordance with the SEARs, and reflects relevant issues raised in the Gunnedah Shire Council (GSC) and Narrabri Shire Council (NSC) submissions on the draft SEARs.

For GSC, this included:

- ensuring the Project's planning consent provides sufficient safeguards to protect Council and land owners adjacent to the mine from adverse environmental, social and economic impacts;
- an assessment that addresses:
  - population and housing, including accommodation impacts;
  - workforce and training, including training programs and workforce supply; and
  - cumulative impacts;
- assurance of a minimum 75% local operational workforce, with provision of Project support for apprenticeships and a housing development program; and
- a fair and equitable contribution to Council reflective of the impacts of development on local infrastructure and services.

The NSC submission requested attention to the following matters:

- likely and potential economic and social impacts within the locality and the wider Narrabri Local Government Area (LGA) in relation to employment and housing;
- assurance of Whitehaven's local employment practice, citing the commitment that over 75% of Whitehaven employees live in the region around its mines and operations; and
- articulation and implementation of clear commitments to the Narrabri LGA community.

On 14 April 2016, it was also determined that the Project would impact upon matters of national environmental significance (MNES) protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), including specific threatened species and communities, and water resource management. These aspects are addressed in detail in the relevant chapters of the EIS. Social use of environmental resources has been considered in the SIA.

#### **1.4.2 SIA Guideline**

The NSW Department of Planning and Environment's (DP&E's) *Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development - September 2017* (SIA guideline) was published in September 2017.

As the SEARs were originally issued prior to the publication of the SIA Guideline, and the EIS was not submitted within 6 months of the publication date, the following transitional arrangement applies:

"The Department, in consultation with the applicant, will re-issue the Secretary's Environmental Assessment Requirements to require the social impact assessment component of the environmental impact statement to be prepared in accordance with this guideline."

The Project SEARs were reissued on 14 March 2018 to require the SIA to be prepared generally in accordance with the SIA Guideline. The final SEARs (July 2018) were consistent with those from March 2018.

The applicable transitional arrangement also provides that the scoping component of the SIA Guideline is not required, as SEARs for the Project had been issued prior to the SIA Guideline.

The SIA addresses the key provisions of the SIA Guideline, including:

- application of key principles, including:
  - inclusion of a range of stakeholder viewpoints;
  - identification of impacts which are material (i.e. matter the most, and/or pose the greatest risk to those expected to be affected), and assessment which is proportionate to the scope and scale of potential social impacts;
  - assessment of social impacts throughout the Project's life cycle, including the distributive equity of impacts and benefits;
  - integration of other EIS findings with relevance to social values;
  - development of action oriented, adaptive impact management strategies;
  - provision of a rigorous, impartial and transparent SIA;
- consideration of all potential social impacts including cumulative impacts;
- preparation of a social baseline documenting conditions and trends without the Project, with respect to the matters identified as material during scoping (Section 3);
- assessment of all social impacts and benefits with potential for a material effect on social values, including integration of EIS results with a bearing on the social environment (Sections 4.1 – 4.10);
- significance assessment of identified social impacts and benefits, and justification of significance ratings (Section 4.11); and
- development of adaptive management and monitoring strategies, and determination of the residual social risk (Section 4.11).

## 1.5 SIA Methodology

*'Social impact assessment is a process, not a product'*<sup>1</sup>. Whilst a SIA is usually produced to support assessment of a Project, its key aim is to enable the Project to have good social outcomes and contribute to socially sustainable development.

The *International Principles for Social Impact Assessment* define SIA as “the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions.<sup>2</sup>” As social environments are complex and dynamic, this requires an ongoing process of management and monitoring throughout a Project's life.

The objectives for this SIA were to:

- develop a comprehensive baseline of social conditions based on research, analysis and stakeholder engagement;
- identify the potential for direct, indirect and cumulative social impacts, and their distribution;

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<sup>1</sup> Vanclay, F. et. al (2015)

<sup>2</sup> Vanclay, F (2003)



- ensure assessment is focussed on potential social impacts and opportunities that matter to local stakeholders and/or may have material effects for social conditions;
- undertake an inclusive stakeholder engagement process to inform the baseline, impact assessment and mitigation development;
- provide a detailed assessment of likely impacts and benefits, and their significance for each stage of the Project (construction, operation and post-mining);
- consider biophysical impacts and their interaction with social values;
- develop strategies to avoid or mitigate social impacts, and actions which would enhance social benefits; and
- provide a monitoring and reporting strategy to support adaptive management of social impacts.

The following sub-sections outline the process undertaken for the SIA.

### **1.5.1 Scoping and preliminary significance assessment**

The objective of SIA scoping is to identify and evaluate the potential significance of social impacts and benefits which may occur as a result of the Project, the geographic area in which they may occur, and the investigations required as part of the SIA. While the formal scoping component of the SIA Guideline was not required due to the transitional arrangements applicable to the Project, extensive scoping based on previous consultation and studies for the Approved Mine and the Project was conducted for this report.

The scoping process included:

- identifying the range of Project activities which could affect social conditions (Section 2.1);
- analysis of the potential for direct, indirect or cumulative impacts at local or regional level (Section 2.2);
- consideration of the identified social impacts of the Approved Mine (Sections 1.2 and 2.3.1);
- analysis of stakeholder views on social impacts as identified in Project consultation to date (Section 2.3) and SIA-specific engagement (Section 2.4);
- definition of the Project's social area of influence (Section 2.5); and
- based on analysis of the previous steps, and reference to social baseline characteristics, identification of the Project's likely potential impacts and benefits, and investigations to be undertaken as part of the SIA (Section 2.6).

### **1.5.2 SIA engagement**

The experience and views of local community members are critical inputs to the SIA. The assessment considered all relevant data regarding community issues and impacts captured during Whitehaven's earlier consultation for the Approved Mine and during preparation of the Project EIS. SIA-specific engagement was also undertaken to gain a clear understanding of community views about the Project's potential social impacts and benefits.

SIA engagement was undertaken during July-August 2018. It included consultation with 17 land owners in the areas directly adjacent to and surrounding the Project area. Interviewees were chosen as representative of people who have the highest potential to experience Project impacts due to the proximity of their dwellings and properties to the Project. Land owners were consulted through a combination of face-to-face meetings and phone interviews. All land owners of privately-owned property adjacent to the Project area (including the Project rail spur) were invited to participate in the SIA.



Meetings were also held with stakeholders who represent local community interests, including Narrabri Shire Council, Gunnedah Shire Council, Redchief Local Aboriginal Land Council (LALC) and Winanga-Li Aboriginal Child and Family Centre. The SIA team also attended a teleconference with the Vickery CCC to hear their concerns about the Project. Three local workshops were held with local service providers and business stakeholders in Gunnedah, Boggabri and Narrabri, including the Boggabri Ambulance Service, Boggabri Multi-Purpose Health Centre and the Boggabri Home and Community Care service.

Supplementary phone interviews were undertaken with the Gunnedah Hospital and Health Service Manager, and with the Boggabri Primary School principal. NSW Police representatives from Gunnedah and Narrabri were invited to workshops and to participate in an interview, however their participation was not secured during the SIA consultation phase. NSW Fire and Rescue Service representatives were also invited to participate, but advised that Rural Fire Service access to the Project site will be in accordance with the relevant legislation.

Further detail on stakeholder engagement is provided in Section 2.5.

### **1.5.3 Social baseline**

The social baseline (Section 3) documents the social conditions and trends in the area of influence for matters identified as material to the SIA. The baseline was informed by stakeholder consultation as noted in relevant sections, and describes:

- the Project's surroundings, including the settlement pattern, amenity, natural heritage, and public and community safety;
- cultural values, including Aboriginal values historic heritage relating to the Project area, rural values and attitudes to mining;
- community characteristics, including population size and growth, cultural diversity and social indicators,
- way of life, including community cohesion, employment, and access to housing and recreation;
- access to social infrastructure, including education services, health services and community facilities; and
- health and wellbeing, including physical and mental health.

Stakeholder inputs and other baseline data enabled analysis of the likelihood of material impacts, and will support monitoring of the Project's social impacts and benefits.

### **1.5.4 Impact and benefit assessment**

The potential social impacts and benefits were assessed based on analysis of:

- stakeholder inputs on their experience of social impacts and benefits resulting from existing local mining operations;
- EIS findings on changes to environmental values; and
- the likelihood of material changes to social conditions and trends as a result of the Project.

This included analysis of the predicted nature and scale of potential social impacts for the life of the Project, relative to the Approved Mine, including their duration and distribution. For impacts where there are no valid metrics, the assessment refers to the range of relevant stakeholder views on the issue, with professional judgement based on experience with other mining projects applied in relation to the likelihood of changes to social values.

The assessment includes cumulative social impact assessment, addressing the impacts of other projects in the immediate region which may coincide with Project impacts.

Other EIS specialist studies have examined potential impacts on environmental values which influence social values (including air quality, surface water, groundwater and noise impacts) from a scientific and standards-based perspective. The SIA has examined these issues from the perspective of potential effects on social values and conditions.

The assessment of impacts, benefits and their significance to local and regional communities is detailed in Section 4.

### **1.5.5 Mitigation, management and monitoring**

The development of mitigation and management strategies was informed by stakeholder inputs, Whitehaven's existing management strategies, and industry practice. The SIA management and monitoring framework is presented in Section 5 and includes:

- recommended mitigation strategies, actions and responsibilities;
- performance outcomes;
- adaptive management strategies for identified impacts; and
- a monitoring framework in accordance with the SIA Guideline's requirements.

## **2. SCOPE OF ASSESSMENT**

This section summarises Project activities which would interact with the social environment, the identified social impacts of the Approved Mine, stakeholder inputs on potential social impacts and benefits, the area of influence assessed in the SIA, and the results of a preliminary assessment of the Project's potential social impacts and benefits.

### **2.1 Project activities**

Construction of the Project is proposed to commence in 2019 (Project Year 1), with first coal expected to be extracted during 2020 (Project Year 2). With open cut mining expected to occur for approximately 25 years, the Project would have a total life of 26 years (to approximately 2044).

The Project's main activities include:

- construction and operation of a mine infrastructure area, a Project CHPP, train load-out facility, and rail spur and loop to connect the Project to the Werris Creek Mungindi Railway;
- construction and operation of ancillary infrastructure such as water management infrastructure, soil stockpile areas and laydown areas, including on-site excavation and production of rock and gravel fill materials;
- changes to the road network including closure of portions of Braymont Road and Shannon Harbour Road and construction of the approved Blue Vale Road realignment (adjacent to the western and southern boundaries of the Vickery State Forest and around the secondary infrastructure areas) to allow continued public access around the Project;
- mining, processing and transport of coal, including:

- open cut mining to extract ROM coal at an average rate of 7.2 Mtpa over 25 years, with a peak production of up to approximately 10 Mtpa (compared to 4.5 Mtpa for the Approved mine);
- disposal of dewatered waste rock and coal reject material in an elevated emplacement to the west of the Mine, within the footprint of the open cut void;
- receipt, processing and/or stockpiling of metallurgical and thermal ROM coal transported by road from other Whitehaven mines;
- processing of up to approximately 13 Mtpa ROM coal at the Project CHPP (from the combined sources of the Project and other Whitehaven mines); and
- rail transport of up to approximately 11.5 Mtpa of metallurgical and thermal coal for the export market (from the combined sources of the Project and other Whitehaven mines), with an average of five and maximum of eight loaded train departures per day;
- a construction workforce of up to 500 FTE personnel; and
- an operational workforce in the order of 450 FTE on-site personnel at full development, which is anticipated in Project Year 3.

At the completion of Project mining activities, infrastructure would be decommissioned (where an agreement to retain infrastructure is not in place with relevant stakeholders), and final landform earthworks and revegetation would be completed.

### **2.1.1 Construction Workforce**

Construction would occur during a number of stages over the life of the Project. The major construction period would be in Project Year 1 and would require up to 500 FTE construction personnel (compared to the Approved Mine's requirement for a peak construction workforce of approximately 50 FTE personnel).

This period would focus on the development of the mine infrastructure area (including the Project CHPP and mine access road), Project rail spur and rail loop, water management infrastructure and water and electricity supply infrastructure. Construction/development activities would generally be undertaken in daylight hours, Monday to Sunday (inclusive) (Section 2.4 of the EIS).

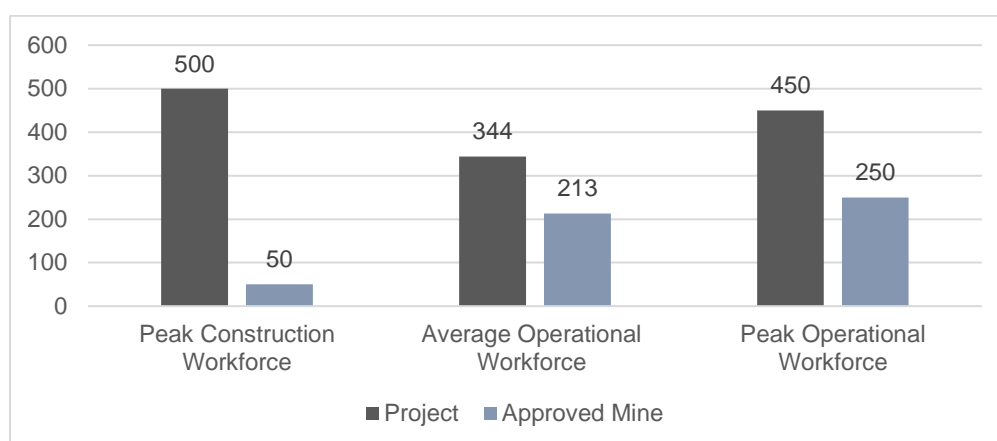
Other construction activities would be undertaken over the life of the Project including progressive development and augmentation of the Project Water Management System, roads, ancillary infrastructure, machinery and environmental monitoring equipment upgrades and relocation of public infrastructure and services. The construction workforce associated with progressive works are expected to be small, with little potential for impacts on the population, housing access or demand for social infrastructure.

Exploration activities would also continue to be conducted in the Development Application area during the life of the Project, to investigate geological features, seam structures and coal/overburden characteristics as input to detailed mine planning.

### **2.1.2 Operations Workforce**

The Project's operational workforce at full development, anticipated in Year 3, would be in the order of 450 FTE on-site personnel (compared to approximately 250 personnel for the Approved Mine). Figure 2-1 summarises the workforce numbers for the Project and the Approved Mine.

**Figure 2-1: Project and Approved Mine workforce (FTE)**



Source: Project workforce estimates provided by Whitehaven Coal Limited. Approved Mine estimates derived from the EIS for the Approved Mine (Whitehaven, 2013)

Whitehaven anticipates that the Project operational workforce would be made up of approximately 70% local and approximately 30% non-local hires. Whitehaven would target employment of 10% of the operational workforce being of Aboriginal and/or Torres Strait Islander descent within five years of commencement of operations.

### 2.1.3 Workforce accommodation

Whitehaven's existing personnel include long term local residents, new local residents who have moved to the area as a result of employment and personnel who rent local houses, including Whitehaven-owned houses, and return to their home bases on weekends. Short term contractors are accommodated in the Civeo Villages in Boggabri and Narrabri.

Whitehaven has advised that construction of the Project would require a labour force with highly specialised skills including specialised welders, fitters, electrical contractors, machinery mechanics and construction engineers. It is therefore anticipated that the majority of the construction workforce would be non-local hires. Whitehaven anticipates that some 90% of the construction workforce (450 personnel at peak) would reside in the Civeo Boggabri Village with the remaining 10% (50 personnel) expected to already reside in the local area.

Whitehaven is committed to employing a local workforce, and most of the Project's operational personnel are expected to be drawn from the Narrabri and Gunnedah LGAs, or to move to the local area on a permanent basis, with some buying and some renting dwellings. If rental housing stocks are inadequate for demand when operations commence, non-local personnel would be accommodated in the Civeo Accommodation Village until such time as housing is available.

### 2.1.4 Coal transport

Until the Project CHPP, train load-out facility and Project rail spur reach full operational capacity, transport of ROM coal from the Project to the Whitehaven CHPP by road would be conducted consistent with the Development Consent (SSD-5000) conditions for the Approved Mine (i.e. up to a total of 3.5 Mtpa ROM coal, or up to 4.5 Mtpa ROM coal subject to the construction of the approved private haul road and Kamilaroi Highway overpass).

The Whitehaven CHPP is located approximately 5 km north-east of the Gunnedah town centre. The Whitehaven CHPP receives coal from Tarrawonga, Rocglen and Sunnyside Coal Mines via road. After processing, coal is transported via rail for export.

Once the Project CHPP, train load-out facility and Project rail spur reach full operational capacity, ROM coal from the Project would no longer be processed at the Whitehaven CHPP. ROM coal from other Whitehaven mines would also be transported to the Project CHPP by on-road haul trucks for processing and off-site transportation via the Project rail spur.

The Project would require construction and operation of a Project rail spur and loop (including associated watercourse and road crossings) to connect the Project to the Werris Creek Mungindi Railway. Up to approximately 11.5 Mtpa of metallurgical and thermal coal for the export would be railed, with an average of 10 and a maximum of 16 train movements per day.

The potential for rail haulage to affect the amenity or safety of residents or other community members was assessed as part of the noise and air quality impact assessments for the Project (Appendices D and E to the EIS, respectively) and relevant findings are incorporated in the SIA.

## **2.2 Social impacts and benefits of the Approved Mine**

The Approved Mine's EIS identified the following social impacts and benefits:

- the requirement for a small construction workforce, with minor impacts on regional employment and population;
- potential for cumulative construction-related demand to impact on the availability of short-term accommodation for tourism;
- the requirement for an average operational workforce of some 193 personnel (of whom 48 were assumed to be non-local);
- potential for a high proportion of Whitehaven's Rocglen Coal Mine employees to relocate to the Project, decreasing the requirement for non-local personnel, and therefore decreasing additional demands on community infrastructure; and
- potential for cumulative impacts of the Approved Mine with the Boggabri, Tarrawonga and Maules Creek Coal Mines, including impacts on:
  - housing access;
  - education, training and health services and facilities;
  - local skills shortages; and
  - sense of place, in relation to cumulative population influxes.

Where relevant these impacts have been considered in this SIA, along with the potential impacts which could result from changes to the Project's footprint and infrastructure arrangements, and increased workforce requirements.

## **2.3 Stakeholder inputs to Project and EIS process**

Consultation was undertaken with community members and stakeholders for the Approved Mine during 2012, and initial consultation about the Project was undertaken during 2016. During 2016-2018, Whitehaven met with land owners and the GSC and NSC to provide Project updates, and participated in two Vickery CCC meetings. The results of Project consultation to date are summarised below.

### 2.3.1 Approved Mine consultation

Consultation undertaken prior to and during the preparation of the Approved Mine EIS included Federal, State and local government agencies, infrastructure owners and service providers, as well as public consultation including the local community, affected land owners and the Aboriginal community.

Government agencies and the general public had the opportunity to provide submissions on the Approved Mine during the EIS exhibition period from 5 March 2013 to 12 April 2013. Submissions from the general public are of most relevance to this SIA.

A total of 21 public submissions were received for the Approved Mine, and raised concerns regarding:

- the proposed operating hours of the Approved Mine (i.e. 24 hours, 7 days per week), and extension of the operating life of the Whitehaven CHPP;
- groundwater supply and drawdown at privately-owned properties;
- predicted noise and blasting effects at privately-owned receivers;
- the methodology used for the air quality assessment and predicted cumulative dust impacts;
- visual impacts of the Approved Mine landforms;
- flooding impacts;
- reduction in land value for privately-owned properties in the vicinity of the Approved Mine;
- Whitehaven's use of land it has acquired;
- use of Braymont Road by mine-related traffic;
- safety, noise and dust impacts as a result of coal haulage along the Approved Road Transport Route;
- increased travel times due to the Blue Vale Road realignment;
- social impacts caused by the inequitable distribution of benefits and costs associated with the Project; and
- potential health impacts for residents and livestock as a result of dust emissions, water quality and night lighting.

A CCC (i.e. the Vickery CCC) was established for the Approved Mine. The CCC consists of representatives from the local community, Narrabri Shire Council, Gunnedah Shire Council and Whitehaven.

Key concerns identified for the Approved Mine by community and council representatives included management of vacant Whitehaven-owned land and the limited number of volunteers in the Rural Fire Service.

### 2.3.2 Project consultation

Consultation undertaken to date for the Project EIS included Federal, State and local government agencies, infrastructure owners, service providers and nearby mining companies and tenement holders, as well as public consultation including the local community, affected land owners and Aboriginal community members. The result of consultation with community members is summarised below.

### **Submissions on the Secretary's Environmental Assessment Requirements**

Submissions on the draft SEARs by the Narrabri and Gunnedah Shire Councils identified a range of issues to be considered in the Project EIS. Issues considered in the SIA include:

- employment, including upholding Whitehaven's commitment to employing locally;
- impacts on neighbouring properties and the local government area as a result of the impact of dust from mining and related activities;
- accommodation and housing demand;
- workforce supply, training and development, including support for apprenticeships;
- the interaction between mine-related traffic, resident traffic and school buses;
- demand on health, education, community and other services in the region;
- cumulative (social) impacts;

Other issues which are considered in the EIS or in Whitehaven's Voluntary Planning Agreements (VPAs) with the two Councils include:

- road closures, realignments, construction/upgrade of intersections and maintenance agreements (considered in EIS Appendix I: Road Transport Assessment);
- impacts on groundwater supplies and the potential for impacts on the Boggabri Bore Town Water Supply and underground aquifers supporting surrounding residential properties and agricultural enterprises (considered in EIS Appendix A: Groundwater);
- noise, vibration, air quality, surface water, increase in rail movements, flooding and visual impacts for local land owners, as considered in the relevant technical appendices to the EIS, with relevant findings integrated in the SIA;
- financial contributions to Councils (considered as part of Whitehaven's Voluntary Planning Agreements with the two Councils); and
- disturbance of agricultural land, rehabilitation of final landforms and proposed rehabilitation techniques in order that disturbed lands are returned to a state that is equal to that identified prior to commencement of the mining activities (considered in EIS Appendix H: Agricultural Impact Statement).

### **Vickery Community Consultative Committee**

CCC meetings relating to the Project were held on 11 April 2016, 15 June 2016, 16 November 2016, 1 March 2017 and 6 August 2018. Updates on the Project and environmental studies were provided to the CCC during these meetings. The March 2017 meeting included a tour of the Project site for CCC members. Key concerns identified by community and council representatives during the CCC meetings included:

- noise impacts of the Project compared to the Approved Mine (i.e. due to mining activities in the Blue Vale Open Cut, which has subsequently been removed from the Project mine plan);
- Blue Vale Open Cut extent and proximity to the Namoi River and associated groundwater alluvium (as above, the Blue Vale Open Cut has been removed from the Project mine plan);
- road crossings required by the Project rail spur alignment (which have subsequently been avoided by changing the Project rail spur alignment);
- the Project rail spur alignment crossing the Namoi River floodplain and associated impacts to flooding characteristics;



- increased rail movements;
- potential dust and visual impacts;
- potential impacts to the Namoi River flows;
- the use of Braymont Road by Project-related traffic and effects of the closure of the southern portion of Braymont Road;
- maintaining access to the Travelling Stock Reserve;
- on-site surface water management, in particular runoff from the Western Emplacement and overflow from sediment dams;
- weed management and rehabilitation strategy;
- community involvement of Whitehaven employees; and
- proximity of the Project to the Kurrumbede Homestead.

### **Local Community and Land owners**

A Project-specific newsletter was prepared and distributed by Whitehaven in April 2016 to inform the local community and to provide an update on progress of the EIS and specialist studies.

During development of the EIS, Whitehaven met with a number of local land owners to discuss the Project and relevant environmental assessments.

Key issues raised by local land owners related to potential noise and air quality impacts, visual amenity impacts, changes to flooding characteristics and impacts to the Namoi River and groundwater resources.

Project-related issues identified by land owners include:

- the potential for impacts on groundwater and surface water (addressed in the Groundwater Assessment [EIS Appendix A] and Surface Water [EIS Appendix B]);
- the potential for noise, dust, visual, and traffic issues (addressed in the Noise and Blasting, Air Quality and Greenhouse Gas, Visual and Road Transport Assessments, respectively) to combine to affect the amenity and use of their properties;
- the height of the western emplacement area in relation to visual amenity (addressed in the EIS Appendix L: Visual Assessment) and local character;
- disruption to traditional agricultural land uses (addressed in the Agricultural Impact Assessment (Appendix H); and
- the potential for flooding impacts in the Namoi River floodplain (addressed in the Flood Assessment (Appendix C)).

Whitehaven also presented updates on the Project and environmental studies at the Boggabri Business Promotion and Community Progress Association meetings during 2016 and 2017, with a further meeting scheduled for August 2018. Key issues raised during these meetings related to potential changes to flooding characteristics and impacts on Namoi River flow.

Project consultation confirms that the Namoi River and its floodplains, riparian zones and associated landscapes are highly valued as a water source, and as key natural and ecological features of the area. Consultation during the EIS process indicated that land owners held strong concerns about the proximity of the Blue Vale Open Cut, which was originally proposed to be reopened for the project, to the Namoi River.



A media release from Whitehaven on 7 December 2017 stated that the Project would no longer include mining the Blue Vale open cut, due to sensitivity about the proximity to the Namoi River following the outcome of initial Project community consultation.

### **Community views and concerns**

Community surveys were conducted for Whitehaven in May to June 2017 and included 600 participants across the Gunnedah, Narrabri, Liverpool Plains and Tamworth LGAs. Of the 600 participants of the community survey, 43% supported coal mining, 29% had a neutral opinion or were unsure, and 28% opposed coal mining in the region.

Benefits to the community due to the presence of coal mining in the region, identified by community survey respondents, included:

- employment and training opportunities;
- economic stability alongside the agricultural industry;
- support for local businesses; and
- economic and social contribution to the community.

Key concerns identified during the community survey included:

- potential for impacts to local water sources;
- potential impacts to land due to mining;
- competition between the mining industry and the agricultural industry for skilled labour;
- change in land use of agricultural land;
- dust emissions; and
- need for increased community engagement and support.

### **Aboriginal community consultation**

In accordance with the OEH's (2010) *Aboriginal cultural heritage consultation requirements for proponents 2010* the Aboriginal community has been consulted with regarding the Aboriginal Cultural Heritage Assessment (ACHA) undertaken for the Approved Mine as well as for the Project (Appendix G of the EIS).

Aboriginal community consultation undertaken for the Approved Mine included:

- a registration process for Aboriginal parties or groups that may have an interest in consultation for the Approved Mine ACHA, resulting in 42 Registered Aboriginal Parties (RAPs) for the Approved Mine;
- proposed methodology consultation period, including an information session held in Gunnedah. Comments received from the RAPs on the Proposed Methodology identified concerns with access to areas of cultural significance;
- involvement in field surveys for the ACHA; and
- consultation period for the draft ACHA. Comments received from the RAPs on the draft ACHA identified concerns with the cultural values assessment, proposed management measures and potential blasting and cumulative impacts to Aboriginal cultural heritage sites.

Aboriginal community consultation undertaken for the Project included:

- a registration process for Aboriginal parties or groups that may have an interest in consultation for the Project ACHA. RAPs identified for the Approved Mine were automatically registered for the Project, resulting in 68 RAPs;
- proposed methodology consultation period, including information sessions in Boggabri. Comments received from the RAPs on the Proposed Methodology identified concerns with access to Crown Land along the Namoi River and to the Vickery State Forest, the cultural values assessment and storage of salvaged Aboriginal cultural heritage items;
- involvement in field surveys for the ACHA;
- consultation period for the initial draft of the ACHA. Comments received from the RAPs identified concerns with employment opportunities for the Aboriginal community and awareness of cultural heritage in the community; and
- consultation period for subsequent revised drafts of the ACHA, with only one comment received from the RAPs.

### 2.3.3 Project consultation summary

Issues identified by community members and local stakeholders during consultation for the Approved Mine and Project consultation that are relevant to the SIA are summarised in Table 2-1.

**Table 2-1: Project and EIS Stakeholder Inputs**

Project	Issues	SIA Section
Approved Mine	Noise, blasting and dust impacts on properties near the Approved Mine.	4.1
	Cumulative impacts of the project with other nearby mines on air quality and the acoustic and visual amenity of nearby privately-owned properties.	4.8
	Concerns regarding impacts on private land values.	4.2
	Visual impacts of the Approved Mine landforms.	4.1
	Social impacts associated with an inequitable distribution of benefits and costs associated with the Project.	4.11
	Concerns regarding the potential health impacts of dust emissions, water quality and night lighting.	4.6
Vickery Extension Project	Employment and supply opportunities, including Indigenous employment and Whitehaven's preference to employ locals.	4.5
	Support for local business and economic contribution to the community.	4.5
	Any increase (in comparison to the Approved Mine) in noise, vibration, air quality, surface water, flooding and visual impacts for local land owners.	4.2
	The proximity of the Project to private landholdings and the Namoi River.	4.2
	Potential impacts on Kurrumbede Homestead.	4.3
	The potential for dust and safety impacts on Braymont Road, affecting local land owners.	4.1
	Traffic impacts, including cumulative heavy traffic volumes (addressed in the Road Transport Assessment [Appendix I]) and the interaction with school bus routes.	4.6
	Disruption of traditional agricultural land uses.	4.2
	Maintaining access to the Travelling Stock Reserve.	4.3

Project	Issues	SIA Section
	Competition between the mining industry and others for skilled labour.	4.5
	The potential for impacts on local housing access or affordability.	4.5
	The potential for social infrastructure demands which are beyond the current capacity of local services and facilities.	4.7
	Request for increased communication with stakeholders.	5.1
	Cumulative social impacts of mining. Including changes in local character.	4.8

## 2.4 SIA engagement

The Project is State Significant Development and therefore the economic benefits of the Project have been estimated at the NSW level (as well as regional and local level) in the Economic Assessment (EIS Appendix J).

The Project is located on the border of the Gunnedah and Narrabri LGAs. This SIA has focused on consideration of these LGAs on the basis that this is the likely extent that the majority of employees for the Project would reside and where the effect of the Project's employment and expenditure to local businesses will be most significant. Accordingly, this is the region where social benefits/impacts of the Project are likely to be experienced.

To evaluate the broad social baseline of the Project's area of social influence as well as perceived benefits and impacts of the Project to social values, interviews and workshops were held with representatives of broader community interests as follows:

- GSC;
- NSC;
- Red Chief LALC;
- Winanga-Li Aboriginal Child and Family Centre;
- Vickery CCC;
- Boggabri Business Promotion and Community Progress Association; and
- social infrastructure providers and businesses.

The Project's area of social influence includes land owners in close proximity to the Project (e.g. private properties/dwellings from which the Project may be audible and/or visible). These land owners may experience potential social impacts that differ to those that may be experienced at the LGA level. It is noted the Project is located entirely on land owned by Whitehaven, or on land where access agreements have been finalised, and so there would be no direct impacts to privately-owned property.

To understand these land owners' views on the Project, interviews were held with 17 land owners. This included an invitation to all land owners with property immediately adjacent to the Project (and the immediate surrounds) to participate in this SIA.

The specific engagement conducted for this SIA with land owners living near the Project and representatives of broader community interests is summarised in Table 2-2.

**Table 2-2: Stakeholder groups and engagement methods**

Stakeholders	Engagement Methods
Gunnedah Shire Council	<ul style="list-style-type: none"> <li>Meeting with General Manager and Director Planning and Environmental Services to discuss existing social conditions, and potential Project impacts and opportunities</li> <li>Meeting with Councillor who is a member of the Vickery CCC to discuss mining industry contributions to local community and economy</li> </ul>
Narrabri Shire Council	<ul style="list-style-type: none"> <li>Meeting with Mayor, General Manager, Director Development and Economic Growth, and Economic Development Manager to discuss existing social conditions, and potential Project impacts and opportunities</li> </ul>
Community members	<ul style="list-style-type: none"> <li>Face to face interview with Red Chief LALC and phone interview with Winanga-Li Aboriginal Child and Family Centre, to discuss existing social conditions, and potential Project impacts and opportunities of specific relevance to Aboriginal people</li> <li>Attendance at Vickery CCC (by phone conference) to listen to community concerns about the Project, and invite discussion about the Project's potential social impacts and benefits</li> <li>Focus on existing community issues and potential social impacts and opportunities as part of workshops with social infrastructure and business representatives</li> </ul>
Social infrastructure providers and local businesses	<ul style="list-style-type: none"> <li>SIA workshops in Gunnedah, Boggabri and Narrabri to seek input from local service providers about existing community issues, potential project impacts and potential effects on community health and emergency services, including</li> <li>Interview with Chairperson of Boggabri Business Promotion and Community Progress Association</li> <li>Interviews with Gunnedah Hospital and Health Service Manager, and with the Boggabri Primary School Principal</li> <li>Interview with Gunnedah Police Inspector</li> <li>Interview with Narrabri Police Inspector</li> </ul>
Land owners	<ul style="list-style-type: none"> <li>Project update provided to land owners by Whitehaven prior to interviews</li> <li>Face to face interviews (12) and phone interviews (5) with owners of properties near the Project to discuss properties' social values, potential for project to impact on social values including amenity, quality of life, health and social cohesion, and potential for benefits as a result of the Project</li> </ul>

Table 2-3 summarises stakeholder inputs to the Project SIA, including inputs on social baseline characteristics, perception of potential social impacts and benefits and their views on mitigation of social impacts and enhancement of social benefits. Stakeholder inputs on baseline values, potential impacts and opportunities and mitigation strategies are addressed in relevant sections.

Property owners were advised that their inputs would be collated and not be linked to individuals or families. Two property owners requested that their inputs be separately identified in the SIA and be attributed to them. This has been honoured and is included in the summary of stakeholder inputs.

**Table 2-3: Stakeholder inputs to SIA**

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<b>Gunnedah Shire Council</b>		
<p>GSC's inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>• Mining is part of the LGA's heritage.</li> <li>• Mining developments are supporting the LGA's economic growth.</li> <li>• Gunnedah has seen an increase in vitality in the town's centre as a result of mining.</li> <li>• There is significant financial and emotional stress on farmers as a result of the drought.</li> <li>• The Gunnedah Hospital in poor condition.</li> <li>• A shortage of tradespeople is affecting local businesses and mining operations.</li> <li>• The LGA has ample supplies of residential land to accommodate population growth.</li> <li>• There has been a recent increase in owner occupiers investing in housing development rather than primarily investors as was the case.</li> <li>• Improved access to vocational training, university education and employment pathways are very high local priorities.</li> <li>• There is a local shortage of GPs, and difficulty recruiting and maintaining an adequate number of general practitioners.</li> <li>• Council is unlikely to support applications for workers' accommodation camps.</li> <li>• A new industrial precinct planned to support economic diversification and growth.</li> </ul>	<p>GSC's views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>• Employment availability for skilled and unskilled workers.</li> <li>• Potential for Project personnel's partners to contribute to the local labour pool.</li> <li>• Local employment and business opportunities.</li> <li>• Drain of labour from local businesses and services to the Project.</li> <li>• Potential to exacerbate current shortage of skilled tradespeople.</li> <li>• Potential to exacerbate current childcare shortage.</li> <li>• Cumulative impacts of mining operations on housing availability and GP access.</li> <li>• Decreases in heavy vehicle traffic on public roads once the Project CHPP and rail spur are fully operational.</li> </ul>	<p>GSC's views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>• Co-operation with Council and other stakeholders on education, training and employment pathways.</li> <li>• Support for initiatives identified in the Regional Economic Development Strategy (under preparation).</li> <li>• Ongoing Whitehaven involvement in community activities and events.</li> <li>• Support marketing campaigns to attract families to Gunnedah LGA.</li> <li>• Contribute to Council efforts to boost the capacity of the Gunnedah Technical College.</li> <li>• Whitehaven participation in community organisations e.g. Gunnedah Hospital Board.</li> </ul>

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<b>Narrabri Shire Council</b>		
<p>NSC's inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>• Strong agricultural industry.</li> <li>• Strong community support for mining due to the benefits of employment, training, business vitality and population growth, and economic diversification.</li> <li>• Effects of current drought on farming families' wellbeing and livelihoods are highly evident in the LGA.</li> <li>• There have been increases in business investment in the Narrabri town centre as a result of mining industry activity.</li> <li>• The LGA's supply of residential land will meet all future growth needs with 1,000 years' supply available.</li> <li>• Very low market interest in housing development.</li> <li>• Council is planning to avoid impacts of 'mining boom and bust' on housing capacity, skills labour and employment opportunities by diversifying the economy and increasing labour force skills.</li> <li>• Council has a strong local focus on increasing the availability of vocational training, higher education and employment pathways.</li> <li>• Childcare places are in short supply in Narrabri as a result of high employment.</li> <li>• There is an identified need for childcare in Boggabri, with plans for a childcare centre not yet realised.</li> </ul>	<p>NSC's views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>• Employment opportunities would be very positive for social and economic wellbeing.</li> <li>• Whitehaven's commitment to local employment would increase local opportunities and family expenditure with local businesses.</li> <li>• Stimulation of other businesses to upskill.</li> <li>• Local business opportunities.</li> <li>• Demonstrable Project benefits for Boggabri required to ensure ongoing community acceptance of mining operations.</li> </ul>	<p>NSC's views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>• Vocational training to meet local needs including those of local mining projects.</li> <li>• Council-supported settlement programs have been very successful in integrating mining families to local communities.</li> <li>• Plan for workforce housing needs.</li> </ul>

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<b>Aboriginal community representatives</b>		
<p>Aboriginal community representatives' inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>• General criticism regarding access to information on the region's mining operations.</li> <li>• General criticism of the ACHA consultation process (e.g. artefacts are stored on-site because not all RAPs can agree on a central storage location).</li> <li>• Namoi River used for community activities including fishing and family gatherings, however access is restricted by private holdings.</li> <li>• Overcrowding of social housing in Gunnedah and lack of affordable housing in Boggabri.</li> <li>• Labour draw to mines affecting access to local trade and handyman services to maintain social housing.</li> <li>• Young people are accessing employment opportunities, but middle-aged community members are not supported to gain employment in sufficient numbers.</li> </ul>	<p>The Aboriginal community representatives' views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>• Project personnel's use of rental housing will increase Aboriginal community members' difficulties in accessing affordable housing.</li> <li>• Concern for proximity of mine to Namoi River, potential impacts, and accountability in the event the river is impacted.</li> <li>• Concern regarding access to Crown Land and impact to travelling stock route.</li> <li>• Potential for community division between those who want employment and those who want to preserve culture.</li> </ul>	<p>The Aboriginal community representatives' views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>• Transparent engagement between Whitehaven and the Aboriginal community on EIS findings.</li> <li>• Ongoing engagement to ensure Aboriginal people benefit from the Project.</li> <li>• Aboriginal employment should focus on 'local' first, then broader Kamilaroi Nation.</li> <li>• Opportunities for collaboration between regional CCCs with involvement of RAPs.</li> <li>• Delivery of 30 dwellings for social and affordable housing to offset Project impacts.</li> <li>• Contribution to a central keeping place, potentially in Gunnedah, to generate additional employment and business benefit to Traditional Custodians.</li> <li>• Early advice on employment opportunities to enable training of local candidates 12 months in advance, including a focus on male and female adult trainees.</li> <li>• Use of mining royalties to support Aboriginal community and economic development.</li> </ul>



Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<b>Workshop and interview participants</b>		
<b>Housing</b>		
<p>Inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>Insufficient affordable housing for lower-income households in Boggabri, Narrabri and Gunnedah.</li> <li>Ambulance staff share housing in Gunnedah to maintain affordability.</li> <li>'Buyers market' for purchase of housing, but market awaiting stimulation of new development.</li> <li>Boggabri and Gunnedah businesses still recovering from labour draw impacts of mining industry.</li> </ul>	<p>Views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Stimulation of the housing market as operational personnel move to local towns.</li> <li>Boggabri should be 'in the box seat' to benefit from the Project however more housing is required.</li> <li>Anticipated negative impacts on housing availability and affordability in Boggabri and Gunnedah, particularly in peak construction/operations overlap.</li> </ul>	<p>Views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Encourage families to settle in Boggabri.</li> <li>Commit to housing development to support growth of Boggabri.</li> </ul>
<b>Community values and wellbeing</b>		
<p>Inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>Loss of farming families in Boggabri through land acquisition for mining affecting population that are not being replaced with settled mining families.</li> <li>Concern that Boggabri is losing agricultural community identity and sense of place.</li> <li>Strong community support to see workers and families settle locally.</li> <li>Government regulation of existing mines seen as inadequate.</li> <li>Cost of living is resulting in ageing residents not using heating/air con with consequent health impacts.</li> </ul>	<p>Views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Potential to exacerbate existing cumulative mining industry impacts on social cohesion (due to non-local workers) and housing availability.</li> <li>Concern that dust from the Project will affect air quality and health in Boggabri.</li> <li>Anxiety regarding water resource management, Whitehaven allocations and where water is drawn from to compensate for Project-related draw down.</li> <li>Concern for what happens to community identity at closure.</li> </ul>	<p>Views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Promote Boggabri as having a clean and healthy environment.</li> <li>Joint CCC – MCCM, IBC, TCM, VEP.</li> <li>Keep the community informed, and demonstrate genuine interest and participation.</li> <li>Cover the trains or use a conveyor to minimise noise and dust impacts.</li> <li>Increase youth training pathways.</li> <li>Explore opportunities to contribute to an interactive community research / educational asset that illustrates the region's water resources and water allocation system.</li> </ul>



Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<ul style="list-style-type: none"> <li>Drought contributing to service provider concerns for mental health and suicide risk.</li> <li>Boggabri needs activation – the town is very quiet.</li> <li>Mining has seen the introduction of workers who drive home at the end of their rosters and don't contribute to the Boggabri community.</li> </ul>		<ul style="list-style-type: none"> <li>Monitor Whitehaven's community participation and economic benefit to surrounding communities in an annual survey of local businesses.</li> </ul>
Social and health infrastructure		
<p>Inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>Boggabri offers good community facilities however patronage and participation needs to be increased.</li> <li>Boggabri health model well-regarded and takes overflow from broader catchment.</li> <li>Significant challenges recruiting and retaining experienced medical staff.</li> <li>Boggabri Public School has lost 20 students in past twelve months due to work availability and cost of living in Boggabri.</li> <li>No childcare or family support in Boggabri for service staff to stay locally.</li> <li>Police services have difficulty attracting and retaining staff, but maintain service levels with the support of the regional police network (Tamworth, Manilla, Gunnedah and Narrabri).</li> <li>Mining companies are good at regulating workforce behaviour, however construction workers place demands on police in relation to public behaviour e.g. in hotels.</li> </ul>	<p>Views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Increased workers result in increased demands for health services including presentations to emergency departments.</li> <li>Increased local population would be positive, but may see increased need for childcare.</li> <li>Project personnel based locally will increase demand for emergency services and policing.</li> <li>Potential for construction contractors to use local hotels and for occasional anti-social behaviour requiring police response.</li> <li>Potential for protests to require police involvement which is very time and resource –intensive.</li> <li>Additional police service requirements if protest camps are established.</li> <li>Additional traffic on Kamilaroi Highway requiring additional traffic policing.</li> <li>Increased numbers in Civeo Boggabri Village will be a significant increased demand on Boggabri and Narrabri Police.</li> </ul>	<p>Views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Whitehaven partnership with Boggabri Public School to design a mentor program that provides positive male role modelling.</li> <li>Opportunity to contribute to relocation of helipad at the Boggabri hospital.</li> <li>Commit to health service provision for Project workforce.</li> <li>Provide budget for emergency service support in the event of community protests.</li> <li>Prior notice to police and emergency services of construction workforce ramp up.</li> <li>Engagement with police and emergency services ahead of operations to ensure co-operation protocols are in place.</li> <li>Need for consultation between Narrabri Police and Project regarding emergency response plans, traffic management plans and storage of dangerous goods.</li> <li>Close communication with Narrabri and Gunnedah Police regarding the potential for protests.</li> </ul>

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<b>Businesses</b>		
<p>Inputs on social baseline characteristics include:</p> <ul style="list-style-type: none"> <li>Drought has affected household incomes and therefore local businesses.</li> <li>Mining operations and personnel contribute significantly to local business trade.</li> </ul>	<p>Views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Labour draw expected for manufacturing industry, trade and small business.</li> <li>Support TAFE to support the services trades, particularly the local manufacturing industry.</li> <li>Encourage workers to settle locally and contribute to community and business networks, events and school initiatives.</li> </ul>	<p>Views on potential mitigations and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Support Gunnedah and Boggabri Business Promotions and Community Progress Association to develop town welcome packs.</li> <li>Request one to two years' trade experience to reduce the impact on businesses who have invested in training workers.</li> <li>Introduce a courtesy bus service between Civeo Boggabri Village and Boggabri town, to increase patronage of hotel, restaurants and community events.</li> </ul>
<b>Property owners</b>		
<p>Nearby private properties hold the following values:</p> <ul style="list-style-type: none"> <li>a quiet and serene environment;</li> <li>family/'forever' homes;</li> <li>open spaces and vistas;</li> <li>substantial industry and business investments;</li> <li>source of employment for property owners, occupiers and for casual staff;</li> <li>centrality to retirement plans and succession plans; and</li> <li>wildlife appreciation.</li> </ul> <p>Several property owners have multi-generational attachments to their land. All land owners consulted for the SIA wish to continue to live and, where relevant, farm on their properties.</p>	<p>Nearby property owners' views on potential Project impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Effects on quality of life due to a combination of Project-related noise, lights, blasting, traffic and/or dust impacts.</li> <li>Changes to rural character through changes to views, noise levels and land use.</li> <li>Coal dust and other particulates to impact on human health (e.g. increased respiratory disease and coal dust in drinking [tank] water).</li> <li>Anxiety and stress related to uncertainty about Project impacts, and lack of clarity and Project provided by Whitehaven.</li> <li>Disruption of social networks due to families choosing to leave if the Project proceeds.</li> </ul>	<p>Nearby property owners' views on potential mitigation and enhancements for perceived potential impacts and benefits include:</p> <ul style="list-style-type: none"> <li>Acknowledge that the Project is likely to have noise and dust impacts, regardless of levels predicted in the EIS, and engage with local land owners to discuss mitigations.</li> <li>Increase landholder access to acquisition rights.</li> <li>Ensure that stakeholders are aware the EIS is on exhibition.</li> <li>Ensure full compliance with Whitehaven's code of conduct (in regard to protecting the safety of the community).</li> <li>Encourage Whitehaven's rental tenants to join and be actively involved in the RFS.</li> </ul>

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<p>Properties rely on groundwater, tank water and/or river water.</p> <p>The owners of one property are entitled to acquisition on request as the result of the Approved Mine's noise impacts.</p>	<ul style="list-style-type: none"> <li>Rehabilitated land and offset areas to become a fire hazard and/or attract feral animals.</li> <li>Long-term family homes are at risk due to potential Project impacts on amenity and lifestyle.</li> <li>Project rail spur could change flooding patterns as expressed by several land owners.</li> <li>Perceived impacts to the security of private property with introduction of rail spur and access tracks along previously secluded private property boundaries.</li> </ul> <p>Potential for impacts for an established wheat cartage route, from proposed rail spur and financial implications for businesses associated with re-routing.</p> <ul style="list-style-type: none"> <li>Opportunity for local people to work at the Project whilst still running their farms.</li> <li>Mining industry employment and mining-related business opportunities to the Narrabri and Gunnedah LGAs.</li> </ul>	<ul style="list-style-type: none"> <li>Consultation with RFS to identify any improvements to fire prevention/management on Whitehaven land.</li> <li>Encourage families to settle in the local community.</li> <li>Controlled sheep grazing on rehabilitated areas.</li> </ul>
<b>Johns Family</b>		
<p>The Johns are a couple are in their seventies who purchased their property 20 years ago for quiet enjoyment and a rural way of life, including maintaining a small farming operation. Their house is approximately 1.3 km from the rail spur, with a line of sight to the spur.</p> <p>The property has a small irrigation system for feeding cows and facilitates calving, which needs quiet.</p>	<p>The Johns' views on potential project impacts include:</p> <ul style="list-style-type: none"> <li>Objection to the rail spur location and extreme concern about the effect of rail noise on quiet enjoyment.</li> <li>Potential for Project impacts to disrupt and devalue property.</li> <li>Concern about dust from Project area on affecting land productivity and solar</li> </ul>	<p>The Johns family wishes to see the rail spur relocated and to ensure that Project impacts do not detract from rural character, their business and their way of life.</p>

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<p>Their land is zoned rural and is held as freehold. Their lives and farming operations have been carefully planned as their long term home and retirement asset.</p> <p>The Johns family have acute mistrust in Whitehaven due to what they describe as inconsistency in information provision about the Project and a lack of transparency in provision of information on rail spur.</p>	<p>productivity, effects of light on quiet enjoyment, and night sky appreciation.</p> <ul style="list-style-type: none"> <li>• Potential for industrialisation of a quite rural area.</li> <li>• Potential to increase flooding as baseline data suggest that a small increase in the 2000 flood level would impact their property.</li> <li>• Potential for impact to Namoi River and/or aquifers to impact stock, irrigation and domestic water use.</li> </ul>	
<b>Darley Family</b>		
<p>The Darley family's property borders the rail spur. The family has lived at their property for 26 years and intend it to be an intergenerational home and business operation. The property is the result of progressive lot purchases over the time and involves irrigation for premium-grade cotton production and wheat production.</p> <p>The property includes the family home approximately 500 m from the proposed rail spur, a tenanted home approximately 350 m from the proposed rail spur and an approved future dwelling pad (part of the family's retirement plan) approximately 300 m from the proposed rail spur.</p> <p>The family describes belonging to a close knit neighbourhood and active involvement in local community groups and neighbour networks.</p> <p>The Darleys are angry and very mistrustful of Whitehaven due to a lack of timely and transparent consultation with them e.g. they were not advised of the proposed rail spur location until 9 July 2018.</p>	<p>The Darley family's views on potential project impacts include:</p> <ul style="list-style-type: none"> <li>• noise, dust, air quality and visual impacts on their property are inevitable as a result of the proposed rail spur's location, and will make the property unliveable.</li> <li>• noise from the rail spur would be a severe detraction from the character and liveability of their property, including expectation of sleep disturbance associated with the 24 hour operation.</li> <li>• concern that dust from the rail spur will discolour their crops and impact on their cotton grade certification, resulting in financial penalties.</li> <li>• concern about the Project's potential impacts on overland water flow and flooding.</li> <li>• expectation that the rail spur will devalue their property and result in less equity available for future loans.</li> </ul>	<p>The Darley family wishes to see the rail spur relocated to ensure that Project impacts do not detract from rural character, their business or their way of life.</p> <p>They suggest the Project pursue a formerly proposed northern rail alignment, which would make use of Whitehaven-owned land for siting rail infrastructure.</p> <p>The Darley family feel at-source or at-property mitigations would largely be ineffective and unacceptable in their circumstances.</p> <p>If the Project proceeds, the family expect to be fully compensated for the impacts to their lives, property value, future plans, and business operation.</p> <p>The Darleys noted there are very limited comparable property options, if they were to consider relocating.</p>

Stakeholders inputs on social baseline characteristics	Stakeholders views of potential Project impacts and benefits	Stakeholders' suggested mitigations and enhancements
<p>The Darley family noted advice from Whitehaven that impact modelling indicates their dwellings would not be significantly impacted under the relevant NSW regulatory criteria. Referencing environmental compliance breaches at other Whitehaven operations, they are concerned that impacts will occur regardless of modelling outcomes and mitigation strategies.</p>	<ul style="list-style-type: none"> <li>the feeling that freedom of choice in terms of living with the impacts of a rail line on their boundary has been taken away.</li> <li>division within the neighbourhood as a result of Whitehaven's property acquisition and compensation arrangements.</li> <li>concern for the mental health and wellbeing of land owners near by the Project, including the potential to compound the effects of drought on farmers' mental health.</li> </ul>	

## 2.5 Area of Social Influence

An 'Area of Social Influence' consists of the people potentially impacted by a project.<sup>3</sup> The Project's area of social influence has been defined with consideration to the Project's location and activities, expected distribution of employees and the range of potential impacts and benefits they may experience.

Social impacts and benefits may be experienced locally or regionally and may be direct (related to the Project's actions or activities), indirect (the result of the Project's impacts causing changes to social structures or processes) or cumulative (interactive with or incremental to the social impacts of other projects or operations).

The Project's area of social influence is described below with reference to stakeholder inputs on the Project's potential direct, indirect and cumulative impacts.

### 2.5.1 Private properties near the Project

Figure 2-2 shows the location of the Project in relation to landholdings.

The Project mining area would be located on land entirely owned by Whitehaven, which has been previously used for both agricultural and mining activities, so there would be no direct impacts on privately-owned landholdings. East of the Namoi River, the Project rail spur would be located entirely on land owned by Whitehaven. West of the Namoi River, the Project rail spur would be located on land for which Whitehaven has entered into a land access agreement. Therefore, the Project would not directly impact private properties (in the sense of physical disturbance) not already the subject of a land access agreement.

### 2.5.2 Nearest communities

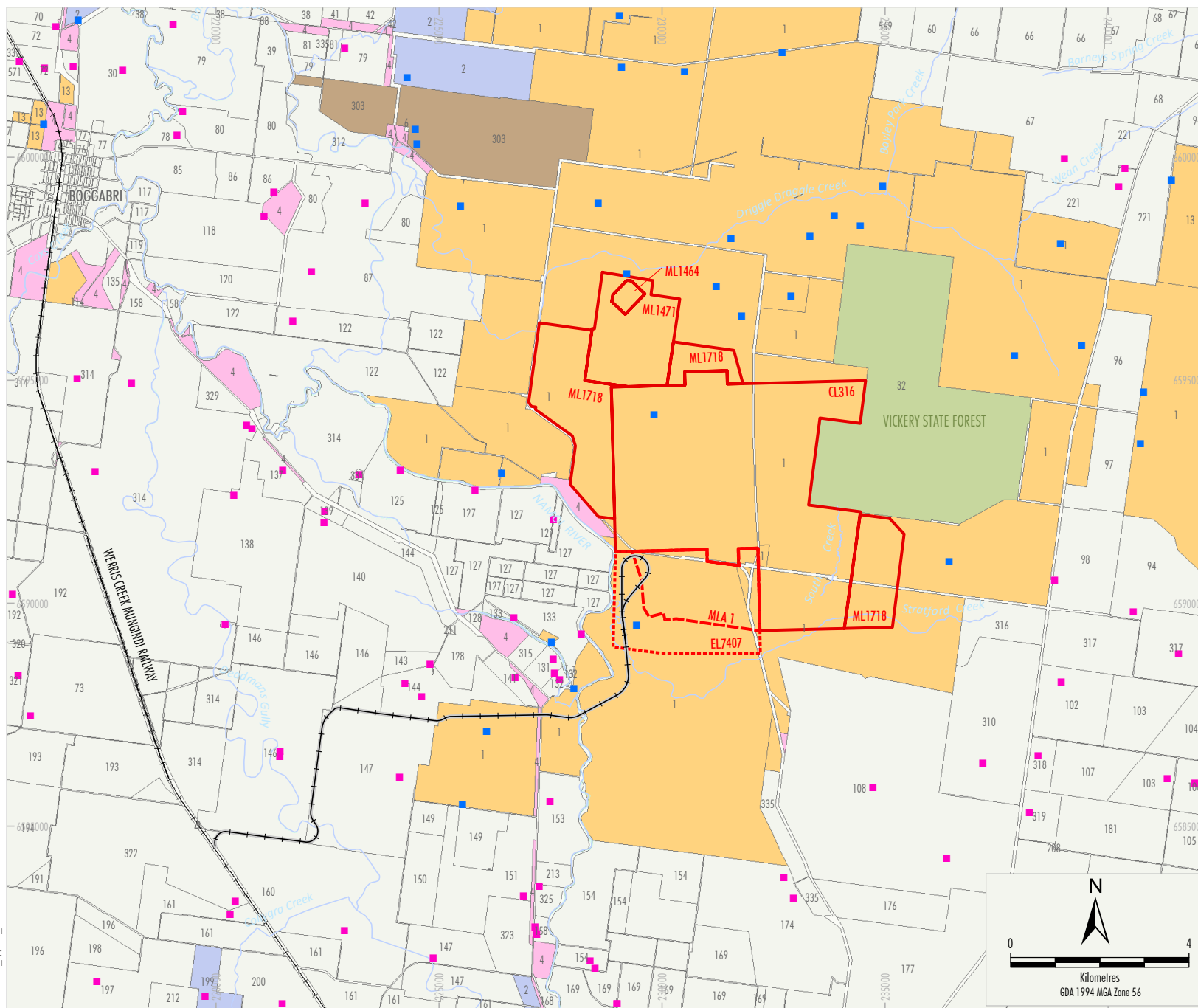
Figure 2-3 shows the location of the Project in relation to local communities and LGA boundaries. Local communities of primary interest include:

- Boggabri, which is the closest local community to the Project (approximately 12 km west of the Project);
- Gunnedah, which is the closest regional centre to the Project and the municipal centre for the Gunnedah LGA (approximately 25 km south of the Project); and
- Narrabri, which is the municipal centre for the Narrabri LGA, (approximately 60 km north of the Project).

Residents and business in local towns are well positioned to experience the benefits of Project employment, training and supply opportunities during construction and operation, and may benefit from population growth as Project personnel in-migrate for the operational phase.

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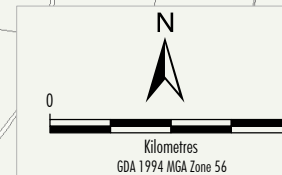
<sup>3</sup> Vanclay, F. et. al (2015)



- LEGEND**
- Mining Tenement Boundary (ML and CL)
  - Mining Lease Application (MLA)
  - Exploration Licence Boundary (EL)
  - State Forest
  - Crown Land
  - Whitehaven Owned Land
  - Whitehaven/Idemitsu Boggabri Coal Joint Owned Land
  - Idemitsu Boggabri Coal Owned Land
  - Privately Owned Land and Other Land
  - Railway
  - Mine-owned Dwelling
  - Private Dwelling
  - Indicative Rail Spur Alignment

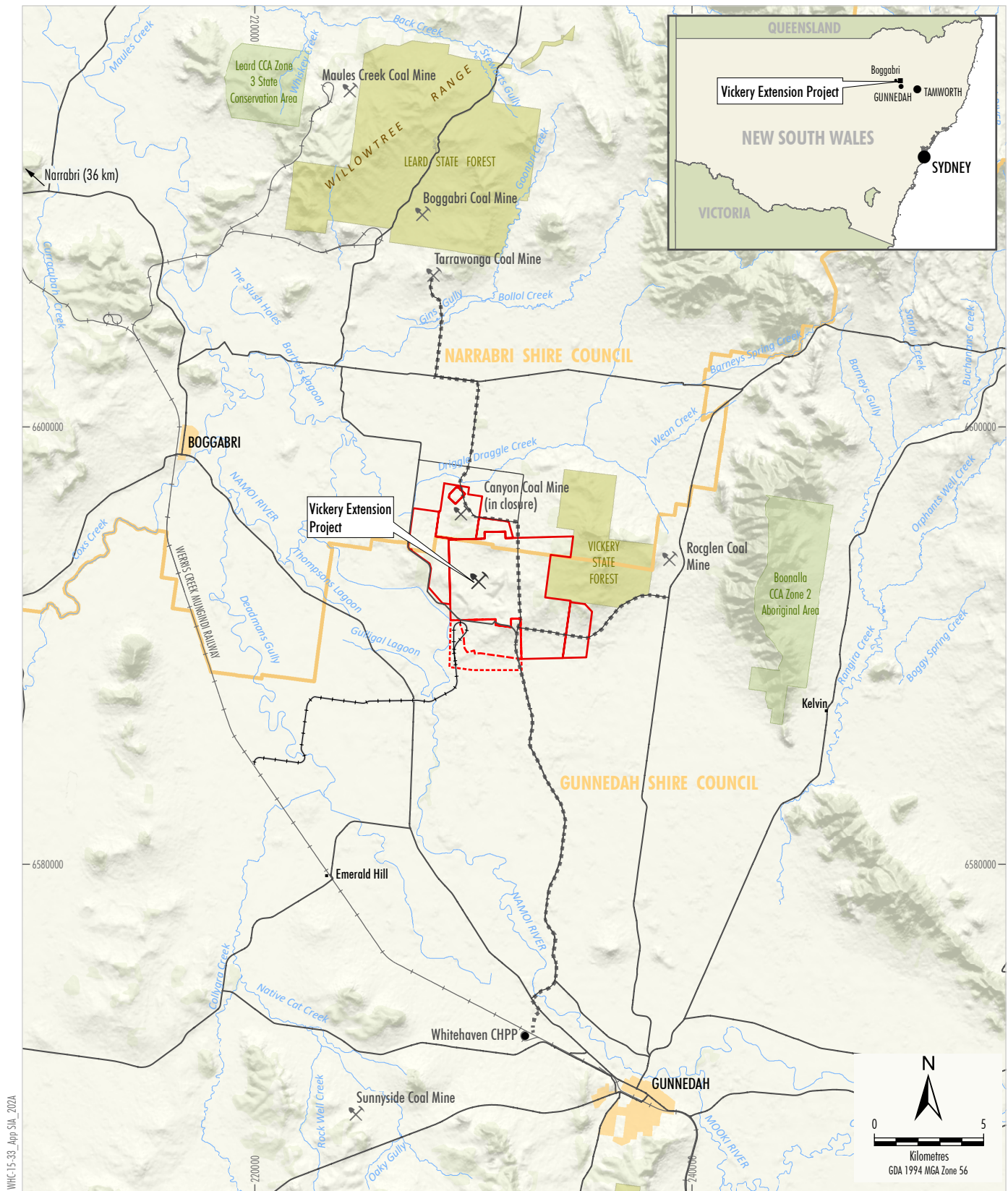
Source: Department of Land and Property Information - Land Tenure (2016); Department of Industry (2017); Whitehaven Coal (2016)

**WHITEHAVEN COAL**  
VICKERY EXTENSION PROJECT  
Land Ownership



**Figure 2-2**







The potential for impacts on amenity in the nearest local communities is low during both construction and operation, except for increased traffic due to construction and operational personnel. Given existing vulnerabilities (low rental vacancies, waiting times for GPs and childcare deficits) there is potential for the Project to impact on housing availability and social infrastructure access, including emergency services, childcare and GP services.

Manilla, located approximately 65 km east of the Project, is anticipated to be the source of approximately 9% of the Project's operational workforce, including existing residents. A very small population increase may result in the context of Manilla's 2016 population of 2,106 people. As other impacts on Manilla are unlikely, detailed assessment of Manilla's social environment has not been provided, however Manilla's housing capacity and any potential to impact on local housing access has been considered.

### **2.5.3 LGAs**

The Project is located on the border between the Gunnedah LGA and Narrabri LGA (Figure 2-2), and as such these are the regions of primary interest, given they will host the Project, and in relation to the likely distribution of direct employment, population, social infrastructure, business and housing impacts. These issues are a primary focus for the SIA. The SIA also considers the potential social impacts of mine closure, including site-specific impacts and the potential social changes which could result in the Gunnedah and Narrabri LGAs. There is also potential for impacts on road users which is considered in the Road Transport Assessment (Appendix I) and summarised in the SIA.

Cumulative impacts refer to the incremental changes to the level of social impacts, and to interactions between the impacts of a range of projects or existing operations. The SIA considers the potential for cumulative impacts in the Narrabri and Gunnedah LGAs in relation to construction and/or operation of other proposed developments in the vicinity of the Project, as detailed in Section 4.8.

### **2.5.4 New England North West Region and NSW**

Tamworth, the nearest major regional centre, is located approximately 80 km southeast of the Project. Some Project personnel may originate from Tamworth, and Tamworth businesses are part of the supply chain for the Project, therefore the Tamworth LGA has been considered in the SIA in relation to the labour force and supply chain.

Whitehaven has established relationships with a wide range of local and regional businesses in the local and broader regional area (primarily within the New England North West Region). The Project's impacts and benefits in relation to businesses and industry are assessed in the SIA. The potential for indirect impacts (such as competition for labour or business supplies or changes to health determinants) at a local or regional level are also considered.

The Project is State Significant Development, and so impacts and benefits such as State revenue and GDP are captured within the Economic Assessment (Appendix J). As such, detailed analysis of broader and State-wide benefits is not a key focus for the SIA, however recognition of the benefits and impacts identified in the Economic Assessment (Appendix J) are included in the SIA.

Consultation indicates that impacts including noise, dust and changes to rural views, as well as surface water and groundwater impacts are of concern for people living near the Project. These issues have been comprehensively assessed in specialist studies prepared for the Project EIS. The potential for social impacts or social changes as a result of cumulative impacts on amenity from noise, dust, traffic and visual impacts is considered in the SIA, based on the findings of SIA consultation and relevant EIS technical reports.

### 2.5.5 Kamilaroi nation

The Project is within the traditional nation of the Kamilaroi people. The potential for direct impacts on Aboriginal cultural heritage values is assessed in detail in the ACHA for the Project (Appendix G of the EIS). As all land within the Project area is owned by Whitehaven and has been previously used for both agricultural and mining activities, direct impacts on Aboriginal social use of the Project area will not occur. Supported by Whitehaven's commitment to Indigenous employment, benefits in the form of training employment opportunities are likely. The potential for indirect social impacts as a consequence of the Project is considered in the SIA.

### 2.5.6 Statistical geography

Table 2-4 summarises the statistical geography which corresponds to the local and regional communities in the Project's area of social influence. Data are provided for Urban Centre / Localities (UCL) (according to availability), LGAs and the Statistical Area 4 (SA4) region.

**Table 2-4: Study Area Statistical Geographies, 2011 and 2016**

Local communities		Regions	
2016	2011	2016	2011
Gunnedah (UCL 114013)	Gunnedah (UCL114010)	Gunnedah (LGA13550)	Gunnedah (LGA13550)
Boggabri (UCL 121010)	Boggabri (UCL121010)	Narrabri (LGA15750)	Narrabri (LGA15750)
Narrabri (UCL114024)	Narrabri (UCL114022)	Tamworth Regional (LGA17310)	Tamworth Regional (LGA17310)
Manilla (UCL115097)	Manilla (UCL115097)	New England North West Region (SA4 110)	New England North West Region (SA4 110)

## 2.6 Assessment focus

Table 2-5 provides a summary of the key issues for consideration in the SIA, and the investigation and analyses to be undertaken for each issue. These matters are addressed in the social baseline (Section 3) as identified by the SIA Guideline and presented according to the SIA's key areas of investigation and potential social impacts.

The scoping exercise identified matters for which significant social impacts were considered unlikely and/or would have negligible effects on social conditions, including:

- the potential for odour to affect sensitive receptors is very low;
- as air quality, noise and vibration impacts have been comprehensively assessed by specialist studies for the EIS, would be managed within government policy requirements to protect human health, the potential for impacts on physical health is low, however residents' anxiety or stress about potential impacts has been considered in the SIA; and
- the location of the Project prevents direct impacts on privately owned and publicly owned built assets, with the exception of roads, are assessed in other specialist studies in the EIS.

**Table 2-5: SIA Assessment Focus**

Potential impact areas	SIA Investigations
<b>Surroundings</b>	
Acoustic and visual amenity: The Project's Noise and Blasting Assessment (Appendix D) has predicted negligible or minimal exceedances of noise criteria. Landholder consultation indicates that they believe that noise from the Project mining area and/or Project rail spur will affect the amenity of their properties, regardless of predicted compliance with noise exceedance criteria. Residents are also concerned about the potential for dust, visual impacts and blasting to affect their amenity.	<ul style="list-style-type: none"> <li>• Consultation with property owners near the Project area</li> <li>• Review and incorporation of EIS results on noise, air quality and visual amenity impacts</li> </ul>
Connectivity: The Project would require closure of part of Braymont Road and part of Shannon Harbour Road.	<ul style="list-style-type: none"> <li>• Description of the settlement pattern including key access and transport connections</li> <li>• Description of the potential impacts of the Project on local connectivity and access based on EIS Road Transport Assessment findings</li> </ul>
Natural heritage: Stakeholders hold concerns about the potential for Project impacts on the environmental qualities of the Namoi River and/or Vickery State Forest.	<ul style="list-style-type: none"> <li>• Description of existing social and recreational use</li> <li>• Consultation and research to identify the level and nature of concerns about changes to environmental values</li> <li>• Consideration of EIS findings, describe potential for impacts on the Vickery State Forest and Namoi River environs</li> </ul>
<b>Personal and property rights</b>	
Enjoyment of private property: One property owner is entitled to acquisition on request in relation to the Approved Mine's predicted noise impacts, and noise criteria exceedances at this property are predicted for the Project. The majority of nearby land owners consulted for the SIA anticipate that either noise impacts, or a combination of noise, dust, blasting, traffic and visual impacts, will impact on their enjoyment of their property.	<ul style="list-style-type: none"> <li>• Consultation with affected property owners</li> <li>• Review and incorporation of EIS results on noise and air quality changes due to the Project or cumulative impacts</li> </ul>
<p>Agricultural productivity: The Project would not impact directly on the agricultural use of nearby properties.</p> <p>Land owners are concerned that the Project will impact on their access to local water resources by affecting the Upper Namoi Alluvium groundwater system or</p>	<ul style="list-style-type: none"> <li>• Consideration of property owners' views about the impacts of changes to water or land resources</li> <li>• Review of EIS findings on groundwater and surface water</li> <li>• Description of the general arrangements for post-closure aspects and the potential for social impacts</li> </ul>

## Vickery Extension Project SIA

Potential impact areas	SIA Investigations
baseflow in the Namoi River. They are also concerned that land within the Project area would be lost to agricultural use post-mining.	
<b>Culture</b>	
Potential changes to Indigenous values: No change to Indigenous social use of land is expected as public access to the Project area is not allowed. The Project would result in disturbance of Aboriginal heritage sites.	<ul style="list-style-type: none"> <li>• Review of ACHA (EIS Appendix G)</li> <li>• Consultation with Aboriginal community organisations with regard to social values</li> <li>• Consideration of Whitehaven's Indigenous employment strategies</li> </ul>
Historic cultural heritage: Stakeholders are concerned that the project would impact on the Kurrumbede Homestead which is considered to be of at least local heritage significance.	<ul style="list-style-type: none"> <li>• Review of Historic Heritage Assessment (EIS Appendix K)</li> </ul>
Rural values: The Narrabri and Gunnedah planning frameworks indicate that rural values in the Project region include protection of rural land and natural assets, the rural way of life. Land owners are concerned that these values would be diminished by the Project	<ul style="list-style-type: none"> <li>• Consideration of the Project's potential to affect rural land and natural assets with reference to the Agricultural Impact Assessment (Appendix H)</li> <li>• Consideration of the Project's potential to affect rural way of life</li> </ul>
<b>Community</b>	
Population size and stability: The Project will contribute to population growth in the Gunnedah and Narrabri LGAs, and potentially increased population stability or changes to composition.	<ul style="list-style-type: none"> <li>• Description of the population size, and community characteristics of local and regional communities</li> <li>• Identification of the Project's contribution to population size and composition</li> <li>• Description of potential scenarios for cumulative population increases</li> <li>• Assessment of the likely impacts of mine closure on the LGA's populations</li> </ul>
Community cohesion: Differences of opinion about the Project and land use change have potential to affect community harmony and cohesion. This was confirmed in SIA consultation.	<ul style="list-style-type: none"> <li>• Analysis of existing research to identify community attitudes to mining</li> <li>• Assessment of any impacts of the Project on community cohesion</li> <li>• Identification of Whitehaven's donations and sponsorships which support community cohesion</li> </ul>
Character: Land owners indicate that views to the Project, development of a larger mine than was approved, the Project rail spur and the operation of coal trains would be experienced as detracting from rural character. The potential for	<ul style="list-style-type: none"> <li>• Description of existing values including rural character</li> <li>• Assessment of the potential for change to factors which support character</li> <li>• Review of Visual Assessment findings on visual amenity (Appendix L)</li> </ul>

## Vickery Extension Project SIA

Potential impact areas	SIA Investigations
cumulative impacts on rural character due to changes in land use and rural views was also identified in consultation.	<ul style="list-style-type: none"> <li>Consideration of potential to change social character</li> </ul>
<b>Way of life</b>	
Employment access: The Project would contribute to increased direct and indirect employment opportunities in the Narrabri and Gunnedah LGAs.	<ul style="list-style-type: none"> <li>Analysis of existing labour force and employment characteristics</li> <li>Assessment of the Project's contribution to employment</li> <li>Assessment of likely benefits of Project commitments to Indigenous employment</li> <li>Description of indirect employment benefits</li> </ul>
Housing: The Project's non-local workforce will be accommodated in the Civeo Boggabri Village during construction therefore impacts on housing during the construction phase are expected to be minimal. Project-related population influxes may challenge local housing capacity during the Project's early years of operation, however stimulation of housing development is also likely.	<ul style="list-style-type: none"> <li>Identification of the capacity of the local housing market</li> <li>Quantitative modelling of the likely housing demands relating to the Project</li> <li>Assessment of potential cumulative population influxes and potential for cumulative housing impacts</li> </ul>
Rural way of life: Changes in land use, amenity or skills availability may affect rural way of life.	<ul style="list-style-type: none"> <li>Consultation with land owners about current way of life on their properties</li> <li>Consideration of any existing changes to rural activities as a result of the Project</li> </ul>
Local and regional businesses' vitality: The Project would be a source of supply opportunities for businesses in the Narrabri, Gunnedah and Tamworth LGAs.	<ul style="list-style-type: none"> <li>Identification of the range and nature of businesses who are likely to participate in the supply chain, and likely benefits</li> <li>Description of the potential for increased indirect employment</li> <li>Description of the potential for labour draw from local businesses to the Project</li> </ul>
Skills availability: There is potential for the cumulative impacts of mining projects to contribute to skills shortages, potentially increasing other businesses' and residential access to skilled workers e.g. trades people.	<ul style="list-style-type: none"> <li>Identification of the local occupational profile</li> <li>Description of the skills profile required for the Project</li> <li>Description of the potential for the Project to contribute to skills shortages and the potential for impacts on other industry sectors or residents</li> </ul>
<b>Health and wellbeing</b>	
Mental health: Local land owners have indicated that they are experiencing stress and anxiety due to fears that the Project's impacts will exceed modelled predictions, or that a combination of noise, dust and visual impacts will affect their properties' amenity or value.	<ul style="list-style-type: none"> <li>Consultation with community members</li> <li>Description of the Project's potential to cause anxiety</li> <li>Assessment of potential impacts on amenity with reference to EIS findings</li> </ul>

## Vickery Extension Project SIA

Potential impact areas	SIA Investigations
Potential for impacts on vulnerable groups: If Project personnel require housing whilst there is low availability of rental housing, there is potential for impacts on housing availability for low income households.	<ul style="list-style-type: none"> <li>Assessment of potential impacts on Aboriginal social values and conditions in the Project area or in local communities, along with opportunities for Indigenous people to participate in the Project</li> <li>Description of the potential for low income families to be displaced from affordable housing</li> </ul>
<p>Wellbeing: Indigenous and general employment participation is likely to have a positive effect on family wellbeing.</p> <p>The Project's noise impact assessment (Appendix D) has predicted negligible or minimal exceedances of noise criteria however land owners hold concerns that Project-related noise will affect their wellbeing by affecting daily activities or sleep.</p>	<ul style="list-style-type: none"> <li>Description of the Project's Indigenous employment training programs outcome and plans</li> <li>Consultation with land owners and health / social infrastructure providers</li> <li>Description of the likely effects of employment discontinuity for wellbeing</li> <li>Assessment of potential impacts on amenity with reference to EIS findings</li> </ul>
Traffic safety: Ongoing use of roads will occur during operations, giving rise to community concerns about traffic safety, in the context of existing cumulative traffic volumes.	<ul style="list-style-type: none"> <li>Consultation with community members</li> <li>Analysis of EIS findings on traffic safety</li> </ul>
<b>Access to services and facilities</b>	
<p>Social infrastructure: The construction workforce may increase demand on local health and emergency services.</p> <p>During operations, increased demand for health, emergency, community, education and childcare services is likely, particularly in the context of cumulative impacts.</p>	<ul style="list-style-type: none"> <li>Description of social infrastructure in the Gunnedah and Narrabri LGAs.</li> <li>Assessment of the likely Project-induced demands (construction and operation) on social infrastructure</li> <li>Assessment of potential cumulative demands on social infrastructure</li> </ul>
Council services: Demand for Council services (e.g. community facilities, recreational provision and cultural services) is likely to increase as a result of Project-induced population increases.	<ul style="list-style-type: none"> <li>Consultation with Narrabri and Gunnedah Shire Councils regarding service capacity, potential Project impacts and potential cumulative impacts</li> <li>Assessment of Project-induced demands on Council and community services</li> </ul>

### 3. SOCIAL BASELINE

This section provides a detailed analysis of the social environment in the Project's area of influence.

#### 3.1 Surroundings

This section describes surroundings in the SIA study area, including:

- the settlement pattern (Aboriginal traditional ownership, private landholdings, town centres and connectivity);
- residential and public amenity;
- local land uses and sense of place; and
- mining in the region.

##### 3.1.1 Settlement pattern

###### Kamilaroi Nation

The Project is within the Kamilaroi people's traditional nation, which extends from near Singleton through to the Warrumbungle Mountains and the Quirindi, Tamworth, Narrabri, Walgett, Moree and Mungindi areas<sup>4</sup>.

The Narrabri and Wee Waa districts represent an area collectively referred to as 'niver–niver' country by local Aboriginal people<sup>5</sup>, with Boggabri identified as the 'place of many creeks'<sup>6</sup> and Narrabri known as 'forked waters' which describes the waterways associated with the Namoi River<sup>7</sup>. Gunnedah is thought to be named from the Aboriginal word 'gunithaa' meaning "orphan" or "place of white stone" or "poor place"<sup>8</sup>.

Many Kamilaroi people were displaced from their traditional country as agricultural settlement commenced, however SIA consultation indicates that there is a strong connection between the Kamilaroi community and their traditional lands and waters.

###### Gunnedah LGA

The Gunnedah LGA has an area of 4,987 km<sup>2</sup> and a population of approximately 12,200 people.

Europeans first settled in the Gunnedah region in the 1830s, commencing the displacement of the majority of Kamilaroi people from the land. Gunnedah township was established in the 1850s to support development of the wheat industry, and later, construction of a railway that opened in 1879.

Coal mining began in the area in the 1880s, however significant population and housing development didn't occur until the 1950s and 1960s responding to the growth of Australia's wool industry<sup>9</sup>.

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<sup>4</sup> Narrabri Shire Council website (undated).

<sup>5</sup> Narrabri Shire Council. 2013

<sup>6</sup> Narrabri Shire Council. 2018

<sup>7</sup> Schwager K. 2013

<sup>8</sup> Profile.Id. 2016

<sup>9</sup> Profile.Id. 2016



From the early 1990s (with a population of 13,255 in 1991), Gunnedah's population continued to decline<sup>10</sup> until a notable increase between 2006 and 2011 (from 11,524 to 12,065 people)<sup>11</sup> partially stimulated by resource industry developments and the development of new housing for families.

Gunnedah LGA's major land uses include urban settlement and agriculture (a combination of cropping, grazing and livestock breeding) as well as coal mining.

Gunnedah is the LGA's largest town and service centre, with a population of approximately 7,984 people in 2016 and is located at the intersection of the Oxley and Kamilaroi Highways. The town provides district level services such as the Gunnedah Hospital, Gunnedah Campus of TAFE New England and medical specialists, which services the town, as well as the LGA's smaller villages such as Curlewis, Breeza, Carroll, Tambar Springs and Mullaley, and the district's farming community. Narrabri LGA residents also access some district level services in Gunnedah.

The main transport connections through Gunnedah LGA are the Kamilaroi Highway, the Oxley Highway, the north western railway line and a small airport<sup>12</sup>.

### **Narrabri LGA**

Narrabri LGA has an area of 13,015 km<sup>2</sup> and a population of more 13,000 people.

The Namoi River valley is at the heart of the LGA, valued for its fertile soils and centrality to the region's water systems<sup>13</sup>. The LGA is home to the Pilliga State Forest, and Narrabri is the gateway to the Mt Kaputar National Park, which offers a range of recreational opportunities including cycling, horse riding, and general environmental appreciation<sup>14</sup>. These natural assets have supported tourism as a growth industry for the LGA.

The towns of Narrabri and Boggabri were settled during the 1860s as supply centres for graziers and sheep farmers<sup>15</sup>. Over time, land use in the LGA has diversified from the grazing and crop cultivation established in the 19th century, to cotton production, coal mining and coal seam gas production.

Narrabri, located on the banks of the Namoi River, is the municipal centre of Narrabri Shire, with a population of approximately 5,900 people. Narrabri has a good range of local-level social infrastructure (see Section 3.6) and provides retail, commercial and community services to the smaller communities of Wee Waa, Baan Baa, Bellata, Edgeroi, Gwabegar Pilliga and Boggabri.

Boggabri, the closest town to the Project at greater than 10 km north-west, had a population of approximately 856 people in 2016. Boggabri's heritage-listed railway station and buildings are remnants of a larger complex that was established from 1882 that and serviced the surrounding region<sup>16</sup>. Boggabri's history and character are showcased as part of the annual 'Drovers Campfire' event, attracting roughly 1,200 visitors to the area each year<sup>17</sup>.

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<sup>10</sup> Ibid.

<sup>11</sup> ABS 2016.

<sup>12</sup> Profile.Id. 2016

<sup>13</sup> NSW Department of Planning and Environment. 2018.

<sup>14</sup> NSW National Parks and Wildlife Service. 2018

<sup>15</sup> Narrabri Shire Council. 2018.

<sup>16</sup> Office of Environment & Heritage.2009.

<sup>17</sup> Narrabri Shire Council. 2018.

Narrabri Shire is served by the Kamilaroi Highway and the Newell Highway. The north-south rail line and the western railway line meet at a T-junction in Narrabri, and the Narrabri Airport supports private charters and freight services<sup>18</sup>.

### **New England North West Region**

The Narrabri and Gunnedah LGAs are within the south-west area of the New England North West Region, for which the closest regional city is Tamworth. Tamworth had a population of almost 61,000 people in 2016 and is located approximately 90 km west of the Project. Tamworth provides a range of services to Narrabri and Gunnedah LGA residents, including the Tamworth Base Hospital, TAFE NSW, civic, entertainment and cultural venues, and access to national sporting facilities such as the Australian Equine and Livestock Events Centre.

#### **3.1.2 Amenity**

Landholdings near the Project primarily accommodate farming families. Homes are located on large acreages, with associated amenity including agricultural and farming uses, access to land for outdoor activities, an agricultural landscape, privacy, and a quiet rural environment. Land owners enjoy the rural vistas and views to the surrounding hills and the forest, and the Namoi River is a highly valued place for fishing and camping.

Amenity in the Narrabri and Gunnedah LGAs includes:

- a 'busy small town' atmosphere in the Narrabri and Gunnedah town centres, with frequent opportunities for community participation;
- a relaxed lifestyle in the smaller town of Boggabri;
- a range of housing choices from small attached dwellings to large farming properties, with associated lifestyle values;
- access to a range of social infrastructure, professional services and shops in the municipal centres;
- rural views including farms, the Namoi Valley, and undulating topography;
- good connectivity from the Narrabri and Gunnedah centres to the regional city of Tamworth;
- access to a range of sporting, cultural and recreational pursuits; and
- access to a Countrylink Explorer train and bus service for passenger travel to Sydney<sup>19</sup>, with Tamworth Regional Airport and Narrabri Regional Airport offering regular passenger flights to other centres.

The Project's visual assessment indicates that the regional setting has attributes of moderate scenic quality due to the contrast between the vegetation and topography of the ranges and agricultural areas of the valley that add to visual interest.

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<sup>18</sup> Narrabri Shire Council. 2013; Schwager K. 2017.

<sup>19</sup> Narrabri Shire Local Emergency Management Committee. 2016.

The regional setting has attributes of low scenic quality due to the presence of coal mines and the generally flat, cleared dryland agricultural areas that dominate the landscape (EIS Section 4.14.1).

### 3.1.3 Natural heritage

Features of social value to sense of place near the Project area are described below.

#### **Namoi River**

The Namoi River is 'a picturesque, meandering river that stretches from Boggabri to Pilliga through Narrabri Shire' and is a recognised community and environmental asset which was the initial attraction for many of the communities established in the Namoi Valley.<sup>20</sup> The river is integral to local character from the perspectives of its support for agricultural livelihoods, recreational activities, scenic amenity, and connection to local communities' histories.

The Namoi catchment area is about 42,000 km<sup>2</sup>, adjacent to the Gwydir and Castlereagh catchments, and bordered by the Great Dividing Range in the east, the Liverpool and Warrumbungle Ranges in the south, and the Nandewar Ranges and Mount Kaputar in the north<sup>21</sup>. The Namoi River has an extensive floodplain, with around a quarter of the basin prone to flooding<sup>22</sup>.

The alluvium of the Namoi River is important in terms of groundwater use, providing water for stock use, domestic supplies, irrigation, industry and town water supplies. The river system also supports social uses including recreational fishing<sup>23</sup>. The Narrabri Shire Community Strategic Plan has prioritised the maintenance and ongoing health of this river system, where its ongoing health is paramount<sup>24</sup>.

#### **Vickery State Forest**

The Project area is adjacent to the southern portion of the Vickery State Forest. The forest is predominantly characterised by native woodland and white cypress of varied maturity, as the result of continued thinning and regeneration of the area for commercial purposes<sup>25</sup>.

The Vickery State Forest, with the Pilliga Forest and National Park to the west, and the Mount Kaputar National Park to the north, is a contributor to the Narrabri LGA's scenic amenity and therefore to sense of place. The Forest is considered to have moderate scenic quality (EIS Section 4.14.1). It continues to be used for forestry, and hosts school science trips, and recreational pursuits such as trail riding and environmental appreciation.

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<sup>20</sup> Narrabri Shire Council. 2013. Narrabri Shire Visitor Guide

<sup>21</sup> Ferris, M. 2013

<sup>22</sup> Ferris, M. 2013

<sup>23</sup> Narrabri Shire Council. 2013. Narrabri Shire Visitor Guide

<sup>24</sup> Narrabri Shire Council. 2013.

<sup>25</sup> NSW EPA. 2014

### 3.1.4 Mining development

The Gunnedah Basin includes the Maules Creek sub-basin which has significant resources of thermal and coking coal, and the Mullaley sub-basin which contains underground and open cut resources of thermal coal<sup>26</sup>. Coal mining commenced on a small scale in the Gunnedah Basin more than 130 years ago<sup>27</sup>.

Whitehaven has been the major developer of resource projects in the Gunnedah Basin over the past two decades. Whitehaven was established in 1999 to develop the former Canyon Coal Mine, acquiring the Vickery Coal Mine (operated by Coal and Allied since the early 1990s) in 2009 and acquiring the Vickery South Coalworks Project in 2012<sup>28</sup>. Other operations currently operated by Whitehaven include the Werris Creek Coal Mine (established in 2005), the Tarrawonga Coal Mine (established in 2006), the Rocglen Coal Mine (commenced production in 2008), the Narrabri North Coal Mine (established in 2011), the Sunnyside Coal Mine (established in 2009) and the Maules Creek Coal Mine (commenced in 2013)<sup>29</sup>. All current operations are within the Narrabri LGA with the exception of the Rocglen Coal Mine and the Sunnyside Coal Mine which are in the Gunnedah LGA, and the Werris Creek Coal Mine which is in the Liverpool Plains LGA.

The Boggabri Coal Mine, operated by Idemitsu Australia, was established in 2006 and is located in the Narrabri LGA. The Whitehaven CHPP, located on the outskirts of Gunnedah, receives and processes ROM coal from the Tarrawonga, Rocglen and Sunnyside Coal Mines (and the Approved Mine should it commence).

Existing and proposed projects located in the vicinity of the Project<sup>30</sup> are presented in Table 3-1, providing insight to future development and land use activities in the Project area. They include:

- the Watermark Coal Project which is an approved but yet to be constructed open cut coal mine with a 30 year mine life;
- the Narrabri Gas Project<sup>31</sup> which is a proposed development of approximately 850 wells across 95,000 hectares in and around the Pilliga Forest, and the construction of a gas pipeline south of Narrabri to supply the NSW domestic gas market;
- the Narrabri South Solar Farm<sup>32</sup> which is a proposed 60MW Solar PV Facility located approximately 7 km south of Narrabri on Old Gunnedah Road; and
- the Inland Rail Narrabri to North Star Section<sup>33</sup> and Narromine to Narrabri Sections which, subject to approval, may commence construction in 2018 and 2019 respectively.

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<sup>26</sup> Resources and Energy NSW. 2018.

<sup>27</sup> Narrabri Shire Council. 2007.

<sup>28</sup> Whitehaven. 2013

<sup>29</sup> Ibid. Whitehaven. 2013.

<sup>30</sup> EIS Appendix J., citing Whitehaven, 2017a, 2015a, 2015b; Idemitsu, 2017; GHD, 2017; Tarrawonga Coal, 2012.

<sup>31</sup> NSW Department of Planning and Environment. 2018. Major Projects Register. Santos Ltd 2018.

<sup>32</sup> NSW Department of Planning and Environment. 2018. Major Projects Register. AlteNERGY.2018

<sup>33</sup> NSW Department of Planning and Environment. 2018. Major Projects Register. ARTC 2018. Inland Rail Narromine to Narrabri.

Table 3-1: Nearby operations and projects

Project	Description	Location and Distance from Project	Project life	Workforce
<b>Whitehaven Mines</b>				
Werris Creek	Open cut coal mine	Liverpool Plains LGA, 75 km	2005 to 2032	Approx. 70 FTE jobs
Tarrawonga Coal	Open cut coal mine	Narrabri LGA, 12 km	2006 to 2029	Approx. 120 FTE jobs
Rocglen Coal	Open cut coal mine	Gunnedah LGA, 10 km	2008 to 2020	Approx. 55 FTE jobs
Narrabri North Coal	Underground coal mine	Narrabri LGA, 36 km	2010 to 2031	Approx. 330 FTE jobs
Boggabri Coal	Open cut coal mine	Narrabri LGA, 12 km	2012 to 2033	Approx. 600 FTE jobs
Maules Creek Coal	Open cut coal mine	Narrabri LGA, 25 km	2013 to 2034	Approx. 450 FTE jobs
Sunnyside Coal	Open cut coal mine	Gunnedah LGA	2009 to 2020	Up to approx. 40 FTE jobs
Whitehaven CHPP	Coal Handling and Preparation Plant	Gunnedah LGA	2002 to 2022	Approx. 10 FTE jobs
<b>Approved/proposed projects</b>				
Watermark Coal Project	Approved open cut coal mine	Gunnedah LGA, 49 km	30 year mine life	Construction approx. 600 FTE jobs; operation approx. 600 FTE jobs.
Narrabri Gas Project	Proposed natural gas development	Narrabri LGA	N/A	Construction approx. 1,300 FTE jobs; operations: approx. 345 FTE jobs
Narrabri South Solar Farm, Canadian Solar	Proposed 60MW Solar PV Facility	Narrabri LGA	30-year operational life	Construction: approx. 200 jobs; Operations: approx. 4 jobs
Inland Rail (Narromine to Narrabri, Narrabri to North Star)	488 km of new and upgraded rail track and associated facilities	Narrabri LGA and others	24 months construction, expected to be operational in 2025.	Construction workforce est. 180 jobs

Source: EIS Appendix J. Analytecon 2017. Citing Whitehaven, 2017a, 2015a, 2015b; Idemitsu, 2017; GHD, 2017; Tarrawonga Coal, 2012, ARTC, 2017.

## 3.2 Culture

### 3.2.1 Aboriginal cultural values

Aboriginal cultural heritage values were assessed in detail in the ACHA undertaken for the EIS (Appendix G). The assessment found that:

- the Aboriginal community did not identify the landscape within the Project area as being of high cultural significance or as being interconnected with known heritage places;

- cultural values associated with the broader surrounds identified through the consultation included the presence of culturally significant fauna and flora species, and the connection to Country as an area that Aboriginal people would have occupied in the past; and
- the Namoi River and its adjacent plains are considered to be of cultural significance to the Aboriginal community, and local Aboriginal people visit the Namoi River for significant social events including meetings, fishing, mussel collecting and family outings<sup>34</sup>.

Consultation during the SIA identified that access and social use of the Namoi River by the Aboriginal community is largely restricted by private landholdings. As such, representatives from the Red Chief LALC emphasised the importance of maintaining access through Crown Land and Travelling Stock Routes (TSRs) on, to and from Crown Land. It was noted that the Red Chief LALC has active, yet to be determined land claims on Crown Land parcels located across their traditional lands.

In addition to protection of custodial lands, the Kamilaroi people have a strong focus on employment and business development as the pathways to community wellbeing and economic security. Identified impacts and benefits associated with the Project are discussed at Section 4.

Whitehaven has an existing target of 10% Aboriginal employment for the Maules Creek Coal Mine, with actual employment 11% in 2018. Whitehaven's objectives in regard to contributions to the Aboriginal community are set out in the Whitehaven Reconciliation Action Plan.

### **3.2.2 Historic heritage**

Assessment undertaken for the EIS indicated that there is one site of potential local heritage significance within the Project area which would be directly impacted. This was a weatherboard cottage which 'reflects the pattern and nature of the local area's historical development and is a less common structural example within the local area' (Appendix K).

In the local area, the Kurrumbede Homestead Complex was identified as a site of at least potential local historic heritage significance, comprising a concrete block homestead dating from approximately 1907 and farm buildings, and with an association with poet Dorothea Mackellar. This site is located outside of the Project area and would not be directly impacted by the Project.

The Broadwater Homestead Complex (which contains a number of well-maintained buildings that reflect rural settlement of the local area in the late 19th and early 20th Century) was identified as a site of potential local significance, however the complex is outside the Project area and would not be directly affected.

### **3.2.3 Rural values**

As evidenced by the Narrabri and Gunnedah LGA planning frameworks, rural values in the Project region include protection of rural land and natural assets, enhancing the rural way of life, and sustainable growth and community renewal through economic diversification.

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<sup>34</sup> Project EIS Section 4.15.1; Landskape, 2012

Recent research on community attitudes to changing land use undertaken by University of Newcastle has found the area's recent developments have generated ongoing conflict between local people who view the mining and coal seam gas industries as moving Narrabri LGA forward economically, and others who view the industries as a threat to the core character and agricultural functions that shaped Narrabri LGA<sup>35</sup>. The research identified a number of themes which reflect rural values within the Narrabri LGA, including:

- a strong attachment to a specific vision of life in Narrabri, which emphasises its rural character;
- the sense of a 'resource hierarchy' where water and soil are the ultimate assets that must be protected, with the intensification of extractive industry development a perceived threat due to the competition for similar resources;
- ambivalence about knowledge sources when it comes to information about mining developments, especially in terms of the politics of land use and the trustworthiness of companies and governments; and
- the role of Local and State Governments was seen as critical in managing the transformation from a primarily agricultural region to one that increasingly encompasses coal mining and coal seam gas exploration <sup>36</sup>.

Consultation with Boggabri residents for the SIA verified the strength of these views and research findings. During SIA consultation, individuals shared their personal history and place attachment to Boggabri and its surrounds. The loss of a large number of farming families from the local area since 2006, attributed to land acquisition for mining and reductions in agricultural employment, was referred to by a number of stakeholders as changing rural character and rural way of life, including community participation and involvement. In regard to community participation and involvement, it is noted that existing mining operations would have increased the population in the region providing additional people available for community members available for participation and involvement.

Some stakeholders also noted that similar views had previously been held toward the expansion of the cotton industry, prior to mining development.

Some Gunnedah stakeholders expressed empathy with Boggabri as a community, providing acknowledgement of the anxiety and strong views held by some local residents and land owners in relation to conflicting community values and competition for natural resources. However, Gunnedah residents generally did not relate these views to their own experiences.

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<sup>35</sup> Published December 2016. This research project is funded by the NSW Department of Primary Industries (NSW DPI) and The University of Newcastle (UON). The project is a collaborative social research project between the two funding partners, conducted by researchers from the Centre for Social Research and Regional Futures (CSRFF) and the Centre for Urban and Regional Studies (CURS), which form part of UON's International Centre for Balanced Land Use (ICBLU).

<sup>36</sup> Askew M & Askland HH. 2016. University of Newcastle



### 3.3 Community

#### 3.3.1 Governance

##### Community representation

The Vickery CCC was established in 2016 for the Approved Mine and is attended by eight community representatives, as well as CSC and NSC representatives, and Whitehaven representatives.

NSC is the Local Authority for the Narrabri LGA, led by Mayor Councillor Catherine Redding and Deputy Mayor Councillor Cameron Staines<sup>37</sup>.

GSC is the Local Authority for the Gunnedah LGA, led by Lord Mayor Councillor Jamie Chaffey and Deputy Mayor Councillor Gae Swain<sup>38</sup>.

At the State level, the Project area is within the electorate of Tamworth<sup>39</sup>, which is represented in the Legislative Assembly by Mr. Kevin Anderson MP (National Party of Australia (NPA)). Narrabri LGA largely forms part of the Barwon Electorate<sup>40</sup> which is represented by Mr. Kevin Humphries (NPA).

Narrabri LGA is within the Commonwealth Electorate of Parkes, represented by the Hon. Mark Coulton MP (NPA)<sup>41</sup>. Gunnedah LGA and the Project area are located within the electorate of New England which is represented by the Hon. Barnaby Joyce MP (NPA)<sup>42</sup>.

##### New England North West Regional Planning

The Project is located in the New England North West Region of NSW, which includes the Namoi River Valley, associated agricultural land uses and elevated, vegetated country managed as State Forests and National Parks.

The New England North West Regional Plan 2036 (NENWRP) was published by the NSW Government in August 2017. The NSW Government's vision for the Region is: *"nationally valued landscapes and strong, successful communities from the Great Dividing Range to the rich black soil plains."*<sup>43</sup> Regionally focused goals include:

- a strong and dynamic regional economy;
- a healthy environment with pristine waterways;
- strong infrastructure and transport networks for a connected future; and
- attractive and thriving communities.

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<sup>37</sup> Narrabri Shire Council website 2018

<sup>38</sup> Gunnedah Shire Council website 2018

<sup>39</sup> NSW Electoral Commission. 2017. Tamworth District Profile

<sup>40</sup> NSW Electoral Commission. 2017. Barwon District Profile

<sup>41</sup> Australian Electoral Commission. 2010. Parks

<sup>42</sup> Australian Electoral Commission. 2010. New England

<sup>43</sup> Department of Planning and Environment. 2017.

Priorities for Narrabri and Gunnedah LGAs outlined in the Regional Plan include:

- deliver a variety of housing options in Narrabri and Gunnedah, and promote development that contributes to the unique character of villages;
- support economic diversification and strengthening including in agriculture, horticulture and agribusiness health and education, including development of employment lands;
- continue to develop access and logistics infrastructure on appropriate sites to encourage new industry opportunities;
- expand nature-based adventure and cultural tourism places and enhance visitor experiences; and
- identify and promote wind, solar and other renewable energy opportunities.

The New England North West Strategic Regional Land Use Plan<sup>44</sup> (SRLUP) aims to address land use conflicts in regional areas, particularly as they relate to coal and coal seam gas. Of relevance to the SIA, the SRLUP notes that ‘development pressures are building rapidly in the Liverpool Plains, Gunnedah, Narrabri and Tamworth Regional LGAs, which are located in or adjacent to the coal basin’.

The SRLUP provisions include assessment of any impacts on strategic agricultural land under the Gateway process. More broadly targeted initiatives include the delivery of a fully costed infrastructure plan for the region, and a suite of actions aimed at minimising the impacts on air quality and noise on community health and amenity.

### Council plans and strategies

Table 3-2 summarises the objectives and desired outcomes of GSC strategies and plans that have relevance to the SIA.

**Table 3-2: Gunnedah Shire Council Plans and Strategies**

Plan / Strategy	Summary
Gunnedah LEP 201245	<p>Aims of the Plan include:</p> <ul style="list-style-type: none"> <li>• conserve and enhance local ecological integrity, heritage and significance;</li> <li>• promote local economic wellbeing in a socially and environmentally responsible way;</li> <li>• proper management of productive agricultural land, avoiding fragmentation;</li> <li>• facilitate a range of new housing and housing choice;</li> <li>• facilitate provision and co-ordination of community services and facilities;</li> <li>• seek provision of adequate infrastructure to meet future needs of development;</li> <li>• provide direction and guidance in the management of growth and development;</li> <li>• conserve the cultural and environmental heritage of Gunnedah; and</li> </ul>

<sup>44</sup> NSW Department of Planning and Infrastructure. 2012.

<sup>45</sup> NSW Government. NSW Legislation. 2012.

Plan / Strategy	Summary
	<ul style="list-style-type: none"> <li>• minimise risk of environmental hazards associated with development.</li> </ul>
Gunnedah Economic Development Profile and Strategy 2016 <sup>46</sup>	<p>This five-year strategy has a focus on:</p> <ul style="list-style-type: none"> <li>• attracting and promoting new business;</li> <li>• projects that can stimulate growth;</li> <li>• capitalisation of emerging industries; and</li> <li>• diversifying and strengthening Gunnedah's economic base.</li> </ul>
Gunnedah Community Strategic Plan 2012-2022 <sup>47</sup>	<p>This is based on a vision for a prosperous, caring and proud community which includes:</p> <ul style="list-style-type: none"> <li>• welcoming and supporting one another, working in partnership;</li> <li>• embracing and preserving heritage, natural resources and social fabric; and</li> <li>• enjoying access to services and facilities in Gunnedah and Tamworth while valuing the tranquillity, safety, beauty and friendliness of a rural community.</li> </ul>
Gunnedah Shire Council 'Business Partner Program'.	<p>This program is designed to strengthen of the Gunnedah business sector, through assistance including:</p> <ul style="list-style-type: none"> <li>• identifying business relocation and expansion options;</li> <li>• guidance with planning and development processes;</li> <li>• providing current market information about Gunnedah;</li> <li>• assisting new business in securing allowances and incentives; and</li> <li>• supporting businesses with sustainability or expansion initiatives.</li> </ul>

Table 3-3 summarises the NSC's strategies and plans that have relevance to the SIA.

**Table 3-3: Narrabri Shire Council Plans and Strategies**

Plan / Strategy	Summary
Narrabri Local Environment Plan (LEP) 2012 <sup>48</sup>	<p>The Plan's aims include:</p> <ul style="list-style-type: none"> <li>• orderly management, development and conservation of natural, mineral, agricultural and heritage resources;</li> <li>• diversity of settlement and living options; and</li> <li>• diversity of business enterprise and employment options.</li> </ul>
Narrabri Shire Council – Heritage Strategy 2017-2020 <sup>49</sup>	<p>This Heritage Strategy seeks to:</p> <ul style="list-style-type: none"> <li>• increase awareness and appreciation of heritage by the community;</li> <li>• increase understanding of heritage management; and</li> <li>• ensure heritage is integral to cultural tourism and sustainable development.</li> </ul>

<sup>46</sup> Gunnedah Shire Council. 2016.

<sup>47</sup> Gunnedah Shire Council. 2012

<sup>48</sup> NSW Government. NSW Legislation. 2012.

<sup>49</sup> Narrabri Shire Council. 2017.

Plan / Strategy	Summary
Narrabri Shire Economic Development Strategy 2011 <sup>50</sup>	<p>This Strategy is focused on facilitating growth and development of a vibrant, diverse and sustainable economy underpinned by four strategic themes:</p> <ul style="list-style-type: none"> <li>• assist existing business;</li> <li>• promote and market Narrabri LGA;</li> <li>• attract investment; and</li> <li>• lobby for infrastructure, services and support to respond to mining sector growth.</li> </ul>
Community Strategic Plan – towards 2023 (2013) <sup>51</sup>	<p>NSC's vision is to develop as a strong and vibrant regional growth centre, including:</p> <ul style="list-style-type: none"> <li>• Narrabri LGA as a regional centre with an airport and infrastructure of regional quality;</li> <li>• adequate health services to meet the needs of a regional centre;</li> <li>• expanded tertiary educational facilities</li> <li>• adequate accommodation available to meet demand</li> <li>• sustainable land use;</li> <li>• ensure a clean, green environment for the future; and</li> <li>• a safe place to live, work and experience cultural activities.</li> </ul>

Section 94A Contributions Plans have also been prepared by both Councils in accordance with the *Environmental Planning and Assessment Act 1979* to:

- authorise the imposition of a condition on certain development consents and complying development certificates requiring financial contribution;
- assist Council to provide the appropriate public facilities which are required to maintain and enhance amenity and service delivery within the area; and
- publicly identify the purposes for which the levies are required.

### 3.3.2 Population characteristics

#### Population

At the 2016 census, Narrabri LGA had a slightly larger population at 13,084 people than Gunnedah LGA at 12,215 people. The largest concentration of people in the area of influence was in the town of Gunnedah (Gunnedah UCL) which had 7,984 people or around 65% of the Gunnedah LGA's population in 2016.

The town of Narrabri (UCL) had a population of 5,903 people in 2016, representing approximately 45% of the Narrabri LGA's population. Boggabri had a population of 856 people, equivalent to 6.5% of the Narrabri LGA's population.

<sup>50</sup> AEC Group Ltd. 2011. For Narrabri Shire Council.

<sup>51</sup> Narrabri Shire Council. 2013.

The median age of residents within the area of influence was comparable to or marginally older than the NSW average. There was little variation in the male: female ratio in the study area apart from slightly higher percentages of women in the towns of Narrabri and Gunnedah.

As shown in

Table 3-4, both LGAs experienced modest population growth during 2011-2016 in comparison to the NSW average.

**Table 3-4: Population 2011-2016**

Area	2016 Population	2011-2016 Population Change	% Male	% Female	2016 Median Age	2011-2016 Median Age Change
Gunnedah LGA	12,215	+1.2% (149)	50%	50%	40	0
Gunnedah UCL	7,984	+1.2% (96)	48.8%	51.1%	39	0
Narrabri LGA	13,084	+1.2% (159)	49.9%	50.1%	40	+1
Narrabri UCL	5,903	+0.2% (13)	48.3%	51.6%	38	+1
Boggabri UCL	856	-1.2% (-10)	50.1%	49.9%	40	-1
NSW	7,480,228	+8.10%	49.3%	50.7%	38	0

Source: ABS 2016 Census of Population and Housing

### Indigenous population

The percentage of Indigenous residents in the area of influence was high at 14.9% in Narrabri LGA (including 13.2% in Boggabri) and 12.8% in Gunnedah LGA (including 15% in Gunnedah UCL) compared to the NSW average (2.9%). The percentage of community members identifying as Indigenous increased in all parts of the area of social influence by considerably higher proportions than the NSW average during 2011-2016 (see Table 3-5).

Consultation undertaken with local Aboriginal stakeholders suggested the population increase could be attributed in part to the growth of cultural security and confidence within the community leading to more self-identification, as well as the increasing residential population moving locally to access employment opportunities associated with the mining industry, noting Whitehaven's Indigenous employment record in particular.

**Table 3-5: Indigenous population 2011-16**

Area	2016 Indigenous Population	2011-2016 Population Change	2016 Indigenous Median Age	2011-2016 Median Age Change
Gunnedah LGA	12.8% (1,568)	15.1% (206)	21	+2
Gunnedah UCL	15% (1,198)	8.4% (93)	NA	NA
Narrabri LGA	12.2% (1,595)	14.9% (207)	22	+1
Narrabri UCL	13.8% (817)	13.6% (111)	NA	NA
Boggabri UCL	13.2% (113)	50.4% (57)	NA	NA
NSW	2.9%	+0.4%	22	+1

Source: ABS 2016 Census of Population and Housing

### Diversity and vulnerability

Table 3-6 presents key indicators of cultural diversity and potential community vulnerabilities. The data suggest that cultural diversity in the area of influence is lower than average, with small percentages of residents born overseas or that speak a language other than English at home. By contrast, more than 25% of the NSW population was born overseas and/or spoke another language at home.

In 2016, 5.4% of the NSW population identified as needing assistance with core activities, which denotes moderate to severe disability. Disability indicators were comparable to the NSW average for Narrabri and Gunnedah LGAs, while the urban centres of Boggabri and Gunnedah recorded a higher percentage (6.9% and 6.4%, respectively).

The ABS Index of Relative Social Advantage and Disadvantage (IRSAD) summarises variables that indicate relative advantage and disadvantage. This index ranks areas on a continuum from most disadvantaged to most advantaged and are scored in relation to an Australian benchmark score of 1,000. An area with a high score on this index has a relatively high incidence of advantage and a relatively low incidence of disadvantage.

As shown, Gunnedah LGA had an IRSAD score of 943, while Narrabri LGA received a score of 938. This indicates that the Narrabri LGA population has a higher incidence of disadvantage compared to Gunnedah LGA. Consultation for the SIA indicated the cost of living and access to affordable housing were two areas of concern for ageing community members, lower income families and for some Aboriginal community members. In Boggabri, health and emergency service stakeholders cited examples where older residents were turning off their heating / air conditioning due to electricity affordability, which was increasing presentations at the multi-purpose health centre. Vulnerabilities were also noted in both Boggabri and Gunnedah for Aboriginal community members that are living in overcrowded social housing options, and where lower-income families and some Aboriginal families were experiencing 'entrenched welfare mentality' due to a lack of employment opportunities.

**Table 3-6: Population diversity and vulnerability indicators**

Area	People born overseas	2016 LOTE	Disability (need for core assistance)	2016 SEIFA IRSAD Score
Gunnedah LGA	4.8% (583)	2.2% (271)	5.5% (667)	943
Gunnedah UCL	5.3% (427)	2.8% (221)	6.4% (512)	NA
Narrabri LGA	4.2% (550)	1.8% (230)	4.4% (572)	938
Boggabri UCL	2.7% (23)	1.5% (13)	6.9% (59)	NA
Narrabri UCL	2.2% (54)	2% (118)	5.4% (318)	NA
NSW	27.7%	25.2%	5.4%	

Source: ABS 2016 Census of Population and Housing

### Family and household characteristics

Key characteristics of family and household composition in the area of social influence, relative to the NSW average include (see Table 3-7) higher percentages of sole person households in the Gunnedah and Narrabri LGAs, lower percentages of couples with children, and as a consequence, lower percentages of total family households.

**Table 3-7: Household characteristics**

Area	Av. H'hold size	Sole person	Couple family	Couple with children	Sole parent family	Other family	Total Family	Group/ Other h'hold
Gunnedah LGA	2.5	28.2%	28.2%	28.8%	11.2%	1.1%	69.4%	2.5%
		(1,277)	(1,275)	(1303)	(508)	(50)	(3,141)	(114)
Gunnedah UCL	2.3	32.3%	26.0%	25.2%	12.3%	1.1%	64.8%	2.9%
		(994)	(799)	(776)	(379)	(35)	(1992)	(88)
Narrabri LGA	2.5	27.6%	28.7%	28.3%	11.7%	0.8%	69.5%	2.8%
		(1,277)	(1329)	(1,309)	(543)	(37)	(3211)	(130)
Boggabri UCL	2.3	34.1%	26.3%	18.1%	18.1%	0.9%	63.1%	4.7%
		(109)	(84)	(58)	(58)	(3)	(202)	(15)
Narrabri UCL	2.4	29.7%	26.9%	26.1%	13%	0.9%	67.1%	3.1%
		(640)	(580)	(562)	(281)	(19)	(1,445)	(66)
NSW	2.6	23.8%	25.8%	33.6%	11.4%	1.2%	72%	4.2%

Source: ABS 2016 Census of Population and Housing

### **Educational attainment**

School completion levels (Table 3-8) and post-school qualification levels (Table 3-9) were lower than the NSW average in both LGAs, and in each town in the area of influence. Of note:

- Boggabri recorded the lowest Year 12 completion rate and had the highest percentage of residents over 15 that left school at Year 10;
- Gunnedah LGA had a slightly higher percentage of Year 12 attainment than Narrabri LGA;
- the area had higher percentages of people whose highest post-school qualification was at Certificate level; and
- completion rates for Bachelor Degree or above were highest in Narrabri LGA but well below the NSW average.

This profile reflects the two LGA's strong agricultural sector where qualifications have traditionally been less important than experience, as well as the mining sector which has high proportions of employees with certificate level qualifications.



**Table 3-8: Educational attainment**

	Year 8 or below	Year 9 or below	Year 10 or equiv.	Year 11 or equiv.	Year 12 or equiv.	Did not go	Not stated
Gunnedah LGA	7.0%	9.0%	33.2%	6.2%	32.8%	0.5%	11.3%
Gunnedah UCL	7.4%	9.2%	32.6%	6.6%	31.5%	0.6%	12.1%
Narrabri LGA	6.7%	9.0%	30.9%	6.3%	32.6%	0.3%	14.1%
Boggabri UCL	8.0%	12.3%	37.7%	6.0%	19.4%	0.0%	16.2%
Narrabri UCL	7.0%	9.5%	29.4%	7.3%	32.4%	0.4%	14.1%
NSW	4.5%	5.5%	21.3%	4.9%	53.9%	1.1%	8.8%

Source: ABS 2016 Census of Population and Housing

**Table 3-9: Post-School Qualifications**

Area	Certificate Level	Graduate Diploma / Certificate	Advanced Diploma and Diploma	Bachelor Degree and Above	Inadequately Described / Not Stated
Gunnedah LGA	43.9%	1.9%	12.7%	17.2%	24.5%
Gunnedah UCL	44.7%	2.0%	11.4%	14.0%	25.5%
Narrabri LGA	39.6%	1.9%	11.0%	18.0%	30.5%
Boggabri UCL	46.4%	0.9%	7.8%	8.4%	37.0%
Narrabri UCL	39.9%	1.9%	10.6%	17.5%	30.1%
NSW	29.7%	2.8%	14.6%	35.6%	17.3%

Source: ABS 2016 Census of Population and Housing

### Income and housing payments

As shown in Table 3-10:

- the average weekly income for individuals living in Gunnedah and Narrabri LGAs was lower than the NSW average (\$664 per week), and also lower for households compared to the NSW average of \$1,486);
- residents of Narrabri UCL had the highest personal and household income, and also higher median mortgage payment rates; and
- residents of Boggabri and the town of Gunnedah had the highest rents in the study area (\$250 per week), although rents were still well below the NSW average (\$380 per week).

Further data on housing access and costs are provided in Section 3.4.

**Table 3-10: Household income and housing costs**

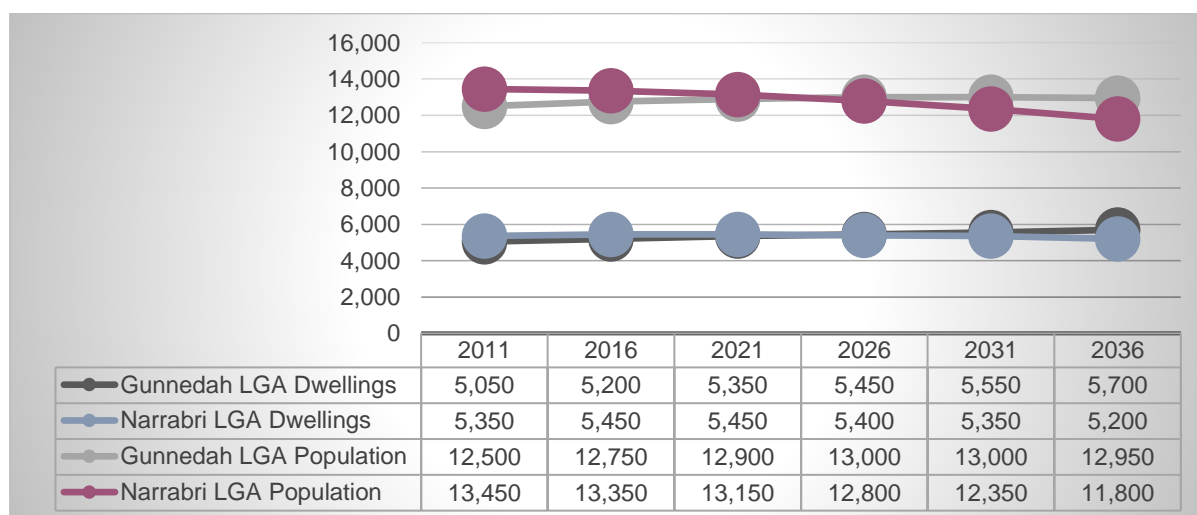
Area	Median personal income (\$)	Median weekly household income (\$)	Median mortgage repayment (\$/monthly)	Median rent (\$/weekly)
Gunnedah LGA	\$618	\$1,253	\$1,473	\$240
Gunnedah UCL	\$596	\$1,167	\$1,400	\$250
Narrabri LGA	\$632	\$1,242	\$1,395	\$200
Narrabri UCL	\$629	\$1,209	\$1,452	\$230
Boggabri UCL	\$540	\$1,051	\$1,279	\$250
NSW	\$664	\$1,486	\$1,986	\$380

Source: ABS 2016 Census of Population and Housing

### 3.3.3 Future population

NSW Department of Planning and Environment population projections indicate that Gunnedah LGA will experience average annual population growth of 0.4% between 2016 and 2021 (from 12,750 to 12,900 people), and 0.6% annual growth in dwelling requirements (see Figure 3-1). Narrabri LGA was expected to experience marginally negative population growth between 2016 and 2021 (an average annual decrease of 0.1% or a total of 200 people over the five years), and no growth in dwelling requirements. By contrast, the annual average growth rate of NSW between 2016 and 2021 is projected to be 1.37%, with an annual average increase in dwelling requirements of 1.5%.

The projections were reasonably accurate compared to the 2016 Census counts, estimating approximately 285 more people than the Census count in Gunnedah LGA and 266 more people for Narrabri LGA.

**Figure 3-1: Projected population and households, Gunnedah and Narrabri LGA, 2011-2036**

Source: NSW Department of Planning and Environment. 2016 New South Wales State and Local Government Area Population Projections. Main Series Projections

### 3.3.4 Community cohesion

Community cohesion in the rural areas near the Project is supported by the traditional rural ethic of working together to address community needs, and by an extensive range of social networks including community, cultural, sporting, recreational, business, environmental and political organisations. As mining employment has increased in importance, social links between mining workers and families have also developed.

Population mobility levels provide some indication of cohesion, as retaining a stable community over time supports community cohesion. In the five years to 2016, the Gunnedah and Narrabri LGA communities experienced slightly less population turnover than the NSW average (with 54.5% and 58.5% of the respective LGA populations maintaining the same address, compared to 53.8% for NSW) (see Table 3-11).

Gunnedah and Boggabri showed greater levels of population mobility than their LGA averages, over the five-year period, where 51.3% of Gunnedah residents had the same address (compared to the LGA average of 54.5%) and 53.5% of Boggabri residents also maintaining the same address (compared to the LGA average of 58.5%). This variance suggests more turnover is occurring in these centres, with greater longevity among residents on properties outside the town centres.

**Table 3-11: Population Mobility – Place of Usual Residence 5 Years Ago**

Area	Same Address	Different Address	Not Stated
Gunnedah LGA	54.5%	36.2%	9.3%
Gunnedah UCL	51.3%	39.1%	9.7
Narrabri LGA	58.5%	29.1%	12.4%
Boggabri UCL	53.5%	32.2%	14.3%
Narrabri UCL	55.6%	31.9%	12.6%

Source: ABS 2016 Census of Population and Housing

Residential longevity in the rural areas reflects an investment by property owners in agricultural enterprises, some multi-generational, as well as in long term social networks which support cohesion interest. In the year before the 2016 Census, 24.6% of people in the Narrabri LGA and 23.9% of people in the Gunnedah LGA had done voluntary work through an organisation or a group, compared to the NSW average of 18.1%, which also indicates higher community cohesion.

The demographic evidence is supported by research undertaken in the two LGAs over the past few years. A research project by CSIRO involving 400 Narrabri LGA residents found that positive 'perceptions of community spirit' received a rating of 4.26 (with 5 the highest possible rating), and 'place attachment' was very high with a rating of 4.42 indicating residents felt a high sense of belonging to their community.

In the Gunnedah LGA, research in 2015 involving more than 560 residents found that over 90% of respondents reported feeling that they belong to their neighbourhood, with the proportion of people who agreed with feeling that they belong to their neighbourhood, increasing proportionally with the length of time at their address<sup>52</sup>.

### **3.4 Way of life**

#### **3.4.1 Rural way of life**

Land owners and families in the area nearest to the Project area enjoy a rural way of life which includes:

- a commitment to farming as central to local employment and to family and community wellbeing;
- social and recreational activities based around outdoor activities, environmental appreciation, regular community events and celebration of rural heritage; and
- close and functional connections between neighbours, e.g. provision on assistance during peak farming periods and sharing of equipment.

Property owners surrounding the Project area have strong arrangements of mutual support and assistance, born of long-term co-operation on property management and community issues.

#### **3.4.2 Employment and Economic Strengths**

This section describes the labour and employment profile in the Narrabri and Gunnedah LGAs, in context with the New England North West Region (NENW SA4) which represents the wider labour pool for the Project. Data are also provided for Tamworth LGA which has the largest labour pool in the region and is a point of comparison for Narrabri and Gunnedah's characteristics. Comparative data are provided for NSW.

##### **Labour force**

In 2016, Gunnedah LGA and Narrabri LGA had a combined working age population of 19,982 people, and Tamworth Regional LGA had a working population of 47,550 people. At 2016, labour force participation rates were around 58% for the three LGAs. Applying these rates to the working population figures, the Gunnedah LGA's labour force was 5,694 people, and Narrabri LGA's labour force was 6,013 people (see Table 3-12).

In 2016, the Gunnedah and Narrabri LGAs had 5,381 and 5,657 employed people respectively. Employment increased marginally in Gunnedah LGA between 2011 and 2016 (by an additional 156 employed people) and decreased marginally in Narrabri LGA (179 fewer employed people).

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<sup>52</sup> Hunter New England Population Health (2011).

**Table 3-12: Selected Labourforce Characteristics**

Labour force (2016)	Gunnedah LGA	Narrabri LGA	Tamworth Regional	NENW SA4	NSW
Persons 15 years+	9,686	10,296	47,550	145,922	6,093,895
In Labour force	5,694	6,013	27,607	81,209	3,605,881
Employed	5,381	5,657	25,997	75,985	3,380,332
Not in the labour force	3,211	3,127	16,171	51,727	2,088,240
Labour force Participation	58.8%	58.4%	58.1%	55.7%	59.2%

Source: ABS 2016 Census of Population and Housing

### Employment by industry

The agricultural industry has been a mainstay of both Gunnedah's and Narrabri's economies for many years. In 2016, the agricultural industry was by far the largest employer in the Narrabri LGA (employing 1,107 people) and marginally so in Gunnedah LGA (employing 741 people) (see Figure 3-2). However, in 2016 the mining industry employed almost as many people as the agricultural industries in Gunnedah LGA (737 employed people), but considerably less so in Narrabri LGA (313 employed people).

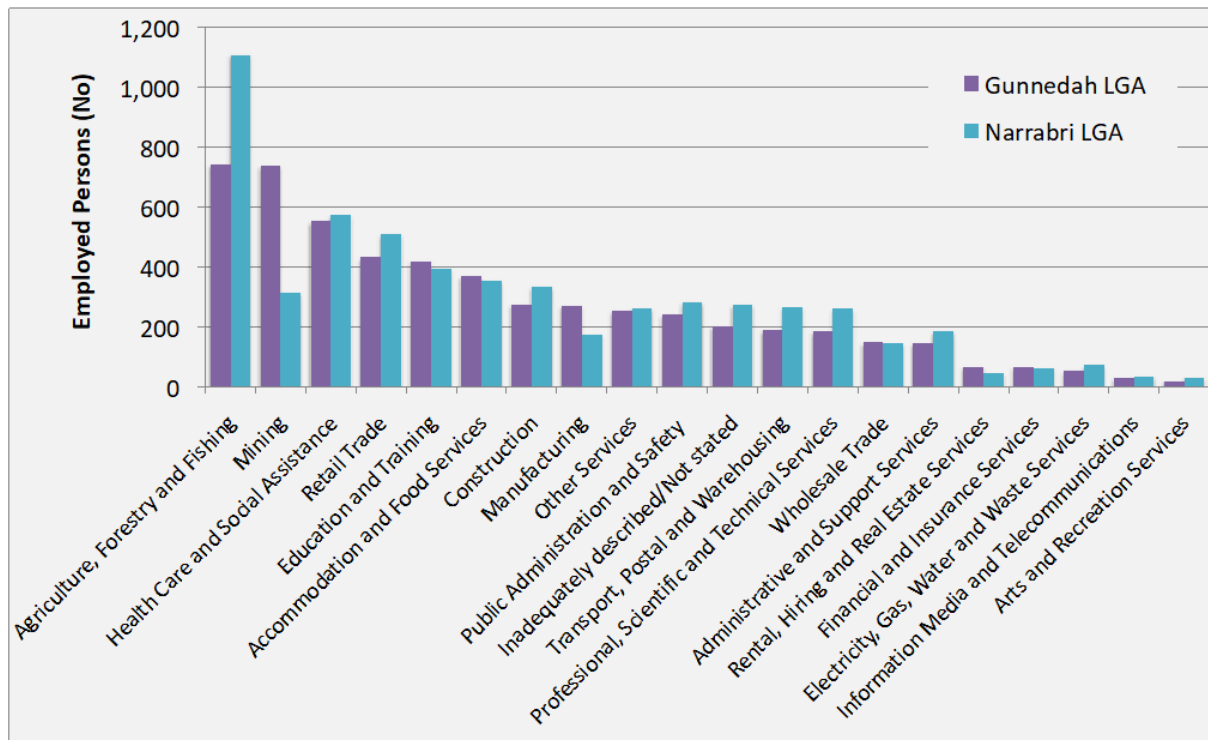
Despite the agricultural industry's prominence, analysis of the 2016 employment information shows that the role of agriculture as an employer in the region has declined in proportional terms since 2001. In Narrabri LGA, the share of employment in agriculture fell from 25% in 2001 to 20% in 2016, and Gunnedah LGA's share of agricultural employment fell from 21% to 14% over the same period (see EIS Appendix J), which represents a structural change in agriculture with more mechanisation and high technology and specialised contractors.

Over the same period, the decline in agricultural employment has been partly offset by increases in employment in the mining sector, particularly in Gunnedah LGA where the share of mining employment had increased from 1% in 2001 to almost 14% in 2016. AnalytEcon (2018) notes that declines in agricultural employment are not unique to the Narrabri and Gunnedah LGAs, and there is no statistically significant relationship between the changes in mining employment and agricultural employment across regions in New South Wales.

### 3.4.3 Employment Opportunities within the Region

The economic strength of a region can also be noted by the extent to which an area 'imports' or 'exports' labour, determined through a comparison of jobs within industry sectors in a region to the number of people employed in the same industry sectors. This is important in an area that is expecting a major project as it can show, to some degree, the extent to which a region is likely to be able to supply the required labour in given industry sectors.

**Figure 3-2: Industry of Employment, 2016**



Source: ABS 2016 Census of Population and Housing

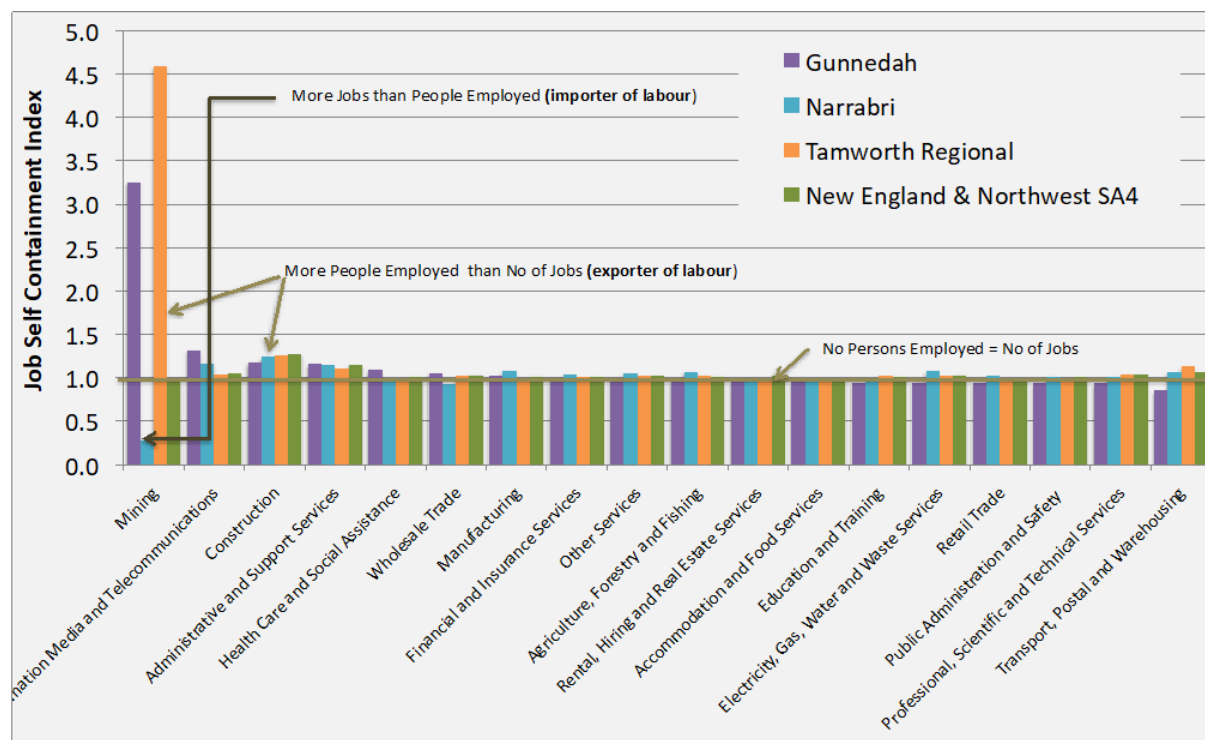
In 2016, Narrabri had 1,124 mining jobs within the LGA in 2016 and only 313 persons employed in the mining industry. This shows that Narrabri LGA was a considerable 'importer' of mining workers (i.e. Narrabri relied on areas outside the LGA to supply mining labour) (see Figure 3-3).

Gunnedah LGA was an 'exporter' of mining workers as they had more employed people in mining (737 people) than jobs (227), as was Tamworth Regional LGA (61 mining jobs in Tamworth compared with 280 people employed in mining). Overall in the New England and North West Region there were just over 1,300 additional people employed in mining compared with the number of mining jobs available (30,443 jobs available compared with 31,736 people employed in mining). This would suggest that most people working in the Region are likely to be residentially based.

The construction industry was also a minor 'exporter' of workers in both Gunnedah and Narrabri, with these areas hosting 233 and 269 jobs respectively in 2016, and having 274 and 333 employed in the construction industry. In 2016 both Tamworth Regional LGA and the combined New England and North West region had more people employed in the construction industry (Tamworth 2,037 and New England Region 5,089 employed persons) than fulfilled jobs (Tamworth 1,623 and New England Region 4,022 jobs).

This indicates that at least 1,400 people in the construction industry are travelling regionally or even further afield to gain employment. Acknowledging that construction workers are typically mobile, this shows that there are more people available for construction work than there are jobs in the region.

**Figure 3-3: Employment Opportunities – Number employed by Industry compared to number of Jobs, 2016**



Source: ABS 2016 Census of Population and Housing. NB: Self Containment indicated by a value of 1

### Construction employment

Table 3-13 shows that the construction industry grew by 3,276 jobs in the New England and Northwest Region between 2011 and 2016, with 233 of these jobs hosted in Gunnedah LGA, 269 jobs in Narrabri LGA, and 1,675 jobs hosted in the Tamworth LGA.

Employment in this industry is again male dominated, with women accounting for less than one percent of all construction employment in most subsectors. The only subsector larger was Construction Services, but even then females only account for around seven percent to 12 percent of all total construction employment. There were small increases in construction jobs between 2011 and 2016 in Narrabri (26 additional jobs) and Gunnedah (42 additional jobs) but the largest increase was in the Tamworth LGA (382 jobs, or an increase of 31%).

### Mining employment

Detailed data on the mining sector (Table 3-14) show that there were considerable increases in mining jobs between 2011 and 2016 in the Region, concentrated in Narrabri LGA (783 of the 978 new jobs in the New England and Northwest Region between 2011 and 2016).

Coal mining dominates the mining industry in the social area of influence, and males account for between 74 percent and 81 percent of all mining employment in Gunnedah and Narrabri LGAs respectively. There were only 10 coal mining jobs in Tamworth Regional LGA in 2016.



**Table 3-13: Construction Employment 2011 and 2016**

2016	Gunnedah LGA	Narrabri LGA	Tamworth Regional	NENW SA4	NSW
<b>Construction Industry</b>	<b>Employed persons within LGA/Region (Total No.)</b>				
Construction, nfd	6	11	76	164	12,988
Building Construction	35	36	412	956	84,065
Heavy and Civil Engineering Construction	45	44	139	409	23,722
Construction Services	145	180	1,001	2,494	159,772
<b>Total</b>	<b>233</b>	<b>269</b>	<b>1,623</b>	<b>4,022</b>	<b>280,553</b>
<b>By Gender</b>	<b>% of Employed persons within LGA/Region by Gender</b>				
Construction Services (Females%)	54%	58%	53%	54%	51%
Construction Services (Males %)	7%	12%	8%	8%	6%
<b>Total Male %</b>	<b>87%</b>	<b>86%</b>	<b>86%</b>	<b>87%</b>	<b>87%</b>
<b>Changes since 2011</b>	<b>2011 information by Gender</b>				
Construction Jobs 2011	191	243	1,241	3,276	221,681
Change 2011-2016	42	26	382	746	58,872
<b>% Change on 2011 base</b>	<b>22%</b>	<b>11%</b>	<b>31%</b>	<b>23%</b>	<b>27%</b>

Source: ABS 2016 and 2011 Census of Population and Housing. Please note that there are small random adjustments made to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals.

**Table 3-14: Mining Employment 2011 and 2016**

2016	Gunnedah LGA	Narrabri LGA	Tamworth Regional	NENW SA4	NSW
<b>Mining</b>	<b>Employed persons within LGA/Region (Total No.)</b>				
Mining, not described	19	15	10	42	1,718
Coal Mining	190	1,006	10	1,340	18,888
Oil and Gas Extraction	3	28	3	30	377
Metal Ore Mining	0	3	3	50	5,165
Non-metallic Mineral Mining and Quarrying	6	7	34	119	2,291
Exploration and Other Mining Support Services	10	71	3	99	2,002
<b>Total</b>	<b>227</b>	<b>1,124</b>	<b>61</b>	<b>1,676</b>	<b>30,443</b>
<b>By Gender</b>	<b>% of Employed persons within LGA/Region by Gender</b>				
Coal Mining (Males %)	74%	81%	11%	72%	55%
<b>Total (Males %)</b>	<b>89%</b>	<b>90%</b>	<b>82%</b>	<b>89%</b>	<b>88%</b>
Coal Mining (Females %)	12%	9%	0%	8%	7%

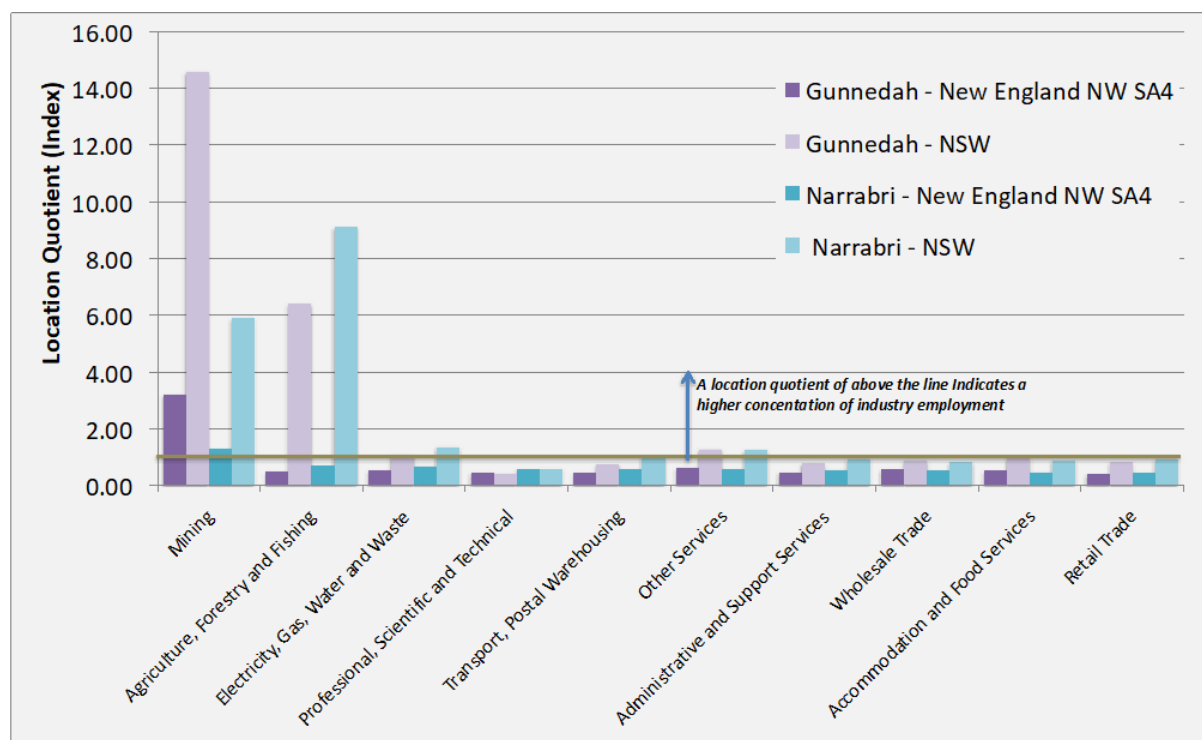
2016	Gunnedah LGA	Narrabri LGA	Tamworth Regional	NENW SA4	NSW
Total (Females %)	13%	10%	16%	11%	12%
<b>Changes since 2011</b>	<b>2011 By Gender</b>				
2011 Mining Jobs	194	341	37	698	29,798
Change in jobs 2011 – 2016	33	783	24	978	645
Change on the 2011 Base	17%	230%	65%	140%	2%

Source: ABS 2016 and 2011 Census of Population and Housing. Please note that there are small random adjustments made to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals.

The significance of the mining industry in Gunnedah and Narrabri LGAs is also shown by analysing the industry location quotient (refer Figure 3-4). The location quotient shows the concentration of employment in particular industries compared to a base economy – in this case the New England North West Region (the New England NW SA4), and the whole of NSW. The Gunnedah and Narrabri LGAs have higher concentrations of mining than the New England North West Region, and much higher concentrations than NSW as a whole.

While the location quotients for agriculture for both LGAs were higher when compared to NSW, they were lower than the Region, indicating that agricultural employment was more concentrated elsewhere in the New England and North West Region in 2016.

**Figure 3-4: Location Quotient – Concentration of Industries, 2016**

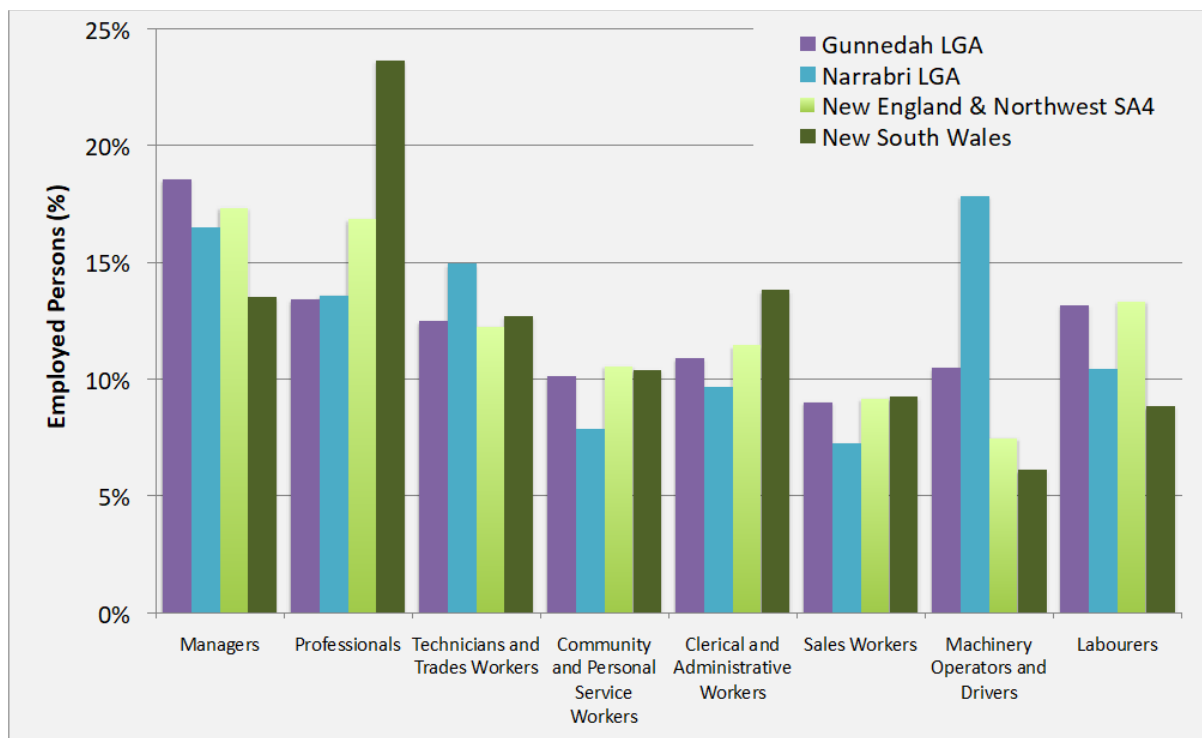


Source: ABS 2016 Census of Population and Housing

### Occupational profile

As shown in Figure 3-5, there was a wide range of occupations held by people in the area of influence in 2016. Compared to NSW, Gunnedah LGA had more managers (19% compared to 13% for NSW), machine operators and drivers (10% compared to 6% for NSW) and labourers (13% compared to 9% for NSW). This reflects both the agricultural industry (where many would describe themselves as managers), as well as the area's mining opportunities. Narrabri also had higher concentrations of the aforementioned occupations in 2016 when compared to New South Wales (16%, 18% and 10%, respectively), as well as proportionally more technicians and trades workers (15% compared to 13%).

**Figure 3-5: Occupations 2016**

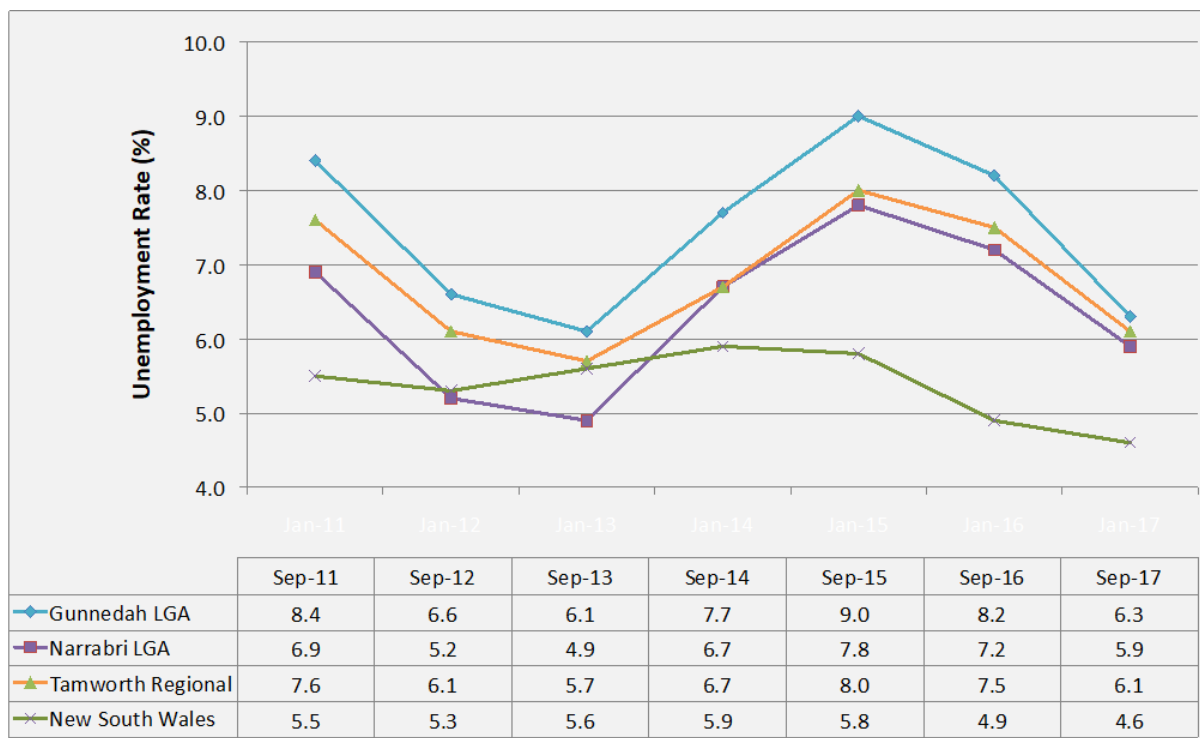


Source: ABS 2016 Census of Population and Housing

### Unemployment

Figure 3-6 shows the September quarter unemployment rates from 2011 to 2017. Since September 2014, the Gunnedah and Narrabri LGAs have had consistently higher unemployment rates than New South Wales as a whole, peaking in September 2015 at 9% in Gunnedah LGA and 7.8% in Narrabri LGA.

At September 2017, although higher than NSW, unemployment rates had decreased sharply in Gunnedah, falling 2.7 percentage points since 2015 to 6.3%, with Narrabri and Tamworth both experiencing decreases of 1.9 percentage points in the same period. The comparative rate for NSW at September 2017 was 4.6%.

**Figure 3-6: Unemployment Rates, LGAs and NSW, September Quarter 2011-17**

Source: Australian Department of Employment, 2018. Small Area Labour Markets Publication, LGAs and NSW<sup>53</sup>

Utilising information from the ABS 2016 Census of Population and Housing (Table 3-15), it can be seen that Indigenous unemployment rates were around 3.2 times higher than total unemployment rates in the LGAs for Gunnedah and Narrabri<sup>54</sup> and youth unemployment rates were around 2.5 times higher. Female unemployment rates were generally consistent with total unemployment rates.

Total unemployment, female unemployment and youth unemployment remained fairly consistent between 2011 and 2016, however Indigenous unemployment decreased considerably in the five-year period - Gunnedah LGA from 21% in 2011 to 18%, in Narrabri from 26.3% in 2011 to 18.9%, with a similar trend in Tamworth LGA. Consultation with Aboriginal community representatives and service providers attribute the declining unemployment rate to the increased employment opportunities in the mining industry, and in particular, to Whitehaven's Indigenous employment targets. Some stakeholders requested Whitehaven report Indigenous employment figures for the local area to understand the extent of the benefit to residents local to Boggabri and Gunnedah.

<sup>53</sup> Australian Department of Employment. 2018.

<sup>54</sup> It is noted that the indigenous and youth unemployment figures are likely to be conservative as information used was from the ABS 2016 Census (and not the Labourforce Data). Analysis of the two sets of data show that total unemployment rates are lower than those recorded in the Labourforce Data. The labour force data is considered to be the more accurate information, but census has been used here to ensure consistent reporting (as time series information for indigenous and youth unemployment rates were not available from the labour force data).

**Table 3-15: Selected Unemployment Rates (%), 2011 - 2016**

Indicators		Gunnedah LGA	Narrabri LGA	Tamworth Regional	NENW SA4	New South Wales
Total Unemployment	2016	5.5	6.0	5.8	6.4	6.3
	2011	6.0	5.4	5.8	6.2	5.9
Female Unemployment	2016	5.9	5.7	6.0	6.4	6.2
	2011	6.9	6.0	5.5	6.0	5.9
Indigenous Unemployment	2016	18.0	18.9	16.0	19.7	15.3
	2011	21.0	26.3	19.2	23.1	16.9
Youth (15-19) Unemployed	2016	14.0	14.4	14.8	16.1	18.3
	2011	14.2	14.8	13.2	15.7	16.8

Source: ABS 2016 Census of Population and Housing. NB: Unemployment indicators differ between Figure 3-6 and Table 3-15 because the Census data reflects self-reported employment status whilst Department of Employment's Small Area Labour Markets data reflect a range of Commonwealth Government databases.

### 3.4.4 Housing

Housing data for the area of influence has been sourced from the 2016 Census of Population and Housing, SQM Research<sup>55</sup>, and RealEstate.com<sup>56</sup>. With the exception of Census data, data are presented for the four postcodes representing the local communities of interest. Manilla has been included because of the potential for a small number of employees to relocate from other areas to Manilla. The postcodes for the four areas are:

- Boggabri, NSW, 2382;
- Narrabri, NSW, 2390;
- Gunnedah, NSW, 2380; and
- Manilla, NSW, 2346.

#### Housing stock and tenure

Housing stock and tenure characteristics within the area of influence (as shown in Table 3-16) include:

- high percentages of unoccupied private dwellings in the Narrabri and Gunnedah LGAs (at 13.7% and 11.6%, respectively) with the highest percentage in the Boggabri UCL (18.5%) followed by Narrabri UCL (12.6%), compared to the NSW average (9.9%);

<sup>55</sup> Data sourced from [www.sqmresearch.com](http://www.sqmresearch.com) on 25 January 2018

<sup>56</sup> Data sourced from [www.realestate.com.au](http://www.realestate.com.au) on 25 January 2018

- higher percentages of homes owned outright at 34.4% and 34.6% for the Gunnedah and Narrabri LGAs respectively, compared to the NSW average of 32.2%, with highest rates in Boggabri (40%) and Manilla (40.7%), which is characteristic of historic, well-established townships and also of an older population;
- a lower percentage of dwellings in the study area that were mortgaged, compared to the NSW average of 32.3%, with the highest percentage in Gunnedah LGA at 29.8%; and
- higher rental tenure in the towns of Gunnedah (36.9%), and Narrabri (32.8%), compared to an average of 31.6% for the Gunnedah LGA, 31.9% for the Narrabri LGA and 31.8% across NSW.

**Table 3-16: Housing Stock and Tenure 2016**

Area	Total private dw.	Occ. Private dw.	Unocc. Private dw	Fully owned	Mortgage	Renting	Other tenure	Not stated
Gunnedah LGA	4,527	88.3% (5,124)	11.6% (596)	34.4% (1,557)	29.8% (1,347)	31.6% (1,432)	0.9% (39)	3.2% (146)
Gunnedah UCL	3,435	89.5% (3,075)	10.4% (356)	32.3% (993)	26.5% (816)	36.9% (1,135)	0.8% (25)	3.7% (114)
Narrabri LGA	5,362	86.3% (4,625)	13.7% (736)	34.6% (1,600)	28.6% (1,325)	31.9% (1,477)	0.9% (40)	3.9% (183)
Boggabri UCL	399	80.2% (320)	18.5% (74)	40.0% (128)	24.7% (79)	32.8% (105)	0.9% (3)	2.5% (8)
Narrabri UCL	2,462	87.4% (2,154)	12.6% (312)	30.3% (653)	28.7% (620)	35.8% (773)	0.5% (12)	4.3% (93)
Manilla UCL	916	90.3% (827)	9.9% (91)	40.7% (337)	24.2% (200)	29.3% (242)	0.4% (3)	5.6% (46)
NSW	2,889,057	90.1%	9.9%	32.2%	32.3%	31.8%	0.9%	2.8%

Source: ABS 2016 Census of Population and Housing. NB. Rental costs as shown by the Census data presented in Table 3-9 include dwellings rented from State and Community housing providers, and therefore show lower medians than these data which are specific to the private market.

A review of housing stock (houses only, excluding units) advertised for purchase on Realestate.com.au in early January 2018 showed:

- 139 houses listed for sale in the Gunnedah postcode area, with a median purchase price of \$335,000, and 33 houses listed for rent, with a median rent of \$360 per week;
- 154 houses listed for sale in the Narrabri postcode area, with a median purchase price of \$307,000, and 20 houses listed for rent, with a median rent of \$350 per week;
- 38 houses were listed for sale in the Boggabri postcode area, with a median purchase price of \$184,500 and nine houses listed for rent, with a median rent of \$300 per week; and
- 39 houses listed for sale in the Manilla postcode area, with a median purchase price of \$270,000 and eight houses listed for rent, and a median rent of \$268 per week.
- Availability as advertised on Realestate.com.au indicates lower purchaser and rental costs in Boggabri and Manilla, with greater choice and availability in Gunnedah and Narrabri.

Data presented in Table 3-17 show the trends in asking price index for each postcode area. These data show median house sale prices above the value estimated by Realestate.com.au, which is likely to reflect variation between asking and sale price datasets, and overall stock counts. The indicate that asking prices for houses in the Narrabri and Boggabri postcode area dropped in the three years to December 2017, by approximately 2.6% and 6.2% respectively, with no reversal evident in the 12 months.

Narrabri postcode area experienced a decline in its unit asking price by approximately 5% over the last three years. Boggabri experienced no change in unit sales, reflecting limited to no unit stock on market.

Asking prices in Gunnedah over the last three years have increased by 8% for houses, and by 53% for units which would be heavily influenced by the small numbers of stock on market, while Manilla's asking prices over the last three years grew by approximately 5% for houses and 10.6% for units.

**Table 3-17: Housing Purchase Market, December 2017**

Town	Stock*	Median house sale price	3-year change	12-month change	Median unit sale price	3-year change	12-month change
Narrabri, NSW, 2390	248	344,100	-2.6%	-5.7%	315,000	-4.8%	-4.5%
Boggabri, NSW, 2382	55	264,600	-6.2%	-11.8%	145,000	0%	0%
Gunnedah, NSW, 2380	326	362,400	8.2%	0.9%	274,800	52.7%	-3.2%
Manilla, NSW, 2346	69	305,000	4.7%	3.4%	209,000	10.6%	-32.6%

Source: SQM Research Weekly Asking Prices Index, for week ending 23 January 2018; Viewed 25 January 2018

At December 2017, the Gunnedah postcode area had the most rental stock (see Table 3-19) with a total of 45 rental listings and a vacancy rate of 2.8% (up from 21 and a 2% vacancy rate in June 2017, but down on the 56 properties and 4% vacancy rate listed for December 2016).

The Narrabri postcode area had 33 properties for rent in December 2017 (a 2.6% vacancy rate), down from 50 properties in December 2016 (a 4% vacancy rate). The Boggabri and Manilla postcode areas had very few rental properties listed in December 2017 (5 and 9 respectively) and each had a vacancy rate of 1.9%.

### Social housing

As shown in Table 3-18, the percentages of social housing dwellings in the area of influence was slightly higher than the State average in the Narrabri LGA at 4.8%, but lower than the State average in Gunnedah LGA at 3.7%.

The towns of Gunnedah and Narrabri had higher percentages than the State average, with 7.4% in Narrabri and 5.4% in Gunnedah. compared with the NSW average of 4.7%. Gunnedah LGA also had a percentage above the average at 5.4%, with all 167 of the Gunnedah LGA's dwellings.

The higher proportion of social housing in these local areas correlates with indicators of greater social disadvantage and community vulnerability as discussed in Section 3.5.3.



**Table 3-18: Social Housing, 2016**

Area	State authority rental	Community/church-owned rental	Total social housing
<b>Gunnedah LGA</b>	<b>2.8% (126)</b>	<b>0.9% (41)</b>	<b>3.7% (167)</b>
Gunnedah UCL	4.1% (126)	1.2% (41)	5.4% (167)
<b>Narrabri LGA</b>	<b>3.8% (174)</b>	<b>1.0% (48)</b>	<b>4.8% (222)</b>
Boggabri UCL	0% (0)	0.9% (3)	0.9% (3)
Narrabri UCL	5.7% (122)	1.7% (37)	7.4% (159)
Manilla UCL	0.6% (5)	0%	0.6% (5)
NSW	4%	0.7%	4.7%

Source: ABS 2016 Census of Population and Housing

### Short term accommodation

Online listings indicate that Narrabri has a total of 13 hotel/motel establishments and one caravan park offering short term accommodation, whilst Gunnedah has ten hotel/motel establishments.

Between Narrabri and Gunnedah, there were 14 accommodation establishments with more than 15 rooms (a total of at least 360 rooms and 1,000 beds.) Room occupancy rates ranged in the September quarter 2015 averaged 68.5% in Narrabri and 48.9% in Gunnedah<sup>57</sup>. This would be equivalent to unoccupied capacity of 137 rooms in Narrabri and 78 rooms in Gunnedah, plus the vacant capacity of establishments with less than 15 rooms.

### Workforce accommodation

There are two workers' accommodation facilities in the Narrabri, LGA including:

- Narrabri Village, on Gunnedah Road in Narrabri, with 500 rooms; and
- Boggabri Village, on Caloola Road, Boggabri, with 500 rooms and an approved capacity of 852 rooms.

There are no accommodation villages in Gunnedah LGA.

The Project intends to use the Boggabri Village to accommodate the construction workforce, and to provide short term, transitional accommodation for in-migrating operational personnel. Facilities at the Civeo Boggabri Village include a convenience shop, a gymnasium, outdoor recreation areas and free laundry facilities. These facilities, such as the gym, are identified by some local stakeholders as part of the recreation options available to the Boggabri community. However, SIA consultation indicates that the Civeo Boggabri Village is seen as detracting from the potential for population growth in Boggabri.

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<sup>57</sup> ABS 2016.

**Table 3-19: Change in Rental Market, 2015-2017**

Postcode Area	Dec-17	Dec-16	Dec-15
Boggabri, NSW, 2382	5 (1.9%)	18 (8%)	17 (8.5%)
Narrabri, NSW, 2390	33 (2.6%)	50 (4%)	56 (4.4%)
Gunnedah, NSW, 2380	45 (2.8%)	56 (4%)	74 (5.6%)
Manilla, NSW, 2346	8 (1.9%)	7 (1.5%)	14 (3%)

Source: SQM Research Rental Listings (and Vacancy Rates) to December 2017; Viewed 15 January 2018.

### 3.4.5 Recreation

The Namoi River and its riparian areas are central to recreation for local land owners, offering fishing, canoeing, environmental appreciation, camping and day-visit opportunities.

Gunnedah offers access to a wide range of recreational facilities and activities. GSC's Civic Centre, which comprises a theatre cinema, town hall, library, visitor information centre, art gallery and community meeting and conference facilities, is an important community hub. The Civic Centre also provides access to different community development and support services<sup>58</sup>. Other local recreational options include:

- recreation facilities including Gunnedah Memorial Swimming Pool and Gunnedah Golf Course;
- an extensive schedule of local events, including performing arts events and workshops at the Gunnedah Conservatorium;
- local historical assets including the Cumbo Gunnedah Memorial and Museum, and Water Tower Museum;
- Gunnedah Pony Club and Curlewis Campdraft; and
- environmental and wildlife attractions.

Narrabri also provides access to a diverse range of recreational activities and facilities including:

- the Crossing Theatre complex, the Narrabri Old Gaol and Museum, Narrabri Aquatic Centre and the Drovers Campfire;
- local environmental assets, including the Narrabri Lake, Namoi River, Yarrie Lake and Cameron Park, supporting terrestrial and water based activities such as fishing, canoe/kayaking walking, and birdwatching;
- the Pilliga National Park, Forest and Hot Artesian Bore Baths, and Vickery Forest;
- camping and other recreational options available at the Mt Katapur National Park.

<sup>58</sup> Gunnedah Shire Council. 2013

Improved facilities along the river, creek and/or lake being highlighted are a high priority for Council, along with a greater variety of recreational opportunities for young people<sup>59</sup>.

### 3.5 Health and wellbeing

#### 3.5.1 Physical health

Table 3-20 provides a comparative overview of selected health indicators for the LGA study area and NSW, based on a 2015 Population Health Snapshot published by the Hunter New England and Central Coast Primary Health Network (HNECC) PHN and Public Health Information Development Unit (PHIDU). Of note, the indicators show:

- Gunnedah LGA and Narrabri LGA had comparable rates of asthma, but rates were above the NSW average compared to the NSW average;
- Narrabri LGA had a slightly higher incidence of high blood pressure compared to the NSW average and Gunnedah LGA, and also circulatory system disease;
- Gunnedah LGA and Narrabri LGA had comparable rates of smokers per 100 people, which were above the NSW average, and also comparable rates of risky alcohol consumption compared to NSW; and
- the rate of potentially preventable hospitalisations in Narrabri LGA was 36.7 per 1,000 people, compared to Gunnedah LGA's rate of 24.6 and the NSW rate of 22.65.

**Table 3-20: LGA health indicators**

Age Standardised Rate per 100	Gunnedah LGA	Narrabri LGA	NSW
<b>Chronic Disease</b>			
High blood pressure	31.8	33.4	32.4
Asthma	11.8	11.7	9.6
Psychological distress	10.8	10	10.5
<b>Health risk factors</b>			
Current smokers	22.3	22.2	16.2
Risky alcohol consumption	5.5	5.4	4.8
Overweight	33.5	35	34.6

Source: Hunter New England and Central Coast PHN. 2015.

<sup>59</sup> ROSS Planning Pty. Ltd. 2017.

Whitehaven's Healthhaven program provides a platform for their workforce health initiatives, covering all pillars of physical and mental health, and wellness. Initiatives have included stretching programs, 12-week health improvement and activity challenges, counselling services (including for the immediate families of employees) and regular health monitoring programs. As of 1 July 2016, all Whitehaven sites are smoke-free which is understood to have reduced the prevalence of smoking in the Whitehaven workforce.

### 3.5.2 Mental health

Stakeholders consulted for the SIA described increasing rates of mental health issues in the two LGAs, partly attributable to the stress of coping with the drought, which directly affects the financial and emotional wellbeing of farming families. PHIDU estimates for 2014/15 indicate that the Gunnedah and Narrabri residents had slightly lower estimated rates of psychological distress than the NSW average, however Narrabri Shire recorded a higher annual average incidence of suicide and self-harm between 2010-2014 compared to the NSW average (statistics for Gunnedah LGA were unpublished due to the small count). Supporting data are provided below.

Table 3-21 provides modelled estimates of the number of people aged 18 years and over with high or very high psychological distress in the LGA study area, based on the Kessler 10 Scale (K10) and compared to the NSW average<sup>60</sup>. These data are calculated as an age standardised rate (ASR) per 100 persons. The estimates indicate a lower rate of incidence in the LGA study area compared to the NSW average (ASR of 10.3 per 100 persons in Gunnedah LGA and ASR 9.8 in Narrabri LGA, compared to ASR of 11 for NSW).

**Table 3-21: Estimated number of people aged 18 years and over with high or very high psychological distress**

LGA / State	Number	ASR per 100
Gunnedah LGA	950	10.3
Narrabri LGA	945	9.8
New South Wales	630,720	11.0

Source: 2017 PHIDU, Torrens University, Social Health Atlas of Australia, by LGA and New South Wales

Published statistics estimating the average rate of death from suicide and self-inflicted injury in each LGA between 2010 and 2014 were also sought however estimates for Gunnedah LGA were unpublished due to small count. Estimates for Narrabri LGA suggest an annual ASR of 15.8 per 100,000 persons, which is higher than the annual average estimate for NSW of ASR 9.4 per 100,000 persons.

As shown in Table 3-22 for the year 2014/15, hospital admissions for mental health conditions were lowest in Gunnedah LGA, with an ASR of 464.8 per 100,000 people, followed by Narrabri LGA with an ASR of 1,438.5 per 100,000, which is roughly three times the rate of Gunnedah LGA, but still below the NSW average of 1,894 per 100,000.

<sup>60</sup> Torrens Institute. Public Health Information Development Unit. 2017

**Table 3-22: Admissions for mental health related conditions, persons - All hospitals**

LGA / State	Number	ASR per 100,000
Gunnedah LGA	56	464.8
Narrabri LGA	185	1,438.5
New South Wales	136,905	1,894.0

Source: 2017 PHIDU, Torrens University, Social Health Atlas of Australia, by LGA and New South Wales

While modelled health statistics referred to in Section 3.5.2 suggest the LGA study area is likely to have a lower prevalence of psychological distress relative to the NSW average (2014/15), the most recent data available (for 2010-2014) found Narrabri Shire had a higher annual average incidence of suicide and self-harm.

In February 2016, representatives from the University of Newcastle's NSW Centre for Rural and Remote Mental Health (CRRMH), together with agricultural research organisation Farm-Link, met with the Parliamentary Secretary for Regional and Rural Health and Western NSW regarding suicide rates in Narrabri. National research in to rural mental health consistently finds suicide rates are in rural areas, compared to metropolitan areas, which can be linked to a range of factors associated with rural way of life, socio-economic and demographic factors, as well as appropriate access to mental health services rural areas. Males living in rural areas, and particularly adolescent/young adult have been identified as two at-risk population groups<sup>61</sup>.

In November 2017, Narrabri town centre became home to the region's only psychology practice, offering face-to-face sessions, in addition to Skype sessions to service the broader region<sup>62</sup>. Medicare also began offering a rebate for telehealth / skype psychology sessions in November for residents of regional and remote areas<sup>63</sup>.

These initiatives highlight the imperative currently placed on suicide prevention and improving mental health outcomes in the region. In 2017 Narrabri won the NSW Healthy Town Challenge delivered by the Heart Foundation in partnership with NSW Health and with funding support from local cotton research organisations<sup>64</sup>.

### 3.5.3 Vulnerability to crime

Analysis of local crime rates (per 100,000 people) for Gunnedah and Narrabri, relative to the NSW average for the two years to 2017 indicate that, compared to NSW rates, (see Table 3-23):

- theft-related offences in 2017 were higher in Narrabri LGA. The two-year trend to September 2017 shows the rate of theft remained steady in both LGAs, while the NSW rate was down 5.8% per year;

<sup>61</sup> <https://www.mja.com.au/journal/2004/181/7/suicide-and-mental-health-rural-remote-and-metropolitan-areas-australia>

<sup>62</sup> <http://www.theland.com.au/story/5053923/new-psychology-practice-in-narrabri-to-offer-vital-health-service-to-north-west/>

<sup>63</sup> <http://www.theland.com.au/story/5053923/new-psychology-practice-in-narrabri-to-offer-vital-health-service-to-north-west/>

<sup>64</sup> <https://www.thecourier.net.au/news/narrabri-wins-healthy-town-challenge/>

- rates of assault were higher in both Gunnedah and Narrabri LGAs, however two-year trend data suggests offence rates had dropped in Narrabri (down 11.5% per year);
- rates of sexual assault were higher in both LGAs, and particularly high in Gunnedah LGA; and
- rates of domestic assault were also higher.

**Table 3-23: Crime Trends, Narrabri and Gunnedah LGAs**

Area	2 Year Trend to Sep 2017	Year to Sep 2016 Rate	Year to Sep 2017 Rate
<b>Incidents of Theft (Rate per 100,000 population)</b>			
Gunnedah LGA	stable	3103.2	2924.1
Narrabri LGA	stable	3658.9	3486.4
New South Wales	down 5.8% per year	3057.4	2880.6
<b>Incidents of Assault (Rate per 100,000 population)</b>			
Gunnedah LGA	stable	1013.2	1426.2
Narrabri LGA	down 11.5% per year	1466	1298.1
New South Wales	down 1.5% per year	821	808.4
<b>Incidents of Domestic assault (Rate per 100,000 population)</b>			
Gunnedah LGA	stable	422.8	645.4
Narrabri LGA	stable	695.9	682.4
New South Wales	down 3.9% per year	380.4	365.7
<b>Incidents of Sexual offences (Rate per 100,000 population)</b>			
Gunnedah LGA	stable	263.2	239
Narrabri LGA	stable	170.3	185.4
New South Wales	stable	156.6	167.3

Source: Bureau of Crime Statistics and Research; <http://www.bocsar.nsw.gov.au/>; accessed on 15 February 2018.

Gunnedah's Crime Prevention Plan 2014-2017 identified six priority areas based on the last year's crime statistics for the LGA relative to the NSW average, with consideration of emerging trends. The priority areas included arson, assault, property crime, alcohol and drug related crime, malicious damage and vandalism, and safety through community development<sup>65</sup>. The Plan is currently under review with a Draft 2017-2021 Plan expected to be available for public feedback in 2018. The plan's implementation will continue to be supported by a multi-stakeholder Crime Prevention Working Group<sup>66</sup>.

<sup>65</sup> Gunnedah Shire Council Crime Prevention Plan 2014-17

<sup>66</sup> Gunnedah Crime Prevention Working Group (GCPWG). 2018

Narrabri LGA's Community Strategic Plan commits to monitoring crime rates and promoting the LGA as a safe and secure environment for families<sup>67</sup>.

### **3.6 Access to services and facilities**

#### **3.6.1 Childcare and education**

The availability of childcare services is a key priority identified in GSC's 2017 Delivery Program and Operations Plan, in regards to strengthening educational opportunities, a skilled workforce and building the Shire's economy by supporting working families. A shortage of childcare was also noted by Council participants in SIA consultation.

A search of childcare service and available vacancies<sup>68</sup> (at 14 February 2018) identified 14 services in the Gunnedah postcode area (at an average cost of \$80.14 per day), of which nine centres had vacancies.

NSC's Draft Operational Plan for 2017-18 includes a focus on better understanding industry and community needs in relation to child care in the Shire, and a strong focus on resourcing the NSC's educational institutions to deliver quality education outcomes. A search within the Narrabri area identified 12 childcare services at an average cost of \$76.38 per day, of which nine centres had vacancies.

Boggabri has access to a mobile pre-school which operates 2 days per week however the need for childcare has been identified by the Boggabri community. Research undertaken for NSC in 2017 was not able to quantify demand but found that there appears to be 12-15 local families who may be interested in accessing long day care as well as four Whitehaven employees and two Civeo employees<sup>69</sup>. Some stakeholders consulted for the SIA noted a Boggabri Coal and Whitehaven commitment to support the provision of a childcare centre and staff training options, however there was uncertainty regarding timeframes for delivery of this commitment. Emergency service stakeholders attributed the lack of childcare options to difficulties attracting locally-based ambulance staff who are also working parents.

Boggabri has a State and a Catholic primary school. Consultation with Boggabri Public School identified that the school had lost approximately 20 students in the past 12 months. The declining enrolments were attributed to workforce commuting arrangements prohibiting settlement of new families, and the outmigration of existing families associated with the cost of living locally, housing affordability and a lack of alternative local employment options in Boggabri.

The Gunnedah LGA has 10 primary schools and one high school (Gunnedah High School), and Narrabri LGA has 12 primary schools and two high schools (Wee Waa High School and Narrabri High School). Of the Boggabri residents consulted for the SIA with high school-aged children, all identified enrolments in Gunnedah which also aligned with access to employment for parents and co-location of other recreation and retail options.

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<sup>67</sup> Narrabri Shire Council.2013

<sup>68</sup> CareforKids. 2018.

<sup>69</sup> Jenny Rand & Associates (2017).



TAFE New England has campuses at Gunnedah and Narrabri LGAs, and Armidale is home to the nearest tertiary education facility, the University of New England<sup>70</sup>.

Both LGA's planning documents (see Section 3.3.1) identify priorities in improving further education opportunities through TAFE and tertiary education sectors to better meet regional training needs. This was reiterated during consultation with both Councils and with business and economic development stakeholders. It was noted that Gunnedah business stakeholders, together with the Council, and mining industry representatives including Whitehaven had commenced discussions to support further development of TAFE into an excellence centre for core trade and service industry skills that would retain the region's youth population and encourage new and local employment pathways across the agriculture, manufacturing and mining industries. In Narrabri, Council and other stakeholders are working towards the development of a Country University, which will serve as the primary point of contact for the delivery of university education in the Narrabri LGA, and facilitate education and career pathways between schools, education and training providers, universities and industry.

### 3.6.2 General practitioners

Table 3-24 presents the rate of provision of general practitioners (GPs) per 100,000 residents in the Narrabri and Gunnedah LGAs, compared to the NSW average at 2015. Rates of provision were below the NSW average, with the lowest rate of provision noted in Gunnedah LGA at 66.16 per 100,000 residents compared to the State average of 113 per 100,000 residents, whilst Narrabri LGA's rate was also considerably lower at 81.9 per 100,000.

Improved access to health services was identified as an important community and infrastructure management issue in GSC's 2017 Delivery Program and Operational Plan<sup>71</sup>. In particular, this issue related to improved access to services from central Gunnedah in the context of increased rail traffic. NSC's Community Strategic Plan Towards 2023 aims to build a region with adequate health services that meet the needs of a regional centre<sup>72</sup>. Consultation with Gunnedah stakeholders indicated the community was experiencing difficulties accessing primary health care due to an inability to attract and retain medical staff. Stakeholders local to both Gunnedah and Boggabri identified the Boggabri Multi-purpose Centre model as an alternative, well-regarded, more accessible and adaptive arrangement, which is drawing patients from a broad catchment area including Gunnedah. Consultation input was sought from health stakeholders in both Narrabri and Gunnedah, however input was not received during the SIA consultation period.

**Table 3-24: GP Services per 100,000 residents**

Area	GP Services per 100,000 residents
Narrabri LGA	81.9
Gunnedah LGA	66.16
NSW	113

Source: Hunter New England Primary Health Network LGA Profiles, November 2015

<sup>70</sup> Analytecon. 2017. Appendix J Scio Economic Assessment, Vickery Extension Project

<sup>71</sup> Gunnedah Shire Council

<sup>72</sup> Narrabri Shire Council. 2013

### 3.6.3 Hospital and health services

The Hunter New England Local Health District (HNE Health) delivers health services in the Northern Inland Region, taking in the area of influence.

At the local level, Gunnedah LGA has a district hospital of less than 50 beds and two community health services, while Narrabri LGA also has a district hospital of less than 50 beds (approximately 42), with a community hospital in Wee Waa, and the multipurpose health centre in Boggabri. Consultation participants noted that small scale of facilities supporting the two LGA populations suggests there may be potential for facilities to be overwhelmed by substantially increased demand.

Inputs from the Hunter New England-Gunnedah Health and Hospital Service Manager included:

- maintaining adequate medical and nursing resource capacity at the Hospital is a challenge. Currently there are 20-30 emergency service presentations a day (supported by the Visiting Medical Officer who is also a local GP), Unplanned leave is a particular challenge and the Gunnedah Hospital is working with other local hospitals to establish a causal labour force pool;
- the MacKellar Rural Health Care Centre is also experiencing challenges with medical recruitment;
- local people including mine personnel requiring clinical, maternity or surgical services are transported to the Gunnedah Hospital, or to Tamworth if more specialised or intensive care is required;
- NSW Ambulance Service staff have limited resources to respond to growth, and are developing a new classification system to ensure that they have sufficient resources available for acute and trauma patients;
- access to ambulance resources is sometimes limited due to patient transfers taking ambulance officers out of local community for hours at a time; and
- emergency responses to mine sites may require ambulances (road or air) to come from Newcastle or Tamworth.

Regional level services (e.g. specialists and surgeries) are accessed in Tamworth. The recently redeveloped Tamworth Hospital offers a range of higher order, specialist services to the HNE Health District, and includes a Rural Referral Hospital, North West Cancer Centre, a new acute services building, improved ambulatory care, a Diabetes Centre and a new Oral Health service.

**Table 3-25: Hospital and health services, 2017**

Location	Facility	Services
<b>Gunnedah LGA</b>		
Gunnedah	Gunnedah District Hospital 48 beds + Est. 60 staff	Small regional hospital with an emergency department, domiciliary care unit, hospice care unit, obstetric services, general medicine services, and various community health and other services
Gunnedah	Gunnedah Community Health Services	Broad range of community health services

Location	Facility	Services
<b>Narrabri LGA</b>		
Narrabri	Narrabri District Hospital 42 Beds + Est. 60 Staff	Small regional hospital with an emergency department, alcohol and drug unit, domiciliary care unit, hospice care unit, obstetric services, general medicine services, and various community health and other services
Boggabri	John Prior Multipurpose Service 20 Beds + 7 Staff	Medical centre offering a range of community health services

Source: Narrabri Shire Local Emergency Management Committee. 2016

### 3.6.4 Police and emergency services

Table 3-26 presents summary of police and emergency services operating in the study area.

There are three police stations in the Gunnedah LGA. Gunnedah and Curlewis form part of the catchment for Oxley Local Area Command (LAC) Western Region, while Tambar Springs is serviced by Orana LAC, Western Region. Narrabri Shire LGA comprises approximately six police stations within the Barwon LAC, Western Region. Local police stations have difficulty recruiting and retaining staff, but maintain service levels with the support of the regional network of police. Police advised that mining industry personnel do not present any specific drains on their resources, however construction contractors staying in town or visiting local hotels represent an additional demand for police responses, which they are not resourced to manage and can be a strain on police resources. Police also advised that protests against coal mining and coal seam gas had been a significant drain on their resources, for emergency response and rescues, and for keeping the peace over long periods of time.

The study area also includes an ambulance station at Gunnedah, Boggabri and Narrabri, which forming part of the service catchment of New England Zone<sup>73</sup>. Consultation with NSW Ambulance Service representatives in Boggabri indicated that housing affordability, including Village-based accommodation, had led to service staff sharing accommodation in Gunnedah. Also the lack of access to childcare and family support options in Boggabri had made it difficult to attract locally-based staff.

Health and NSW Ambulance Services in Boggabri noted the introduction of a new business continuity arrangement shared with Wee Waa and other local centres, which meant that Boggabri would occasionally be without a locally-based ambulance service. This would increase use of the Westpac Helicopter in times of restricted service. The Westpac Helicopter was also identified as the only alternative in instances where multiple events were requiring emergency medical response. In this context, local service representatives noted that the current landing arrangements for the helicopter in Boggabri were unsafe and needed to be relocated.

Further, NSW Ambulance Service staff identified previous resource constraints associated with long periods of time attending to Leard Forest protests (in 2014 and 2015), which drew service staff away from attending to local emergency / health incidents in Boggabri.

<sup>73</sup> NSW Ambulance, 2018

Both GSC and NSC have access to localised State Emergency Services and are participates on a Local Emergency Management Committee. Consultation input was sought from the SES and the NSW RFS. Input from the NSW RFS for Liverpool Range noted that access to services remains in accordance with legislation, meaning NSW RFS will require access to the mine site in the case of fire within Rural Fire Districts.

Consultation with volunteer members of local brigades noted concerns that recent tree planting activities undertaken as environmental offsets would impede access to areas where access had been available previously. Further that the loss of farming families from the Boggabri area had affected local RFS membership, which has not been replenished by workforce membership rates.

The limited number of emergency service listings within Gunnedah suggests potential for resource constraints.

**Table 3-26: Emergency services, LGA 2017**

LGA	Police Stations	Ambulance	Emergency Services	RFS and Fire Station(s)
Gunnedah LGA	Curlewis Gunnedah Tambar Springs	Gunnedah	SES Gunnedah Gunnedah Shire LEMC	Gunnedah Cerlewis
<b>Total</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>
Narrabri LGA	Narrabri Boggabri Wee Waa Bellata Piliga Gwaebegar	Narrabri Boggabri Wee Waa	SES Narrabri SES Boggabri SES Wee Waa Narrabri Shire LEMC	Narrabri RFS Control Centre Narrabri Boggabri Wee Waa
<b>Total</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>3+</b>

Source: NSW Police 2018; NSW Ambulance 2018; Narrabri Shire Local Emergency Management Committee 2016.

### 3.6.5 Community services

Table 3-27 provides a selection of community services in Gunnedah and Narrabri LGAs. This list is not exclusive, but identifies many of the key services which support quality of life. The results show Gunnedah and Narrabri LGAs maintain a strong offering of community services to meet diverse community needs, from general community groups and services, to local organisations providing aged care and/or disability support services, youth and family, housing and crisis support, employment services and Aboriginal community services.

Section 3.3.2 outlines the potential for community and socio-economic vulnerabilities in the Boggabri community and Narrabri LGA, in contrast to the Gunnedah LGA. Consultation with education and community service providers from Boggabri and Gunnedah have noted particular vulnerabilities within the Boggabri community as including an ageing population, a relatively high percentage of Indigenous residents, and a number of lower-income families. In the context of support for ageing residents, stakeholder feedback identified the importance of access to local goods and services (including the butcher, the IGA, the multi-purpose centre, HACC, and the pharmacy) to remain centralised in Boggabri, supported by commensurate population demand.

In the context of support for lower-income families, and Indigenous families, service provider input identified the availability of a transition to school program in Boggabri that provides school assistance earlier for local families. However, gaps were identified in the coordination of related programs and services in Boggabri, and opportunities to support the cultural safety and security of Indigenous children in early years and as they enter the school system.

**Table 3-27: Selected Community Services, LGA 2018**

	Aged Care	Family and Community Service	Disability Services	Housing and Crisis support	Employment	Aboriginal Community Services	Community and Church Groups
Gunnedah LGA	Mackellar Care Services Limited	Civic Centre Gunnedah	Challenge Community Services, Gunnedah	Gunnedah Community Tenancy Scheme	Best Employment	Red Chief Aboriginal Land Council	CWA, Gunnedah and Curlewis
	Alkira Hostel	NSW Department of Family and Community Services	Sunnyfield Disability Services	Community Housing Assoc Inc	Joblink Plus / Job Australia	Winangna-Li Aboriginal Child and Family Centre	Apex Association, Gunnedah
	Residential Group Home	Community Help & Welfare, Gunnedah		Homes North Community Housing Company, Gunnedah	Programmed Skilled Workforce	Gunida Gunya Aboriginal Corporation / Min Min Aboriginal Corporation	Churches & 1 Christian outreach service
Narrabri LGA	The Whiddon Group (2 Facilities)	Narrabri & District Community Aid Service	Life Without Barriers, Narrabri	Life Worth Living, Narrabri	BEST Employment Ltd, Narrabri	Narrabri Aboriginal Community Development Project	Churches & 1 Christian outreach service
	The Whiddon Group Wee Waa (1 Facility)	NSW Department of Family and Community Services,	Citizen Advocacy Inc.-Newell	Newtrain Connect	Centrelink, Narrabri	Narrabri Aboriginal Lands Council	
	Karinga Village Wee Waa (1)	Narrabri Family Crisis Centre		St Vincent de Paul, (2)	Joblink Plus, Narrabri	Winanga-Li, Wee Waa	
	Centacare NENW	Narrabri Neighbourhood Centre		The Salvation Army	Rural Financial Counselling Service (Narrabri)	Wee Waa Local Aboriginal Land Council	

	Aged Care	Family and Community Service	Disability Services	Housing and Crisis support	Employment	Aboriginal Community Services	Community and Church Groups
	Boggabri Home and Community Care	Wee Waa Neighbourhood Centre				Pilliga Local Aboriginal Land Service	

### 3.7 Social indicators summary

In 2016, the Gunnedah LGA had a population of approximately 12,215 people and the Narrabri LGA had a population of approximately 13,084 people. Gunnedah LGA is projected to experience an average annual population growth of 0.4%, and Narrabri LGA is projected to experience an average annual population decline of 0.1%.

Key social characteristics of the area of influence compared to NSW averages include:

- a marginally older population (a median age of 40 years for Gunnedah and Narrabri LGAs compared with 38 years for NSW), typical of rural areas;
- higher percentages of Indigenous residents (12.8% in Gunnedah LGA and 12.2% in Narrabri LGA) compared to 2.9% for NSW;
- the Narrabri LGA population has a higher incidence of disadvantage compared to Gunnedah LGA;
- a higher representation of sole person households (32.3% in Gunnedah and 34.1% in Boggabri) compared to the NSW average of 23.8%;
- lower percentages of couples with children compared to the NSW average, also reflecting the population's age;
- lower levels of Year 12 educational attainment at 32.8% and 32.6% in Gunnedah and Narrabri LGAs respectively, compared to a NSW average of 53.9%, due partly to the needs of the rural economy; and
- lower individual incomes in Gunnedah and Narrabri LGAs (averages of \$618 and \$632 respectively) than the NSW average (\$664 per week).

Key findings from SIA consultation confirm community vulnerabilities in Boggabri and to a lesser extent in Gunnedah. For Boggabri, stakeholders noted vulnerabilities in relation to an ageing population, lower-income families and a higher percentage of Indigenous residents. Stakeholders also noted declining population growth as affecting community viability and sustained levels service provision.

Key findings in relation to the labour force and industry characteristics include:

- Gunnedah and Narrabri LGAs had 5,381 and 5,657 employed people and labour forces of 5,694 and 6,013 people, respectively;
- employment increased marginally in Gunnedah LGA between 2011 and 2016 and decreased marginally in Narrabri LGA;

- agriculture continues to be a major employing sector but has declined in prominence. Mining as an employing sector has increased over the last two Census periods, and Gunnedah LGA saw considerable growth in persons employed in mining. There were considerable increases in mining jobs between 2011 and 2016 in the New England North West Region, concentrated in the Narrabri LGA;
- Narrabri LGA had many more mining jobs than employed people in the mining sector and was therefore a considerable 'importer' of mining workers. Overall, however, the New England and North West Region only had approximately 1,300 additional people employed in mining compared with the number of mining jobs available, and as such the region is generally in balance with respect to the number of jobs compared to workers;
- the New England and North West Region had more people employed in the construction industry than fulfilled jobs, with Census figures indicating that at least 1,400 people in the construction industry were travelling further afield to gain employment in 2016;
- Gunnedah LGA had more managers, machine operators and drivers and labourers compared to NSW and, similarly, Narrabri also had higher concentrations in these occupation types, plus proportionally more technicians and trades workers;
- when compared to NSW, the Gunnedah, Narrabri and Tamworth Regional LGAs and the New England and North West Region have had consistently higher unemployment rates over the period 2011 to 2017; and
- Indigenous unemployment rates in the region were up to 18% in 2016, which was around 3.2 times higher than total unemployment. Youth unemployment rates were also high at around 14 % (or 2.5 times higher than total unemployment).

Key findings from SIA consultation note the shift to mining employment in Gunnedah, and to a lesser extent in Boggabri. Stakeholders acknowledged improvements in Indigenous unemployment statistics as attributed to increasing employment opportunities with Whitehaven.

With respect to health:

- rates of asthma in the Gunnedah and Narrabri LGAs were above the NSW average (at 11.8 and 11.7 per 100 people, respectively, compared to a NSW average of 9.6); and
- Gunnedah and Narrabri LGAs had comparable rates of smokers and risky alcohol consumption, which were both above the NSW average.

PHIDU estimates indicate that Gunnedah and Narrabri LGA residents had slightly lower estimated rates of psychological distress than the NSW average, however Narrabri LGA recorded a higher annual average incidence of suicide and self-harm between 2010-2014, compared to the NSW average (statistics for Gunnedah Shire LGA were unpublished due to the small count).

Crime rates for selected offences were higher than the NSW average, with the exception of drug-related

Maintaining positive mental health and wellbeing throughout the region's drought period was identified as an area of concern.

Whitehaven implements a range of health and wellness initiatives for its workforce.



## **4. IMPACT ASSESSMENT**

This section discusses the nature (and where possible the quantum) of social impacts and benefits associated with the Project. Section 4.11 provides an evaluation of the significance of social impacts and benefits to local and regional communities.

### **4.1 Surroundings**

This section identifies social impacts which would result from changes in the Project area's surroundings, including:

- road closures and re-alignments;
- noise and blasting; and
- visual amenity.

The potential for any changes to access to the Namoi River and Vickery State Forest is also described, as well as management of cumulative impacts on the Sidings Springs Observatory.

#### **4.1.1 Access and connectivity**

The Project would require:

- construction of the approved Blue Vale Road realignment;
- closure of the section of Shannon Harbour Road west of its intersection with the Blue Vale Road realignment;
- closure of approximately 3 km of Braymont Road from its intersection with Blue Vale Road to the western boundary of the Project mining area; and
- temporary public road closures during blasting events within 500 m of local roads.

The Project would also result in a reduction in heavy vehicle movements on public roads following the commencement of operations at the Project CHPP, which would result in the cessation of ROM coal haulage movements between the Project and the Whitehaven CHPP on the outskirts of Gunnedah.

Changes to the road network would commence during construction and continue during operations.

Access to all privately-owned properties and local towns would be maintained, however increases in travel distances of 5 to 6 km will result for some road users.

There is no privately-owned land on the section of Shannon Harbour Road that would be closed. There are 11 privately-owned properties located to the south-east of the Project area (east of Blue Vale Road), which may use Shannon Harbour Road to access Boggabri and Gunnedah via the Kamilaroi Highway. However, access to Boggabri and Gunnedah would remain via Blue Vale Road to the Kamilaroi Highway, with access to alternative road networks to Gunnedah to the east (to which the 11 properties are closest).

The realignment of Blue Vale Road would occur for the Approved Mine. The existing Blue Vale Road would remain accessible via the approved Blue Vale Road realignment (EIS Section 2.12.4), which would be constructed adjacent to the western and southern boundaries of the Vickery State Forest and around the secondary infrastructure areas, to allow continued public access around the Project. Construction of the Blue Vale Road realignment would be undertaken prior to disturbance of Hoad Lane/Blue Vale Road. The Blue Vale Road realignment would add approximately 5 km to the travel distance along Hoad Lane and Blue Vale Road (EIS Section 2.12.3).

There is no privately-owned land along the section of Braymont Road proposed to be closed and the road, where it runs along the western extent of the Project mining area, is not widely used as a public thoroughfare. Traffic currently using Braymont Road to travel from Boggabri and surrounds to Blue Vale Road would divert to Hoad Lane to access Blue Vale Road, with an overall increase in travel distance of approximately 6 km (Appendix I of the EIS).

Residents of Braymont Road who participated in consultation for the Approved Mine expressed concern about the potential for dust and safety impacts as a result of increased traffic. The Road Transport Assessment for the EIS assumes Project traffic movements to Boggabri via Rangari Road.

A Crown Land parcel located adjacent to the Namoi River that is currently accessed from Braymont Road from both the north and south would continue to be publicly accessible from the north (EIS Section 2.12.4).

Closure of part of Braymont Road would prevent graziers moving cattle from the Travelling Stock Reserve (associated with the parcel of Crown Land near the Namoi River) along the public road to Blue Vale Road. Kamilaroi community representatives who participated in the SIA consultation also noted that the stock route was a valued access path to the Namoi River (which has cultural and social significance to them), given much of the Namoi River is bounded by private properties. Access to the Namoi River would continue to be available via Braymont Road (from the north) following its closure.

During mining operations, there would be occasions where blasting would be required within 500 m of Blue Vale Road and its realignment, Hoad Lane, Braymont Road, and Shannon Harbour Road. Approvals would be sought from the GSC and/or NSC to temporarily close sections of the local roads to allow blasting to occur (EIS Section 4.12.2). Notification of all blasts and associated road closures would be provided by Whitehaven, as is the practice for all Whitehaven operations.

#### **4.1.2 Acoustic amenity**

This subsection and those following are primarily relevant to the operational phase, with any impacts during construction being temporary.

As described in Section 3.1.2, the Project surroundings include farms and homesteads. Noise impacts are a primary concern for land owners in the vicinity of the Project. The results of the Noise and Blasting Assessment undertaken for the Project by Wilkinson Murray (2018) are summarised below and provided in Appendix D of the EIS.

##### **Construction**

During Project construction, the Project's assessment of noise impacts (EIS Section 4.7) indicated that:

- exceedances of the daytime operational noise criterion are predicted to occur at one privately-owned property to the south-west of the Project mining area;
- no privately-owned receivers would be considered 'highly noise affected' or 'noise affected' by rail construction activities undertaken during recommended standard hours;

- if significant rail spur construction activities are conducted outside recommended standard hours (e.g. Saturday afternoon or Sunday during the day), two receivers would be considered 'noise affected';
- construction noise associated with the realignment of Blue Vale Road would have a negligible impact when compared with noise generated by concurrent mining operations;
- potential impacts associated with the construction of the approved private haul road and Kamilaroi Highway overpass would be consistent with those assessed and subsequently approved for the Approved Mine;
- noise levels resulting from daytime and night-time cumulative traffic along Blue Vale Road and the Kamilaroi Highway are predicted to comply with the relevant criteria; and
- no privately-owned receivers are predicted to experience exceedances of the relevant sleep disturbance criterion during the night-time as a result of the Project.

Consultation with the owners of properties where noise exceedances may be experienced on Saturday afternoons and Sundays, and those with a boundary to the rail spur, will be undertaken prior to the construction period, to establish a communication mechanism with the Project, and identify any feasible and reasonable property-specific mitigations to reduce the impact of construction noise.

### Operation

Assessment of predicted operational noise levels from the Project (EIS Section 4.7.2) indicated that (EIS Section 4.7.2):

- one property to the south-west of the Project mining area would have significant exceedances of the Project-specific noise trigger levels (at one dwelling on the property), based on the predicted operational noise impacts of the Project (i.e. within the Noise Affection Zone) (noting that the owner of this property has the right to acquisition upon request based on the predicted impacts of the Approved Mine);
- the Project's maximum intrusive noise level is predicted to exceed evening and night-time Project noise trigger levels (i.e. 35 dBA  $L_{Aeq,15\text{ min}}$ ) by between 1 to 2 dBA for dwellings on an additional two privately-owned properties to the west and south-west of the Project mining area, however the exceedance would be negligible (when compared to compliance with criteria) and not discernible by the average listener;
- no exceedances of the relevant criteria were predicted due to rail noise on the Project rail spur;
- Project rail movements would result in a negligible increase in noise along the Werris Creek Mungindi Railway and Main Northern Railway, with any increase being less than 2 dB (the relevant threshold for rail noise assessment requirements);
- noise levels resulting from daytime and night-time cumulative traffic along Blue Vale Road and the Kamilaroi Highway are predicted to comply with the relevant criteria; and
- no receivers are predicted to experience exceedances of the relevant sleep disturbance criterion during the night-time as a result of the Project.

The assessment found that cumulative noise levels from the concurrent operation of the Project and the Tarrawonga, Rocglen and Boggabri Coal Mines would also comply with the recommended acceptable amenity criterion at all private properties except the property to the south-west of the Project mining area (where 'significant' exceedances are predicted for the Project) (EIS Section 4.7.2).

Based on SIA consultation inputs, nearby property owners expect to experience noise from the Project mining area, mine infrastructure area and Project rail spur operation as a detraction from the quiet rural amenity of the area, regardless of predicted compliance with noise criteria. Of note, five of the land owners interviewed currently worked, or have previously worked, in the mining industry, and expressed a lack of confidence that noise could be sufficiently controlled to maintain their properties' quiet rural amenity. Land owners near the Project rail spur identified coal trains queuing and idling as a particular concern in relation to disruption to conversations and family events.

Of note, local family life and agricultural employment are strongly oriented to the outdoors, so mitigation of noise impacts is of central importance. Mitigation and management measures to reduce noise impacts at privately-owned receivers as far as is feasible and reasonable would include:

- at-source noise mitigation (e.g. treatment of plant, haul road orientation, acoustic design incorporated into mine planning);
- real-time noise and meteorological monitoring and forecasting; and
- proactive noise management.

Attended noise monitoring would be undertaken regularly to confirm compliance with noise criteria (EIS Section 4.7.3).

The results of noise monitoring at private properties will be made available to the owners of property within 5 km of the mine infrastructure area and Project rail spur. If exceedances of noise criteria are identified at privately-owned receptors, Whitehaven would conduct an investigation and identify potential mitigation options (e.g. tree screens, double glazing or air-conditioning) to reduce the impact of noise within dwellings.

Whitehaven would implement a community complaints procedure for the Project to ensure that residents affected by noise or other Project impacts have access to a rapid response system which investigates and, where necessary, mitigates the cause of community complaints (see Section 5).

The Project's operation would require blasting, which has potential for airblast overpressure impacts, vibration impacts, air emissions and production of fly rock (material ejected from the blast site). No exceedances of vibration and airblast criteria are predicted to occur at any privately-owned receiver, or at cultural heritage sites in the vicinity of the Project (EIS Section 4.8.2). However, SIA consultation indicates that land owners are likely to experience blasting as intrusive, and potentially alarming in the early stages of operation. In addition to other public notifications, Whitehaven would provide blasting notifications to relevant stakeholders prior to blasting, to provide predictability and increase residents' level of comfort with blasting events.

#### **4.1.3 Visual amenity**

Whilst changes to the local landscape would commence during construction, the following discussion relates primarily to the Project's operational phase.

A Visual Assessment was undertaken for the Project and is presented in Appendix L of the EIS. The assessment found that landforms and topography within the Project area would be altered by the Project, with some permanent topographic changes remaining after mining ceases. Dwellings in the 'sub-regional setting' (within a distance of 1 to 5 km from the Project) are expected to have moderate to high levels of visual impact due to Project landforms during operations, reducing to low visual impact following rehabilitation which would occur progressively during operations (commencing with the Western Emplacement).

Property owners within the 'sub-regional setting' noted that this would include changes to views to the surrounding hills, and introduction of industrial development to an otherwise rural setting, which they would experience as a diminishment of the rural character.

Residents in the vicinity of the Project rail spur alignment may have views of the rail spur from their houses. The headlights of trains would intermittently be visible at some residences and sections of public roads. Given the minor level of visual modification of the Project rail spur (in the context of the overall viewscape) at the distances of the closest houses to the Project rail spur, this has been assessed as a low level of potential visual impact (EIS Section 4.14.2). Land owners, and particularly those where the Project rail spur would be within 400 – 600 m of their boundaries, said that they would experience the rail spur and associated coal trains as a detraction from their property's amenity and character.

The Visual Assessment found direct views of Project lighting sources would be possible from some residences, and from public roads. Project lighting would be designed and positioned to avoid causing nuisance to local residents, and direct views to the lighting sources would be obscured from most residences by vegetation within the landscape and around residences. Property owners remarked that the glow from other local mines could be seen 'for miles', and said that the cumulative impacts of mining had reduced the visibility of stars.

Views of the Project would be available from a number of locations along public roads (i.e. Blue Vale Road, Braymont Road and the Kamilaroi Highway). Users of these public roads are expected to experience a low to moderate level of visual impact due to Project landforms and mine infrastructure. Following progressive and final rehabilitation, levels of visual impact would reduce to low or very low.

At the regional level, the Project is expected to have low levels of visual impact, given the distance between towns and the Project. Following progressive and final rehabilitation, levels of visual impact are assessed as reducing to very low.

Mitigation and management strategies that would be implemented for the maintenance of visual amenity at the Project include progressive rehabilitation, visual screening (including vegetative screens and bunds along the Blue Vale Road realignment) and night-lighting measures (EIS Section 4.14.3).

#### **4.1.4 Flooding**

Both nearby property owners and community members were concerned that the Project, and in particular the Project rail spur, would change the flooding characteristics of the Namoi Valley, resulting in higher flood levels or a longer duration of flooding.

The Project's Flood Assessment (EIS Appendix C) found that the change in flood level and velocity on privately-owned land is predicted to be negligible. The Project mining area would not alter the flooding characteristics along the Namoi River, and the Project mining area is not at risk of flood impacts from the Namoi River.

Where the Project rail spur crosses the Namoi River and Kamilaroi Highway it would be elevated on a viaduct structure to minimise impacts to the flooding regime. There are no predicted changes in flood levels downstream of Blue Vale Road and therefore no change in flood levels is predicted at privately-owned dwellings or privately-owned agricultural infrastructure.

A Water Management Plan would be developed for the Project, including a description of flood mitigation measures.

#### **4.1.5 Use of the natural environment**

The Namoi River is integral to the area's scenic amenity and local communities' histories. The Project would be developed within a comprehensive management framework to avoid any impacts on the Namoi River and its associated catchment values.

The Project Description and Preliminary Environmental Assessment lodged in January 2016 described the recommencement of mining in the Blue Vale Open Cut as part of the Project. During initial consultation with the community, feedback indicated some sensitivity about the proximity of the proposed Blue Vale Open Cut to the Namoi River. As a result of this community feedback, Whitehaven decided to remove the Blue Vale Open Cut from the Project scope.

The Vickery State Forest is located to the east of the Project and is valued for its environmental, forestry, and scenic properties. The Project would not involve any clearance or changes to land use within the Vickery State Forest. The Vickery State Forest is not routinely accessed by the public and any views of the Project from parts of the Vickery State Forest that are accessible are obstructed by dense vegetation (EIS Section 4.14.2). Therefore, the Project is unlikely to have an impact on social use or appreciation of Vickery State Forest.

Educational interest in the Vickery State Forest from local high schools may represent an opportunity where Whitehaven could involve students in focused environmental monitoring projects along the boundary of the mining lease and Forest.

#### **4.1.6 Siding Springs Observatory**

The Siding Springs Observatory is located approximately 115 km to the south-west of the Project. As such the Project is within the Dark Sky Region, as defined by DP&E's 'Dark Sky Planning Guideline'. There are a number of light sources and small towns between the Project and the Siding Springs Observatory, which may contribute to sky glow at the Siding Springs Observatory (EIS Section 4.14.2).

Any potential impact associated with night-lighting required for the Project (i.e. for safety reasons) would be similar to those assessed for the Approved Mine. These potential impacts would be minimised as far as possible through the implementation of mitigation measures described in EIS Section 4.14.3.

### **4.2 Personal and property rights**

This section discusses three social impact areas defined by the NSW SIA Guideline:

- personal and property rights, considering the effects of the Project on the economic livelihoods of individuals, experiences of personal disadvantage and effects on civil liberties;
- decision-making systems, considering the extent to which land owners have been involved in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms; and
- fears and aspirations, considering the effects of the Project on landholder values and future aspirations for their properties, their rights and involvement in Project and regulatory decision-making, and fears or aspirations for their community.

Impacts and opportunities discussed within this section are based on a consolidation of inputs regarding how land owners expect to experience the project, contextualized with EIS findings where relevant.



#### **4.2.1 Effects on livelihoods**

##### **Disruption to farming uses**

The Project would be constructed on land owned by (or under land access agreement to) Whitehaven, with no potential for disturbance of adjacent agricultural lands. Over the past 50 years, land within the Project mining area has been used for mining and agricultural purposes (currently grazing only, with intermittent small-scale dryland cropping on areas with higher soil fertility) (Appendix H of the EIS).

The Project would impact on approximately 2,541 ha of agricultural land in the long-term (i.e. areas to be rehabilitated to woodland or the final void pit lake and highwall). The majority of this land consists of Class 4 Agricultural Suitability (suitable for grazing), with small areas of Class 3 (grazing land or land suited to pasture improvement) and Class 2 land (suitable for regular but not continuous cultivation for crops). The areas of Class 3 and 2 Agricultural Suitability land that would be lost are currently only used for cattle grazing and are not considered to be highly productive or of strategic agricultural importance within the region (Appendix H of the EIS).

The alignment of the Project rail spur has been selected to use existing tracks, and avoid established cropping paddocks and water management infrastructure on agricultural enterprises west of the Namoi River, as far as practicable.

One landholder noted the potential for an established wheat cartage route through an adjoining property to silos near the Werris Creek Mungindi Line to be severed by the rail spur. Crossings of the rail line are incorporated into the rail spur design (including between the relevant properties). Whitehaven will ensure that crossings of the rail line will be designed and constructed in consultation with landowners.

As such, the Project is not expected to impact on local farming livelihoods.

##### **Water access**

The Namoi River and the Upper Namoi River Alluvium are central to the continued operation of local farms and agribusinesses. SIA consultation indicates that property owners and farmers near the Project area are dependent on groundwater, river water or both, and are concerned about the potential for the Project to impact on local water resources, including long-term, post-closure impacts on surface and groundwater. These concerns were also identified in NSC's submission on the Project's SEARs.

A Groundwater Assessment (Appendix A to the EIS) and Surface Water Assessment (Appendix B to the EIS) were undertaken for the Project. Negligible potential impacts of the Project on the Upper Namoi Alluvium groundwater system and the baseflow of the Namoi River are predicted.

No privately-owned bores are predicted to have greater than 2 m drawdown (i.e. impacts are within the 'Level 1' minimal impact criteria in the NSW Aquifer Interference Policy) (EIS Section 4.4.2). Notwithstanding, should monitoring or an investigation show greater than 2 m drawdown at a privately-owned bore, and the drawdown is attributable to the Project, 'make good' provisions for the affected groundwater user would be implemented. These may include deepening the affected groundwater bore, construction of a new bore, and/or provision of an alternative water supply of appropriate quality and quantity (EIS Section 4.4.3).

With respect to surface water (EIS Appendix B), no significant impacts on the Namoi River water source are anticipated. The Project is also predicted to have negligible impact on water quality in the receiving watercourses.

Following closure of the Project, groundwater inflow to the final void is expected to be sustained primarily by rainfall infiltration through the rehabilitated waste rock emplacement (EIS Section 4.4.2).



Based on the groundwater modelling, Whitehaven currently hold licenses sufficient to cover the modelled groundwater inflow (EIS Section 4.4.3).

A Water Management Plan would be developed for the Project in consideration of the requirements of any relevant Development Consent conditions (including consultation requirements) for the Project (EIS Section 4.4.3).

On the basis that access to river water would not be affected by the Project, and that Project-related drawdown on private bores is not predicted (or would be made good), impacts on livelihood as a result of reduced water access appears unlikely.

Given the centrality of water resources to local farms, anxiety about the Project's potential impacts on the river, alluvium and private bores will need to be a focus of Whitehaven's communication and engagement program throughout the Project's lifecycle. This will require ongoing engagement regarding how Project impacts are identified, prevented, managed and monitored. The value of Whitehaven's engagement program would be reinforced by the timely release of environmental monitoring results and a summary of key points regarding any impacts on surface or groundwater to support community interpretation.

Consultation for the SIA also identified a community engagement opportunity and education resource, supported by the Gunnedah Chamber of Commerce, involving development of a publicly accessible, interactive model of the region's water resources, how they interact and how they are used by the region's industries, including agriculture and mining. This was seen as a potential community asset/legacy item that would provide benefit for local schools and community groups, but with a secondary benefit in engaging people who hold views in relation to water resource management that may not be based in fact or evidence.

#### **4.2.2 Effects on enjoyment of private property**

This section is relevant to construction, which may cause temporary impacts, and to operations, which would extend over approximately 25 years.

As noted in Section 1.5, the SIA team interviewed 17 property owners who live near the Project area, in order to understand property owners' concerns about potential Project impacts. Interviewees included all property owners with dwellings within approximately 2 km of the Project rail spur, mine infrastructure area and train load-out facility.

The closest property to the Project mining area is eligible for acquisition on request as the result of the Approved Mine's noise impacts, with 'significant' exceedances of noise trigger levels at one dwelling on the property predicted as a result of the Project. The property owners have intergenerational ties to the land, and consultation identified their desire to stay on the property, however they fear it would be uninhabitable due to noise and dust impacts. They are also concerned about the potential for effects on the Namoi River, the potential for the Project to change flooding patterns and the difficulty in finding a similar property in the local area if they needed to move.

Whitehaven has agreements with two land owners for the land on which the Project rail spur would be located. There are six other properties that have at least one residence within approximately 1 km of the rail spur, with two of those properties bordering the rail spur. Four of these residences are also within 3 km of the mine infrastructure area. As a result, the owners of these six properties have concerns about the cumulative impacts of rail noise, mine operational noise and visual amenity impacts on their properties.

Of the 18 property owners interviewed, 13 expressed various concerns about the Project's potential impacts on their amenity and/or quality of life, whilst five (those at a greater distance from the Project) expressed minimal concerns relating to visual amenity and cumulative noise impacts.

Whilst noise was the most frequently cited concern, nearby land owners were concerned that enjoyment of their properties would be impacted by a combination of environmental changes, including, as relevant to each property:

- noise which land owners would experience as intrusive on their amenity and way of life;
- air quality, with a lack of trust that dust can be sufficiently controlled as to avoid impacts on nearby dwellings and water tanks;
- lights at the train load-out facility and mine infrastructure area, and train lights;
- the introduction of Project elements to formerly rural views; and
- anxiety and stress related to uncertainty about Project impacts.

The Project's environmental impacts relating to noise, air quality and visual amenity have been assessed in specialist studies in the EIS as negligible or low, and within regulatory limits. However most of the closest land owners to the Project hold fears for a negative effect on the enjoyment of their properties, regardless of predicted compliance with regulatory limits, as the result of a combination of visual impacts, noise effects, blasting effects and dust.

It is recommended that Whitehaven continue to consult with the owners of properties within 5 km of the Project, including the Project rail spur, regarding their specific concerns and the findings of the EIS and how they relate specifically to their property. It is also recommended that Whitehaven develop property-specific management plans with all interested property owners within this radius to address visual impacts, noise exceedances as assessed, unanticipated noise effects, and any other issues which may affect enjoyment of private property.

#### **4.2.3 Landholder rights and aspirations**

In most cases, properties near the Project are long-term family homes and/or planned as homes for retirement. Most properties were also described as being their owners' primary assets.

Of the 17 nearby land owners consulted for the SIA, at least seven expressed concern about the protection of their rights as property owners to continue to use and enjoy their properties. Several expressed distrust in the Project's noise, air quality and/or flood assessments, and felt stressed and disempowered about potential changes to their properties' visual amenity and noise levels, and about the possibility of having to 'prove' in future that impacts were occurring at their property, should modelling turn out to be inaccurate or environmental management insufficient.

The potential for Project impacts on property values was raised as a significant concern by several nearby property owners. They noted that people buy rural properties based on the property's scenic qualities and environmental and lifestyle values. The shared view was that most people seeking a rural property would not choose to live or farm near a coal mine due to concerns about environmental and social impacts. This was a source of considerable anxiety about their future financial security.

Property owners suggested that modifications to the NSW Government's Voluntary Land Acquisition and Mitigation Policy (VLAMP)<sup>74</sup> are required to address this concern.

#### **4.2.4 Access to decision making**

Whitehaven's primary mechanisms for engagement with nearby property owners include the Vickery CCC, one-on-one meetings and information available on Whitehaven's website. Several property owners expressed frustration with Whitehaven in regard to a lack of timely information or consultation about changes in the Project rail spur alignment.

Most land owners said they had been informed that EIS modelling suggested no expected exceedances of relevant air quality and noise criteria. As such they do not qualify for mitigation on request under the VLAMP. Some property owners also described a lack of trust in EIS modelling and/or Whitehaven's environmental management practices.

Ongoing, inclusive and transparent consultation is required to support co-existence between the Project and other local property owners. It is important that property owners have timely access to detailed information about the Project, and are involved in ongoing engagement about the Project's potential impacts and mitigations. It is recommended that Whitehaven conducts ongoing consultation with the owners of all properties that have homes within 5 km of the rail spur and MLA1 to the Project, commencing in the EIS exhibition phase, to provide details on:

- the Project's design solutions and mitigations that address the potential for flooding, noise or other impacts on nearby properties;
- the findings of the EIS specific to their property; and
- the Project's construction and operational activities.

The Project's stakeholder engagement program should also include targeted measures to ensure that nearby property owners have ongoing access to information about the Project during construction and operation, including regular access to environmental monitoring data.

Whilst not a decision-making body, the Boggabri Farming and Community Group is a group of local property owners formed to improve local outcomes in relation to the Project. Engagement with this group is recommended to ensure that property owners have access to transparent and consistent information in a group setting which facilitates discussion.

### **4.3 Culture**

#### **4.3.1 Aboriginal cultural values**

As noted in Section 3.2.1, the Kamilaroi community does not identify the landscape within the Project area as being of high cultural significance or as being interconnected with known heritage places, excepting that the Namoi River and its adjacent plains are considered to be of cultural significance.

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<sup>74</sup> NSW Government, 2014.

However, some RAPs consulted in the development of the Project's ACHA noted that all regional landscapes maintain a cultural significance. Specific cultural values identified and placed on natural flora and fauna species, and the continued health of the Namoi River, highlight opportunities for the Project to support the protection of these resources, via existing mitigation strategies as well as via strategic investments and partnerships under Whitehaven's Community Enhancement Program.

As described in the ACHA (EIS Appendix G), the Approved Mine would result in total disturbance of 24 Aboriginal heritage sites and partial disturbance of seven Aboriginal heritage sites of low or low-moderate significance, with total disturbance of an additional 24 Aboriginal heritage sites of low or low-moderate significance that were identified for the Project.

Whitehaven's existing Senior Management, Board and Project Workforce Cultural Awareness training, which connects Aboriginal and non-Aboriginal histories and values to improve awareness and appreciation.

Consultation for the SIA identified the importance of linking historic and contemporary cultural values through Aboriginal and non-Aboriginal community engagement. Suggested strategies that help to achieve this integration as noted by Indigenous stakeholders included:

- supporting cultural safety, security and confidence in young Indigenous people from early years to school, training and employment to maintain the link between cultural and contemporary values; and
- pending agreement between RAPs, establishment of an Indigenous-owned and managed central keeping place for cultural artefacts from the Project and other mining operations, to facilitate increased access and engagement for local Aboriginal people, and also non-Aboriginal people. This concept was also explored in SIA consultation as a potential means of generating alternative employment and economic opportunities for the local Aboriginal community.

#### **4.3.2 Aboriginal social use of Project area**

As discussed in Section 3.2.1, local Aboriginal people visit the Namoi River (in the reaches close to the Project, and further upstream and downstream) for significant social events including meetings, and for fishing, mussel collecting and family outings.

Consultation during the SIA identified that access to the Project area and social use of the Namoi River by the Aboriginal community is largely restricted by private landholdings, including those of Whitehaven. The Project's ACHA (EIS Appendix G) also notes that for most of the RAPs engaged in the Project's archaeological survey activities, it was the first time that they had been able to access the area due to the land's private ownership arrangements over several generations. In this context the surveys described in the ACHA are identified as an important measure in facilitating access to previously inaccessible land.

Representatives from the Red Chief LALC emphasised the importance of maintaining access through Crown Land and Travelling Stock Routes on, to and from Crown Land. As outlined in Appendix I of the EIS, Whitehaven will maintain ongoing access between the TSR and Blue Vale Road through Whitehaven-owned land around the mine infrastructure area and across the Project rail spur, subject to operational and safety requirements.

In this context, the Project's construction and operations is unlikely to adversely affect or change existing Aboriginal social uses of land, or access to the Namoi River.

### **4.3.3 Historic cultural heritage**

One weatherboard home of local significance is located within the Project mining area and would be directly disturbed by the Project's construction. Prior to disturbance, a photographic archival recording would be undertaken for this site. No other historic heritage sites would be directly disturbed by the Project.

Other items potentially of interest to local collectors located within the Project area would be offered to the Boggabri Historical Society and the Gunnedah Museum prior to disturbance.

Community members consulted as part of the SIA were concerned that the Project would impact on the heritage-listed Kurrumbede Homestead Complex. The Project would not impact directly on the Homestead, and the Noise and Blasting Assessment (EIS Appendix D) indicates that blasting and vibration levels would be below the relevant building damage criteria and therefore the Project would have low potential to indirectly impact the structures at the Kurrumbede Homestead Complex. As determined by the Visual Assessment (EIS Appendix L) there would be potential for a low visual impact on the Kurrumbede Homestead Complex due to the Project. The Historic Heritage Assessment (EIS Appendix K) concludes that potential indirect impacts to the Kurrumbede Homestead Complex are manageable and reversible following completion of the Project.

## **4.4 Community**

### **4.4.1 Population**

#### **Construction Workforce**

Project construction is expected to commence in 2019 (Project Year 1). Construction and development activities (e.g. construction of the pits, mine infrastructure area and service facilities) would require a workforce of up to approximately 500 FTE personnel.

Project construction will require a labour force with highly specialised skills, including specialised welders, fitters, electrical contractors, machinery mechanics and construction engineers. It is therefore anticipated that the majority of the construction workforce would be non-local hires (EIS Section 2.15). Approximately 90% of the construction workforce (i.e. up to 450 FTE personnel) are expected to be non-local hires and reside in the Civeo Boggabri Village while they are rostered on. The Civeo Boggabri Village currently has 508 rooms, with Development Approval to provide the additional capacity required for the Project's construction workforce (up to 852 rooms).

The remaining 10% of the construction workforce (i.e. up to 50 personnel) are expected to be drawn from the Narrabri and Gunnedah LGAS, or from other LGAs within a safe daily driving distance (EIS Section 2.15).

The Project's construction period is not expected to make a permanent contribution to the population of the Narrabri and Gunnedah LGAs. It would however see a temporary increase in the Boggabri population, as was recently been experienced for the Maules Creek Coal Mine construction period.

The Boggabri State Suburb includes the urban centre plus landholdings around Boggabri, so the Boggabri community extended to approximately 1,130 people in 2016.<sup>75</sup>

Assuming 80% of non-local personnel are using the Civeo Boggabri Village at any one time, this would see approximately 360 FTE Project non-local personnel in the Boggabri area during construction, or an increase of approximately 32% on the State Suburb's 2016 population.

In relation to population composition, the majority of non-local construction workers are male, so the construction workforce will also contribute to a temporary change in the Boggabri community's gender balance during the construction period. During SIA consultation community perceptions about the increased number of non-local workers affecting gender balance (including safety) were raised. This is further discussed in Section 4.4.2.

### **Operational Workforce**

Project operations are expected to commence in 2020 (Project Year 2) and continue for 25 years (i.e. to approximately 2044). At full development, the Project operational workforce would be in the order of 450 FTE on-site personnel (EIS Section 2.15). The Project will have a residential workforce, living in surrounding towns.

As described in Section 3.4.2, the 2016 census data indicated Narrabri LGA was an 'importer' of mining workers and Gunnedah LGA was an 'exporter' of mining workers (primarily to the Narrabri LGA). Gunnedah LGA also has more housing stock with which to accommodate new local residents. As such, Gunnedah is expected to provide larger percentages of existing locals to the workforce and being closer to the Project, is likely to accommodate a larger proportion of new local workers and their families than Narrabri. Boggabri being closest to the Project is also likely to be home to a proportion of the personnel, whilst Narrabri and Manilla would also supply and accommodate some personnel.

For the purposes of impact assessment, and as per the approximate distribution of Whitehaven personnel in local communities, it has been assumed that the workforce would reside in the following locations and approximate proportions:

- Gunnedah (54% of workforce);
- Boggabri (21% of workforce);
- Narrabri (13% of workforce);
- Manilla (9% of workforce); and
- other areas (3% of workforce).

Table 4-1 provides an indication of workforce distribution, using the Project's peak workforce estimate to calculate the potential maximum population increases in each area, based on the following assumptions:

- 70% of the Project's personnel (315 people) will be drawn from the local area, including Narrabri, Gunnedah, Boggabri and Manilla; and

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<sup>75</sup> ABS. 2017.

- 30% of the workforce (135 people) would move from other areas to settle in Narrabri, Gunnedah, Boggabri, Manilla or surrounding areas, with most bringing family members with them.

The average household size for the Gunnedah and Narrabri LGAs in 2016 was a consistent 2.5 people per household, so this has been applied to determine the potential maximum number of new local residents associated with the Project's operations phase.

Based on these assumptions, the Project has potential to attract approximately 338 new local residents (inclusive of Project operational personnel and their family members) to the Project region (Table 4-1), including:

- approximately 182 new residents in Gunnedah township;
- approximately 71 new residents in Boggabri;
- approximately 44 new residents in Narrabri township;
- approximately 30 new residents in Manilla; and
- another ten new residents elsewhere within a safe commute to the Project.

For Boggabri, the in-migration of 71 new locals (28 new households) would see a notable and positive change to the population, which would be positive for community vitality and sustainability. SIA stakeholders thought that, for Boggabri to benefit from Project-induced population growth, a strong promotion campaign would be required to make sure families know that Boggabri is a safe, healthy and welcoming environment. It was also noted that there is a low level of rental housing availability in Boggabri meaning that new houses would need to be developed, or currently unoccupied dwellings (Section 3.4.4) released into the rental pool to respond to demand.

In the Gunnedah LGA, new residents would represent an increase of 1.49% on the 2016 population and 1.41% on the projected 2021 population. These estimates represent a small but positive contribution to the population size of local centres, and more broadly to the Gunnedah and Narrabri LGAs. In the Narrabri LGA, new residents would represent a population increase of approximately 0.88% on the 2016 population and 0.87% on the projected 2021 population.

With 30 new residents, Manilla could see a population increase of 1.44%, which is likely to be experienced as a positive contribution to the local community, but would be negligible in the Tamworth LGA's context.

Implications for access to housing and social infrastructure are discussed in Sections 4.5.4 and 4.7 respectively.



**Table 4-1: Operational workforce population estimates**

Location	2016 Population	2021 Population (Predicted)*	No. Operational Personnel <sup>1</sup> (% of operational workforce)	Existing residents (70% of operational workforce) <sup>1</sup>	New residents (30% of operational workforce) <sup>1</sup>	New local residents <sup>2</sup>	New local residents as a % of 2016 Population	New local residents as a % of 2021 Population*
Gunnedah	7,984		243 (54%)	170	72.9	182	2.28%	N/A
Gunnedah LGA	12,215	12,900	243 (54%)	170	72.9	182	1.49%	1.41%
Boggabri	856		95 (21%)	66	28	71	8.28%	N/A
Narrabri	5,903		59 (13%)	41	18	44	0.74%	N/A
Narrabri LGA	13,084	13,150	153 (34%)	107	46	115	0.88%	0.87%
Manilla (Tamworth LGA)	2,106		41 (9%)	28	12	30	1.44%	N/A
Other areas	N/A		14 (3%)	9	4	10	N/A	N/A
Total			450 (100%)	315	135	338		

<sup>1</sup> Source: Section 2.15 of the EIS.

<sup>2</sup> The average household size for the Gunnedah, Narrabri and Tamworth Regional LGAs in 2016 was 2.5 people per household (Table 3-7).

\* LGA population at 2021 is based on DP&E's (2016) State and Local Government Area Population Projections. UC/L population at 2021 is calculated by applying the LGA projected growth rate between 2016-2021, to the UC/L 2016 Census figure, to provide an indicative population for 2021 at UC/L level.

# Boggabri township and Narrabri LGA figures include non-local workers staying the Civeo Boggabri Village, estimated at 80% of the total account for personnel off shift.

N/A = Not Available.

#### **4.4.2 Community character**

Property owners consulted for the SIA indicate that views to the Project, development of a larger mine than was previously approved, and the Project rail spur operation would be experienced as detracting from the rural character of the area. As noted in Section 4.1.3, the Visual Assessment (EIS Appendix L) indicates that dwellings within 1 to 5 km of the Project are expected to have moderate to high levels of visual impact, reducing to low or very low levels following progressive and final rehabilitation (commencing with the Western Emplacement). From the perspectives of local land owners, a change to the rural character of the area near the Project appears likely during the Project's operation.

Boggabri stakeholders seek benefits from the construction period, hoping to increase business trade through both Project and personnel expenditure, which in turn supports community character. For the operational phase, a Project-related increase in Boggabri's population would provide additional resources and skills for local businesses and services, and for the upkeep of community infrastructure.

However, Boggabri stakeholders also expressed concern that large numbers of non-local construction workers would temporarily change the character of Boggabri. Traditionally Boggabri has been a close community where people feel very safe, and community members observe social norms and participate in local community events. It was indicated that there have been examples of traffic behaviour of some non-local workers had been inconsistent with local values and non-local construction workers did not participate in events which support community character. Boggabri stakeholders were also concerned that the larger number of non-local workers would reduce the feeling of safety to walk around town.

Whitehaven has established a workforce Code of Conduct, which governs all Whitehaven personnel's (e.g. contractors and employees) behaviour, whether on shift or in the community (including for the Project). The Code of Conduct specifically stipulates that "all personnel are responsible for their own safety and the safety and wellbeing of others around them in the workplace and in the community that may be affected by their activities". It is recommended Whitehaven engages with the Boggabri community members to ensure their expectations of non-resident workers are clear, and that residents have clear lines of communication with Whitehaven in the event of any concerns about workforce behaviour.

At the LGA level, new local personnel and their families are likely to have similar values to other community members, and to integrate into local social networks, so impacts on community character are not anticipated. Consultation indicated that stakeholders are generally very positive about the increase in local vitality which has resulted from local mining operations, as evidenced in investment in new businesses in town and recent population growth.

#### **4.4.3 Community cohesion**

Community cohesion is an important community value, as being included in your community is vital to material and psychosocial factors that underpin well-being<sup>76</sup>.

The Narrabri and Gunnedah LGAs show evidence of strong community cohesion, including below average rates of population mobility and above average rates of volunteering, and there is confirmation though local research of positive place attachment and feelings of belonging (see Section 3.2.3).

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<sup>76</sup> Stansfeld & Candy (2006)

Consultation also indicates local people's willingness for to work together to embrace the opportunities the mining industry provides, and to promote their towns as communities of choice for in-migrating personnel.

### **Construction**

The Civeo Boggabri Village has been an established part of the Boggabri area since August 2013, and local residents have experience co-existing with temporary workforces.

The Project's use of the Civeo Boggabri Village will largely mitigate potential demands on housing in Boggabri which would otherwise displace local families. Boggabri stakeholders stated that the existence of the Civeo Boggabri Village and mining personnel's uptake of rental housing had reduced cohesion in the community, as non-local workers use community resources (such as housing and services) but don't contribute to social networks. However, construction personnel also patronise local businesses such as shops, the hotel and cafes, which increases their sustainability and support for local cohesion.

The Civeo Boggabri Village facilitates supervision of personnel behaviour within the community (with sanctions applied to prevent antisocial behaviour (e.g. withdrawal of accommodation). The anticipated 12 hour shifts for construction personnel and their accommodation in Civeo Boggabri Village reduces the potential for interactions between non-local workers and local communities. This is positive in that the potential for negative interactions is reduced, but also negative in that there are fewer opportunities for personnel to integrate with the local community. In order to mitigate any impacts on local community cohesion, Whitehaven would ensure that its construction personnel are aware of the company's expectations in relation to their public behaviour, and would encourage personnel to patronise local businesses and participate in local activities.

Supported by the Workforce Code of Conduct and the Project's engagement with local communities, it seems unlikely that the construction phase would cause a significant decline in local community cohesion.

### **Operation**

Operational personnel migrating to the area of influence from other regions are likely to include a high proportion of couples and families. During operations, the Project would make positive contributions to community cohesion at the LGA level by:

- providing a place of work and long-term employment for local residents, supporting them to stay locally;
- increasing the pool of working age and young residents with capacity to support community activities;
- potentially increasing the number of family households and interactions between families; and
- investing in local community development through Whitehaven's donations and sponsorship program, including facilitation of social connections between Project workers and their families.

Any decision by a local landowner to move as a result of actual or perceived impacts due to the Project would be an impact on the bonds and friendships in the area. Also, to the extent that road closures and the Bluevale Road re-alignment would affect travel times between local properties, this may affect cohesion by reducing neighbourly interactions, however, given the minor delays (i.e. 5-10 minutes), the potential for material impact appears low.

Given diverse views on coal mining, and in line with local research (see Section 3.3), there is potential for conflict within local communities regarding the desirability of new mines in the local area, which may affect links between individuals and networks. Land owners interviewed identified tensions between family members and neighbours regarding property owners' differing responses to the Project and mining more generally. Interviewees living in local towns indicated community differences about mining had diminished over time as the region adjusted to mining projects, and benefits were realised.

Whilst differing views are a part of community dynamics, Whitehaven has a role to play in reducing the potential for conflict by:

- maintaining a consistent and transparent engagement process with various stakeholders so that concerns about the Project and related impacts can be addressed; and
- ensuring consistent, accessible information about the Project's impacts and benefits is available to all sectors of the community.

## **4.5 Way of life**

This subsection discusses:

- the potential for impacts on rural way of life;
- employment opportunities;
- potential impacts on housing access; and
- regional business opportunities.

### **4.5.1 Rural way of life**

As noted in Section 4.4.1, farming, outdoor activities and close connections between community members characterise the rural way of life in the Project area.

As all mining activities would be undertaken on land owned by Whitehaven, there is no potential for the Project to have direct impacts on farming practices or community activities. The opportunity for local people to find local jobs in mining, whilst still farming and enjoying a rural lifestyle, was identified by consultation participants as supporting rural lifestyles in the local area.

Project-related noise is predicted to be compliant with regulatory limits (as discussed in Section 4.1.2). Property owners anticipate that noise from the mine infrastructure area, train load-out facility or Project rail spur may affect their way of life by interrupting family or social activities or affecting their enjoyment of the local landscape. Mitigation of noise and visual impacts are discussed in detail in the EIS at Appendix D and Appendix L, respectively, and in the SIA at Section 4.1.2.

As described in Section 4.1.2, Whitehaven's community engagement strategies and complaints policy aim to ensure that any unexpected impacts on residents' way of life are identified and addressed.

### **4.5.2 Employment**

The Project would contribute to increased direct and indirect employment opportunities in the Narrabri, Gunnedah and adjoining LGAs, as noted in Section 4.4.1 and discussed below.

## Construction

The Project's construction period would provide significant opportunities for personnel with specialised construction skills (see Section 4.4.1). Both the Gunnedah and Narrabri LGAs were minor 'exporters' of construction labour in 2016 (i.e. there are more people available for construction work than there are jobs) (Section 3.4.3), so the Project's construction employment opportunities would be a significant benefit to existing construction workers and their families in these LGAs. Up to 1,400 construction personnel across the broader region may be available to the Project. As such, the Project represents a positive opportunity for the local and regional construction workforce.

All construction trade occupations assessed by the NSW Department of Employment were in shortage in NSW at September 2016, for the second consecutive year<sup>77</sup>. It is possible that the required Project construction workforce could place temporary pressure on the supply of available construction personnel in and beyond the area of influence. This is particularly relevant in the cumulative context, where construction labour demands could collectively exceed approximately 2,800 personnel within a similar delivery period (including peaks of 500 for the Project, 1,300 for the Narrabri Gas Project, 200 for Narrabri South Solar, 180 for two Inland Rail projects and 600 personnel for the Watermark Coal Project [Table 3-1]).

Whitehaven's approach to promoting employment and contract opportunities during the Project's construction phase involves contractual arrangements with its major construction contractors to include requirements to engage with locally-based (Narrabri, Gunnedah and Tamworth) construction companies and other businesses who could supply Project construction, to maximise their participation in Project supply opportunities.

## Operations

The Project operational workforce is anticipated to be made up of approximately 70% local hires, for whom the Project would offer long-term, stable employment. This is expected to have a direct positive effect on wellbeing for employees, and indirectly for their families as well as local business owners.

Interviewees generally commented positively on Whitehaven's efforts to encourage employees to live locally.

Recruitment for the Project's operations phase will be promoted on the Project's website, in local and regional media, and via local recruitment and job support agencies.

Occupations required would include:

- drillers, miners and shot firers;
- administrative, health and safety and human resources workers;
- plant and equipment operators;
- structural steel and welding trades workers (e.g. boilermakers, machinists and diesel fitters);

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<sup>77</sup> NSW Department of Employment (2016)

- truck drivers and earthmoving plant operators;
- electricians, instrumentation specialists, mechanics, plumbers and gasfitters;
- production managers and mining engineers; and
- geologists, geophysicists, environmental managers and hydrogeologists.

The Project would also deliver employment flow-on benefits in the Project region, with the total benefits, in terms of additional income and employment generated by the Project, estimated at \$224 million (an additional \$93 million compared to the Approved Mine). The Project would also generate additional flow-on benefits to the region (i.e. beyond direct Project employment) of an estimated annual average of 181 FTEs and associated \$92 million in disposable income (NPV over the life of the Project) (EIS Appendix J).

Section 3.4 identified consistently higher unemployment rates in the Gunnedah, Narrabri and Tamworth LGAs relative to the NSW average, with Indigenous unemployment rates up to 3.2 times higher than total unemployment rates, and youth unemployment rates at around 2.5 times higher than total unemployment. As such, the Project's employment opportunities are likely to be a significant community benefit. Similarly, the Project may provide an alternative source of employment for employees at the Rocglen Coal Mine, which is nearing the end of its Approved Mine life.

Following commissioning of the Project CHPP, coal from Whitehaven operations will no longer be transported by road to the Whitehaven CHPP. There may be some reduction in contractor ROM coal haulage employment due to the shorter haul distances between the Tarrawonga/Rocglen Coal Mines to the Project. These employees are likely to have relevant skills which would enable their redeployment to the Project.

Education and training plays a critical role in improving workforce participation and overall wellbeing, and is a key priority for the NSC, GSC and communities. Whitehaven has a strong commitment to training local people for jobs in its operations. Between 2011 and 2017, Whitehaven Coal hosted 25 apprentices.

The Project is likely to employ three to four apprentices as part of its operations, on a rolling basis, which could see approximately 20 people achieve trade qualifications over the Project's life. Whitehaven also offers cadetships, scholarships and work placement programs, as well as financial support for young local people to pursue a degree in engineering studies, geology, environmental science and other relevant fields. These opportunities to develop skills, qualifications and a career pathway will be highly valued by local people, particularly young people.

#### **4.5.3 Indigenous employment**

Many Indigenous people experience greater difficulty securing long-term, sustained employment due to a number of generational, cultural, social and/or emotional barriers.

Whitehaven has specific objectives to support and encourage the development, growth and enhancement of relationships with Indigenous people. These objectives are executed via the Whitehaven Reconciliation Action Plan, which includes targets in the areas of health, education, employment and procurement.

Whitehaven supports its commitment to Indigenous employment by employing an Aboriginal Community Relations Officer and an Aboriginal Senior Trainer to ensure workplace training meets Aboriginal people's needs and engages them, and is working with the Winanga-Li Aboriginal Child and Family Centre, to improve cultural awareness and understanding, and find better ways to engage with local Aboriginal women.

To maximise access to employment for local Indigenous residents, Whitehaven would continue to use the following 'accessible recruitment' practices:

- promotion of opportunities through Indigenous community leaders, existing Indigenous employment agencies and organisations;
- promotion of available services to assist Indigenous candidates in preparing their applications and supporting documentation; and
- preliminary advice at the interview stage regarding Whitehaven's employment policies which address employee entitlements, the employee assistance program, workplace health and safety, fatigue management, alcohol and drug management and anti-discrimination matters.

Whitehaven would target employment of 10% of the Project's operational workforce being of Aboriginal and/or Torres Strait Islander descent within five years of commencement of operations (EIS Section 2.15), consistent with existing commitments for the Maules Creek Coal Mine (currently 11% of Whitehaven's employees identify as Aboriginal or Torres Strait Islander).

At peak, this would represent 50 Indigenous personnel for the Project. This a significant employment and skilling opportunity given the high percentage of Indigenous residents, and high unemployment, in the area of influence.

Whitehaven also encourages its contractors and suppliers to employee Indigenous people.

Higher Indigenous employment rates could potentially lead to increased disposable incomes, wealth, access to resources and overall wellbeing<sup>78</sup>. Increased participation in the workforce can also contribute positively to an individual's sense of worth and achievement, and to their sense of enjoyment of increased social engagement. These factors also contribute positively to mental and physical wellbeing.

Section 5.4 outlines strategies to improve Indigenous participation in sustainable employment and long-term careers, including an employee assistance program with provisions for culturally appropriate mentoring, family support, and capability development in budgeting and long-term goal setting.

#### **4.5.4 Housing**

##### **Construction**

Whitehaven plans to accommodate 90% of the Project's construction personnel at the Civeo Boggabri Village (Section 4.4.1) to mitigate impacts on local housing and other short-term accommodation options.

It is expected all non-local construction personnel for the Project can be accommodated in either the existing developed capacity or the approved expansion capacity (i.e. 852 rooms total) at Civeo Boggabri Village. Should the approved Civeo Boggabri Village expansion capacity be insufficient in the context of cumulative Project demands, it is recommended construction personnel be encouraged to use either the Narrabri Accommodation Camp, or hotel and motel accommodation in Gunnedah and Narrabri. Use of local rental housing should be discouraged to ensure rental housing continues to be available for families, and use of caravan park accommodation should also be discouraged so these options remain available for low-income residents and visitors.

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<sup>78</sup> Australian Government. (2006)



As the construction phase is relatively short (i.e. approximately 12 months) demands on the local housing market are not expected, as the likelihood of non-local construction personnel moving to the local area is low.

### Operation

The Project expects that 70% of the operational workforce (315 personnel at peak) will comprise existing residents from the Gunnedah, Narrabri and adjoining LGAs.

Approximately 30% of the workforce is expected to originate from other LGAs and move to the area of influence. Whitehaven encourages local residency for its personnel by providing only short-term subsidies for workforce village accommodation.

Table 4-2 provides the estimated housing demand associated with the Project operational workforce, based on peak workforce estimates (Table 4-1). As approximately 32% of households in the Gunnedah and Narrabri LGAs were renting and 68% of households either fully or partly owned their homes during 2016, these percentages have been used to estimate the number of rental and purchased dwellings required.

There is potential for single workers moving to the area to share rental accommodation, reducing the total number of dwellings required. However, this assessment has conservatively assumed that one 'new' employee will equate to the need for one dwelling.

**Table 4-2: Estimated Project housing demand - Operational workforce**

Town	Estimated new households	Rental property demand at 32%	Purchase demand at 68%
Gunnedah	73	23	50
Boggabri	28	9	19
Narrabri	18	6	12
Manilla	12	4	8
<b>Total</b>	<b>131</b>	<b>42</b>	<b>89</b>

This analysis indicates that an estimated 42 rental properties may be required for the peak operational workforce across the area of influence (Table 4-2). Workforce demand for local housing is likely to be spaced over the first few years of operations, avoiding excessive pressure on rental stock demands which would otherwise lead to rental price increases.

Boggabri's proximity to the Project and its character are likely to attract personnel to live there. With rental housing stocks currently low in Boggabri, an increase in rental stock in Boggabri would be required (e.g. currently unoccupied dwellings as identified in Section 3.4.4 becoming available for rent) to accommodate Boggabri's estimated share of new households, if they choose to rent. If demand remained strong in Boggabri, some current home owners or new investors may choose to let more properties on the rental market, offsetting demand. If this does not occur, rental price increases may occur in Boggabri, and excess demand is likely to flow over to Gunnedah or Narrabri. Of note, stakeholders would like to see families settle in Boggabri. It is recommended that Whitehaven encourages employees with families to settle in the local area as part of the on boarding process.

Peak demand for home purchase in Boggabri could see a requirement for approximately 19 homes. This would be experienced as benefit for home vendors but could see an increase in asking prices. At the LGA level, given ample stocks of residential land in both LGAs, negligible impacts on the housing market are expected as a result of the Project.

#### 4.5.5 Local and regional business opportunities

Whitehaven has advised that over the past five years it has spent more than \$1.5 billion in the North West region through wages, supporting local businesses and contributing to community and charitable causes. In the 2018 financial year, Whitehaven's expenditure in Gunnedah and Narrabri was approximately \$230 million and \$34 million, respectively, involving more than 350 local suppliers.

As detailed in the Economic Assessment (EIS Appendix J), quantification of flow-on effects of this expenditure to the local region is difficult. It was therefore not possible for the Economic Assessment to make a reliable statement about the extent to which the projected operating expenditures would benefit the Project Region. However, Analytecon's (2018) analyses indicate Whitehaven would incur operating expenditures of \$5,352 million in NPV terms for the Project, and that a share of this expenditure would be expected to benefit the local region (e.g. for construction services and supplies, transport support services, professional, scientific and technical services, repair and maintenance services and food and accommodation services).

With ongoing growth and adaptation of local businesses in response to the mining industry, benefits for businesses in the Narrabri and Gunnedah LGAs are likely. Whitehaven advises that 350 local suppliers have been part of its supply chain during the past 12 months.

Whitehaven currently conducts workshops for local suppliers, and would develop a supply chain register for the Project that categorises interested businesses from the local area (Gunnedah and Narrabri LGA), region (Tamworth, New England LGAs) and across the State. Construction contracts would be equitably awarded according to competency, however Whitehaven monitors and seeks to maximise its use of local resources. Indirectly, the construction workforce is also likely to provide a temporary but substantial stimulus to the health and vitality of local retail, hospitality and other commercial enterprises. During construction, Whitehaven would advertise contracting opportunities in a transparent and equitable way, and give due consideration to local suppliers where suitable local capacity exists.

During operations, it is anticipated that direct supply opportunities will be available to businesses based in the LGA study area and adjoining LGAs. Whitehaven's existing arrangements with local suppliers, which the Project will access, include a wide range of businesses including:

- construction services and supplies;
- transport support services;
- professional, scientific and technical services;
- repair and maintenance services; and
- food and accommodation services.

Whitehaven's use of local resources during the Project's operations would be monitored through its supply chain register. Given the high percentages of Indigenous residents in the local area, a local content commitment may also translate to increased business and employment opportunities for Indigenous people.

Indirect business benefits associated with the Project's operations are expected to be generated for retail, hospitality and other local commercial services. Local businesses may also benefit from the Project's employment and training opportunities, which encourage more young families (and therefore potential employees) to live locally and contribute to the sustainability of regional businesses.

Competition for skilled labour from the region's other industry sectors may occur, as many skills are transferable between industries. Research undertaken by Analytecon (2018) determined that the Project's impact to agricultural employment is expected to be low. However, SIA stakeholders noted that there were local shortages of tradespeople, which may be exacerbated by Project requirements. Labour draw would cause inconvenience to other employers and the potential for costs to recruit, train and replace staff lost to Project employment, however it should be a temporary effect as the labour market equalises.

The Project would operate in an existing industry and economic landscape including the number of existing and proposed mining/resource projects, which provides multiple opportunities in the region assisting in the attraction and retention of a skilled workforce. This is expected to drive ongoing access to attractive workforce wages and salaries that are characteristic of the mining sector. This represents a positive contribution, not only to local employment levels, but to community wellbeing and access to financial resources.

## **4.6 Health and wellbeing**

### **4.6.1 Physical health**

#### **Air Quality**

Changes to air quality have the potential to affect human and environmental health.

An Air Quality and Greenhouse Gas Assessment for the Project was undertaken by Ramboll Environ (2018) and is presented as Appendix E to the EIS. No exceedances of the EPA health-based air quality impact assessment criteria were predicted at any privately-owned receiver as a result of the Project (EIS Section 4.9.2). There are no privately-owned receivers or vacant land requiring acquisition or mitigation in accordance with the VLAMP.

Mitigation and management strategies for Project-related air quality impacts would include haul road watering, progressive rehabilitation, real-time air quality monitoring, meteorological forecasting and proactive air quality management.

Blasting activities have the potential to result in fugitive fume and particulate matter emissions. Best practice management measures would be incorporated into a Blast Management Plan to prevent emissions with the potential to affect human health (EIS Section 4.8.3). Flyrock would also be managed by appropriate blast design and blast execution in accordance with best practice blast management procedures (EIS Section 4.8.2).

#### **Water Quality**

The Project Water Management System is designed to contain water collected in the open cut as well as runoff from the active waste rock emplacement areas and the mine infrastructure areas for re-use on-site. The site water balance model results indicate that there would be no uncontrolled releases of this water from the Project Water Management System (EIS Section 4.5.2).

#### 4.6.2 Mental health

Research indicates that the impacts of major projects for people who oppose them can include increased stress levels, a sense of things happening beyond one's control and distress induced by environmental change.<sup>79</sup>

As identified during the engagement undertaken for this SIA, some nearby property owners described that they are experiencing stress and anxiety in relation to the perceived potential for impacts on their property's amenity. Property owners noted that they had experienced an extended period of uncertainty about whether the Approved Mine and/or the Project would proceed.

Anxiety is the most common mental health condition in Australia, and can have a temporary or prolonged effect on a person's quality of life and day-to-day functioning<sup>80</sup>. Whilst most people can cope well with a level of stress and anxiety, there is potential for stress related to the Project to affect individual and family wellbeing. Of note, particular, the current drought has strained the emotional resources of many local farmers.

Strategies that are recommended be employed by Whitehaven to address community concerns include:

- following EIS submission:
  - ongoing consultation and briefings to nearby land owners to communicate the findings of the EIS and any implications for their properties; and
  - on request, facilitating access to the EIS's Technical Reports.
- during construction:
  - transparent, evidence-based and ongoing dialogue with concerned property owners and other community members, based on the results of the EIS;
  - providing site tours for Whitehaven's existing mining assets to demonstrate how operational impacts are prevented and mitigated; and
  - maintaining a responsive and transparent complaints management process to facilitate resolution of community complaints relating to construction activities or personnel.
- during operation:
  - timely and regular provision of impact monitoring results (e.g. air, noise and water), with sufficient supporting information to enable community members' interpretation of how monitoring data relates to the Project's compliance requirements;
  - maintenance of the community complaints management process to facilitate resolution of community complaints; and
  - reporting to the Vickery CCC and the NSW DP&E regarding the resolution of community complaints.

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<sup>79</sup> University of Melbourne, Melbourne School of Government. 2018.

<sup>80</sup> Beyond Blue. 2018.

Whitehaven's commitments to impact mitigation, and ongoing engagement and information provision relating to specific areas of community concerns, are expected to reduce the potential for stress and anxiety, however concerns may persist for some community members regardless of these strategies.

#### **4.6.3 Benefits to wellbeing**

As discussed in Section 4.5.2, the Project represents a significant positive contribution to community wellbeing through an increase to local employment levels and access to greater financial resources, and through potential for increased population and community cohesion.

Access to stable employment supports physical and mental health by enabling housing security, self-development and social connections. In this context, the Project will support the wellbeing of its workforce and provide a level of comfort and security to their families. Whitehaven's employee support provider is also available to all personnel and their immediate families wanting to improve their mental health.

Whitehaven's Donations and Sponsorships program focuses on aspects of health, education, whole of community benefit and representative level Indigenous sport. As a major employer of in the region, and with a predominantly male Project workforce, it is recommended that Whitehaven continues to support mental health outcomes for its workers and nearby local communities. This would also consider the potential for impacts on mental health and wellbeing in the lead up to mine closure and prepare accordingly.

#### **4.6.4 Traffic safety**

The Road Transport Assessment undertaken for the Project (Appendix I of the EIS) determined that the Project is not expected to exacerbate any specific road safety concerns at any particular location. Notwithstanding, improvements as a result of existing road maintenance agreements with NSC and GSC would improve road safety for the sections of the Approved Road Transport Route that would be used for the Project (EIS Section 4.12.2).

Implementation of Whitehaven's Traffic Management Plan would govern the potential interaction between Project traffic and public traffic (EIS Section 4.12.2), including school buses, which could continue to operate on several of the roads in the vicinity of the Project. School buses would generally travel between 6.10 am and 9.00 am in the morning, and between 2.55 pm and 5.45 pm in the afternoon. Whitehaven's Code of Conduct also reinforces the requirement for personnel to community safety.

#### **4.6.5 Potential for impacts on vulnerable groups**

As described in previous sections, the prolonged drought in the Narrabri and Gunnedah LGAs has strained the mental and emotional resources of many farming people. Whitehaven has committed to a comprehensive program of engagement with local property owners to ensure they have access to information which may reduce their anxiety about the potential for the Project impact on their quality of life.

As noted in Section 4.5.4, if the Project's workforce demands cause a shortage of rental housing, there is potential to reduce housing choice and/or increase housing costs for low income households, including Aboriginal families. The analysis of housing impacts indicates that this is unlikely to be a significant impact at the LGA level, however Boggabri housing stocks will need to be monitored, and personnel encouraged to either purchase housing in Boggabri or settle in other local centres if a shortage of rental housing is identified.

## 4.7 Access to services and facilities

This section discusses the potential for the Project to impact on social infrastructure including health and emergency services, education and childcare services and Council services.

### 4.7.1 Health and emergency services

GP service provision rates in the Narrabri and Gunnedah LGAs are below the NSW average (Section 3.6.2), and consultation identified the constrained capacity of ambulance services to meet all local needs in a timely way.

#### Construction

The township of Boggabri is expected to experience increased demand for health and emergency services due to the construction workforce (i.e. up to approximately 450 personnel) that would reside at the Civeo Boggabri Village. It can also be expected that construction personnel in the Boggabri area would create regular demand on local GPs associated with minor illnesses, injuries and/or prescription renewals. Potential Project impacts identified by health service stakeholders included:

- increased presentations to the Gunnedah Hospital emergency department, with just one or two extra presentations resulting in a noticeable increase in workload against the currently constrained medical and nursing capacity; and
- stress on the medical and nursing workforce to care for non-resident construction workers who typically rely heavily on the nearest hospital, but may not be anticipated in health service resource plans.

The Boggabri Medical Centre (located within the Boggabri Multi-Purpose Health Service) notes that increased mining activity near Boggabri has increased demand for GP and occupational health services (including pre-employment health checks), which has led to an increase in their capacity from one to three doctors and an increase in the choice of doctors for the local community.<sup>81</sup>

As the Project's construction personnel would see an increase on the Civeo Boggabri Village's current numbers of approximately 100-200 personnel, an increase in demand for medical appointments could result. As at the end of July 2018, appointments were available at the Boggabri Medical Centre within one to two days, however any significant demand from the construction workforce may increase the Medical Centre's wait times. This should be monitored through engagement with the Medical Centre, with mitigating strategies (such as communication about workforce ramp-ups) provided to assist the Medical Centre's planning.

The Boggabri Multi-Purpose Health Service (which incorporates the Hospital) has only four acute beds, however any serious illnesses or injuries would be referred to larger hospitals (e.g. Gunnedah or Tamworth). There is potential for these services to be stressed by a substantial increase in demand associated with the Project construction workforce, which could result in longer waiting times for existing residents.

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<sup>81</sup> HealthEngine. 2018.



The Civeo Boggabri Village offers a catered dining room and access to fitness and recreation facilities which are designed to contribute positively to the health and wellbeing of workers staying there and indirectly reduce demand for local health services.

Project on-boarding should ensure that personnel are aware of the need to take care of routine health requirements in their home communities and mitigate demands on local services (see Section 5.3).

As noted in Section 3.6.4, Boggabri provides a base for police, ambulance and fire services, and policing services are provided across the Project region by the Narrabri and Gunnedah Police districts' officers. Police advised that construction of mining projects typically results in an increase in demand for police services (particularly with respect to traffic policing and oversize load escorts) and that if protests against the Project occurred, this would also represent a significant demand on Police resources. For ambulance staff, the three hour return trip to Tamworth Hospital for any major incident response is also likely to represent a resourcing challenge.

The early development of protocols and agreements between the Project, the workforce accommodation provider (Civeo) and local health and emergency services will help to ensure that Project demand is anticipated and potential impacts are appropriately managed in agreement with service providers. It is also recommended that Whitehaven develop ongoing consultative arrangements with Boggabri, Narrabri and Gunnedah police to ensure relationships are in place to support emergency responses.

Ongoing communication with Civeo, the Boggabri Multipurpose Centre and Boggabri Police and emergency services will help monitor demand and anticipate and respond to change in the cumulative context. Whitehaven is a major sponsor of the Westpac rescue helicopter service, which has a base in Tamworth, and supports emergency health and rescue work across the Project region.

## **Operation**

Based on the Project's workforce distribution scenario (Section 4.4.1), expected population increases from the operational workforce are very small in Gunnedah and Narrabri LGAs (Table 4-1). Whilst GP service capacity appears to be low in both LGAs, this low level of increased demand for health services at a LGA level is unlikely to result in a substantial impact on waiting times for existing residents.

For Boggabri, the in-migration of an estimated 71 new local residents (28 new households) as a result of the operation workforce would increase demand for local health services including GPs, hospitals, mental health services and allied health services.

Given Boggabri Medical Centre's current capacity (i.e. three permanent GPs), the increased demand associated with the operational workforce is unlikely to affect existing residents' access to health services. In terms of health service viability, longer-term demand generated by the Project's operational workforce would offset the decrease following completion of construction. It is recommended Whitehaven engages with local medical providers to establish which medical centre(s) are appropriate to direct its personnel toward for health checks to minimise pressure on local services.

Population increases in the order described are not expected to result in a significant increased demand for Police and other emergency services during operations.

Population increases in the Tamworth LGA as a result of operational personnel moving to Manilla or other communities would be negligible (approximately 40 people in total).

The Project is developing an emergency services protocol to mitigate demands on local services, and will consult with Boggabri Police, Ambulance and Rural Fire Services, as well as their regional commands, in finalising the protocol.



The Hunter New England – Gunnedah Health and Hospital Service identified the opportunity to work with Whitehaven to understand the workforce ramp-up which may affect local services, and clarify the provision of health and emergency services provided at the Project site for personnel. The opportunity for a partnership with Whitehaven to attract new doctors and nursing staff to the area was also identified.

#### **4.7.2 Education and childcare**

##### **Construction**

As the majority of the Project's construction workforce is expected to be non-local personnel accommodated at the Civeo Boggabri Village, increased demands on education or childcare services in Boggabri or other local towns are not expected.

##### **Operation**

The increase in new local residents associated with the Project's operational workforce is expected to contribute to demand for childcare, school enrolment places and training services, and other community services. Families with children represent approximately 40% of Narrabri and Gunnedah LGA households, so this percentage has been used to estimate the number of children and young people who may require childcare or education. On this basis, of the estimated 147 new households who may be attracted to the area of influence, approximately 60 may have children. Assuming two children per family, this could see a total of 120 children and young people join local communities. Primary and high school enrolments are likely to be shared between a number of schools in the Narrabri and Gunnedah LGAs. A disproportionate demand on any one school is unlikely due to the number of existing school facilities in the two LGAs (Section 3.6.1). Advice to the Regional Director of the NSW Department of Education would assist the Department in planning for increased enrolments.

In 2017, Boggabri Primary School had 115 enrolled students (with a maximum enrolment of 124 students in 2014<sup>82</sup>). In SIA consultation, it was noted that Boggabri Primary School had lost 20 enrolments over the past year. As indicated by the population analysis provide in Section 3.3.2, Project-related population influxes could see up to 20 new enrolments from 2020. This is expected to be within the school's current capacity for enrolments and support its sustainability.

Demand would also be generated for childcare places in the Gunnedah and Narrabri LGAs. As noted in Section 3.6.1, there are 14 childcare services in the Gunnedah postcode area of which nine centres had vacancies in March 2018, and at least 12 childcare services in the Narrabri postcode of which nine centres had vacancies. As such, demand for childcare services in both LGAs is likely to be spread across several childcare centres, however stakeholders noted a current shortage of childcare in both LGAs.

An increase in demand for childcare in Boggabri would result from the increase in new local residents associated with the operational workforce, and demand associated with the Project operational workforce may 'tip the threshold' for establishing a local childcare centre. Establishment of a new local childcare centre would generate local employment opportunities and provide support for existing local families to increase employment rates and earning capacity.

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<sup>82</sup> DEC (2018)

It is recommended Whitehaven engages with schools and local childcare providers to communicate information regarding the incoming operational workforce profile (e.g. number of family members and settlement location).

#### **4.7.3 Council and community services**

##### **Construction**

The Civeo Boggabri Village includes a general store, fitness and recreational facilities, laundry services and a catered dining area, which reduces demand on local venues and services and limits displacement of local users. Non-local construction personnel may access community facilities in Boggabri, such as sporting grounds and hotels. Venues are likely to welcome the extra patronage, however management of the number of personnel using community facilities at one time, may be required to ensure local residents are not discouraged from using from local venues. This is recommended to be addressed as part of the Workforce Code of Conduct for Project personnel (see Section 5.4).

Project construction personnel could be offered access to internal and confidential employee assistance, including family and/or financial counselling support. By making this targeted and confidential assistance available for all workers, potential demands to related local services would be limited.

Construction personnel demand on community services and facilities provided by GSC or NSC are expected to be negligible, given that typical construction shift times would be 12 hours, the Civeo Boggabri Village provides recreational spaces and a gym. Whitehaven would provide access to counselling services for its employees and would encourage its contractors to provide assistance services.

Off-site services including road connections, water and waste infrastructure have been implemented in accordance with the Civeo Boggabri Village's Development Approval. As such, planning and delivery of services by Civeo and NSC (assuming they are commensurate with the Civeo Boggabri Village's on-site population) will reduce impacts on other residents' access to these services.

##### **Operation**

Both Narrabri and Gunnedah LGAs have a broad range of community, cultural, recreational and family support services (Section 3.6.5), provided by a combination of Council, government and community agencies.

Community services which may experience increased demand as a result of the Project include libraries, pools, recreational venues and sports grounds, community centres, and family and individual support services.

New families who move to the Narrabri and Gunnedah LGAs are likely to induce a small incremental demand for services provided by Councils and community organisations. With the modest population influxes anticipated, the Project should not cause significant stress on community services and facilities.

Whilst health and childcare services were identified as being under strain, stakeholders did not identify any other deficits in Council or community services which would be exacerbated by the demands of Project personnel or their families who move to the LGAs.

Project-induced demand for Council services is part of the overall demand generated by households associated with Whitehaven's mining operations. Whitehaven has Voluntary Planning Agreements (VPAs) with the Narrabri and Gunnedah Shire Councils, which include provision of funding to assist with the development of local infrastructure in the LGA (to the value of approximately \$3.5 million during the last financial year). Funding provided under the VPA with NSC and through donations is expected to substantially offset Project-induced demand for Council services and facilities, and to contribute to community development.

In addition to the VPA payments, approximately \$445,000 has been donated across the areas of health, education, whole of community benefit and representative level Indigenous sport during the 2018 financial year.

## 4.8 Cumulative impacts

Cumulative impacts refer to the incremental changes to the level of social impacts, and to interactions between existing and proposed operations in the area of influence. Section 3.1.4 indicates the Project may commence construction and operations within a similar timeframe to five other major projects:

- the Narrabri Gas Project,<sup>83</sup> creating 1,300 jobs during construction and up to 200 ongoing positions;
- the Narrabri South Solar Farm<sup>84</sup> with a construction workforce of approximately 200 personnel, with four long-term maintenance personnel;
- the Narrabri to North Star Section and Narramine to Narrabri Inland Rail Projects, with a construction period of 2 years and employing approximately 180 construction personnel and a small number of operational personnel; and
- the Watermark Coal Project, which would be located in the adjacent Liverpool Plains LGA, and would require 600 construction personnel and 600 operational personnel.

The key determinant of cumulative social impacts in the local and regional context is the number and residential status of additional people staying temporarily or living in the region as a result of major projects. This affects:

- population characteristics (e.g. temporary or permanent increases in the number of residents or non-resident personnel in the region);
- the labour force (as discussed in Section 4.5.2);
- social infrastructure (e.g. health, police and emergency services and education and training services);
- housing (e.g. rental and purchase demand); and
- community values such as community cohesion.

The potential for cumulative social impacts is described in the following subsections.

### Construction

If the unlikely event that peak construction periods coincided for all proposed projects as identified during 2020-2021, the potential maximum required construction workforce would be in the order of approximately 2,800 personnel for the. Construction personnel would be drawn from a broad area within NSW and potentially other states, which would see a significant temporary increase in the Gunnedah and Narrabri LGA populations.

The Narrabri Gas Project anticipates that accommodation for its construction workforce would largely be addressed through the use of existing camp facilities in the Narrabri region, including the planned expansion of the Narrabri Accommodation Camp from 500 to 852 rooms.

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<sup>83</sup> NSW Department of Planning and Environment (2018). Major Projects Register. Santos Ltd 2018.

<sup>84</sup> NSW Department of Planning and Environment (2018). Major Projects Register. AlteNERGY.2018

It is unclear from planning documents where the Narrabri South Solar Farm would source and/or accommodate its construction workforce. Accommodation arrangements for the ARTC Inland Rail Project (Narrabri to North Star) construction workforce were not formalised in the EIS, but it was suggested rooms would be sought at existing accommodation villages in Boggabri and Narrabri.

The Watermark Coal Project EIS also stated that it would use existing workforce accommodation villages in the Narrabri and Liverpool Plains LGAs, including the proposed Werris Creek Accommodation Village which is approved for a capacity of 1,000 beds.

Assuming the majority of construction personnel would be drawn from outside the Narrabri and Gunnedah LGAs, and approximately 75% of workers would stay in the Narrabri LGA (given the location of large projects and workforce accommodation facilities), the cumulative construction workforce peak could represent up to 1,900 people in the Narrabri LGA, or a temporary population increase of around 14%. The remaining cumulative construction workforce is likely to be accommodated in the Liverpool Plains or Gunnedah LGAs.

As discussed in Section 4.5.2, the cumulative project context may also lead to competition for construction labour and skills both locally and regionally, and contribute to a greater influx of non-local hires that will affect (temporarily) the population gender balance and community character. These impacts will require careful monitoring in the lead up to and throughout the Project's construction period (see Section 5.4).

While the timing of each Project is dependent on regulatory approvals, if construction periods for all proposed projects occurred in a similar timeframe, the Narrabri and Boggabri areas would be vulnerable to substantial competition for workforce accommodation, with potential flow-over impacts on rental housing availability. As such, Whitehaven should secure its workforce accommodation contract at the Civeo Boggabri Village with Civeo as early as possible following Project approval and encourage additional non-local workers to access temporary accommodation options in Gunnedah, in preference over Narrabri or Boggabri.

There is potential for cumulative impacts on health services (i.e. demand for GPs and hospitals) and Police and emergency services, which would need to be monitored. In this regard, it is recommended Whitehaven provide advice to local service providers regarding the predicted construction workforce capacity.

There is also a possibility that local perceptions of community safety could be impacted due to large numbers of non-resident workers in towns where close community connections and familiarity are the norm. Local residents could feel alienated from local venues (such as clubs and hotels) due to the presence of large numbers of non-local workers. Accommodation of the majority of non-local construction workers in accommodation villages will reduce this potential and Whitehaven's Code of Conduct, as well as community engagement and investment initiatives, will also support community participation and community resilience.

## **Operations**

Coincidence of various projects' operational periods is likely, and would lead to small incremental increases in the Narrabri and Gunnedah LGA populations. This is likely to be experienced as benefit in the context of projected (very low) population growth rates in the two LGAs.

During operations (after the first 3 to 4 years of construction), the Narrabri Gas Project EIS predicted demand for housing to be generated by 25% of the workforce (i.e. 50 personnel) in Narrabri, which is expected to have capacity to absorb the housing demand. As housing demand from both the Narrabri Gas Project and the Vickery Extension Project would be modest and incremental, significant cumulative impacts on local housing availability or cost are not anticipated.

With the exception of the Watermark Coal Project which its EIS anticipated would introduce between 40 and 160 households to the Liverpool Plains, Gunnedah and Tamworth LGAs, the other three projects would have minimal demands for housing for operational personnel.

Cumulative population increases are expected to be modest, so cumulative impacts on social infrastructure capacity including police services, emergency services, schools, childcare centres, Council services and health services are expected to be low.

Regular engagement with potentially affected stakeholders regarding the Project's social monitoring results and workforce plans for the first two years of the Project would assist local services and the two Councils to anticipate and plan for cumulative impacts.

#### **4.9 Impacts of non-approval**

The social impacts of the Project not being approved include:

- the Gunnedah and Narrabri communities would forego the employment benefits which would result from the Project during construction and operation;
- businesses in the area of influence would forego the potential benefits of Project supply opportunities;
- the broader region and the State would forego the potential benefits of tax and royalty revenues;
- Councils would not benefit from any additional Whitehaven commitments made as part of VPAs for the Project; and
- local land owners would not experience potential amenity impacts.

#### **4.10 Impacts of Project Closure**

Assuming the operational workforce distribution outlined in Table 4-1 is sustained for the life of the Project, the mine closure would result in direct job losses for a total of up to 450 operational personnel residing in the area of influence.

Whitehaven estimates that the workforce ramp-down would commence around 8 years prior to closure, falling from a peak of 450 FTE jobs in Project Year 16 to around 350 FTE jobs from Project Year 17 and gradually declining thereafter to around 40 FTE jobs remaining prior to closure (Appendix J of the EIS).

Between the Gunnedah and Narrabri LGAs there were 1,351 mining jobs, and 583 people employed in the mining industry during 2016. The Tamworth LGA had a further 61 mining jobs and 280 people employed in mining during 2016. Whilst these figures will inevitably change by mine closure, and the loss of jobs will be gradual, a collective loss of up to 450 operational personnel is likely to be experienced as a significant loss to the region's mining labour force.

A proportion of the Project's flow-on employment benefits would also be affected by the Project's closure. The extent of these impacts would depend on whether these indirect jobs were solely dependent on the Project's operation in the lead up to closure.

Considering 70% of the operational workforce is expected to be drawn from the existing residential labour pool (Table 4-1), these residents would have pre-established and ongoing connections to their residential area and community. Some would also have partners and/or families who would have established community connections and possibly alternative incomes. It can therefore be assumed that a large proportion of the long-term residential workforce will seek other local employment within a daily driving range, to remain living within their community.

Some former employees and contractors would leave the Narrabri and Gunnedah LGAs in pursuit of alternative employment, but it is not possible to make a strong estimate of this proportion at this stage. While future employment and economic strengths of the Project's area of influence are unable to be predicted, the gradual ramp-down of employment over eight years would support a more positive transition for workers, who could plan for alternative employment.

The most significant impact with respect to employment after mine closure is likely to be experienced in the smaller community of Boggabri. Whilst other local employment is likely to be available for skilled mining workers, the Project's closure may lead to a population decrease in Boggabri, with consequential effects for established social networks and potential for a small decrease in local housing demand. If consultation with the Boggabri community indicates this is likely, it is recommended Whitehaven supports the Boggabri community to develop a transition strategy (e.g. promotion of the area's values to attract new residents and/or businesses to town).

Project closure would be followed by the completion of the Project area's rehabilitation to reduce impacts on visual amenity. Closure would also see the cessation of any noise or other impacts on nearby properties or residences.

#### 4.11 Evaluation of Significance of Social Impacts and Benefits

This section evaluates the significance of social impacts and benefits identified in preceding subsections, based on the SIA Guideline risk matrix, as shown in Table 4-3.

The risk matrix has been used to identify impacts with higher significance that require Project-specific social management strategies (as identified in Section 5). The Queensland Government's Social Impact Assessment Guideline (2013) provides a social risk matrix which incorporates definitions of social consequences (see Table 4-4) and has been used here to assess the significance of social impacts.

**Table 4-3: Social Risk Matrix**

			Consequence Level				
			1 Minimal	2 Minor	3 Moderate	4 Major	5 Catastrophic
Likelihood	A	Almost certain	A1	A2	A3	A4	A5
	B	Likely	B1	B2	B3	B4	B5
	C	Possible	C1	C2	C3	C4	C5
	D	Unlikely	D1	D2	D3	D4	D5
	E	Rare	E1	E2	E3	E4	E5
Significance of Social Impact Ratings							
Low			Moderate		High		

Source: Department State Development, Infrastructure and Planning (Qld.) Social Impact Assessment Guideline July 2013.

The likelihood of social impacts and opportunities occurring has been assessed with reference to EIS findings, stakeholder inputs and the SIA consultants' experience in assessing and monitoring the impacts of mining projects.

'Consequence', as defined in Table 4-4, has been assessed based on how the social impact may be experienced by the relevant stakeholder(s) by considering:



- the duration of impacts and benefits, being either short term (during the 12 months of construction) or long term (during the 25 years of operation); and
- sensitivity, including stakeholders' specific vulnerabilities and resilience to impacts;
- the severity of potential effects on quality of life in the area of influence, as supported by:
  - access to employment, housing and social infrastructure;
  - appreciation and enjoyment of surroundings;
  - physical and mental health; and
  - community values, including cultural heritage, community cohesion and rural character.

**Table 4-4: Consequence Definitions**

Rating	Impact (-)	Benefit (+)
1. Minimal	Local, small-scale, easily reversible change on social characteristics, or the values of the community of interest or communities can easily adapt or cope with change.	Local small-scale opportunities emanating from the project that the community can readily pursue and capitalise on.
2. Minor	Short-term recoverable changes to social characteristics and values of the communities of interest, or the community has substantial capacity to adapt and cope with change.	Short-term opportunities emanating from the project.
3. Moderate	Medium-term recoverable changes to social characteristics and values of the communities of interest, or the community has some capacity to adapt and cope with change.	Medium-term opportunities emanating from the project.
4. Major	Long-term recoverable changes to social characteristics and values of the communities of interest, or the community has limited capacity to adapt and cope with change.	Long-term opportunities emanating from the project.
5. Catastrophic	Irreversible changes to social characteristics and values of the communities of interest, or the community has no capacity to adapt and cope with change.	N/A

Source: Adapted from Department State Development, Infrastructure and Planning (Qld.) Social impact assessment guideline July 2013.

The result of the application of the social risk matrix is the level of significance of the social impact or benefit, which as per the Department State Development, Infrastructure and Planning (Qld.) Social impact assessment guideline July 2013, is ranked as 'low', 'moderate' or 'high'.

The outcomes of the evaluation of significance have been used to develop the Project-specific social management strategies described in Section 5.



In general, a 'high' social impact indicated that Project-specific social management is required to be implemented, which if successfully implemented by Whitehaven, would reduce the significance of the social impact to 'moderate'.

Table 4-5 summarises:

- identification of potential social impacts and benefits as a result of the Project proceeding or not proceeding;
- stakeholders potentially affected;
- an evaluation of the significance of the potential social impact and benefit, in consideration of Whitehaven's existing strategies and those identified in other EIS studies;
- identification of additional Project-specific social management strategies that may be required;
- an evaluation of residual significance, in consideration of Project-specific social management strategies; and
- the rationale for the evaluation of significance.

As per the SIA Guideline, the significance of the social impact or benefit has been viewed "from the perspective of those expected to be affected" (based on stakeholder input provided during consultation and in consideration of the outcomes of impact assessment for this SIA and other EIS studies).

Significance evaluation, which is based on the extent of impacts (area or number of people affected), can under-rate local impacts. This has been addressed by disaggregating the impacts and benefits for stakeholder groups in Table 4-5.

**Table 4-5 Evaluation of Social Impacts and Benefits**

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
<b>Construction</b>								
4.1.1	Surroundings – access and connectivity	Roadworks construction will require temporary road closures.	Local residents, other road users and emergency services	Road works managed in accordance with the conditions of development consent and Councils.	A2 (-)	Road closure notifications to properties in and accessing affected roads and emergency services before commencement of roadworks construction.	B2 (-)	Impacts confined to construction period and will be of short duration.
4.1.2	Surroundings – acoustic amenity	Noise affectionation from rail spur construction on Saturday afternoons and Sundays (two properties).  Construction noise is otherwise expected to meet criteria, however property owners near the rail spur may experience it as intrusive.	Two nearby residences	Management of Project environmental impacts in accordance with regulatory standards and conditions of development consent.	A2 (-)	Consultation with the owners of properties with a boundary within a 2 km of the Project rail spur will be undertaken prior to construction, to identify any feasible and reasonable property-specific mitigations to reduce the impact of construction noise.	B2 (-)	Property-specific mitigations would reduce level of impacts.  Impacts confined to the period when construction activities will be near properties.

Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.3.1	Culture – Aboriginal cultural values	Cultural heritage items in the Project area would be disturbed.	Kamilaroi people	Impacts on cultural heritage and environmental values will be mitigated in accordance with relevant legislation and EIS commitments.	A3 (-)	Engage with Kamilaroi people and other RAPs as per the methods established in the ACHA.	A2 (-)	Methods established in the ACHA are designed to reduce the impacts of disturbance to cultural heritage values.
4.3.3	Culture – historic heritage	Disturbance to historic heritage items and weatherboard home.	Boggabri Historical Society and the Gunnedah Museum	Impacts on historical heritage will be mitigated in accordance with legislative requirements and in accordance with recommendations in EIS Appendix K.	A2 (-)	N/A	A1 (-)	Items and house to be disturbed are not registered as heritage items/places.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.4.3	Community - cohesion	Non-local construction personnel will use local resources (e.g. housing and health services) but don't contribute to community life. They also patronise some local businesses which supports businesses' sustainability.	Boggabri community	Accommodation of construction personnel in the Civeo Boggabri Village  VPAs  Whitehaven sponsorships and donations	B2 (-)	VPAs and sponsorships and donations will include a focus on projects which support cohesion in Boggabri.	C2 (-)	Boggabri community have experience of interactions with non-local personnel.  Whitehaven funding for community projects is expected to offset impacts.

Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.5.2	Way of Life – employment	The creation of approximately 500 construction jobs will be a significant benefit for construction industry personnel and companies in the broader region, and will have positive flow-on effects for local business.	Narrabri and Gunnedah LGA labour force  Specialist construction workers from outside the region  Current and potential construction material/ equipment suppliers	Local and regional suppliers will be involved in the construction supply chain.	B4 (+)	Require construction contractors to engage with businesses in the area of influence.	A4 (+)	Mitigations will support an increase in the value of the Project's supply opportunities to local and regional businesses.
4.5.4	Way of Life – housing	Uptake of rental housing by non-local construction personnel would prevent families from settling in Boggabri.	Boggabri residents and community organisations	Secure accommodation in the Civeo Boggabri Village for all non-local construction personnel.	C3 (-)	Use of rental housing and caravan parks by construction personnel will be discouraged.	D2 (-)	Mitigations likely to minimise potential displacement of families.

## Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.5.5	Way of life – local and regional business opportunities	A share of Whitehaven's construction expenditure would benefit local and regional businesses. Construction workforce expenditure is also likely to benefit local businesses.	Construction companies, construction industry suppliers  Hospitality and retail businesses	Local and regional suppliers will be involved in the construction supply chain.	A3 (+)	Develop a supply register which includes a focus on business in Narrabri and Gunnedah LGAs.	A4 (+)	Local and regional business capacity likely to be strengthened by Project opportunities.
4.6.4	Health and wellbeing – traffic safety	Use of school bus routes by Project traffic with potential for safety issues with respect to bus stops and bus service	School students and families  Bus service operators	Traffic Management Plan	C3 (-)	Consultation with school bus operators to confirm bus routes, bus stops and service schedules, and identify any concerns which should be addressed in the Traffic Management Plan.	D2 (-)	Commitment to attend to this issue is expected to minimise risk.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.7.1 and 4.8	Access to services and facilities – health and emergency services	Construction personnel demand on GP, hospital, and Police and Ambulance services, with potential to constrain service capacity available to residents. Potential for cumulative impacts of multiple projects on services.	Narrabri and Gunnedah LGA residents  Boggabri, Gunnedah and Narrabri health services  NSW Health  NSW Ambulance  Westpac Rescue Helicopter Service		B3 (-)	Whitehaven advice to stakeholders on construction workforce ramp-up.  Monitor the contribution to demands on services, and participate in initiatives to address cumulative impacts.  Engage with Police to ensure optimal response to emergencies and other policing requirements.	C2 (-)	Boggabri Medical Centre has increased resources to meet mining industry needs. Other services may be able to increase resourcing levels with adequate notice of increased demand.



## Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.9	Impacts of non-approval	Local construction workers will forego Project employment opportunities. Gunnedah and Narrabri businesses would forego the Project's supply opportunities	Gunnedah and Narrabri construction businesses, construction industry workforce, local and regional businesses	N/A	A2 (-)	N/A	A2 (-)	Construction workers are highly mobile and are likely to have access to employment.  Other currently proposed major projects are likely to engage with local businesses.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
<b>Operation</b>								
4.1.1	Surroundings – access and connectivity	Increased travel distances of approximately 5 km along Hoad Lane and Blue Vale Road and 6 km with respect to the Braymont Road closure. Road closures for blasting are likely to inconvenience local road users and may interrupt police and emergency services transport.	Local residents, other road users and emergency services.	Notifications of road closures provided to all property owners on or accessed from roads to be closed. Access to all privately-owned properties would be maintained.	A2 (-)	Road closures due to blasting notified to all relevant stakeholders.	B2 (-)	As assessed for the Approved Mine, road closures would increase travel times by up to five minutes.  Occasional blasting-related road closures would delay drivers by up to 15 minutes.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.1.2	Surroundings – acoustic amenity	Nearby property owners noted that they expect to experience noise from the Project's mining area, MIA and rail spur operation as a detraction from the amenity of the area.	Residents within approximately 5 km of the Project	Noise Management Plan.  Management of Project environmental impacts in accordance with regulatory standards and conditions of development consent.	A4 (-)	On request, property-specific management plans to address impacts on amenity, and confirm communication and complaints procedures.  Noise monitoring at private properties at the request of property owners within 5 km of the Project including rail spur. Mitigation provided if exceedances of predicted noise levels are identified.  Community complaints procedure.	C3 (-)	Property-specific mitigation plans will be developed and implemented to reduce the effects of noise levels on local amenity.

## Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.1.2	Surroundings – acoustic amenity	Some property owners and family members are likely to experience blasting as intrusive, and potentially alarming in the early stages of operation.	Stakeholders as specified in the Blast Management Plan, including Property owners within a 5 km radius of the Project	Blast Management Plan.  Management of Project environmental impacts in accordance with regulatory standards and conditions of development consent.	A3 (-)	Whitehaven will provide blasting notifications to relevant stakeholders	A2 (-)	Noise thresholds will be specified in any Development Consent for the Project.  Blast overpressure / vibration within limits.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.1.3	Surroundings – visual amenity	Dwellings within a distance of 1 to 5 km from the Project are expected to have moderate to high levels of visual impact due to Project landforms, reducing to low visual impact following rehabilitation, which would occur progressively during operations (commencing with the Western Emplacement). Project lighting or 'glow' may be seen from some local residences.	Property owners within a 5 km radius	<p>Management of Project environmental impacts in accordance with recommendations made in EIS Appendix L.</p> <p>Progressive rehabilitation of Project landforms.</p> <p>On request and by agreement with property owners, planting of tree screens on privately-owned properties to reduce views to Project elements from residences.</p>	A3 (-)	Property-specific management plans addressing views to the Project and rail spur	C3 (-)	Property-specific mitigation plans may reduce visual impacts, and visual amenity impacts will reduce over time, however impacts on visual amenity and therefore enjoyment of properties may still result for residents near the Project.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.1.4	Surroundings - flooding	Negligible changes in flood level and velocity on privately-owned land is predicted, however property owners are anxious that flood modelling could be incorrect.	Property owners affected by Namoi River floods	Water Management Plan.	B3 (-)	Engage with property owners where any changes in flood level and velocity are predicted. Engage with Vickery CCC before finalising the Water Management Plan.	C3 (-)	Changes to flooding levels are expected to be negligible and engagement on flood modelling results should ease concerns.
4.2.1	Personal and property rights – water access	EIS predicts no change to water quality and minimal bore drawdowns predicted, however some land owners remain anxious regarding potential for Project to impact on Namoi River, the alluvium or water bores.	Properties near the Project area which rely on river water or groundwater	Ensure the Project is operated within environmental standards to avoid impacts on environmental qualities and water supply capacity.	B3 (-)	Regular community updates on issues such as water quality, hydrological monitoring and rail noise will be made available via the Vickery CCC meeting minutes, and via Whitehaven's website.	C3 (-)	The EIS provides comprehensive analysis demonstrating that the Project can operate, with the application of recommended mitigation strategies, within acceptable environmental standards.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.2.2, 4.4.2	Personal and property rights – effects on enjoyment of private property  Community – rural character	Enjoyment of private properties closest to the Project and of local rural character is likely to be affected as the result of a combination of audible noise and visual impacts.	Property owners within a 5 km radius	Management of Project environmental impacts in accordance with recommendations made in EIS Appendix L.  Management of noise.	B3 (-)	Consult with the owners of properties within 5 km of the Project and 2 km of the Project rail spur regarding their specific concerns and develop property-specific management plans for all interested property owners within this radius.	C3 (-)	Property-specific management plans are expected to reduce amenity impacts however visual amenity impacts and audible noise may persist until Project operations are complete.
4.2.3	Personal and property rights – landholder rights and aspirations	Property owners fear that market perceptions about coal mines' social or environmental impacts will affect the value of their properties, with consequent anxiety about their future financial security.	Property owners within a 5 km radius	Ensure the Project is operated within environmental standards to avoid or minimise impacts on environmental qualities and the amenity of properties.	B4 (-)	Ongoing engagement with property owners to monitor the effectiveness of mitigations in reducing noise, dust and visual amenity impacts.	C3 (-)	Concerns about property values may persist until property owners' concerns about environmental management are assuaged.



Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.2.4 Access to decision making	Personal and property rights – access to decision making	A number of property owners feel they have been excluded from consideration of the Project's impacts.	Property owners within a 5 km radius	Ongoing consultation with land owners.	A3 (-)	During EIS exhibition, provide detailed information to nearby property owners and seek their feedback on mitigations and outstanding concerns.	C3 (-)	The Project's engagement plan will include targeted measures to ensure nearby property owners have ongoing access to engagement about the Project.
4.3.2	Culture – Aboriginal social use of Project area	Kamilaroi people's access to the Namoi River via the TSR would be interrupted due to safety issues.	Kamilaroi people	Maintain ongoing access between the TSR and Blue Vale Road through Whitehaven-owned land, subject too operational and safety requirements.	A3 (-)	Notify community members when the TSR alternative will be closed and re-opened.	A2 (-)	Disruptions to access (due to safety requirements) likely to be intermittent / temporary.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.4.1	Community - population size	Small permanent population increases are likely in the Gunnedah and Narrabri LGAs as a result of personnel in-migration.	GSC and NSC Local businesses Local communities	Commitment to local employment.	B3 (+)	Encourage in-migrating personnel to relocate permanently to the Narrabri and Gunnedah LGAs.	A3 (+)	Population increases would be welcomed by Councils and communities.
4.4.3	Community – community cohesion	Personnel migrating to local towns are likely to include a high proportion of couples and families. who would make positive contributions to community cohesion.	GSC and NSC Local businesses Local communities	Commitment to local employment. Whitehaven's sponsorship and donations policy.	B2 (+)	Whitehaven's sponsorship and donations policy includes a focus on programs which support whole of community benefit, including in Boggabri.	A3 (+)	Both in-migrating families and Whitehaven funding of community projects are likely to support cohesion.

## Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.4.3	Community – cohesion	Differences of opinion about the Project and/or increased travel times between local properties may affect neighbourhood cohesion.	Property owners within approximately 5 km of the Project	Ongoing consultation.	B3 (-)	Stakeholder engagement strategy.	C2 (-)	Whitehaven funding of community projects is likely to support cohesion. Patterns of social interaction are likely to adapt over time.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.5.1	Way of life – rural way of life	<p>There is no potential for direct impacts on farming practices or family activities.</p> <p>Property owners anticipate that noise may interrupt family or social activities, or affect enjoyment of the local environment.</p> <p>Local people would have access to alternative employment to support continued farming.</p>	Property owners within 5 km of the Project	Ensure the Project is operated within environmental standards to avoid or minimise impacts on environmental qualities and the amenity of properties.	C3 (-)	Implement property-specific management plans and engage with nearby property owners to ensure any unanticipated environmental impacts are addressed.	C2 (-)	Whitehaven's engagement strategies and mitigation commitments should ensure that any unexpected impacts on residents' way of life are identified and addressed.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.5.2	Way of Life – employment	The creation of approximately 450 direct jobs and additional flow-on jobs will be a significant benefit to the Narrabri and Gunnedah LGA communities.	Narrabri and Gunnedah LGA labour force NSC and GSC	Commitment to local employment.  Apprenticeships (approx. 20 FTE) and training opportunities throughout the Project.  Cadetships, scholarships	A3 (+)	Recruitment promoted on the Whitehaven website, in local and regional media, and via local recruitment and job support agencies.	A4 (+)	Project employment will support and enhance wellbeing of personnel and families.  Apprenticeships, cadetships, scholarships, work placements and training will create employment pathways for local young people.
4.5.3	Way of Life – Indigenous employment	Up to 50 positions for Indigenous people are likely to be created, with consequent benefits for the wellbeing of Indigenous families.	Aboriginal and Torres Strait Islander jobseekers and families.	Aboriginal Employment Strategy.  Cultural awareness strategies.	A4 (+)	N/A	A4 (+)	Potential for decrease in Indigenous unemployment in the two LGAs.

Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.5.4	Way of Life – housing	Negative impacts on regional housing stocks are expected to be minimal. There is potential for rental housing demands to exceed supply in Boggabri.	Tenants and aspiring tenants in Boggabri	None identified.	C3 (-)	Advise Council and real estate agents of workforce ramp up and provide information on housing availability to in-migrating personnel.	C2 (-)	Rental housing availability is expected to adjust to demand over time.
4.5.5	Way of life – business opportunities	Project supply opportunities will support the vitality and growth of local and regional businesses.	Local and regional businesses, chambers of commerce and progress associations within the area of influence.	Continued arrangement with Whitehaven's existing suppliers.	A3 (+)	Enhancement strategies which will increase local and regional businesses' access to supply opportunities as identified in Section 4.5.5.	A4 (+)	Mitigation strategies are likely to increase the representation of capable local and regional businesses in the Project's supply chain.

Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.6.2	Health and wellbeing - mental health	Families near the Project area are experiencing stress and anxiety about the potential for impacts on amenity and property values.	Property owners and families within 5 km of the Project	Ensure the Project is operated within environmental standards to avoid or minimise impacts to the amenity of properties.	A3 (-)	Property-specific management plans. Ongoing engagement and provision of information relating to property owners' specific concerns.  Whitehaven provides access to mental health services for employees and their immediately families.	C3 (-)	Anxiety may reduce over time if property owners are satisfied with Project mitigations.
4.6.3	Health and wellbeing – benefits to wellbeing	The availability of long term, employment opportunities is expected to have direct positive effects on wellbeing for employees and their families, as well as for local business owners.	Individuals and families in the Gunnedah and Narrabri LGAs  Local businesses  Local communities	Commitment to local employment, Aboriginal employment and apprenticeships / cadetships.  Sponsorship and donations program.	A3 (+)	Local and regional business register.	A4 (+)	Long term local employment and local supply opportunities will benefit some hundreds of local families.



# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.6.4	Health and wellbeing – traffic safety – school buses	There is potential for interaction between school buses and Project traffic during morning and afternoon school travel periods.	School bus operators  School students and families	Traffic Management Plan  Road maintenance agreements with NSC and GSC to improve road safety for sections of the Approved Road Transport Route	C4 (-)	Traffic Management Plan will specifically address school bus routes, stops and services, as outlined for the construction period.	D4 (-)	Traffic Management Plan provisions and the familiarity of local personnel and regular suppliers with school bus routes will reduce the risk.
4.6.5	Health and wellbeing - potential for impacts on vulnerable groups	Property owners, some of whom are already stressed by the drought, will feel anxiety about their property's amenity and value.	Property owners nearest to the rail spur or MLA 1	Ensure the Project is operated within environmental standards	A4 (-)	Property-specific management plans to address the specific concerns of each property owner. Consistent, timely responses to property owners' concerns and complaints.	C3 (-)	Provision of scientific information may reduce concerns, however some anxiety is likely to persist.

Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.6.5	Health and wellbeing - potential for impacts on vulnerable groups	Potential for any rental housing demands to displace low income households including Indigenous people.	Low income households	Consultation with Councils regarding rental housing availability.	C3 (-)	Monitoring of rental housing availability. Re-direction of personnel to live in larger centres if housing shortages identified.	D3 (-)	Awareness of housing availability will support responses to avoid impacts on vulnerable households.
4.7.1	Access to services and facilities – health and emergency services	Incremental increased demand on services due to population growth	NSW Health services, GP clinics, NSW Police, NSW Ambulance Service, Westpac Rescue Helicopter Service, Fire Services and RFS	Ongoing consultation.	B2 (-)	Liaison with stakeholders to advise on workforce ramp-up.	C1 (-)	Population increases would be small and incremental. Advice on workforce ramp-up will support services to plan for growth.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.7.2	Access to services and facilities – education and childcare	Incremental increased demand for school enrolments. Increased demand for childcare in context with childcare shortages.	Whitehaven personnel Childcare service operators and clients NSW Education	Support for training of childcare staff to be employed by the planned childcare centre in Boggabri.	B2 (-)	Liaison with stakeholders to advise on workforce ramp-up.	B1 (-)	Population increases would be small and incremental. Advice on workforce ramp-up will support services to plan for population growth.
4.7.3	Access to services and facilities – Council and community services	Incremental increased demand for Council and community services	GSC, NSC Government and community services providers	VPAs Whitehaven sponsorships and donations program.	B2 (-)	Advice to Council and social infrastructure stakeholders on workforce ramp-up and indicative numbers of new local personnel.	B1 (-)	Whitehaven's commitments are likely to offset increased demand and advice on workforce ramp-up will support planning for population growth.

Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.8	Cumulative impacts	Cumulative population impacts are likely to be distributed between several LGAs.	GSC, NSC, TRC, LPSC  Government and community services providers	Ongoing consultation.	C4 (-)	Co-operation in forums and strategies which address cumulative social impacts.	C3 (-)	Cumulative Project benefits are likely to offset cumulative impacts.
4.9	Impacts of non-approval	The Gunnedah and Narrabri communities would forego the Project's employment benefits and supply opportunities.	GSC, NSC  Labour force and families  Local and regional businesses	N/A	C3 (-)	N/A	C3 (-)	Foregone benefits represent a potential boost to community wellbeing.
4.9	Impacts of non-approval	Local land owners would not experience noise or visual impacts, and fears about the Project's perceived and/or likely impacts would cease.	Property owners and families within 5 km of the Project	N/A	C3 (-)	N/A	C3 (-)	Approved Mine approved for development.  Some land owners would experience considerable relief of stress if the Project does not proceed.

# Vickery Extension Project SIA

SIA Section	Impact area	Social Impact/Benefit	Stakeholders	Whitehaven commitments	Significance	Project-specific Social Management Strategies	Residual Significance	Rationale for residual significance level
4.10	Impacts of Project closure	Loss of jobs and supply opportunities. Minimal population decrease expected, but could be higher in Boggabri.	Project employees and suppliers	Closure Plan	C3 (-)	Prior advice to workforce on ramp-down and engagement aligned with development of Closure Plan	C1 (-)	Workforce ramp down is expected to be gradual over several years.
4.10	Impacts of Project closure	Completion of the Project area's rehabilitation would reduce impacts on visual amenity. Closure would also see the cessation of any noise or other impacts on nearby properties or residences.	Property owners and families within 5 km of the Project	Mining Operations Plan and Closure Plan	A3 (+)	N/A	A3 (+)	Improvements to visual amenity due to rehabilitation, and cessation of any noise effects.

## 5. MANAGEMENT STRATEGIES

This section presents six management strategies, which aim to:

- mitigate and manage the Project's social impacts on local communities and stakeholders;
- maximise local employment, and encourage non-local employees to move to local communities; and
- ensure that opportunities associated with the Project deliver long-term benefits for local communities.

These strategies are presented as they relate to:

- Stakeholder Engagement and Community Participation;
- Neighbour Amenity and Quality of Life;
- Community Infrastructure and Wellbeing;
- Housing and Workforce Management;
- Local Business Opportunities; and
- Mine Closure.

Each strategy includes:

- a summary of the relevant impacts and opportunities, management objectives, relevant corporate and Government Policies. Additional context and detail are provided in the relevant subsections of Section 4; and
- an action plan which describes the planned actions, relevant stakeholders, timing and performance measures for each action.

To facilitate cross-referencing and monitoring, a numbering system has been used to structure and track objectives and actions. For example, BO1 refers to Local Business Objective 1 and BA1 refers to Local Business Action 1.

A framework for monitoring change in social conditions is provided in Section 5.7.

The management strategies and progress against their performance measures will be reviewed on an annual basis.

A comprehensive review of social impact management strategies will be undertaken in Year 3 of operations, in consultation with the Vickery CCC, GSC and NSC, and strategies will be revised as necessary for Years 4 – 10. Revision of management strategies will also be undertaken three to five years before the Project's planned closure, and amended to reflect current social conditions.

## 5.1 Stakeholder Engagement and Community Participation

This section addresses the Project's potential impacts and opportunities associated with community and stakeholder relationships. Table 5-1 provides a framework to guide the Project's engagement and community participation strategies, including overarching objectives and complementary corporate and government policies.

Table 5-2 sets out the key actions the Project will undertake to achieve each objective, including timeframes for implementation and key stakeholders that will be involved. Each action includes a target to measure the success of its delivery.

**Table 5-1: Stakeholder Engagement and Community Participation Framework**

<b>Potential Impacts and Opportunities</b>	Potential impacts: Property owners' distrust in Whitehaven's environmental modelling and management, with resulting concerns and anxiety about impacts on amenity and quality of life.	Potential opportunities: Improved relationship between Whitehaven and stakeholders. Contribution to community cohesion in Boggabri and the Project region.
<b>Objectives (O) (S – Stakeholder Engagement and Community Participation)</b>	SO1 – Provide transparent, consistent and inclusive stakeholder engagement which ensures all stakeholders have access to current and sufficient information about the Project, its activities, workforce and schedule to support impact management and monitoring. SO2 – Ensure stakeholders have direct access to Project representatives who can answer their questions about the Project and its potential impacts, and will convey their concerns to Whitehaven. SO3 – Ensure stakeholder issues and grievances are identified, evaluated, addressed, recorded and reported such that the Project can demonstrate how Whitehaven is responding to stakeholder feedback. SO4 – Build relationships which support communication, information sharing and feedback to assist decision making with regard to construction and operational impacts. SO5 – Facilitate opportunities for interaction between WHC employees and local residents to contribute positively to community cohesion and development.	
<b>Relevant Company Documents/ Policies</b>	Donation and Sponsorship Policy and Guideline.	Project EIS for Public Display.
<b>Key Government Policies</b>	NSW Community Consultative Committee Guidelines for State Significant Projects.	



**Table 5-2: Stakeholder Engagement and Community Participation Actions**

Objectives	Actions	Stakeholders	Timing	Performance Measures
<b>SO1</b>	<b>SA1 – Consultation on EIS findings</b> <ul style="list-style-type: none"> <li>Ensure local property owners within 5 km of the Project, 2 km of rail infrastructure and Indigenous representative groups are made aware of the EIS exhibition period and have access to Project staff to discuss the findings.</li> <li>On request from nearby property owners, facilitate access to the EIS's Technical Reports.</li> <li>Offer to meet with the Boggabri Farming and Community Group to discuss their concerns about the Project and agree a forward engagement program.</li> <li>Offer to meet with the Boggabri Business Promotion and Community Progress Association and Chambers of Commerce to discuss how the Project can contribute to community cohesion and businesses vitality in local communities.</li> <li>Initiate contact with other relevant stakeholders to alert them to the EIS exhibition and offer to meet to discuss any concerns.</li> </ul>	Property owners within 5 km of Project area and / or 2 km of rail infrastructure Business promotion groups Other relevant stakeholders	Q3 2018	Number of meetings held
	<b>SA2 – Construction communication and engagement program</b> <ul style="list-style-type: none"> <li>Maintain transparent, evidence-based and ongoing dialogue with concerned property owners and other community members, based on the results of the EIS.</li> <li>Use appropriate media to disseminate current Project information and demonstrate how community feedback has been considered in Project execution.</li> <li>Provide site tours for Whitehaven's existing mining assets to demonstrate how operational impacts are prevented and mitigated.</li> <li>Prior to construction work on any local roads, provide information about the road closures, Blue Vale Road re-alignment and the road works program to all residents on the affected roads, along with contact details for the Project and details of Whitehaven's complaints mechanism.</li> </ul>	Property owners within 5 km of Project Interested community members	2019-20	Site tour participation rates No. of complaints about Project activities Provision information on road construction to all potentially affected stakeholders

## Vickery Extension Project SIA

	<p>SA3 – Operations communication and engagement program</p> <ul style="list-style-type: none"> <li>• Inform the CCC of status of the implementation of the social impact management strategy.</li> <li>• Regular updates to the local community through Whitehaven's website and local media.</li> <li>• Maintain regular liaison (as agreed) with nearby property owners.</li> <li>• Provide blasting notifications including information on road closures at least 24 hours in advance to provide predictability and increase residents' level of comfort with blasting events</li> <li>• Timely and regular provision of impact monitoring results (including air quality, noise, vibration and groundwater), with sufficient supporting information to enable community members' interpretation of how monitoring data relates to the Project's compliance requirements, through the CCC and Whitehaven's website.</li> </ul>	All stakeholders	Life of Project	<p>Regular community updates provided</p> <p>Liaison as agreed with property owners</p> <p>Key stakeholders notified 24hr in advance of blasting</p>
<b>SO2</b>	<p>SA4 – Dedicated contact points</p> <ul style="list-style-type: none"> <li>• Establish and publicise a dedicated Project complaint and enquiry line which is available to all stakeholders.</li> </ul>	<p>Property owners within 5 km of Project</p> <p>Community members</p>	Life of Project	Project collateral promotes contact points
<b>SO3</b>	<p>SA5 – Complaints procedure</p> <ul style="list-style-type: none"> <li>• Establish a complaints management process to facilitate resolution of community complaints relating to Project activities or personnel.</li> <li>• Maintain and publish the Project's complaints register online, including information about the nature of the complaint and responsive actions.</li> <li>• Report to the Vickery CCC and the NSW DP&amp;E regarding community complaints.</li> </ul>	<p>Property owners within 5 km of Project</p> <p>community members</p> <p>Vickery CCC</p> <p>NSW DP&amp;E</p>	Life of Project	Complaints register is reported online
<b>SO4</b>	<p>SA6 – Cooperation on cumulative impacts</p> <ul style="list-style-type: none"> <li>• Participate in Government/Industry forums to address cumulative impacts.</li> <li>• Provide a 6-12 month forward activity schedule for the Project including (as best is known at the time) workforce and accommodation arrangements to relevant stakeholders.</li> </ul>	<p>Interested community members and relevant stakeholder forums</p>	As convened	Evidence of engagement government/industry initiatives to address cumulative impacts

<b>SO5</b>	<p>SA7 – Support community cohesion and development</p> <ul style="list-style-type: none"> <li>• Engage with Boggabri Business Promotion and Community Progress Associations to identify initiatives to improve business vitality and community cohesion.</li> <li>• Engage with local school and community services to identify opportunities for Whitehaven staff to participate in local development initiatives.</li> <li>• Encourage workforce and community interactions by promoting RFS membership and supporting employees' participation in community initiatives.</li> <li>• Engage with local businesses to identify non-resident worker needs and local spend opportunities.</li> <li>• Support local initiatives that facilitate non-resident workforce and community interactions on local community projects including in Boggabri.</li> <li>• Work with local community and business stakeholders to promote community values, character and environmental qualities to encourage employee interaction and local settlement.</li> </ul>	Local community and service providers	Life of Project	Evidence of engagement with key stakeholders regarding scope of SA7 and support for local initiatives
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## 5.2 Neighbour Amenity and Quality of Life

This strategy addresses the impacts and opportunities identified by the SIA in relation to maintaining neighbour property owners' rights to quiet enjoyment of their private property and continued quality of life. Table 5-3 provides the framework that will guide the Project's neighbour amenity and quality of life strategies including overarching objectives and complementary corporate and government policies.

Table 5-4 sets out the key actions the Project will undertake to achieve each objective and deliver this management strategy, which articulates timeframes for implementation and key stakeholders that will be involved. Each action includes a target to measure the success of its delivery.

**Table 5-3: Neighbour Amenity and Quality of Life Framework**

<b>Potential Impacts and Opportunities</b>	<p>Potential impacts:</p> <p>Visual amenity impacts for property owners within 5 km of the Project.</p> <p>Nuisance and amenity impacts (noise and lighting) for neighbours, irrespective of regulatory compliance.</p> <p>Landholder anxiety regarding access to water resources.</p>	<p>Potential opportunities:</p> <p>Strengthen company credibility and trust in relationships with property owners.</p> <p>Involve land owners in environmental and social impact monitoring.</p>
<b>Objectives (O) (N – Neighbour Amenity and Quality of Life)</b>	<p>NO1 – Develop good neighbour relations based on regular, transparent and responsive engagement.</p> <p>NO2 – Minimise amenity impacts at neighbouring properties through monitoring, engagement and adaptive management.</p> <p>NO3 – Allay anxiety regarding Project impacts on property values, water resources and future planning.</p>	
<b>Relevant Company Documents/ Policies</b>	Vickery Extension Project EIS.	BTM Complex Environmental Management Strategies (Boggabri, MCCM, Tarrawonga).
<b>Key Government Policies</b>	NSW Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments (Integrated Mining Policy, 2014).	Community Consultative Committee Guidelines for State Significant Projects.

**Table 5-4: Neighbour Amenity and Quality of Life Actions**

Objectives	Actions	Stakeholders	Timing	Performance Measures
<b>NO1</b>	<p>NA1 – Neighbour engagement on EIS findings</p> <ul style="list-style-type: none"> <li>Engagement strategies as per SA1.</li> <li>During the EIS exhibition period, meet with the owners of all properties that have homes within 5 km of the Project and 2 km of the Project rail spur to: <ul style="list-style-type: none"> <li>Provide a detailed explanation of the Project's design, construction and operational activities;</li> <li>Provide information about the Project's design solutions and mitigations that address the potential for: <ul style="list-style-type: none"> <li>change to overland flow patterns and exacerbation of flooding;</li> <li>noise from the rail spur, train load-out facility, MIA, pits and embankments;</li> <li>views to the Project including the rail spur;</li> <li>changes to air quality (dust and diesel emissions);</li> <li>seek land owners' feedback and inputs on mitigation strategies;</li> </ul> </li> </ul> </li> <li>identify land owners' outstanding concerns; and</li> <li>agree on a property mitigation and engagement plan to address those concerns.</li> </ul>	Property owners within 5 km of the Project and 2 km of the Project rail spur	Q3 2018	Number of briefings held
	<p>NA2 – Neighbour engagement program</p> <ul style="list-style-type: none"> <li>Maintain a regular program of neighbour engagement (e.g. at least six monthly or as agreed with each landholder) throughout the Project's construction and operation.</li> <li>Provide sufficient information regarding Project activities, workforce, scheduling, expected impacts and management strategies to enable informed input from land owners regarding impact management at their property.</li> <li>Meet as agreed with the Boggabri Farming and Community Group.</li> </ul>	Property owners within 5 km of the Project and 2 km of the Project rail spur	Life of Project	No. of meetings held

Objectives	Actions	Stakeholders	Timing	Performance Measures
NO2  NO3	NA3 – Property-specific management plans <ul style="list-style-type: none"> <li>Development of a strategy for ongoing communication with local land owners (e.g. within 5 km of the Project mining area and approximately 2 km of the Project rail spur) to discuss property specific issues and mitigation plans where required.</li> <li>On the request by property owners, develop property-specific management plans to address property owners concerns about (as relevant) visual amenity, acoustic amenity and dust</li> </ul>	Property owners within 5km of Project and 2 km of Project rail spur	By commencement of operations	Property-specific management plans established on request
	<ul style="list-style-type: none"> <li>Establish and publicise a dedicated Project complaint and enquiry line to assist with immediate and adaptive impact management, if and when required.</li> </ul>		Life of Project	
	NA5 – Improvements to landscape and amenity values <ul style="list-style-type: none"> <li>Work with environmental specialists and interested neighbouring land holders to develop mitigations (e.g. tree screening) which minimise impacts on landscape and amenity values at private properties.</li> </ul>	Property owners within 5 km of Project and 2 km of Project rail spur	Life of Project	Evidence of engagement with key stakeholders to scope project and outcomes

### 5.3 Community Infrastructure and Wellbeing

This strategy addresses the impacts and opportunities identified by the SIA to manage additional demand for services associated with the Project, and to focus a positive contribution to community wellbeing, particularly in Boggabri. Table 5-5 provides the framework that will guide the Project's community infrastructure and wellbeing strategies including objectives and complementary corporate and government policies.

Table 5-6 sets out the key actions the Project will undertake to achieve each objective and deliver this management strategy, which articulates timeframes for implementation and key stakeholders that will be involved. Each action includes a target to measure the success of its delivery.

**Table 5-5: Community Infrastructure and Wellbeing Framework**

<b>Potential Impacts and Opportunities</b>	<p>Potential impacts:</p> <p>Non-local workers' demand for services including GPs, hospitals and emergency services.</p> <p>During operations, additional demand for childcare, family support, community, education and training and health facilities.</p> <p>Cumulative impacts on health, police and emergency services</p>	<p>Potential opportunities:</p> <p>Support for local agency initiatives to offset Project demand for community, health and emergency services.</p> <p>Contribute positively to community wellbeing.</p>
<b>Objectives (O) (C – Community Infrastructure and well-being)</b>	<p>CO1 – assist agency planning (DP&amp;E, Education, Health, and Police) through regular provision of workforce data and consultation</p> <p>CO2 – manage workforce and associated population demand for local services and facilities.</p> <p>CO3 – support local initiatives that contribute positively to community wellbeing.</p> <p>CO4 – participate in monitoring community infrastructure impacts in the Narrabri and Gunnedah LGAs arising from cumulative resource developments in the area.</p>	
<b>Relevant Company Documents/ Policies</b>	Vickery Extension Project EIS for Public Display including management strategies (Air Quality, Noise and Blasting, Groundwater, Surface Water, Flood).	BTM Complex Environmental Management Strategies (Boggabri, MCCM, Tarrawonga).
<b>Key Government Policies</b>	<p>2017 NE NW Regional Plan.</p> <p>2012 SRLUP.</p> <p>Narrabri Shire Community Strategic Plan – 2017 – 2027.</p> <p>Narrabri Shire Economic Development Strategy 2011.</p> <p>Narrabri Shire Social Plan 2010-15.</p>	<p>Gunnedah Community Strategic Plan 2017-2027.</p> <p>Gunnedah Shire Delivery Program 2017–2021 and Operational Plan 2017/18.</p>

**Table 5-6: Community Infrastructure and Wellbeing Actions**

Objectives	Actions	Stakeholders	Timing	Performance Measures
<b>CO1</b>	<b>CA1 – Construction workforce</b> <ul style="list-style-type: none"> <li>Engage with stakeholders to understand data requirements to support service planning, and provide workforce data as available and required.</li> <li>Engage with Narrabri Police to ensure emergency response plans and relationships between Whitehaven and the Police enable proactive responses to any community safety issue (e.g. traffic behaviour, behaviour in towns, or protest actions)</li> <li>Consult Narrabri Police regarding Emergency Management Plan, including consultation on the storage and security of dangerous goods, and Traffic Management Plan</li> </ul>	GSC, NSC and relevant service planning stakeholders	2019-2020	Data provided as available and as required  Narrabri Police consulted on Emergency Management Plan and Traffic Management Plan
	<b>CA2 – Operational workforce</b> <ul style="list-style-type: none"> <li>Engage with stakeholders to understand data requirements to support service planning and provide data as available and required.</li> <li>Maintain close communication with Police with regard to potential for protests</li> </ul>	GSC, NSC and relevant service planning stakeholders	2020-2023	Data provided as available and as required
<b>CO2</b>	<b>CA3 – Support local community infrastructure</b> <ul style="list-style-type: none"> <li>Allocate funds for local infrastructure providers via VPAs and via Whitehaven's sponsorships and donations.</li> </ul>	GSC and NSC	Life of Project	Evidence of allocation of funds for local community infrastructure
	<b>CA4 – Support educational and childcare services</b> <ul style="list-style-type: none"> <li>Provide support for community services via VPAs.</li> </ul>	GSC, NSC and community members	Life of Project	Evidence of allocation of funds for local services
	<b>CA5 – Support local community development initiatives</b> <ul style="list-style-type: none"> <li>Meet with local schools to scope role modelling programs for positive early years development, where required.</li> <li>Engage Schools and Winanga-Li Aboriginal Child and Family Centre in scoping options for integrating a cultural confidence program.</li> </ul>	Local schools and Winanga-Li Aboriginal Child and Family Centre	2019, for Life of Mine	Evidence of engagement with key stakeholders on scoping local initiatives



## Vickery Extension Project SIA

Objectives	Actions	Stakeholders	Timing	Performance Measures
	<ul style="list-style-type: none"> <li>Work with local business stakeholders on town promotion campaigns, emphasising available community resources and healthy environment qualities, where requested.</li> </ul>			
<b>CO3</b>	CA6 – Environmental health education and promotion <ul style="list-style-type: none"> <li>Work with business and industry stakeholders on public education initiatives illustrating region's water resource management, where appropriate.</li> <li>Scope interest from local high schools and Australian Student Environment Network in focused environmental monitoring projects along the boundary of the mining lease and Vickery State Forest.</li> </ul>	Boggabri Business Promotion and Community Progress Association	2019 - 2021	Evidence of engagement with key stakeholders on scoping environmental education initiatives
<b>CO4</b>	CA7 – Participate in forums with NSC, GSC, DP&E and regional mining and resource operators in regard to community infrastructure impacts as required.	NSC, GSC, DP&E, other mining and resource operators	2019-2024	Evidence of engagement and collaboration with relevant parties for monitoring and responding to cumulative impacts on community services and infrastructure.

## 5.4 Housing and Workforce Management

This strategy addresses the impacts and opportunities identified in relation to workforce accommodation during construction and operations, workforce behaviour management and community cohesion, and opportunities for local employment, workforce diversity and skill development.

Table 5-7 provides the framework that will guide the Project's housing and workforce management strategies including overarching objectives and complementary corporate and government policies. Table 5-8 sets out the key actions the Project will undertake to achieve each objective and deliver this management strategy, which articulates timeframes for implementation and key stakeholders that will be involved. Each action includes a target to measure the success of its delivery.

**Table 5-7: Housing and Workforce Management Framework**

<b>Potential Impacts and Opportunities</b>	<p>Potential impacts:</p> <p>Increased demand (including cumulative) for rental housing affecting local availability and affordability.</p> <p>Increased competition for skilled labour at a local and regional level (short term).</p> <p>Non-local workforce and community cohesion.</p>	<p>Potential opportunities:</p> <p>Increased demand for housing purchase stimulates housing development in Narrabri and Gunnedah LGAs.</p> <p>Creation of direct and indirect employment opportunities for local and regional labour pool.</p> <p>Creation of local employment opportunities (Narrabri and Gunnedah LGAs) for Indigenous people, women and youth.</p>
<b>Objectives (O) (HW – Housing and Workforce Management)</b>	<p>HWO1 – maximise local employment (Narrabri and Gunnedah LGAs) and for Indigenous people, women and young people.</p> <p>HWO2 – minimise the impacts of related labour draw on local industry sectors.</p> <p>HWO3 – minimise additional pressure on the rental housing market.</p> <p>HWO4 – encourage assist non-local operational hires and their families to settle permanently in the Narrabri and Gunnedah LGAs.</p> <p>HWO5 – strengthen workforce and community cohesion.</p> <p>HWO5 – assist local and state government in responding to cumulative housing and workforce impacts.</p>	
<b>Relevant Company Policies</b>	<p>Whitehaven Diversity Policy.</p> <p>Whitehaven Code of Conduct</p>	<p>Whitehaven Reconciliation Action Plan.</p> <p>Whitehaven Employee Induction Program.</p>
<b>Key Government Policies</b>	<p>2017 NE NW Regional Plan, and NE NW Housing and Land Monitor.</p> <p>2012 SRLUP.</p> <p>Narrabri LEP 2012.</p> <p>Narrabri Shire Community Strategic Plan – 2017 – 2027.</p>	<p>Gunnedah LEP 2012.</p> <p>Gunnedah Community Strategic Plan 2017-2027.</p> <p>Gunnedah Shire Urban Land Use Strategy 2016.</p>

**Table 5-8: Housing and Workforce Management Actions**

Objectives	Actions	Stakeholders	Timing	Performance Measures
<b>HWO1</b>	HWA1 – Hire local clause <ul style="list-style-type: none"> <li>Encourage construction contractors and suppliers to hire locally where possible through stipulated contractual terms where feasible.</li> </ul>	Local construction companies and construction sector employees	2019-20	Evidence of construction company recruitment efforts to obtain local participation
	HWA2 – Operations recruitment strategy <ul style="list-style-type: none"> <li>Implement Whitehaven's Workforce Diversity Policy.</li> <li>Promote recruitment for the Project's operations phase on the company website, in local and regional media, and via local recruitment and job support agencies.</li> <li>Focus recruitment on hiring residents of the Gunnedah and Narrabri LGAs, including local Indigenous people, young people, and local women.</li> </ul>	NSC, GSC, TAFE, Gunnedah and Narrabri High Schools, Narrabri Community College, Indigenous organisations, Narrabri, Gunnedah Chambers of Commerce	2020-2021	Evidence of website and media promotions
<b>HWO2</b>	HWA3 – Labour supply and training <ul style="list-style-type: none"> <li>Within the Narrabri and Gunnedah LGAs, support the provision of school-based traineeships, scholarships and awards, apprenticeships and graduate programs.</li> <li>Work with Council, Chambers of Commerce and TAFE on trade and service industry excellence initiatives.</li> </ul>	NSC, GSC, TAFE, Gunnedah and Narrabri High Schools, Narrabri Community College, Indigenous organisations, Narrabri, Gunnedah Chambers of Commerce	2020-2025	Provision of training opportunities provided for supported by Whitehaven
<b>HWO3</b>	HWA4 – Non-local accommodation <ul style="list-style-type: none"> <li>Encourage all non-local construction personnel to use the Boggabri Accommodation Village.</li> </ul>	NSC, GSC, Civeo	2019-2020	Adequate rooms are available in the Boggabri Accommodation

Objectives	Actions	Stakeholders	Timing	Performance Measures
	<ul style="list-style-type: none"> <li>Encourage non-local operational employees to use Boggabri Accommodation Village prior to securing permanent local accommodation.</li> <li>Encourage families to settle in Boggabri.</li> </ul>			Village for non-local employees
<b>HWO4</b>	<p>HWA5 – Settlement and integration</p> <ul style="list-style-type: none"> <li>Promote Boggabri as a residential base for new local personnel and families.</li> <li>Work with local community and business stakeholders to prepare a town welcome pack that encourages settlement and involvement in local towns.</li> <li>Provide non-local employees with information regarding rental and purchase market to facilitate informed long-term accommodation decisions.</li> </ul>	NSC, GSC, Boggabri Business Promotions and Community Progress Association	2020-2025	Local community information is available during recruitment stage.
<b>HWO5</b>	<p>HWA6 – Workforce and community cohesion</p> <ul style="list-style-type: none"> <li>Consult with Boggabri community members to identify expectations of non-local workers' behaviour and community participation.</li> <li>Implement Whitehaven's Code of Conduct to support positive behaviour, reduce potential for anti-social behaviours and meet community expectations of behaviour.</li> <li>Work with community stakeholders and Civeo to maximise the integration of village residents in Boggabri.</li> </ul>	NSC, Civeo	Life of Project	Minimal complaints are received by Civeo, Whitehaven or regulators regarding Project employees.
<b>HWO6</b>	<p>HWA7 – Monitor cumulative impacts</p> <ul style="list-style-type: none"> <li>Consult with Gunnedah and Narrabri Shire Councils and other mining operators regarding cumulative changes to housing availability and affordability.</li> <li>Cooperate with relevant government authorities and other mining operators to monitor cumulative labour supply and training needs.</li> </ul>	NSC, GSC, DP&E, other Mining operators, TAFE	2019-2022	Evidence of cooperation with other relevant stakeholders

## 5.5 Local Business Opportunities

This strategy addresses the impacts and opportunities identified in relation to local business opportunities. Table 5-9 provides the framework that will guide the Project's local business strategies including overarching objectives and complementary corporate and government policies. Table 5-10 sets out the key actions the Project will undertake to achieve each objective and deliver this management strategy, which articulates timeframes for implementation and key stakeholders that will be involved. Each action includes a target to measure the success of its delivery.

**Table 5-9: Local Business Opportunities Framework**

<b>Potential Impacts and Opportunities</b>	<p>Potential impacts:</p> <p>Local business viability due to missed supply chain opportunities (workforce goods and services).</p> <p>Labour drain from local businesses.</p>	<p>Potential opportunities:</p> <p>Creation of supply chain opportunities for local businesses.</p> <p>Increased economic growth through local expenditure.</p>
<b>Objectives (O) (HW – Housing and Workforce Management)</b>	<p>BO1 – enable local businesses and suppliers to participate in Project procurement opportunities.</p> <p>BO2 – facilitate development of local enterprise initiatives aimed at selling goods and / or services to non-resident workers and attracting new families.</p>	
<b>Relevant Company Policies</b>	Local Content Strategy.	Local Supplier Database.
<b>Key Government Policies</b>	<p>2017 NE NW Regional Plan</p> <p>Narrabri Shire Economic Development Strategy 2011.</p> <p>Gunnedah Community Strategic Plan 2017-2027.</p>	<p>Gunnedah Shire 'Business Partner Program 2017/18.</p> <p>Gunnedah Economic Development Strategy 2016</p>

**Table 5-10: Local Business Opportunities and Actions**

Objectives	Actions	Stakeholders	Timing	Performance Measures
<b>BO1</b>	<b>BA1 – Local Content Strategy</b> <ul style="list-style-type: none"> <li>Formalise the local content strategy and articulate requirements throughout major contracts to facilitate supply chain involvement of local and regional businesses.</li> <li>Consult with the local chambers of commerce and Boggabri Business Promotion and Community Progress Associations to identify opportunities to strengthen local business' participation in the Project supply chain.</li> </ul>	Business stakeholders in Narrabri, Gunnedah, and adjoining LGAs	2019-2024	Local content strategy is included in procurement process.
	<b>BA2 – Local Supplier Database</b> <ul style="list-style-type: none"> <li>Maintain a Local Suppliers Database to include businesses located in Narrabri, Gunnedah, Tamworth Regional and Liverpool Plains LGAs.</li> <li>Enable local supplier registrations to provide a capability statement/expression of interest to Whitehaven for the Project.</li> </ul>	NSC, GSC, TRC, LPSC LGA Chambers of Commerce.	2019-2024	Local Suppliers Database established.  Number of local businesses goods and services have been procured from and associated expenditure per annum
<b>BO2</b>	<b>BA3 – Support local enterprise</b> <ul style="list-style-type: none"> <li>Promote the locally-operated courtesy bus between Boggabri and the Civeo Boggabri Village on scheduled rest days / roster changeover / special events to increase workforce and community interaction.</li> </ul>	Boggabri Business Promotion and Community Progress Association  Civeo	2019-2024	Evidence of engagement with key stakeholders regarding scope of initiatives and outcome of engagement.

## 5.6 Mine Closure and Decommissioning

The closure of large mining operations in rural communities can result in material changes to:

- local populations, should people leave the area to seek new employment and economic opportunities;
- housing availability and affordability, as some people move from the area and others move in with different employment backgrounds and potentially different housing needs; and
- social infrastructure and local business trade, associated with the change in local populations and associated demand for consumable goods and services.

The Approved Mine has an operating life of 30 years, with the Project's life of 25 years expected to fall within this period. The Approved Mine and Project represent one of a number of operations in the Narrabri and Gunnedah region, the majority of which are operated by Whitehaven. As such, closure planning will require regular and ongoing consultation between Whitehaven operations, the DP&E and the NSC and GSC to anticipate and identify potential impacts ahead of the mine's closure.

Whilst other local employment is likely to be available for skilled mining workers, the Project's closure may lead to a population decrease in Boggabri and other population centres, with consequential effects for established social networks and potential for a small decrease in local housing demand. If consultation with the Boggabri community indicates this is likely, it is recommended that Whitehaven supports the Boggabri community to develop a transition strategy (e.g. promotion of the area's values to attract new residents and/or businesses to town).

A Closure Plan would be prepared three to five years in advance of the Project's anticipated closure date to accurately inform mine closure planning and management of social impacts.

## 5.7 Monitoring and reporting

The social impact management strategies outlined in previous subsections include performance measures for each action, to enable the Project to track their implementation. The results of monitoring of performance measures will be reported to the Vickery CCC and to the DP&E.

Table 5-11 outlines the social indicators which to be monitored to support adaptive management of social impacts and benefits. This monitoring program applies to the Project's construction and operations phase, and to mine closure and decommissioning.

In accordance with the NSW SIA Guideline, Table 5-11 identifies:

- key social indicators to be monitored;
- how and when monitoring data will be collected; and
- community participation in monitoring.

To reinforce transparency in the Project's commitments, the Project will report annually on the actions undertaken to implement each social impact management strategy, including the status of performance measures, other relevant outcomes and the results of social indicator monitoring.

**Table 5-11: Social Indicators**

<b>Social Matters</b>	<b>Indicators</b>	<b>Frequency</b>	<b>Data Source</b>
<b>Surroundings</b>	Feedback on changes to community amenity attributed to the Project	Monitored with CCC	CCC meeting
<b>Personal and property rights</b>	Number of complaints received and resolved	Annual	Whitehaven records
<b>Culture</b>	Feedback regarding emerging concerns or opportunities of cultural and/or historic significance	Monitored (or as scheduled) with CCC and RAPs	Vickery CCC and RAP meetings
<b>Community</b>	Local population changes	Annual	Council feedback
<b>Way of life</b>	Number of Project employees permanently based in NSC and GSC LGA	Annual	Whitehaven employment records
<b>Access /Use of Infrastructure, Services and Facilities</b>	Effectiveness of agreements and joint working arrangements	As required, based on feedback from NSC, GSC and relevant agencies	Face to face meetings with social infrastructure providers
<b>Health and wellbeing</b>	Compliance with environmental management criteria	Annual	Environmental monitoring data
	Feedback on emerging concerns or opportunities for community wellbeing	Monitored with CCC	Vickery CCC meeting
<b>Fears and aspirations</b>	Feedback on emerging community concerns and/or aspirations	Monitored with CCC	Vickery CCC meeting
<b>Decision-making systems</b>	Relative frequency of complaints about Project impacts	Monitored with CCC	Complaints register and CCC meeting notes



## ASSESSORS DETAILS

This report was prepared by Dee Elliott, Director of Elliott Whiteing Pty. Ltd. Dee holds the degrees of Bachelor of Arts (Behavioural Sciences) and Master of Social Policy.

Dee has 30 years' professional experience including 25 years' consultancy experience, and has provided social impact assessment and impact management services for more than 30 projects of State Significance in Queensland and NSW.

The social impact assessment was undertaken during 2018. It contains all information relevant to the SIA for the Project, and does not contain information that is false or misleading.



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