CopperString 2.0

Social impact assessment

Volume 3 Appendix Z

CuString Pty Ltd

CopperString 2.0 EIS
Social Impact Assessment

November 2020

Table of contents

Table index

Figure index

1. Introduction

1.1 Purpose of the social impact assessment

The purpose of this social impact assessment (SIA) is to address the requirements of the Coordinator-General's Terms of Reference for an environmental impact statement: CopperString Project (ToR) section 12 - Social. Specifically, this SIA:

- Establishes a social baseline of the local and regional study areas (defined in Section 2.2) to better understand the existing social and economic conditions against which the impacts will be measured
- Identifies potential social benefits and impacts that may arise from the construction and operation of the Project
- Proposes mitigation measures to minimise the impacts and enhance the benefits of the Project.

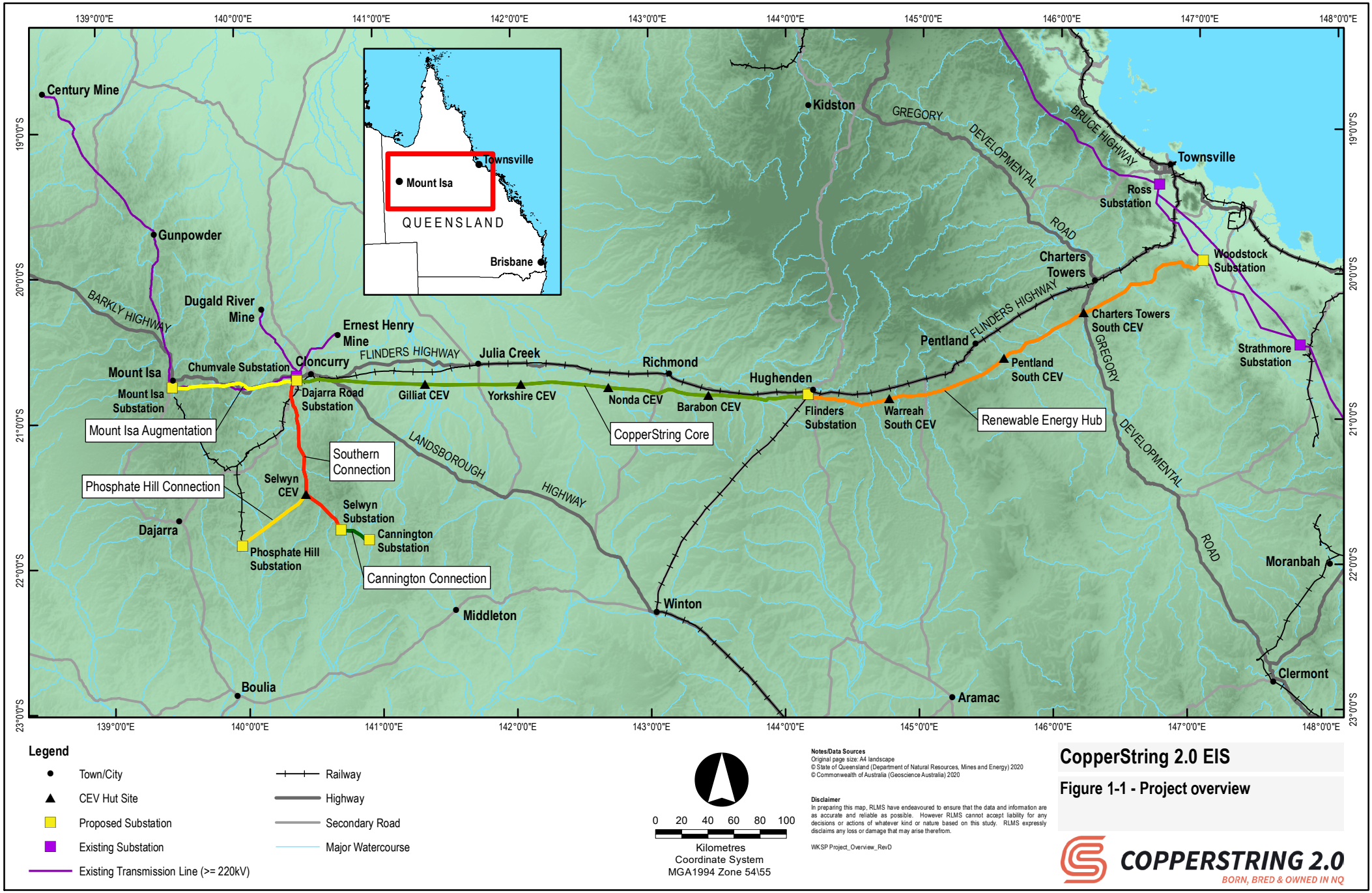
1.2 Project overview

The Project involves the construction and operation of approximately 1,060 km of extra high voltage overhead electricity transmission line that will extend from Mount Isa to the Powerlink transmission network via a connection point at Woodstock, south of Townsville.

The project involves construction of seven new substations at Woodstock, Hughenden, Dajarra Road (Cloncurry), Mount Isa, Selwyn, Cannington Mine and Phosphate Hill Mine.

The CopperString transmission network is divided into the following eight sections, as shown in Figure 1-1:

1. Woodstock Substation
2. Renewable Energy Hub
3. CopperString Core
4. Mount Isa Augmentation
5. Southern Connection
6. Cannington Connection
7. Phosphate Hill Connection
8. Kennedy Connection (option).



Legend

- Town/City
- CEV Hut Site
- Proposed Substation
- Existing Substation
- Existing Transmission Line (>= 220kV)
- Railway
- Highway
- Secondary Road
- Major Watercourse

0 20 40 60 80 100

Kilometres

Coordinate System
MGA1994 Zone 54\55

Notes/Data Sources
Original page size: A4 landscape
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WKSP Project_Overview_RevD

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Figure 1-1 - Project overview

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1.3 Statement of limitations

This report has been prepared by GHD for CuString Pty Ltd (CuString) and may only be used and relied on by CuString for the purpose agreed between GHD and the CuString set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than CuString arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided and sourced from third parties as is referenced in the Report.

1.4 Outline of report

The structure of the report is as follows:

- Section 1 provides an introduction to the report
- Section 2 describes the methodology for the SIA
- Section 3 describes the existing social conditions of the local study area
- Section 4 describes the existing social conditions of the regional study area
- Section 5 describes the estimated workforce profile for the construction and operation of the Project
- Sections 6 and 7 identify and describe the potential social impacts arising from the construction and operation of the Project
- Section 7 outlines the impact mitigation and management measures for the identified impacts
- Section 8 provides the social impact management plan.

2. Methodology

2.1 Overview of methodology

The process for this social impact assessment was guided by the Coordinator General's SIA Guideline (DSDMIP, 2018). According to the principles outlined in this document, a SIA should be:

- **Lifecycle focused:** a SIA is to consider the full lifecycle of the Project.
- **Reasonable:** a SIA is to be commensurate with the nature and scale of the Project, the sensitivity of the social environment, and the likely scope and significance of the resultant project related social impacts.
- **Rigorous:** a SIA is to be based on objective, comprehensive social impact analysis, incorporating the most up to date information on the communities affected and the Project.
- **Effective management:** a SIA is to include effective social management measures that enhance potential benefits and mitigate potential negative impacts.
- **Adaptive:** management measures are to be monitored, reviewed, and adjusted to ensure ongoing effectiveness (DSDMIP, 2018).

The process adopted for this SIA incorporates and extends on the process recommended in the SIA Guideline (DSDMIP, 2018) and included:

- Defining the social study area
- Scoping potential impacts and benefits
- Establishing the baseline
- Consultation
- Identifying, describing and assessing potential impacts and benefits
- Identifying appropriate social impact management measures.

2.2 Defining the social study area

The social benefits and impacts of projects are often not contained within the project's boundaries. Various factors are considered while determining the social area of influence. They include, but are not limited to:

- Areas that may be affected by noise, dust and visual changes
- Areas that may be affected by transport and land use changes
- Areas that may potentially supply goods and services, social infrastructure facilities, and workforce to the Project.

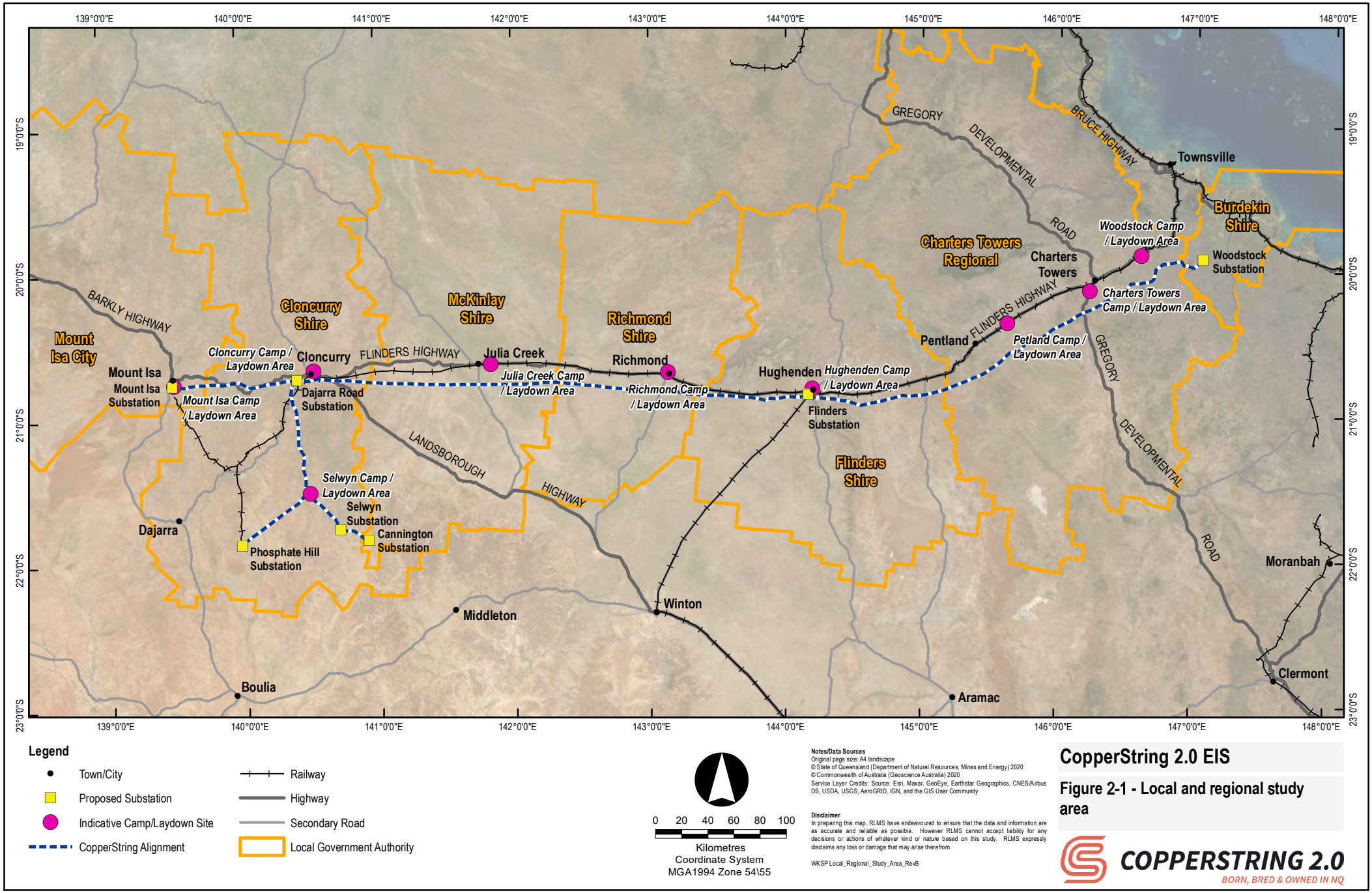
To capture the social influences of the Project, the social study area was defined as:

- Local study area – includes the corridor selection. An additional area outside of the corridor selection would be required for establishing access tracks; however, the location of these tracks has not been identified and has therefore not been included in this assessment.
- The regional study area – this includes the local government areas (LGA) of:
  - Burdekin Shire Council
  - Charters Towers Regional Council
  - Finders Shire Council

- Richmond Shire Council
- McKinlay Shire Council
- Cloncurry Shure Council
- Mount Isa City Council.

Where relevant, the regional study area baseline and impact assessment discusses the towns of Charters Towers, Pentland, Hughenden, Richmond, Julia Creek, Cloncurry, and Mount Isa. These are the most proximal population centres to the Project (Figure 2-1), that host social infrastructure that may be utilised by the Project, such as health services.

The construction workforce for the Woodstock substation will be accommodated in Townsville and materials and equipment for construction are likely to come through Townsville; however, the construction and operation of the Project will not be in Townsville City Council area. Consequently, the Townsville City Council has not been included in the regional study area.



Legend

- Town/City
- Proposed Substation
- Indicative Camp/Laydown Site
- CopperString Alignment
- Railway
- Highway
- Secondary Road
- Local Government Authority

0 20 40 60 80 100
Kilometres
Coordinate System
MGA1994 Zone 54\55

Notes/Data Sources
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WKSP Local_Regional_Study_Area_RevB

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Figure 2-1 - Local and regional study area

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2.3 Scoping of potential impacts and benefits

To provide a framework for this SIA, scoping of potential impacts and opportunities was undertaken, and is detailed in Table 2-1. This assisted in determining the study area, scope of the social baseline, understanding of potential social impacts and opportunities, and identifying stakeholders to be consulted. Scoping also enables the identification of material social impacts and the level of assessment required, as outlined in the SIA Guideline (DSDMIP 2018).

The scoping of issues was informed by:

- A review of literature providing context for the region and the social impacts of linear infrastructure
- Project description
- Knowledge of the CuString and SIA team about the corridor selection, linear infrastructure projects and their social implications to communities and regions.

Table 2-1 Initial scoping of issues

Social values	Issues	Discussion	Social baseline (vulnerabilities and strengths)
Community – sustainable economic activity	Increased regional employment and business procurement	The Project is likely to provide opportunities for direct and indirect employment, in addition for opportunities for local businesses to provide goods and services to the Project.	• Unemployment rate • Existing employment profile • Local businesses.
Community – sustainable economic activity	Competition for workforce	While direct Project employment is highly beneficial to employees and their families, attraction of workers to the Project may result in regional businesses experiencing difficulties attracting and retaining staff.	• Unemployment rate • Existing employment profile.
Personal and property rights	Disruption to agricultural production	The construction of the Project may result in short term disruption to agricultural productivity. This would extend through to operation for properties that will host towers. In addition, the construction and operation of the Project has the potential to spread weeds and pests, which pose a risk to agricultural production if not managed effectively. Similarly, there is potential that the construction of the Project may temporarily disrupt property infrastructure and sever access.	• Landholder land use (refer Volume 3 Appendix I Land use and tenure).
Personal and property rights	Diminished enjoyment of property – change of amenity – construction and operations	The Project's construction and operation has the potential to reduce the amenity of the landholder's property. This may reduce their enjoyment of the property, in particular the use of outdoor areas.	• Local baseline • Volume 2 Chapter 9 Air and greenhouse gas and Volume 2 Chapter 10 Noise and vibration.
Way of life	Diversion of landholders time to Project activities	There is potential that planning / design and construction of the Project may result in landholders needing to divert time and energy to Project related activities taking time away from their usual activities, and may result in temporary feeling of stress.	• Local baseline.
Access to and use of social infrastructure, services, and facilities	Workforce demand on public health and emergency services	The non-resident construction workforce would generate some level of temporary demand for medical and emergency services, especially in towns where the construction camps will be located.	• Availability and capacity of social infrastructure (health facilities, emergency facilities, police facilities).

Social values	Issues	Discussion	Social baseline (vulnerabilities and strengths)
Community/way of life	Presence of younger, predominantly male workforce	The presence of predominantly male non-resident workforce in small rural communities can result in community concerns, particularly in relation to feelings of safety. Communities that are particularly vulnerable to this are those with poor feelings of safety and unbalanced male to female ratios and those that will be near construction sites and workforce camps.	• Balanced demographic profile (male to female ratio) • Existing feelings of safety • Existing crime rates.
Community – sustainable economic activity	High occupancy of short term accommodation displacing non-industry visitors	Large-scale infrastructure construction workforces, including contractors, may occupy short term visitor accommodation and displace non-industry (i.e. tourists) visitors.	• Short term accommodation vacancy rates and qualitative discussion.
Community connectivity and safety	Decrease in traffic safety	The Project's construction would result in an increase in vehicles on state and local roads. It is expected that the Project would result in an increase in heavy vehicles, particularly along the haulage route.	• Existing transport issues (see Volume 3 Appendix U Transport impact assessment • Understanding of connectivity and social infrastructure.

2.4 Establishing the baseline

A description of the existing social characteristics within the local and regional study area was compiled to form the basis for predicting the potential social benefits and impacts of the Project. The social baseline is tailored to describing the social values and characteristics that are likely to be impacted by the Project, based on the initial scoping of social impacts described in Table 2-1.

The social baseline describes the following community characteristics:

- Land use and key social features along and near the corridor
- Demographic characteristics, including population, age and gender, and cultural diversity
- Community lifestyle, values and aspirations
- Economic profile, including education, employment characteristics, and income
- Social infrastructure, including health, emergency services and facilities.

Data and information for the social baseline were gathered from the following sources:

- Australian Bureau of Statistics (ABS) Census 2016
- Local and state government websites and publications
- Information from stakeholder consultation.

The social baseline has been established at a local government area (LGA) level. The size of populations in these LGAs means that LGA data generally reflects the primary population centres. Data for the State of Queensland is presented as a benchmark to understand the study area profile against the State average.

2.5 SIA consultation

CuString has an ongoing stakeholder engagement program; the outcomes of which have informed the preparation of this SIA. Volume 3 Chapter Appendix C Public consultation report provides details of these activities, stakeholders engaged, and issues raised.

In addition to CuString's engagement program, in line with the objectives of the SIA Guideline (DSDMIP 2018), targeted consultation was undertaken to inform the preparation of this SIA. The purpose of the SIA consultation was to:

- Identify potentially affected people and communities
- Understand the values and characteristics of potentially affected people and communities
- Consider the views of potentially affected and interested people in a meaningful way, and using these insights to inform the social impact assessment and development of management measures.

Consultation included face to face meetings or telephone interviews with key stakeholders listed in Table 2-2.

Table 2-2 SIA consultation – stakeholders

Stakeholder group	Stakeholder
Local government representatives	• Charters Towers Regional Council • Finders Shire Council • Richmond Shire Council • McKinlay Shire Council

Stakeholder group	Stakeholder
	• Cloncurry Shire Council • Mount Isa City Council
Impacted social infrastructure services - emergency services*	• Queensland Ambulance Service – North West Local Ambulance Service • Queensland Police Service – Mount Isa District
Landholder consultation	A cross section of landholders was selected for the SIA consultation, to reflect the diversity of landholders across the length of the alignment, based on the following criteria: • Geographic location across the local government areas intersected by the Project • Land use • Landholders views on the project. Specifically, the selection of landholders aimed to ensure that a diversity of views on the project was included. The initial understanding of landholder's view of the project was informed by previous consultation undertaken by CuString and their representatives. A mix of landholders who had consented to be interviewed with a diversity of views were selected.

The following emergency service providers were also invited to participate in the SIA consultation: Townsville Local Ambulance Network and the Townsville District Police Service.

2.6 Impact identification, description and assessment

Potential social impacts were identified and assessed using a data triangulation process. This essentially means that multiple sources of information were used to identify and confirm the social impacts; thereby validating the accuracy of the findings. Impact identification was informed by:

- Targeted SIA stakeholder consultation undertaken in February 2020
- Data provided by CuString
- Review of relevant literature.

The assessment of the identified social impacts was undertaken using a likelihood and consequence rating, based on the following considerations:

- Baseline conditions were used as a basis against which the impacts were measured
- The vulnerability and adaptability of stakeholders who would experience the impact
- The extent and severity of the impact meaning how far and how many would experience the impact and at what intensity
- The duration of the impact, whether it would be a short term or long term change in the baseline conditions. Short term changes are intermittent and temporary changes during the construction phase and long term changes are considered to be continuous permanent changes
- The subjective nature of social impacts, recognising that social impacts are often experienced and perceived differently by different people.

Criteria used to rank the likelihood and consequence of identified social impacts are set out in Table 2-3 Likelihood criteria and Table 2-4 respectively.

Table 2-3 Likelihood criteria

Likelihood level	Description
Almost certain	Will occur, or is of a continuous nature. The event will occur frequently. The event is expected to occur in most circumstances. Impact could occur once a month or more.
Likely	The probability of the occurrence is high. Likely to have been a similar incident occurring in similar environments. The event will probably occur in many circumstances. Could occur once a month or once a year.
Possible	The event could occur. May occur some of the time but a distinct possibility it would not. The impact could occur on average once in one to five years.
Unlikely	The probability of the occurrence is low. May occur in some circumstances but not anticipated. Could occur once in five to 20 years
Rare	The probability of the occurrence is negligible. Only likely to occur in exceptional circumstances. Not likely to occur in the next 20 years.

Table 2-4 Consequence criteria

Consequence category	Description of negative impact	Description of opportunities (positive impacts)
Severe	Irreversible changes to social characteristics and values of the communities of interest or community has no capacity to adapt and cope with change. Significant change from the baseline conditions.	-
Major	Long-term recoverable changes to social characteristics and values of the communities of interest or community has limited capacity to adapt and cope with change. Substantial change from baseline conditions.	Long-term opportunities derived from the project, directly and indirectly benefiting broader community.
Moderate	Medium-term recoverable changes to social characteristics and values of the communities of interest or community has some capacity to adapt and cope with change. Noticeable change from the baseline conditions.	Medium-term opportunities derived from the project, directly and indirectly benefiting broader community.
Minor	Short-term recoverable changes to social characteristics and values of the communities of interest or community has substantial capacity to adapt and cope with change. Small change from the baseline conditions.	Short-term opportunities derived from the project, directly benefiting specific groups in the community.
Minimal	Local, small-scale, easily reversible change on social characteristics or values of the communities of interest or communities can easily adapt or cope with change. Marginal or not change from the baseline conditions.	Local small-scale opportunities derived from the project that the community can readily pursue and capitalise on or directly benefiting specific groups in the community.

The level of risk associated with each impact was assessed by combining the likelihood and consequence criteria in a risk assessment process as shown in Table 2-5.

Table 2-5 Risk rating

Likelihood	Consequence				
	Minimal	Minor	Moderate	Major	Severe
Almost Certain	Medium	Medium	High	Very High	Very High
Likely	Low	Low	Medium	High	Very High
Possible	Low	Low	Medium	High	High
Unlikely	Negligible	Low	Medium	Medium	High
Rare	Negligible	Negligible	Low	Medium	High

3. Social baseline – local study area

As detailed in Section 2.2, the local study area incorporates the area within the corridor selection, which covers over 1,000 km across seven LGAs. This section provides an overview of the land use and tenure, the location of sensitive receptors relative to proposed corridor selection, and agricultural practices within the local study area.

3.1 Land use

The Project traverses approximately 1,060 km and intersects 130 land parcels. The predominant land tenure is lands lease and land use is rural grazing and cattle breeding. A small area of land (approximately 0.02% of the corridor selection or 0.01 square kilometres) is classified under the Queensland Land Use Mapping Program (Queensland Government 2017) as 'conservation and natural environment'. In addition, the corridor selection intersects a number of industrial land uses, such as North Queensland Clean Energy Hub, a renewable energy zone containing 'A' class wind and solar resources.

The local study area does not contain any zoned residential land or dwellings located on agricultural properties.

3.2 Agricultural land use and heli-mustering

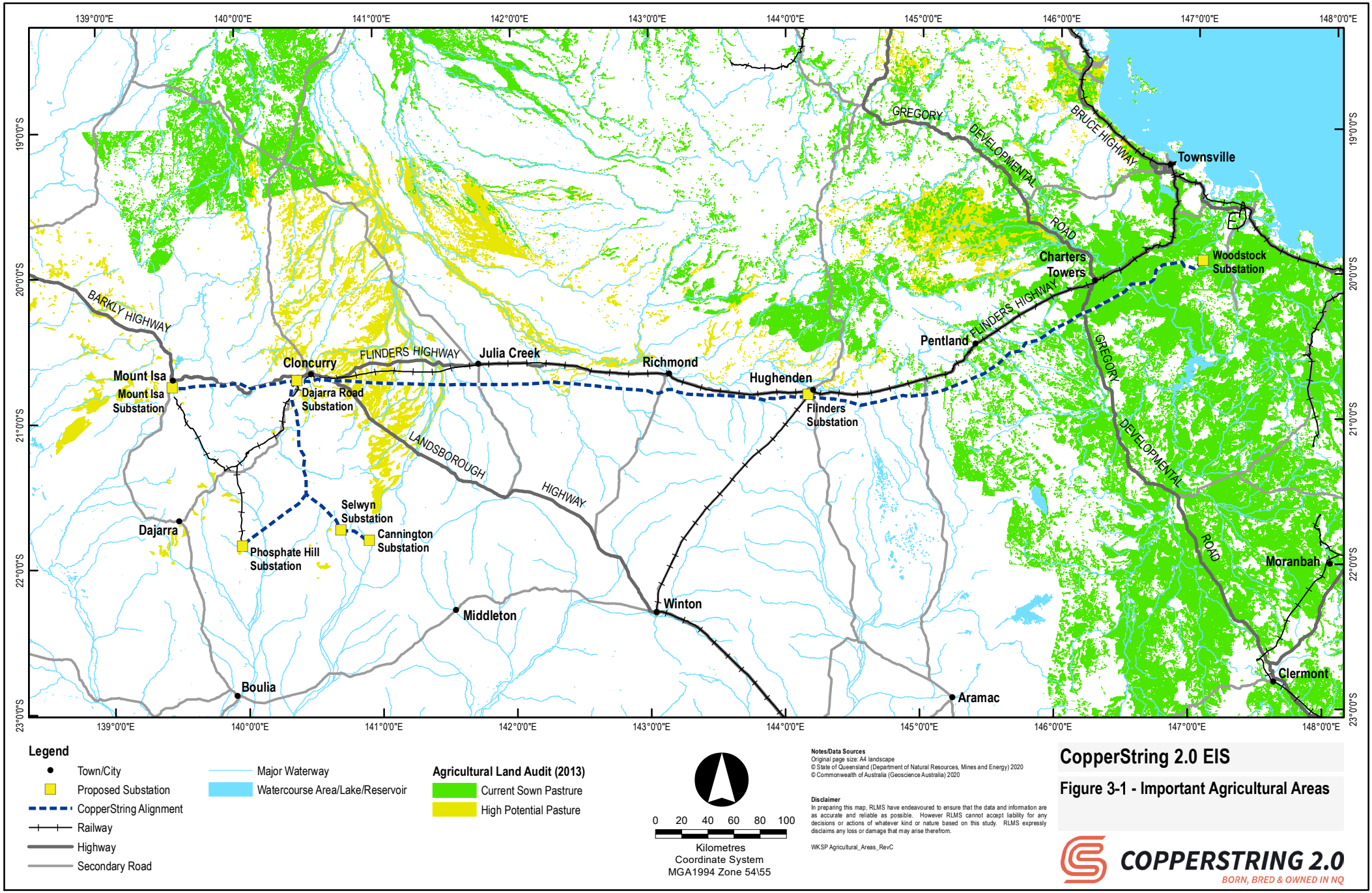
The predominant land use of rural grazing and cattle breeding mentioned above is more generally referred to as pastoral farming practices. In many Australian jurisdictions, pastoral leases are an established form of land tenure that allows for the use of Crown land for grazing stock and associated activities.

The leases throughout the study area cover very large areas, and span multiple parcels. Based on SIA consultation, some landholders in the local study area have engaged in multi-generational pastoral practices on the land.

Consultation found that land in the east of selection corridor generally has higher productivity, reflecting the findings of the Queensland Agricultural Land Audit (2013), which show that sown pastures are much more prevalent in the Charters Towers and to a lesser extent in Flinders Shire (Figure 3-1).

Aerial or heli-mustering is a common practice in the local study area, which involves the use of a helicopter to locate and move livestock, in place of multiple people on horseback or motorbike. Heli-mustering is generally carried out by professional pilots who are contractors; however, land owners will often be involved in supervising a heli-muster. Heli-mustering involves flying helicopters at low altitudes to direct stock. With most properties being vast and cattle spread across expansive areas, heli-mustering has become a prominent method of managing stock due to the time savings presented by the use of aircraft over horse back or motorbike. In addition, the method was noted during consultation to have become a necessity, given the difficulty to sourcing on-farm employment in the region.

There are a number of existing distribution and sub-transmission lines that intersect and service landholders' properties. Based on consultation undertaken for this SIA, the presence of these existing power lines on a property is recognised by landholders as an hazard for undertaking heli-mustering activities.



Legend

- Town/City
- Proposed Substation
- CopperString Alignment
- Railway
- Highway
- Secondary Road
- Major Waterway
- Watercourse Area/Lake/Reservoir

Agricultural Land Audit (2013)

- Current Sown Pastrure
- High Potential Pasture

0 20 40 60 80 100

Kilometres

Coordinate System
MGA1994 Zone 54\55

Notes/Data Sources
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WKSP Agricultural_Areas_RevC

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Figure 3-1 - Important Agricultural Areas

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4. Social baseline – regional study area

The following sections provide a socio-economic overview of each LGA within the regional study area from the Burdekin LGA in the east to the Mount Isa LGA in the west, including:

- A summary of community values, opportunities, and challenges
- A summary of the communities' key demographic characteristics
- An economic profile, with a focus on employment and workforce availability
- Information on community health and safety and community connectivity and transport
- Availability and capacity of social infrastructure facilities and services.

As noted in Section 2.4, the social baseline is designed to explore the strengths and vulnerabilities of the communities, with a focus on describing the values and characteristics that are likely to be impacted by the Project. This provides a benchmark against which the potential social impacts of the Project can be assessed (DSDMIP 2018).

4.1 Overview of the regional study area communities

A social overview of the regional study area communities is provided in Table 4-1.

Table 4-1 Social context of the regional communities

LGA	Social context
Burdekin	The Burdekin LGA covers an area of around 5,000 km^2, and is situated between the Townsville and Bowen LGAs. The Burdekin LGA is centred on the Burdekin River delta, which, along with the Burdekin Falls Dam and the underground aquifer provides for the region's large water supply. The Juru and the Birriah people are the traditional owners of the area. The large water supply supports the region's rich agricultural industry, which is dominated at present by sugarcane. The region also supports horticultural, aquaculture and manufacturing industries (Burdekin Shire Council 2019). Tourism represents a small but important sector, which draws from the Burdekin LGA's natural assets, including coastline along the Great Barrier Reef (Burdekin Shire Council 2019). The primary population centres are Ayr and Home Hill. The Burdekin LGA also contains small settlements that provide for the region's rural population.
Charters Towers	The Charters Towers LGA is an inland region that covers an area of almost 70,000 km^2. The region is south-west of the regional population centre of Townsville. Charters Towers is the primary population centre. The Gudjal people are the traditional owners of the area. They live across the region, especially along the Burdekin and Broughton rivers, around the basalt country and its lagoon and within the White Mountains National Park (Charters Towers Regional Council n.d.). In addition to mining, the Charters Towers LGA has a strong beef production and horticultural industry (Charters Towers Regional Council n.d.) Charters Towers has a well-established educational sector, with a number of private colleges that support regional and rural populations and has a developed heritage tourism industry.
Flinders	The Flinders LGA covers an area of around 40,000 km^2. The population primarily resides in rural areas and the administrative and population centre is Hughenden. There are a number of small settlements within the Flinders LGA, all of which are located along the rail line (Queensland Places 2019). The Flinders LGA is situated on the traditional lands of the Yirendali peoples.

LGA	Social context
	The economy is predominantly agricultural, with cattle grazing being the predominant land use, particularly in the north. The southern and western districts traditionally supported mixed grazing, including sheep grazing (Shire of Flinders 2017); however, cattle grazing is now the predominant land use. Emerging industries include renewable energy, alongside tourism.
Richmond	The Richmond LGA covers an area of around 27,000 km^2 and is situated almost equal distances between Mount Isa to the west and Townsville to the east. The Richmond LGA is located on the traditional lands of the Wanamarra and Yirandai peoples. The Richmond LGA is predominantly rural and the administrative and population centre is Richmond. Agriculture is the largest industry, where livestock products and meat processing are the dominant market share. Mining and tourism are small but noted industries.
McKinlay	The McKinlay LGA covers around 40,000 km^2 and is approximately 250 km east of Mount Isa. The McKinlay LGA is situated on the traditional lands of the Mitakoodi and Kalkadoon peoples. The McKinlay LGA has four primary settlements, including Julia Creek, Kynuna, McKinlay and Nelia. Julia Creek is the population and administrative centre and hosts the Shire's social infrastructure. The McKinlay LGA is predominantly rural. The region is a major grazing centre of cattle and sheep. The McKinlay LGA hosts several mining operations, including the Eloise Copper Mine and South32's Cannington mine. Both operations are primarily staffed as fly-in-fly out operations (AEC 2018).
Cloncurry	The Cloncurry LGA covers around 48,000 km^2 and is approximately 100 km east of Mount Isa. Cloncurry is the administrative centre, and hosts the Shire's social infrastructure. The Cloncurry LGA is located on the traditional lands of the Kalkadoon and Mitakoodi peoples. Cloncurry is a rural town that derives its main income from mining and pastoral industries. Cloncurry featured in the early development of Qantas and the Royal Flying Doctor Service and remains an important railway town (Cloncurry Shire Council 2018).
Mount Isa	The Mount Isa LGA covers an area of around 43,000 km^2 and is centred on the population and administrative centre of Mount Isa. The Mount Isa LGA is situated on the traditional lands of the Kalkadoon people. Mount Isa town was established around the discovery of a rich deposit of copper, silver and zinc in the 1920s. Mount Isa is now a northern Queensland regional hub and continues to have a strong mining industry. Other major components of the Mount Isa economy include minerals processing, cattle farming, tourism and agriculture (Mount Isa City Council 2018).

4.2 Values, opportunities and challenges

The regional study area includes two recognised regional planning areas: the North Queensland area (that includes the Charters Towers and Burdekin LGAs), and the North West Region (specific to only the Mount Isa, Cloncurry, McKinlay, Richmond and Flinders LGAs). A summary of the values and challenges identified in the regional plans for these areas is provided in Table 4-2.

Table 4-2 Regional plans and strategies

Regional plan	Values and aspirations	Challenges
North Queensland Regional Plan (Charters Towers and Burdekin LGAs)	The vision for the region identified in the North Queensland Regional plan is that "North Queensland thrives as a diverse, liveable and progressive region in the tropics, set around the capital of northern Australia". The Plan identifies for regional goals to realise the vision of the Plan: • A leading economy in regional Australia • A rich and healthy natural environment • Liveable, sustainable and resilient communities that promote living in the tropics • A safe, connected and efficient North Queensland (Queensland Government 2019a).	The Plan identifies key influences on the region's future, including; • Impacts from historical land management practices, which have affected the viability of agricultural activities and the ecological health of natural areas • Impacts from climate change, including decreased annual rainfall, more intense cyclone events, and higher temperatures • Ageing populations, which has implications for economic growth, workforce structure, government revenue and government services (e.g. healthcare).
North West Regional Plan (Mount Isa, Cloncurry, McKinlay, Richmond and Flinders LGAs)	The vision for the region, as identified in the North West Regional Plan, is that "the North West region has a robust, diverse and sustainability economy and well-planned and coordinated infrastructure and services, built through the economic benefits of mining and agricultural industries. It is a place where people choose to live and visit due to its liveability, well-managed natural resources and the community's strong sense of cultural identity." (Queensland Government 2010).	The North-West Regional Plan identifies the following challenges: • The cyclical nature of the mining industry • Long-term population decline in the non-mining region • The increase costs of oil products • Attracting and retaining skilled workers and residents • Accessing and providing essential services to smaller centres.

Each of the LGAs within the regional study area have unique values, strengths and challenges. These have been summarised in Table 4-3.

Table 4-3 Values, strengths and challenges of the regional communities

LGA	Values and strengths	Challenges
Burdekin	The Burdekin LGA is predominantly rural and has a strong rural and agricultural identity. The LGA is seen by residents to have high levels of liveability, with outdoor recreation, including nature based tourism and	The Council recognises the following challenges: • Ageing and static population • Limited post-secondary education • Local economy influenced by commodity prices

LGA	Values and strengths	Challenges
	sporting are highly valued (Burdekin Shire Council 2017). Expansion in the irrigated agribusiness and aquaculture sector has been identified as a key opportunity for the region (Burdekin Shire Council 2017).	• Close proximity to a large regional centre • Limited diversity in job opportunities • Mono-agriculture dominance and mechanised industry • Lack of economic diversity • Changing community demographic (Burdekin Shire Council 2017).
Charters Towers	Charters Towers is an inland regional council that incorporates the regional centre of Charters Towers and a number of smaller localities, and a large area of rural homesteads. Community strengths and values identified include: • Strong sense of community that supports each other • Pride in heritage buildings and history • Liveable and safe • Resilient and able to work through tough times (Charters Towers Regional Council 2015).	The Council recognises the following challenges: • Isolation and remoteness of smaller communities • The need for a cost effective water and energy source for diversification and industry expansion • Skills shortage and inability to attract skilled workers, trades people and professional (Charters Towers Council 2011). In addition, during SIA consultation, Council identified the following key challenges for the community: • High unemployment • Difficult to attract and retain skilled workers • High number of job vacancies.
Flinders	During SIA consultation, the community in the Flinders LGA were described as a community with traditional country values who embrace and enjoy a rural lifestyle.	During SIA consultation, Council identified the following key challenges for the community: • Attracting skilled workers and migrants • Youth out-migration.
Richmond	Residents of the Richmond LGA are considered as being proactive, resilient, self-sufficient and positive. The communities of the Richmond LGA value the cultural history of the area, the location, sense of belonging and community spirit, as well as the natural amenity of the area (Richmond Shire Council 2011). During SIA consultation, community resilience and self-sufficiency were highlighted as key community strengths.	The Council recognises the following key community challenges: • Health service provision • Difficulty attracting skilled workers • Encouraging economic diversity • Providing facilities and services for the elderly • Lack of senior schooling (Richmond Shire Council 2011). During SIA consultation, Council identified the following key challenges for the community: • Lack of social infrastructure services and skilled workers (nurses, teachers, dentist) • Attracting and retaining skilled workers.
McKinlay	In the McKinlay Shire there is a strong sense of community, with a variety of formal and informal community events and	The Council recognises the following key community challenges:

LGA	Values and strengths	Challenges
	successful community associations(McKinlay Shire Council 2019a). During SIA consultation, the community was described as very safe with low crime rates, and a highly connected community with a high volunteer base.	• Retaining population numbers • Maintaining, expanding and diversifying industry and employment opportunities • Lack of childcare and after school care • Access to allied health services (McKinlay Shire Council 2019b). During SIA consultation, Council identified the following key challenges for the community: • High housing costs and lack of housing supply and diversity.
Cloncurry	Cloncurry is a rural community with strong history of beef grazing and mining (SIA consultation). The community prides itself on being welcoming and a country town atmosphere: Cloncurry has won the Queensland Friendliest Town award in 2013 and 2018 (Cloncurry Shire Council 2020).	During SIA consultation, Council identified the following key challenges for the community: • High number of job vacancies in the town • High cost of living • Substance abuse • Attracting skilled workers.
Mount Isa	During SIA consultation, the community was described as diverse, and valuing access to a range of recreational opportunities that are associated with access to rural landscapes.	During SIA consultation Council identified the following key challenges for the community: • High number of job vacancies • High unemployment • High domestic electricity prices • Attracting and retaining skilled workers.

4.3 Demographic characteristics

4.3.1 Population trends

Population change

Table 4-4 details the estimated resident population in 2019 for each LGA and Queensland, compared to the estimated resident population in 2008. The population of each LGA has declined since 2008, with the population of Flinders (-1.5% per annum) and McKinlay (-1.5% per annum) seeing the largest average annual decrease in population over this period.

Table 4-4 Estimated resident populations by LGA (2019)

LGA	Estimated resident population		Average annual rate of change 2008-2019
	2008	2019	
Burdekin	17,653	16,971	-0.3%
Charters Towers	12,096	11,739	-0.2%
Flinders	1,837	1,505	-1.5%
Richmond	895	810	-0.8%
McKinlay	994	818	-1.5%
Cloncurry	3,308	3,047	-0.7%

LGA	Estimated resident population		Average annual rate of change 2008-2019
	2008	2019	
Mount Isa	21,381	18,595	-1.1%
Queensland	4,219,505	5,094,510	+1.7%

Source: QGSO (2020a) *Estimated resident population - Local government area (LGA), Queensland, 1991 to 2019p*

Population projections

Table 4-5 details the medium series population projections for the regional study area by LGA between 2016 and 2041. Based on State Government projections, population decline is expected in most LGAs in the regional study area. Population decline is expected to be most notable between 2016 and 2041 in the Richmond (-29.6%), Cloncurry (-28.5%), Flinders (-26.8%) and McKinlay (-23.7%) LGAs. More subdued changes are forecast in the other LGAs, with the population of the Burdekin LGA expected to be similar to 2016, and the Charters Towers LGA projected to experience a slight increase (2.7%) over this period.

Table 4-5 Population projections (medium series)

LGA	Population projection		% change 2016-2041	Averaged annual rate of change
	2016	2041		
Burdekin	17,313	17,310	0.0%	-0.001%
Charters Towers	12,074	12,403	2.7%	0.1%
Flinders	1,569	1,149	-26.8%	-1.2%
Richmond	800	563	-29.6%	-1.4%
McKinlay	810	618	-23.7%	-1.1%
Cloncurry	3,114	2,227	-28.5%	-1.3%
Mount Isa	19,332	18,677	-3.4%	-0.1%
Qld	4,848,877	7,161,661	47.7%	1.6%

Source: QGSO (2018) *Projected population, by local government area, Queensland, 2016 to 2041*

4.3.2 Age and sex profile

Table 4-6 shows the age profile of the regional study area compared to Queensland as at the 2016 Census (ABS, 2017a). From this snapshot, the age profile of the regional study area can be defined by the following characteristics:

- The median age of the population living in Mount Isa LGA was younger (31 years old) than Queensland (37 years old), whereas the median age of both the Burdekin and Flinders LGAs was older (44 years old) than Queensland.
- With the exclusion of the Charters Towers (10.0%) and Flinders (11.8%) LGAs, the regional study area generally had a higher proportion of people in the young workforce (aged 25 to 34 years) cohort compared to Queensland (13.8 per cent). The Mount Isa LGA had the highest at 18.9%.

The regional study area as a whole had a similar age distribution to that of the State. In comparison to the State, Burdekin, Charters Towers and Flinders LGAs have a higher proportion of people in the retirees cohort (aged 65 to 74 years) and a lower proportion of people in the young workforce cohort (aged 25 to 34 years). In comparison to the State, the Richmond, McKinlay, Cloncurry and Mount Isa LGAs have a lower proportion of people in the retiree cohort (aged 65 and 74), and a higher proportion of people in the young workforce cohort (aged 25 to 34 years).

A number of LGAs had lower proportions of secondary schoolers (aged 12 to 17 years) when compared to the State (7.5%). These include the Flinders (4.7%), Richmond (3.8%) and McKinlay (1.4%) LGAs. This is likely reflective of students attending boarding schools in other areas (e.g. Charters Towers (11.1%) LGA).

Table 4-6 Age profile

Cohorts	Burdekin LGA	Charters Towers LGA	Flinders LGA	Richmond LGA	McKinlay LGA	Cloncurry LGA	Mount Isa LGA	Qld
Median age	44	40	44	35	39	34	31	37
Babies and pre-schoolers (0-4 years)	5.2%	5.5%	7.5%	6.7%	7.3%	7.9%	9.2%	6.3%
Primary schoolers (5 to 11 years)	8.8%	10.3%	7.9%	10.1%	8.5%	9.3%	10.8%	9.4%
Secondary schoolers (12 to 17 years)	7.8%	11.1%	4.7%	3.8%	1.4%	5.9%	7.7%	7.5%
Tertiary education and young workforce (18 to 24 years)	7.5%	6.8%	8.7%	9.4%	8.0%	8.9%	9.7%	9.2%
Young workforce (25 to 34 years)	9.8%	10.0%	11.8%	18.0%	16.6%	18.3%	18.9%	13.8%
Career and home building (35 to 49 years)	18.1%	18.6%	18.0%	16.4%	24.0%	21.0%	20.7%	20.2%
Senior workforce (50 to 64 years)	21.6%	19.3%	21.4%	20.9%	22.5%	19.3%	16.0%	18.3%
Retirees (65 to 74 years)	11.8%	11.1%	13.5%	8.2%	8.5%	6.9%	4.8%	9.0%
Seniors (75 to 84 years)	6.7%	5.7%	5.3%	4.8%	3.1%	2.0%	1.8%	4.5%
Elderly (85+ years)	2.1%	1.8%	2.0%	1.0%	0.6%	0.5%	0.4%	1.8%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

Sex ratios (Table 4-7) are calculated by dividing the male population count by the female population count. A ratio of 1.0 means that there are equal numbers of males and females. Ratios above 1.0 mean that there are more males than females, while ratios below 1.0 means that there are more females. The overall sex ratio for the State is 1.0. The overall sex ratio for the Burdekin, Charters Towers and Flinders LGAs was 1.0, for the Richmond LGA it was 1.1, for the McKinlay LGA it was 1.2, for the Cloncurry LGA it was 1.3 and for the Mount Isa LGA it was 1.1. Consequently, there was a slight over-representation of males in the regional study area and particularly in the Cloncurry LGA.

As seen in Table 4-7 this over-representation is highest in the secondary school cohort in Richmond LGA, where the sex ratio is 8.7. However, the dramatic increase in ratio is reflective of a small population overall in the LGA and very small populations in the secondary schoolers (aged 12 to 17) cohort discussed above (Table 4-6), and is evidence of the community comments in Table 4-3 in regards of lack of local secondary schooling.

Table 4-7 Sex ratios

Sex ratios	Burdekin LGA	Charters Towers LGA	Flinders LGA	Richmond LGA	McKinlay LGA	Cloncurry LGA	Mt Isa LGA	Qld
Overall	1.0	1.0	1.0	1.1	1.2	1.3	1.1	1.0
Babies and pre-schoolers (0-4 years)	1.1	1.1	0.9	0.8	1.5	1.2	1.0	1.1
Primary schoolers (5 to 11 years)	1.1	1.1	1.2	1.0	0.8	1.0	1.0	1.1
Secondary schoolers (12 to 17 years)	1.1	1.1	1.1	8.7	0.4	0.9	1.1	1.1
Tertiary education and young workforce (18 to 24 years)	1.1	1.0	1.2	1.2	0.8	1.1	1.0	1.0
Young workforce (25 to 34 years)	1.0	0.9	0.9	1.0	1.3	1.2	1.0	1.0
Career and home building (35 to 49 years)	1.0	0.9	0.8	1.1	1.7	1.6	1.0	1.0
Senior workforce (50 to 64 years)	1.1	1.0	1.4	1.1	1.3	1.4	1.2	1.0
Retirees (65 to 74 years)	1.1	1.1	0.9	1.4	1.3	1.7	1.3	1.0
Seniors (75 to 84 years)	0.9	1.0	0.8	0.5	1.0	0.9	1.0	0.9
Elderly (85+ years)	0.6	0.6	0.9	2.0	0.0	2.0	0.4	0.6

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

Age and sex pyramids, which combine the above data visually are shown in Figure 4-1.

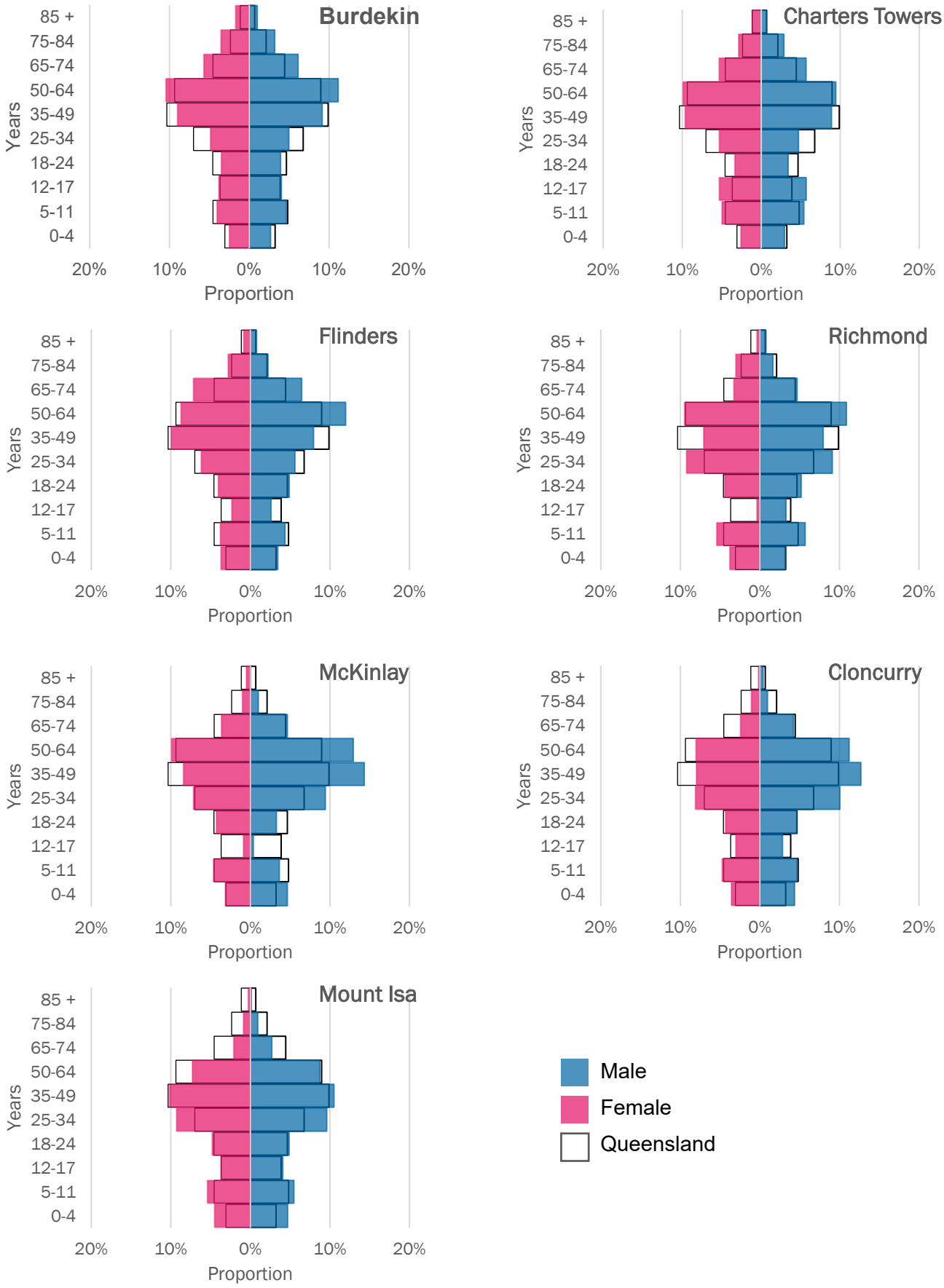


Figure 4-1 Age and sex profile – regional study area

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

4.3.3 Cultural diversity and linguistic diversity

To understand the cultural diversity of the regional study area the following indicators were examined: country of birth (Table 4-8), ancestry (Table 4-9) and languages spoken at home (Table 4-9Table 4-10).

In 2016, each LGA in the regional study area had a higher proportion of people born in Australia and a lower proportion of people born overseas when compared to Queensland. The Flinders (4.9%), Richmond (5.8%) and Charters Towers (5.6%) LGAs had much lower proportions of people born overseas compared to the State overall (21.6%). The Mount Isa LGA had much larger proportions of people born overseas (16.1%).

The ancestry that people identified in the 2016 Census indicates historical patterns of in-migration, with:

- Between 31.9% (Cloncurry LGA) and 43.5% (Richmond LGA) identifying as British
- Between 28.3% (Burdekin LGA) and 39.8% (Flinders LGA) identifying as Australian
- Between 0.4% (Richmond LGA) and 13.8% (Burdekin LGA) identifying as Southern European.

Notably, the proportion of people who identified as Southern European in the Burdekin LGA (13.8%) reflects the notable wave of Italian in-migration to North Queensland in the mid to late 1800s (State Library of Queensland 2011).

In 2016, the majority of people stated that they spoke English at home, ranging from 79.5% in the Mount Isa LGA to 91.5% in the Flinders LGA. Between 7.4% (Burdekin LGA) and 14.5% (Cloncurry LGA) did not answer this question in the 2016 Census, which was greater than the State overall (6.9%).

Table 4-8 Number of persons by birthplace

LGA	Born in Australia		Born in ESB countries		Born in NESB countries		Total born overseas	
Burdekin	14,221	83.3%	478	2.8%	921	5.4%	1,418	8.3%
Charters Towers	9,897	83.3%	388	3.3%	258	2.2%	664	5.6%
Flinders	1,303	84.8%	52	3.4%	24	1.6%	75	4.9%
Richmond	667	84.3%	29	3.7%	10	1.3%	46	5.8%
McKinlay	669	84.0%	33	4.1%	18	2.3%	58	7.3%
Cloncurry	2,302	75.9%	145	4.8%	111	3.7%	265	8.7%
Mount Isa	13,314	71.3%	1,462	7.8%	1,539	8.2%	3,015	16.1%
Queensland	3,343,819	71.1%	493,066	10.5%	522,810	11.1%	1,105,875	21.6%

Source: ABS (2017a) 2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0
English Speaking Background (ESB)
Non-English Speaking Backgrounds (NESB)

Table 4-9 Ancestry

Ancestry	Burdekin LGA	Charters Towers LGA	Flinders LGA	Richmond LGA	McKinlay LGA	Cloncurry LGA	Mt Isa LGA	Qld
Australian Peoples	28.3%	36.4%	39.8%	37.1%	34.9%	37.5%	30.8%	24.0%
British	37.6%	40.5%	40.3%	43.2%	43.5%	31.9%	34.0%	42.7%
Irish	6.3%	5.8%	5.8%	5.2%	5.8%	6.6%	6.1%	6.3%
Western European	2.4%	2.4%	1.7%	2.0%	2.3%	1.9%	3.0%	3.7%
Southern European[1]	13.8%	1.3%	1.5%	0.4%	1.8%	0.9%	2.0%	2.3%
Maritime South-East Asian[2]	0.5%	0.5%	0.0%	0.0%	0.0%	0.9%	2.4%	1.0%
Not stated	7.6%	10.3%	9.4%	9.1%	9.5%	15.1%	12.5%	7.5%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*
1. Italian, Maltese, Basque, Portugese and Spanish.
2. Fillipino and Indonesian

Table 4-10 Language spoken at home

Language	Burdekin LGA	Charters Towers LGA	Flinders LGA	Richmond LGA	McKinlay LGA	Cloncurry LGA	Mt Isa LGA	Qld
English	86.3%	87.9%	91.5%	90.7%	89.9%	81.6%	79.5%	84.3%
Italian	2.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	1.0%
Indo-Aryan	0.2%	0.2%	0.0%	0.9%	0.4%	1.1%	0.9%	0.5%
Southeast Asian Austronesian Languages[1]	0.4%	0.5%	0.3%	0.0%	0.0%	1.0%	2.0%	1.0%
Pacific Austronesian Languages	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	1.2%	0.5%
Not stated	7.4%	10.0%	7.9%	8.0%	8.4%	14.5%	11.8%	9.9%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*
1. Languages of the Phillipines (tagalog and Filipino).

4.3.4 Indigenous population

Table 4-11 shows the number and proportion of Indigenous people in the regional study area compared to Queensland as at the 2016 Census (ABS, 2017a). Each LGA had a higher proportion of Indigenous people when compared to Queensland. The Cloncurry (22.8%) and Mount Isa (16.9%) LGAs had the highest proportion of Indigenous people in the regional study area.

Table 4-11 Indigenous people

LGA	Total number	Proportion of the population
Burdekin	974	5.7%
Charters Towers	1,033	8.7%
Flinders	99	6.5%

LGA	Total number	Proportion of the population
Richmond	53	6.7%
McKinlay	39	4.9%
Cloncurry	692	22.8%
Mount Isa	3,149	16.9%
Queensland	186,482	4.0%

Source: ABS (2016). *Census QuickStats*

4.4 Housing availability and affordability

CuString acknowledges the potential impact of a large workforce on housing availability. For this reason, it is planned that temporary construction camps will house the majority of the construction workforce. Accommodation in temporary construction camps will be provided for all non-resident personnel employed on the Project, with the exception of the workforce crew that are planned to install and decommission the construction camps. Consequently, it is not anticipated that the Project workforce would place any demand on local housing or accommodation facilities in the regional study area. Therefore, housing availability and affordability has not been detailed in this baseline.

4.5 Economic profile

4.5.1 Education

Table 4-12 provides the highest level of schooling completed by people in each LGA in the regional study area as at the 2016 Census. There was a higher proportion of people who did not go to school or achieved year 8 education or below in the Burdekin (10.4%), Charters Towers (10.3%), Flinders (13.3%) and Richmond (11.2%) LGAs than Queensland overall (5.4%). Similarly, a lower proportion of people completed Year 11 or 12 equivalent in the Burdekin, Charters Towers, Flinders, Richmond, McKinlay and Cloncurry LGAs than Queensland overall.

Table 4-12 Highest level of schooling completed by LGA

LGA	Did not got to school or Year 8 or below		Year 9 or 10 equivalent		Year 11 or 12 equivalent	
Burdekin	1,410	10.4%	4,991	37%	5,700	42.2%
Charters Towers	911	10.3%	3,049	34.6%	3,682	41.8%
Flinders	165	13.3%	443	35.8%	509	41.1%
Richmond	71	11.2%	227	35.9%	262	41.4%
McKinlay	41	6.3%	242	36.9%	310	47.3%
Cloncurry	185	7.8%	684	28.9%	1,112	47.0%
Mount Isa	684	5.0%	3,790	27.7%	7,285	53.3%
Queensland	196,488	5.4%	964,903	26.5%	2,146,809	58.9%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

Table 4-13 shows the post-school qualifications for people in the regional study area and Queensland in 2016. The proportion of the population who had any qualification was lower in the Burdekin (47.4%), Charters Towers (47.9%), Flinders (42.7%) and Richmond LGAs (48.4%) when compared to Queensland overall (59.1%). All LGAs within the regional study area had lower proportions of the population with a bachelor degree or higher, compared to Queensland (18.3%). This is particularly notable in the Flinders (6.8%), Burdekin (7.7%), Charters Towers

(8.6%) and Richmond LGAs (8.8%). All LGAs in the regional study area had a similar proportion of the population who have a certificate, compared to Queensland (21.3%).

SIA consultation found that attracting and retaining skilled workers is a challenge for councils and businesses across the regional study area.

Table 4-13 Post-school qualifications by level of education for each LGA

LGA	Level of education						Persons with qualifications	
	Bachelor degree or higher		Advanced diploma or diploma		Certificate			
Burdekin	1,074	7.7%	698	5.0%	3,278	23.3%	6,658	47.4%
Charters Towers	800	8.6%	470	5.0%	1,856	19.9%	4,469	47.9%
Flinders	86	6.8%	61	4.8%	237	18.7%	542	42.7%
Richmond	56	8.8%	44	6.9%	129	20.2%	309	48.4%
McKinlay	70	10.5%	33	5.0%	150	22.6%	350	52.6%
Cloncurry	269	11.1%	126	5.2%	513	21.2%	1,350	55.9%
Mount Isa	1,775	12.5%	765	5.4%	3,667	25.8%	8,343	58.8%
Queensland	693,410	18.3%	330,619	8.7%	807,105	21.3%	2,241,124	59.1%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

4.5.2 Employment

Table 4-14 shows the number of people in the labour force for each LGA in the regional study area, and the unemployment rate for the December quarter of 2019. Unemployment rates in Richmond (2.8%), McKinlay (2.8%), Flinders (3.7%) and Cloncurry (4.5%) LGAs were lower than the State (6.1%). The Charters Towers (9.7%) and Mount Isa (8.2%) LGAs had the highest rate of unemployment in December 2019. Despite this, there is a reported skill shortage in Mount Isa region (Barry 2019). The reported labour shortage was confirmed during consultation, where attracting and retaining skilled and unskilled labour is considered a key issue for many LGAs in the regional study area. This indicates that there is a mismatch between the jobs available and the skills available in the workforce.

Table 4-14 Unemployment and labour force (2019)

LGA	Unemployed	Labour force	Unemployment rate
Burdekin	569	8,376	6.8%
Charters Towers	505	5,206	9.7%
Flinders	37	1,005	3.7%
Richmond*	14	502	2.8%
McKinlay*	14	502	2.8%
Cloncurry*	90	1,988	4.5%
Mount Isa	1,000	12,190	8.2%
Queensland	165,600	2,693,700	6.1%

Source: (Australian Government 2019a), *Small Area Labour Markets Publication*, December Quarter 2019 smoothed data and (Australian Government 2019b) *Small Area Labour Markets Publication*, December Quarter 2019 unsmoothed data
*Where smoothed data is not available due to a break in the unsmoothed series between the March and June quarters 2019,.unsmoothed data has been used. Please exercise significant caution when examining these figures, as they exhibit far greater volatility than the smoothed series.

Unemployment rate

Figure 4-2 shows the unemployment rate in Charters Towers, Burdekin, Mount Isa and Flinders LGAs from December 2015 to December 2019 compared to Queensland. Unemployment rate data from December 2015 to December 2018 for the McKinlay, Cloncurry and Richmond LGAs was unavailable[1]. See Table 4-14 above for unemployment rate data for all LGAs in the regional study area in the December 2019 quarter.

For the period reviewed the unemployment rate for each LGA includes a number of trends:

- The unemployment rate in the Flinders LGA has consistently been below that of the State
- The unemployment rate in the Charters Towers, Burdekin and Mount Isa LGAs has been above that of the State since December 2016.
- Unemployment peaked in the Charters Towers and Burdekin LGAs in December 2016 and has generally been on a downward trend since
- Unemployment peaked in the Mount Isa LGA in December 2018.

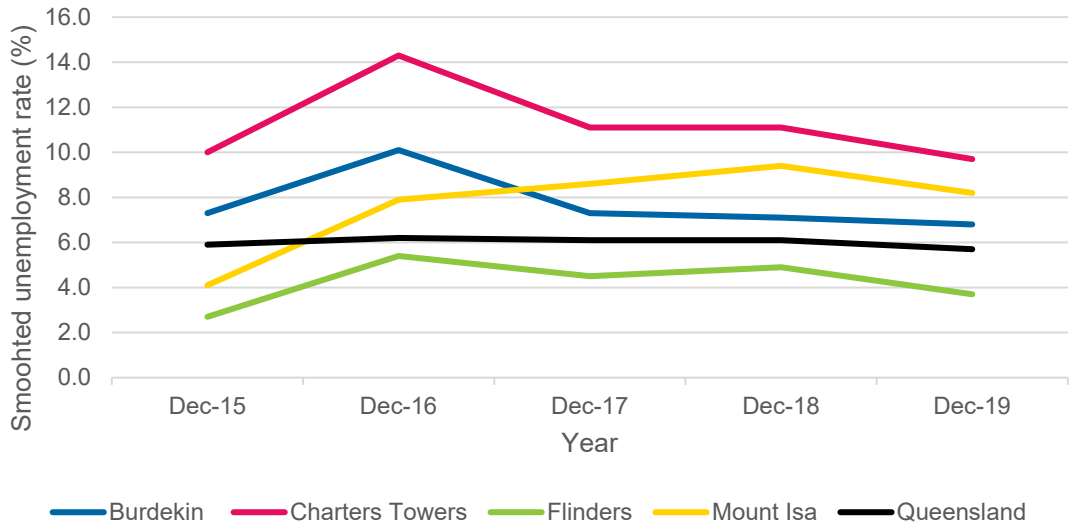


Figure 4-2 Unemployment rate

Source: (Australian Government 2019a), Small Area Labour Markets Publication, December Quarter 2019 smoothed data and (Australian Bureau of Statistics, 2020) *Labour Market Data – April 2020*

Indigenous unemployment

During consultation, it was noted by stakeholders across the regional study area that unemployment was higher in the Indigenous population. The most up to date employment data, from the ABS (2019) detailed in Table 4-14 does not provide any disaggregation on Indigenous status. However, the 2016 Census (2017a) provides unemployment data by Indigenous status, which is presented in Table 4-15.

This data indicates that unemployment reported in the 2016 Census for non-Indigenous people was below that of the State (7.2%), with the exception of the Charters Towers LGA (7.4%), which was generally similar. Indigenous unemployment was above that of the State (20.1%) for all areas except the Flinders (12.1%), Cloncurry (18.1%), and McKinlay (0.0%) LGAs. However the McKinlay LGAs low unemployment likely reflected the low (10) Indigenous workforce in the

[1] Data is unavailable due to a break in series caused by the shift from the 2011 to the 2016 Australian Statistical Geography Standard

area. All other areas had considerably higher levels of unemployment than their non-Indigenous counterparts.

Table 4-15 Unemployment rate by Indigenous and non-Indigenous status (2016)

LGA	Indigenous	Non-Indigenous	Indigenous status not stated
Burdekin	25.3%	5.0%	7.0%
Charters Towers	32.8%	7.4%	10.2%
Flinders	12.1%	3.5%	0.0%
Richmond	25.0%	1.2%	0.0%
McKinlay	0.0%	2.3%	0.0%
Cloncurry	18.1%	2.1%	0.0%
Mount Isa	20.6%	4.0%	11.7%
Qld	20.1%	7.2%	9.9%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

Non-resident workforce populations

The North West Queensland Regional Organisation of Councils (NWQROC)[2] *Regional Profile* (AEC Group 2018) compares employment by place of work with employment by place of usual residence as an indicator of the non-resident workforce in the North West Queensland region. Utilising this approach, the 2016 Census data indicates that 3,592 jobs were filled by non-residents in the North-West Queensland region, equating to 21.1% of total jobs (AEC Group 2018). Mining accounted for nearly half (1,700) of all jobs filled by the non-resident population. Other sectors with high external worker demands included construction (459 jobs) and manufacturing (313 jobs) (AEC Group 2018).

The Cloncurry LGA and Richmond LGA had the highest reliance on a non-resident workforce, where non-residents accounted 53% and 46% of the total 2016 workforce respectively.

Industry

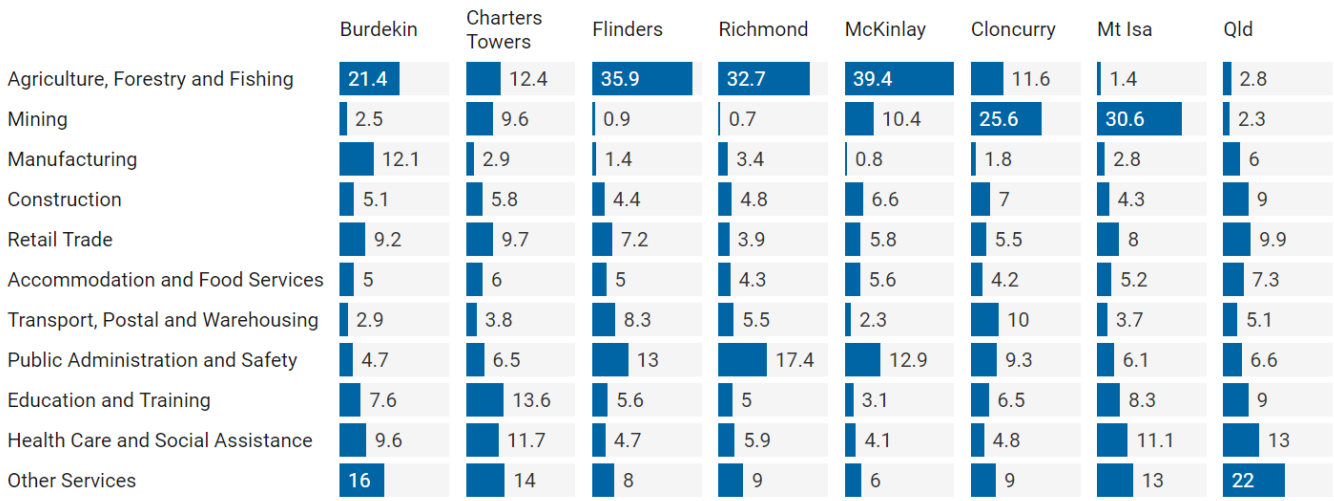
Figure 4-3 shows a snapshot of employment by the top ten industries of employment in the regional study area and Queensland in 2016. As shown, primary production activity (agriculture, forestry and fishing) was the dominant industry of employment in the Burdekin (21.4%), Flinders (35.9%), Richmond (32.7%), and McKinlay (39.4%) LGAs.

The Charters Towers LGA held its largest workforce in the education and training industry (13.6%). As noted in the North Queensland Regional Plan (Queensland Government 2019b), Charters Towers is the ‘education centre of the west’, with eight schools located in the Shire. There was also a large proportion of the Charters Towers LGA population employed in primary production activities (12.4%).

Mining was the largest industry of employment in both the Cloncurry (25.6%) and the Mount Isa (30.6%) LGAs.

[2] Comprised of the Burke, Carpentaria, Cloncurry, Doomadgee, Flinders, McKinlay, Mount Isa and Richmond LGAs.

Figure 4-3 Employment (percentage) by top ten industries



Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

Table 4-16, shows the breakdown of occupations that may be most relevant to the construction and operation of the Project, as at the 2016 Census.

Table 4-16 Selected occupations by LGA

LGA	Technicians and trade workers		Machinery operators and drivers		Labourers	
Burdekin	1,168	14.9%	908	11.6%	1,297	16.5%
Charters Towers	647	14.1%	506	11.0%	689	15.0%
Flinders	70	8.9%	81	10.3%	147	18.7%
Richmond	45	10.4%	39	9.0%	88	20.3%
McKinlay	53	10.8%	55	11.2%	87	17.8%
Cloncurry	229	15.1%	280	18.5%	220	14.5%
Mount Isa	2,026	22.2%	1,437	15.8%	836	9.2%
Queensland	305,441	14.3%	147,636	6.9%	225,268	10.5%

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

4.5.3 Income

As shown in Table 4-17, based on 2016 census data, the Charters Towers and Flinders LGAs had a lower weekly median household income than Queensland. The Mount Isa LGA had a much higher weekly median income than Queensland.

Table 4-17 Median weekly household income (2016)

Burdekin	Charters Towers	Flinders	Richmond	McKinlay	Cloncurry	Mount Isa	Qld
$1,177	$1,047	$1,109	$1,183	$1,135	$1,646	$2,132	$1,402

Source: ABS (2017a) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

Households with higher income tend to have greater economic resources and corresponding increased levels of wellbeing. Low income households generally have fewer economic resources, are more likely to be negatively affected by changes in personal circumstances and tend to have lower levels of wellbeing (ABS 2017b).

Low income households are defined here as households in the bottom 40% of equivalised income distribution (PHIDU Torrens University Australia 2020). Equivalised household income is the total household income adjusted by the number of persons within a household (ABS 2020). Therefore, it enables the comparison of income for a single person household with that of a multi-family household.

Table 4-18, based on 2016 PHIDU data shows a snapshot of the proportions of low income households in each LGA and Queensland. The Charters Towers and Burdekin LGA had the highest proportion of low income households (44% and 42% respectively) when compared to each LGA and a similar proportion compared to Queensland (41%).

Table 4-18 Low income households

LGA	Low income households	% low income households
Burdekin	3,048	42%
Charters Towers	2,233	44%
Flinders	279	39%
Richmond	139	36%
McKinlay	113	30%
Cloncurry	323	23%
Mount Isa	1,528	21%
Queensland	680,126	41%

Source: PHIDU Torrens Unviersity Australia (2020) *2016 Census of Population and Housing. General Community Profile. Catalogue number 2001.0*

4.6 Healthy, safe and connected communities

Self-assessed health and psychological distress

Figure 4-4 and Figure 4-5 show psychological distress and self-assessed health[3] within the regional study area. These are modelled estimates based on responses on the 2017-18 National Health Survey, conducted by the ABS by people aged 15 years and over. As this data is based on modelled estimates, it is indicative of the likely social dimensions within an area and does not represent a count or measure of population characteristics in the same way that the census does (PHIDU Torrens University Australia 2019).

No data was available for the Richmond, Flinders, McKinlay or Cloncurry LGAs. As shown in Figure 4-5 the Mount Isa (18.2 %) and Charters Towers (18.7 %) LGAs had elevated levels of fair or poor health compared to Queensland (15.4 %). Levels of self-assessed health in the Burdekin (15.7 %) LGA were consistent with Queensland.

Figure 4-4 shows that rates of psychological distress were slightly elevated in the Mount Isa (13.6 %) LGA compared to Queensland (12 %). Rates of psychological distress in the Charters Towers (11.9 %) LGA was consistent with Queensland, and was slightly lower in the Burdekin (9.6 %) LGA.

[3] Self-assessed health is a commonly used measure of health in Australia. Despite concerns about potential bias, self-assessed health has been shown to be a strong predictor future health status and demand for services (Doiron et al. 2015).

Figure 4-4 Psychological distress

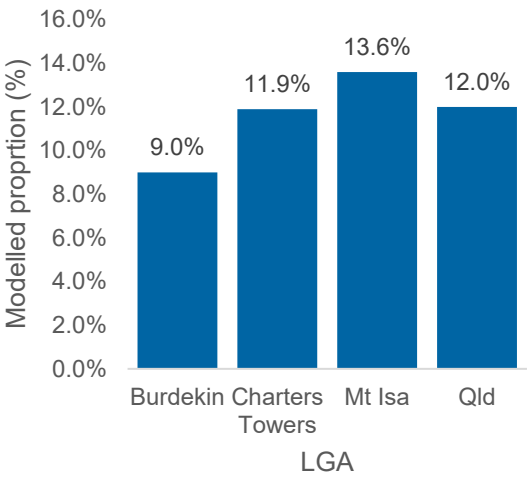
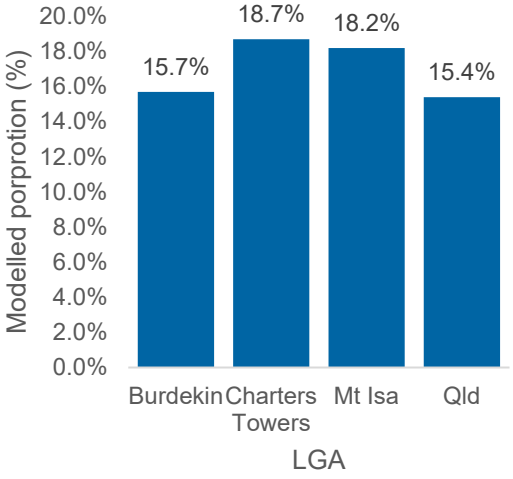


Figure 4-5 Fair or poor self-assessed health



Source : PHIDU Torrens University Australia (2019) *Social Atlas*

Community safety and crime

Table 4-19 details selected offences within the regional study area. However, following limitations of the data should be noted:

- The statistic is calculated based on the number of offences per 100,000 persons. The population of the selected LGAs is comparatively small, which results in dramatic increases and decreases in the statistic.
- The data below represents reported crime only, and the reporting rate for different offences can differ dramatically: “for example, approximately 95% of motor vehicle theft is reported to police whilst only 33% of sexual offences are reported” (QPS 2016). Similarly, the crime rate can be easily impacted by the activities of the police force (*ibid.*).

Many LGAs within the regional study area reported higher offences against the person than Queensland. However, offences against property were generally lower than the Queensland average. This was particularly elevated in the Mount Isa LGA, with

- 4,076 offences against the person per 100,000 persons reported in the Mount Isa LGA compared to 729 in Queensland
- 13,000 offences against property per 100,000 persons reported in the Mount Isa LGA compared to 5,060 in Queensland.

Table 4-19 Offences against the person and property (per 100,000 persons)

LGA	Offences against the person		Offences against property	
	2017/2018	2018/2019	2017/2018	2018/2019
Burdekin	1,035	1,069	3,929	4,508
Charters Towers	1,265	1,363	3,333	3,758
Flinders	1,400	1,149	5,603	2,975
Richmond	248	864	1,861	7,160
McKinlay	860	855	1,228	2,689
Cloncurry	2,297	2,000	5,920	4,852

LGA	Offences against the person		Offences against property	
	2017/2018	2018/2019	2017/2018	2018/2019
Mount Isa	3,919	4,076	11,155	13,000
Queensland	731	729	4,883	5,060

Source: QGSO (2020b) *Queensland Regional Database: Reported Offences.*

Offences against the person includes the following: homicide (murder); other homicide; assault; sexual offences; robbery; and other offences against the person
Offences against property includes the following: unlawful entry with intent; arson; other property damage; unlawful use of motor vehicle; other theft (excluding unlawful entry); fraud; and handling stolen goods.

Table 4-20 shows the modelled number of people aged 18 years or over who felt very safe or safe walking alone in the local area at night[4]. Data for the McKinlay, Cloncurry, Flinders and Richmond LGAs was not available[5]. However, during consultation, these smaller communities noted that residents experience limited crime and that community trust and safety was highly valued by residents.

The Mount Isa LGA had a lower proportion of people aged 18 years or over who felt safe walking alone at night (40.0%) compared to Queensland (50.9%). People in the Burdekin and Charters Towers LGAs reported a similar perception of safety to the State overall.

Table 4-20 Estimated proportion of people aged 18 years and over, who felt very safe/safe walking alone in local area at night

LGA	People aged 18 years or over
Burdekin	47.0%
Charters Towers	49.5%
Mount Isa	40%
Queensland	50.9%

Source : PHIDU Torrens University Australia (2019) Social Atlas

Previous project experience with workforce accommodation facilities

Many of the communities in the regional study area have experience hosting non-residential workforces in temporary construction camps. During SIA consultation, the majority of LGAs noted that past experience with temporary construction camps had been positive, and noted in particular that integration of workforces into community activities and use of community facilities and businesses had resulted in generally positive impacts for regional communities.

However, during SIA consultation, also found that that hosting large non-residential workforces can present some challenges for local communities. Specifically, it was noted that . non-residential or transient workforces can present some concerns in regards to community safety. That being said, most stakeholders noted in SIA consultation that workforces are governed by codes of conduct and that anti-social behaviour from non-residential workforces had not been an issue experienced by communities in the regional study area in the past. As a result, the

[4] As noted previously, modelled estimates are based on responses on the 2017-18 National Health Survey, conducted by the ABS by people aged 15 years and over. As these data are modelled estimates, they are indicative of the likely social dimensions within an area and do not represent a count or measure of population characteristics in the same way that the census does (PHIDU Torrens University Australia, 2019).
[5] Data was not available for Local Government Areas with populations under 1,000 or with a high proportion of their population in non-private dwellings (hospitals, gaols, nursing homes and also excludes members of the armed forces), very remote areas, discrete Aboriginal communities and where the relative root mean square errors on the estimates was 1 or more.

majority of LGAs expressed a desire to host workforce accommodation facilities within or proximal to towns.

Connected communities

The Flinders Highway and Barkly Highway are the primary state-controlled roads that traverse the regional study area. These roads are the dominant form of transport in the region, inclusive of general passenger transport and non-mining freight.

Most freight from the mines in the regional study area are delivery by road to rail heads to be transported via rail to Townsville (Queensland Government 2010).

Regular commercial air services are available throughout the regional study area, including in Mount Isa, Cloncurry, and Townsville. Rex Airlines operates a service that connects Townsville to Mount Isa, with stops at Hughenden, Richmond and Julia Creek. SIA consultation found that the cost of flights contributes to the isolation of the region and is viewed by some as reducing the attractiveness of the region to families, as the expense to visit family or take holidays is seen to be cost prohibitive.

The Great Northern Railway (Mount Isa line system) is over 1,000 km in length, extending from Stuart (near Townsville) to Mount Isa. The Mount Isa line also includes the Phosphate Hill branch. The Mount Isa line is the critical rail line between the North West Minerals Province and the Port of Townsville, where the western minerals and bulk products are exported.

4.7 Social infrastructure

4.7.1 Health infrastructure

A review of the primary health referral pathways shows that local hospitals throughout much of rural Australia refer major and complex health incidents to larger hospitals with greater resources. The Mount Isa, Cloncurry and McKinlay LGAs are located within the Western Queensland Primary Health Network. The remaining LGAs in the study area are located in Northern Queensland Primary Health Network.

People requiring higher levels of generalist or specialist care, than available locally are referred to a secondary or tertiary health service at Mount Isa or Townsville depending on timing, availability and urgency. All health services and hospital in proximity to the identified townships are listed in Table 4-21.

Table 4-21 Health services

Hospital or services	Address
Charters Towers Health Centre	137 – 139 Gill Street, Charters Towers Qld 4820
Charters Towers Rehabilitation Unit	35 Gladstone Road, Charters Towers Qld 4820
Hughenden Health Service	Richmond Hill Drive, Hughenden Qld 4821
Richmond Health Service	Gallagher Drive, Richmond Qld 4822
McKinlay Shire Multi-Purpose Health Service	1 Burke Street, Julia Creek Qld 4823
Cloncurry Hospital	Musgrave Street, Cloncurry Qld 4824
Mount Isa Hospital	30 Camooweal Street, Mount Isa Qld 4825
Dajarra Health Centre	Matheson Street, Mount Isa Qld 4825

Source: Queensland Government, Queensland Health, Hospital and Health Service facility profiles (2014)

4.7.2 Emergency services

Emergency services (police, fire and ambulance) are located in Charters Towers, Hughenden, Richmond, Julia Creek, Cloncurry and Mount Isa (Table 4-22). All fire services in the regional study area are Rural Fire Services, a volunteer arm of the Queensland Fire Emergency Services. All Rural Fire Services in the regional study area are auxiliary stations which are not crewed full time, except for Charters Towers and Mount Isa.

Table 4-22 Emergency services

Township	Police service	Rural fire service	Ambulance station
Charters Towers	✓	✓	✓
Hughenden	✓	✓	✓
Richmond	✓	✓	x
Julia Creek	✓	✓	✓
Cloncurry	✓	✓	✓
Mount Isa	✓	✓	✓

✓ - Auxiliary station which is not crewed full time

4.7.3 Recreation and natural conservation areas

A review of land uses and conservation areas within and proximal to the Project's construction footprint was undertaken to identify areas that may have conservation and recreation value, as outlined in Table 4-23.

Table 4-23 Recreational values

Name	Recreational and social values	LGA	Distance from Project*
White Mountains National Park	• Camping and recreation value	Flinders Shire	4.2 km - intersected by Project.
Ballara Nature Refuge	• Conservation value	Cloncurry	0 km - intersected by Project.
Chinaman Creek Dam Reserve	• Recreational value	Cloncurry	2.5 km from the Project
Clem Walton Park /Dam	• Recreational value • Economic value - tourism	Cloncurry	3.6 km from the Project
Fountain Springs Circuit	• Recreational value • 4 WD circuit • Highly frequented destination – part of the 'Overlanders Way' track	Cloncurry	3.6 km from the Project

* The distance from the Project was measured from the closest edge of the recreational area to the Project.

4.8 Summary of vulnerability in the region

Vulnerability is defined as the inability of people to withstand or adapt to change due to their social characteristics. Specifically, it relates to how a group will be impacted by a change due to their *sensitivity to change* and their *ability to adapt to change* (adaptability) including access to socio-economic resources to cope with a change (Cinner et al. 2012; Rakauskiene and Strunz 2016).

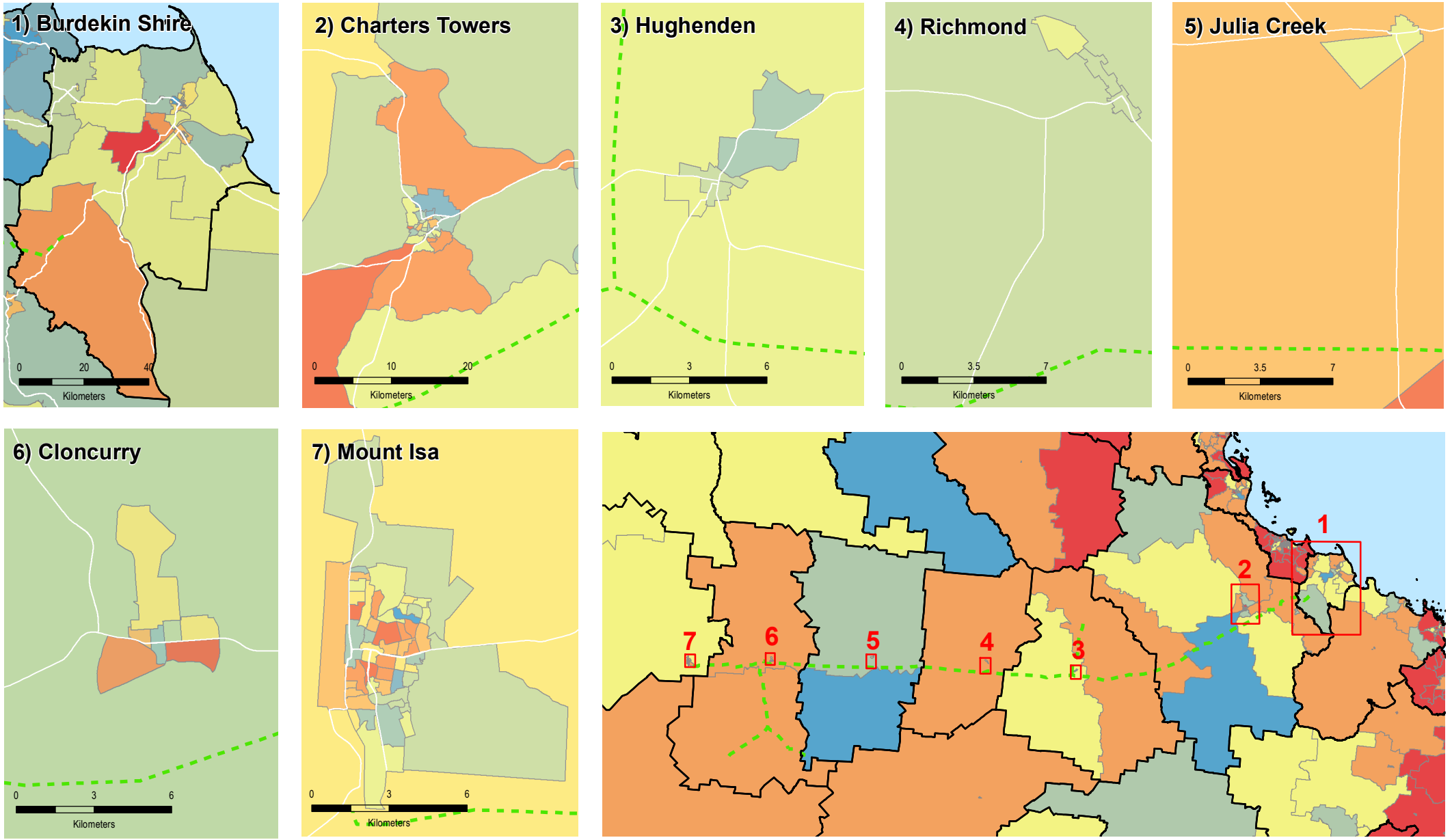
The ABS produces four socio-economic indices for areas (SEIFA) based on the 2016 Census, which identify areas of relative advantage and disadvantage. The Index of Relative Socio-Economic Advantage/Disadvantage (IRSAD), summarises information about the socio-economic conditions of people and households within an area, based on measures of relative advantage and disadvantage. This index has been selected as it helps identify areas that may be vulnerable to change as they lack resources (disadvantaged areas) and those areas that are likely to have be less vulnerable to change, as they have access to socio-economic resources (advantaged areas).

Socio-economic advantage and disadvantage are defined broadly by the IRSAD in terms of people's access to material and social resources and their ability to participate in society (ABS 2018a). In order to capture this broad definition, the IRSAD includes a range of data points, including income, education, employment, occupation, and housing. The IRSD divides a population of the state into ten equal groups. The lowest scoring 10 percent of these groups are given a decile number of 1, which indicates the highest level of disadvantage, and the highest scoring 10 percent of areas are given a decile of 10, which indicates the lowest level of disadvantage. The groups used in this report are the ABS' Statistical Area 1 (SA1), which is the smallest statistical area reported by the ABS.

The 2016 IRSAD is shown in Figure 4-6. The distribution of advantage and disadvantage by LGA can be described as follows:

- The west of the Burdekin LGA, where the Project initiates, is relatively advantaged placed within decile 6.
- The rural areas of Charters Towers LGA that the Project intersects range from decile 3 in the east to decile 1 in the west. Charters Towers itself is relatively disadvantaged, with most of the town placed within the deciles 1-3. The north-east of the town has one area in decile 5 and one in decile 6.
- The rural areas of the Flinders LGA is relatively advantaged, with SA1s placed within deciles 6 and 7; one small area north of Hughenden is placed within decile 5. Disadvantage is concentrated in Hughenden, with SA1s are placed within deciles 2-3.
- The rural area of the Richmond LGA is relatively advantaged, with SA1s placed within decile 7; however, the town of Richmond is relatively disadvantaged, with the population placed within deciles 2-3.
- The rural area of the McKinlay LGA is relatively advantaged, with SA1s placed within decile 8-9. However, Julia Creek is relatively disadvantaged, within the SA1 placed within decile 3.
- The northern rural area of the Cloncurry LGA is neither relatively advantaged or disadvantaged, and is placed within decile 5. The southern rural area of the Cloncurry LGA is relatively disadvantaged, and is placed in the lowest decile (1). Cloncurry itself presents a range of disadvantage, with the SA1s placed within deciles 2-6.
- The majority of the rural area of the Mount Isa LGA is within decile 5; although there is a SA1 that stretches over the Mount Isa and Burke LGAs that is within decile 2. The Mount Isa township has a spread of advantage, with SA1s particularly around the southern and western periphery of the town placed within advantaged deciles (6-10), and disadvantaged SA1s located in the north of the town (1-2). The centre of the town has a population within the mid-range (4-5).

In summary, disadvantage in 2016 was generally concentrated within urban areas in the regional study area. Rural areas tended to be relatively advantaged. However, there were a number of exceptions to this, including relatively advantaged areas in the Mount Isa township, and relatively disadvantaged rural areas in the Charters Towers LGA.



N

Paper Size ISO A4
Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

GHD

LEGEND

- Proposed Alignment
- LGA
- State Roads

IRSAD Decile

1	6
2	7
3	8
4	9
5	10

The Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) summarises information about the economic and social conditions of people and households within an area, including both relative advantage and disadvantage measures.
Deciles: all areas are ordered from lowest to highest score, then the lowest 10% of areas are given a decile number of 1, the next lowest 10% of areas are given a decile number 2 and so on, up to the highest 10% of areas which are given a decile number of 10. This means that areas are divided up into ten equal sized groups, depending on their score.

CuString Pty Ltd
CuString EIS
Social Impact Assessment

Index of Relative Advantage and Disadvantage

Project No. **4221176**
Revision No. **B**
Date **16 Nov 2020**

FIGURE 4-6

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Data source: Australian Bureau of Statistics, Statistical Area Level 1 Boundaries (2016); Australian Bureau of Statistics, Socio-Economic Indexes for Areas (2016); QLD Department of transport and Main Roads, State Controlled Roads (2020) .
Created by: jglasby

5. Workforce profile

5.1 Local workforce participation

CuString will, where possible and competitive, employ locally and regionally however some specialist roles may be sourced from elsewhere in Queensland, Australia or from overseas.

While Townsville will be the main point of employment, the Project will also operate points of employment at Charters Towers, Pentland, Hughenden, Richmond, Julia Creek, Cloncurry and Mount Isa to allow residents living along the corridor selection an opportunity to be employed by the Project.

CuString will work with councils, education and training providers, and labour force suppliers to develop a local training, education and employment program that will develop measures to:

- Maximise local participation and employment (including work readiness if appropriate)
- Maximise Indigenous participation and employment
- Employ apprentices and trainees (including work readiness if appropriate).

In all instances, the Project will strive for an inclusive workforce in respect to Indigenous employees, people with a disability and other groups that enhance the diversity of employees.

All workers will undertake the site and Project inductions and these will include training in safety systems, cultural awareness, environmental compliance, controls and procedures, landholder dealings and land management.

5.2 Local business participation

CuString will, where possible and competitive, subcontract locally and regionally however subcontracts that require specialist skills may be sourced from elsewhere in Queensland, Australia or from overseas.

CuString is in the process of establishing an ICN portal for the registration of interest for businesses wishing to be involved in the Project. The portal will allow businesses to register their details. This information will be made available to organisations tendering for the major contractor roles.

CuString will hold a number of town hall meetings and ‘meet the buyer’ events to allow direct connections between local businesses and tenderers.

5.3 Construction workforce skills and source

The Project is expected to provide a total of 750 full time equivalent jobs during the construction phase. The source of the workforce is largely dictated by the availability of skilled workers in an area. The expected construction workforce skills and source of these skills has been detailed in Volume 3 Appendix AB Economic Impact Assessment and is summarised as follows:

- **Civil workers**, which will include piling rig offsiders, roads crew, vegetation clearing crew, concreting crew and steel fixers in yard. The skills required for this type of work are generic and local workers will be given preference wherever possible. In general, these workers will be based in regional Queensland.
- **Fibre jointers**. This work will most likely be undertaken by a Queensland-based company.
- **Steel construction workers and the aerial crew,** which will include riggers, truck drivers, crane operators, and helicopter pilots. CuString is confident that most of these workers will

be Australian residents on a FIFO basis to Townsville or Cloncurry, but with some itinerant workers from overseas (possibly from Asia or South America).

The final workforce numbers and source will be determined by the construction Contractor, who will be guided to maximise regional workforce as per the local training, education and employment program within the workforce management plan, as detailed in section 8.5

5.3.1 Workforce accommodation

Given the remote location of the corridor selection and the need to limit employee travel to and from work, it is necessary for the workforce to be located temporarily within the regional study area while they are on shift. CuString acknowledges the potential impact of a large workforce on housing availability. For this reason, it is planned that temporary construction camps will house the majority of the construction workforce, which will be bussed to and from these camps to the construction zone each day.

Preliminary camp locations have been identified in Volume 1 Chapter 2 Project description and are summarised in Table 5-1. All camps would be located within 5 km of the nearest town, with the exception of the camps at Charters Towers and Julia Creek, which are located within 10 km of the towns. The estimated capacity is based on a requirement to have a surplus of 50 beds at each camp to accommodate any unanticipated additional staffing requirements. These accommodation numbers represent a nominal maximum.

Table 5-1 Indicative workforce accommodation location and capacity

Location of Accommodation	Capacity (beds)
Options under consideration include Mingela and the Woodstock Substation	350
Charters Towers	350
Pentland	350
Hughenden	350
Richmond	350
Julia Creek	350
Cloncurry	350
Mount Isa	250
Cloncurry	Incl. above
Selwyn Substation	250

Source: Volume 1 Chapter 2: Project description

Construction camps installed by the Project will only be utilised for the construction period of the Project and will be decommissioned at the end of the construction program.

The operational period of each of the construction camps varies in accordance with the construction schedule. For the assumed construction staging, these periods are highlighted in Table 5-2.

Table 5-2 Anticipated construction camp operation schedule

Accomodation Location	Month																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Woodstock																															
Charters Towers																															
Pentland																															
Hughenden																															
Richmond																															
Julia Creek																															
Cloncurry																															
Selwyn Substation																															
Mount Isa																															

Key:
- Camp Assembly
- Operational (occupancy will fluctuate depending on activities)
- Camp Demobilisation

Note: Schedule does not include the procurement of camp materials

Source: Volume 1 Chapter 2: Project description

As noted in Volume 1 Chapter 2: Project description, the mine site substations will require a shorter construction period, with a construction workforce of 20 to 25 personnel. It may be possible to utilise CuString's customer's mine camps for the construction of these substations.

Design

Finalisation of the construction camps will be completed by specialist contractors (or sub-contractors) that will construct and operate the camps. The contractors will be responsible for ensuring the facilities meet all applicable occupational health and safety requirements, including those relating to food preparation and storage, ablutions and water quality, vector and vermin control, and safety and emergency services. All camps will be of a similar structure and will be built to current industry standards and the requirements of local laws and approval conditions.

The facilities and services expected to be provided at each camp are detailed in Volume 1 Chapter 2 Project description. At a high level, all camps will include the following features:

- Kitchen
- Dining hall
- Ice station
- Meeting rooms
- Laundry facilities
- Recreational facilities
- Gymnasiums

Accommodation units.

5.4 Operations

The Project's operation would require up to 30 full time equivalent personnel. The operational workforce will be either involved in:

- Project maintenance – maintenance of the transmission network is likely to be contracted to existing transmission line maintenance providers in the region. Specialist crews would be required to inspect and maintain the substation infrastructure. The maintenance workforce has been estimated at 15 personnel, from the regional study area.
- Network control – the network control workforce based in Townsville with an estimated maintenance workforce has been estimated at 15 people.

6. Potential social impacts and opportunities - local study area

This section describes and assess the potential social impacts of the Project during construction and operation within the local study area. The local study area includes the projects construction footprint and its direct surrounds. Therefore, this section focuses on landholders located within the local study area who may potentially be impacted by the Project.

6.1 Landholder wellbeing

Pre-construction and construction

The time required by landholders to engage with CuString for land access negotiation, and the construction of the Project has the potential to result in feelings of stress, anxiety, and frustration for some landholders, particularly those who do not wish to host Project infrastructure. These emotions may continue through to and during the construction of the Project.

SIA consultation found that many landholders reported low levels of stress and frustration associated with the Project. The generally high level of community and landholder acceptance of the Project is likely to be a product of the long period of Project development, and the large size of properties, where there is often considerable distance between the residences and the corridor selection. However, it is recognised that there are differing views on hosting Project infrastructure.

The impacts to landholder wellbeing will be managed through:

- Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, and communication arrangements
- Developing and implementing a Construction Environmental Management Plan for the Project
- Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members
- Developing a stakeholder engagement plan to communicate project related updates and complaints management procedure to effectively respond to and monitor complaints.

The risk assessment for this impact is outlined in Table 6-1. It is noted that the assessment remains unchanged, as there would be individuals who would experience stress and anxiety as a result of the Project's planning and construction, regardless of mitigation or management measures.

Table 6-1 Risk assessment –landholder wellbeing (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's planning and construction may reduce the wellbeing of landholders through feelings of stress, anxiety, and frustration.	Possible	Moderate	Medium	Possible	Moderate	Medium

Operation

Potential health impacts associated with electro-magnetic fields were raised during SIA consultation. Volume 3 Chapter 16 Hazards, health and safety assesses the potential for health impacts due to the operation of the Project. Consequently, this has not been assessed further in this SIA.

The presence of the Project in the local study area would generate a permanent hazard for heli-mustering in particular, with helicopters flying at low altitudes, and the general operation of aircraft. Volume 3 Chapter 16 Hazards, health and safety assesses the potential hazards and risk associated with heli-mustering and the Project's operation and provides a range of mitigation and management measures. Consequently, this has not been assessed further in this SIA.

6.2 Impacts on landholders and the productivity of their properties

Construction

The construction of the Project has the potential to result in a number of changes to property management and infrastructure for landholders. These include:

- Vegetation clearing within the operational clearance boundary of the transmission line
- Introducing weeds from vehicles moving across properties
- Restricting use of the construction area for grazing
- Removal or accidental damage to property infrastructure or potential misuse of existing infrastructure (e.g. leaving gates open, breaking of fences, damage to existing access tracks or pasture).

These changes are likely to result in increased requirements for property management by the landholders.

The Project's planning and construction will require landholders to engage with Project staff and manage Project activities on their properties. This time, along with responding to other property management changes, may reduce the time available for regular agricultural or property maintenance activities. This additional investment of time and property maintenance may result in flow on reduction in property productivity.

The impact of construction on productivity of properties would largely depend on the existing activities undertaken in the area under the project footprint, as is detailed In Volume 3 Appendix AB Economic impact assessment. In recognition of this, a corridor selection process was undertaken to limit impacts of the Project through appropriate route selection, which took into consideration current farm infrastructure, including clusters of dwellings.

The impacts to landholder's and the productivity of their properties will be managed through:

- Land access and compensation negotiations will be undertaken individually with affected landholders.
- Developing and implementing a Construction Environmental Management Plan for the Project
- Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, and communication arrangements
- Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members.

The risk assessment for this impact is outlined in Table 6-2.

Table 6-2 Risk assessment – landholders and the productivity of their properties (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction activities and the time required for landholders to engage with the Project may increase requirements for property management and reduce property productivity.	Likely	Moderate	Medium	Possible	Minimal	Low

Operation

The majority of land disturbed during the Project's construction would be reinstated during the Project's operation and would be available for use by landholders. The easement would be maintained for the life of the Project. Generally, landholders would be able to resume pre-construction activities within the easement. However, it is expected that there would be vegetation height restrictions, alongside potential limits to fuel load. Landholders would also be restricted on the types of infrastructure and activities that can be undertaken within the project easement, which may restrict future development plans for the landholder.

In addition, as noted through consultation with the landholders, it is likely that the presence of a transmission line:

- May increase the cost or number of heli-musters required on their property
- May poses a health and safety risk for pilots when heli-mustering, which is discussed further in Volume 2 Chapter 16 Hazards, health and safety
- Maintenance activities may introduce and spread weeds through the movement of vehicles across properties.

The potential for landholders to increase costs to operate their property and business will be managed through the development of a landholder compensation agreement. Where the transmission line crosses any area that is used for aviation purposes, transmission line identification markers will be installed to indicate the position and/or direction of the transmission line. This does not include heli-mustering areas unless the land owners specifically apply for identification markers through the Network Service Provider.

The potential for spread of weeds during maintenance activities would be managed in line with the mitigation measures detailed in Volume 3 Appendix S Concept biosecurity plan.

The risk assessment for this impact is outlined in Table 6-3.

Table 6-3 Risk assessment – landholders and the productivity of their properties (operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's establishment would restrict landholder activities within the easement, and may increase the cost of property operation and maintenance.	Likely	Minor	Medium	Possible	Minimal	Low

6.3 Impacts on amenity and privacy

Construction

The Project's construction would involve vegetation removal, foundation installation, construction of the transmission towers, conductor stringing, and rehabilitation and generate construction traffic. Construction activities are likely to result in temporary changes in air quality and noise amenity, including increased dust and noise.

As detailed in Volume 2 Chapter 10 Noise and vibration and Volume 2 Chapter 9 Air and greenhouse gas, a two kilometre buffer has been adopted to identify sensitive receptors which includes residential dwellings that may experience increase in dust and noise during the Project's construction. There are 53 sensitive receptors within this buffer. Of these, the majority (46 receptors) are located greater than 750 m from the proposed transmission line. The exception to this is 10 residential dwellings that provide existing workers accommodation, which are located between approximately 150 m and 350 m of the existing Mount Isa Substation.

The consequence of changes in air quality and noise amenity is being assessed as part of the EIS in other technical studies, however, this report addresses the perceived decrease in the amenity and associated quality of living and working environment.

Depending on the location of the construction works relevant to the day to day activities of landholders, increased dust and noise may be noticeable and be perceived as intrusive and annoying at time for some as it may momentarily/temporarily disrupt some day to day activities such as conversations, watching television, resting or relaxation, particularly given that many landholders currently enjoy remote and quiet rural lifestyle. Similarly, the changes in visual amenity, from rural or natural landscapes which in some cases is highly valued, to construction sites may be perceived to reduce people's rural visual amenity, as detailed in Volume 3 Appendix M Visual amenity.

Similarly, the presence of the Project's construction workforce may result in a loss of privacy for landholders. The sensitivity to this change would be felt differently depending on the landholder and the value placed on privacy and the proximity of construction activities to houses.

The changes in amenity and privacy are expected to be minimised for the majority of landholders, based on the separation distances between dwellings and the Project corridor selection as detailed in Section 3. However, this SIA recognises that the underlying sensitivity of landholders is personal in nature and the level of intrusion and change of amenity would be

influenced by the nature and duration of activities undertaken on the property in proximity to the Project and viewpoints from dwellings.

However, the level of intrusion likely to be experienced by landholders would be limited due to the placement of the corridor further away from homesteads and functional areas on the properties.

The impacts to landholder amenity and privacy will be managed through:

- Developing and implementing a Construction Environmental Management Plan for the Project, which will mitigate noise, air quality and visual impacts to receivers.
- Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, communication and compensation arrangements.
- Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members.
- Developing a complaints management procedure to effectively respond to and monitor complaints.

The risk assessment for this impact is outlined in Table 6-4.

Table 6-4 Risk assessment – amenity and privacy (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction may reduce the amenity and privacy of landholders.	Likely	Minimal	Low	Likely	Minimal	Low

Operation

The visual impact of establishing the Project infrastructure will result in a permanent change to the rural landscape. However, as discussed above, it is expected that there is a sufficient buffer between residences and Project infrastructure that changes in visual amenity of landholders would be limited and over a period of time people are likely to adjust to the changes in visual amenity, as detailed in Volume 3 Appendix M Visual amenity.

The Project's operation would require minor maintenance activities over the life of the Project, which would require ongoing property access. This may result in a temporary increase in noise levels for landholders. However, impacts on landholder's amenity and privacy would be limited, as operational activities would be infrequent and temporary.

The impacts to landholder amenity and privacy during operation would be managed through:

- Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, communication and compensation arrangements.
- Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members
- Developing a complaints management procedure to effectively respond to and monitor complaints.

The risk assessment for this impact is outlined in Table 6-5. It is noted that the assessment remains unchanged, as changes to amenity and privacy may be experienced by landholders regardless of measures to manage the land access process.

Table 6-5 Risk assessment – amenity and privacy (operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's establishment and operational activities are may reduce the amenity and privacy of landholders.	Likely	Minor	Low	Likely	Minimal	Low

7. Potential social impacts and opportunities - regional study area

This section describes and assesses the potential social impacts that may result from construction and operation of the Project on the regional study area. Impacts have been identified through a review various sources of information as described in section 2.6.

7.1 Economy

7.1.1 Regional economic benefits

The economic impacts from the Project are likely to affect a larger area than that adopted as a study area for this SIA. The Economic impact assessment (Volume 3 Appendix AB) has identified the study area to be North-West Queensland area, Queensland and Australia as a whole. The North-West Queensland area incorporates the following LGAs: Townsville, Burdekin, Charters Towers, Flinders, Richmond, McKinlay, Cloncurry, Mount Isa and a portion of the Carpentaria LGA surrounding Century Zinc Mine.

As per Volume 3 Appendix Z Economic impact assessment, over the period to 2050, the Project is projected to increase the real economic output of:

- North-West Queensland by a cumulative total of $142.6 billion (with a net present value of $81.0 billion, using a 3% real discount rate)
- Queensland by a cumulative total of $139.5 billion (with a net present value of $79.3 billion, using a 3% cent real discount rate)
- Australia by a cumulative total of $131.8 billion (with a net present value of $75.0 billion, using a 3% real discount rate).

Real income

Real income is household or individual income that has been adjusted to reflect inflation. That is, a rise in real income means an increase in purchasing power and an increase in the ability to accumulate wealth (i.e. household or individual savings).

Over the period 2020 to 2050, the Project is projected to increase the real income of:

- North-West Queensland by a cumulative total of $17.4 (with a net present value of $10.4 billion, using a 3% real discount rate)
- Queensland as a whole by a cumulative total of $54.3 billion (with a net present value of $31.7 billion, using a 3% real discount rate)
- Australia as a whole by a cumulative total of $78.4 billion (with a net present value of $45.8 billion, using a 3% real discount rate).

As outlined in Volume 3 Appendix AB Economic impact assessment, the Project is expected to stimulate economic growth in the North West Queensland region, through supporting the ongoing development of the North West Minerals Province and the burgeoning solar industry.

The risk assessment for this opportunity is outlined in Table 7-1.

Table 7-1 Risk assessment – regional economic benefits (construction and operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction and operation would result in an increase in economic output and real income.	Likely	Moderate	Medium	Likely	Moderate	Medium

7.1.2 Employment opportunities

Construction

The project will generate direct and indirect construction employment opportunities. The construction workforce will peak at 750 full time employees (see Section 5). As discussed in Section 5, where possible and competitive, the Project will employ and subcontract locally and regionally; however, specialist roles may be sourced from elsewhere in Queensland, Australia and overseas.

During SIA consultation it was noted that, employment opportunities provided by the Project were viewed by stakeholders as a positive benefit for the regional study area.

However, it was noted during consultation that much of the regional study area has a skills shortage. That is, despite unemployment rates in some cases being higher than the Queensland unemployment rate (Section 4.5.1), many regional employers struggle to attract and retain skilled and unskilled workers. These consultation findings reflect the broader literature on skills shortages in regional Australia (Sharma, Oczkowski, and Hicks 2016), and in regional and remote Queensland (Mangan and Trendle 2017). Consequently, there is potential for the Project to draw workers from existing jobs, potentially creating a short term competition for labour with particular skills in the region.

Similarly, as detailed in Section 4.5.1, the Indigenous population in many parts of the regional study area experiences high unemployment compared to their non-Indigenous counterparts. However, it is recognised that Indigenous people face other social barriers to employment, including poorer health, low levels of work retention and high levels of interaction with the criminal justice system (AIHW 2012). This means that engaging regional and regional Indigenous workforce may be challenging for the Project.

CuString will work with councils, education, and training providers, and local employment agencies to develop a local and Indigenous workforce participation plan that:

- Prioritises local and regional employment
- Maximises Indigenous employment, through investment in work-ready programs in the region
- Identifies opportunities for the employment of apprentices and trainees
- Work with local training providers to provide training for regional Indigenous and non-Indigenous workers to gain the required qualification to be employed on the project.

CuString will incorporate the above requirements into their tender evaluation process for major contracts and will work with construction alliance partners to ensure that local and Indigenous

employment strategies are incorporated into the Project's major contracts. There are additional measures for local training and employment suggested in Volume 3 Appendix AB Economics.

The risk assessment for this impact is outlined in Table 7-2.

Table 7-2 Risk assessment – employment opportunities (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction would increase the availability of local and regional employment opportunities.	Likely	Minimal	Low	Likely	Minor	Low

Operation

Network control and maintenance personnel required for operation of the Project is estimated to be up to 30 workers. Maintenance roles would be subcontracted and most likely located in either Mount Isa or Townsville, who are expected to stay in local accommodation during maintenance periods. The network control workforce will be permanently located in Townsville.

The estimated job generation beyond the social regional study area, including indirect jobs generated by the project, is discussed in Volume 3 Appendix Z Economics impact assessment.

The risk assessment for this opportunity is outlined in Table 7-3. No mitigation or management measures are proposed for this opportunity.

Table 7-3 Risk assessment – employment opportunities (operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's operation would increase the availability of local and regional employment opportunities.	Likely	Minimal	Low	Likely	Minimal	Low

7.1.3 Business opportunities

Construction

As discussed in Section 5, where appropriate and competitive, local businesses and service providers would have an opportunity to provide goods and services for the Project. It is expected that these include:

- Goods and services required to support the operation of the construction camps such as catering, cleaning, laundry, security and maintenance.
- Non-transmission infrastructure specific services, such as fencing, earthworks, and vegetation management and rehabilitation.

The economic benefit would largely be restricted to formalised supply and sub-contracting opportunities. Consultation found that local businesses throughout the regional study area are experienced in delivering the services likely to be required by the Project.

Consultation with communities throughout the regional study area found that based on previous experience, there were expectations by councils that hosting a construction camp would result in economic benefits to local businesses, such as pubs, restaurants, clubs, and gyms. Although it is expected that many of the construction camps would be located within or proximal to regional towns, it is noted that the regional economic impact of non-residential workforces in other industries is often limited. That is, non-residential workforces tend to bring supplies with them and spend their discretionary incomes in their home communities (K Storey 2001; Keith Storey 2010).

CuString will work with councils, local economic development representatives and local suppliers to develop a local and Indigenous business participation plan that:

- Will outline an approach for CuString to engage with local businesses to ensure that they are aware of supply opportunities
- Give preference to local, regional and Indigenous-owned businesses in tendering evaluation where their offers meet CuString's scope of work and are equal in terms of health, safety, and environment requirements, price, timing, quality and other evaluation criteria.

CuString will incorporate the above requirements into contractor terms and conditions.

The risk assessment for this impact is outlined in Table 7-4.

Table 7-4 Risk assessment – business opportunities (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction would increase the availability of local and regional business opportunities.	Likely	Minimal	Low	Likely	Minor	Low

Operation

While CuString is committed to regional industry participation, this is likely to be minimal during the operation phase, where expenditure is limited. Consequently, this impact is negligible, as detailed in Table 7-5 .

Table 7-5 Risk assessment – business opportunities (operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction would increase the availability of local and regional business opportunities.	Unlikely	Minimal	Negligible	Unlikely	Minimal	Negligible

7.1.4 Short term accommodation

Construction

The Project's construction workforce is expected to be housed in purpose built or existing worker accommodation facilities (see Section 5.3.1). A number of councils noted that there were existing construction camps that may have the capacity to host the project workforce. In areas where the Project workforce are housed in existing accommodation facilities, it is expected that this would result in increased business opportunities for the existing accommodation providers. In addition, planning and design activities associated with the Project would create small, sporadic, and short term demand for accommodation at the towns along the corridor, providing business opportunities for the accommodation providers.

It is expected that due to the remote location of the corridor selection, the majority of the construction workforce would be housed in temporary construction camps near the corridor established for the CuString workforce, therefore, the increase in business opportunities for short term accommodation providers would be limited. Similarly, the limited use of existing short term accommodation facilities would also limit the potential for undue demand on short term accommodation facilities within the regional study area, which may displace the use of these facilities by other users, such as tourists.

The risk assessment is detailed in Table 7-6. Given the low risk associated with these impacts, no mitigation measures have been proposed.

Table 7-6 Risk assessment – short term accommodation (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
Increase in business opportunities for short term accommodation providers	Possible	Minimal	Low	Possible	Minimal	Low
The use of short term accommodation by the Project may displace other users.	Unlikely	Minimal	Negligible	Unlikely	Minimal	Negligible

Operation

The Project's operation would require up to 30 full time equivalent personnel. It is expected that the operation workforce would be drawn in part from the existing workforce from the regional study area and from the broader North Queensland region, including Townsville. Townsville is a large regional centre with a population of 170,000 persons and the introduction of any workers from broader North Queensland whether it is permanent relocation or short term visits is unlikely to effect the demand for housing or short accommodation. Therefore, this has not been analysed further, as detailed in Section 2.3.

7.2 Community safety and connectivity

7.2.1 Access, connectivity and road safety

Construction

As noted in Volume 3 Appendix U Transport impact assessment, the proposed routes that the Project's construction fleet would use are not currently known. Consequently, Volume 3 Appendix U Transport impact assessment provides a high-level traffic impact assessment of the project's construction fleet on the entire network in the regional study area[6]. This section assesses the potential for social impacts to occur as a result of changes in the road network and traffic volumes as detailed in Volume 3 Appendix U Transport impact assessment.

The Project is expected to utilise the State and local road network, including the Flinders and Barkly Highways, alongside local roads that have the required capacity for the Project's construction traffic. As detailed in Volume 3 Appendix U Transport impact assessment, the Project's construction traffic is expected to result in an increase in average annual daily trips on a number of state-controlled roads over a 5% impact threshold. This includes parts of the Flinders and Barkly highways, Cloncurry – Dajarra Road, Burdekin Falls Dam Road, Kennedy Developmental Road, Richmond – Winton Road, Julia Creek – Kynuna Road, and Mount Isa – Duchess Road. However, the trigger volume of 5% is easily exceeded due to the low base traffic volumes for many state-controlled roads west of Charters Towers. For example, the maximum number of average annual daily trips expected to be generated by the Project on any one state-controlled road is 60; however, the median number of average annual daily trips is 34.

The Project's construction traffic would increase heavy vehicles, including Type 2 Road Trains along the road network as discussed above. As noted in Volume 3 Appendix U Transport impact assessment, the increase in traffic may have impacts on the safety of the transport network for all road users, and may give rise to perceptions of reduced road safety for other road users, as it is already an existing concern for some stakeholders, as noted through the SIA consultation. This concern is likely to increase for sensitive road users, such as school buses. As noted in Volume 3 Appendix U Transport impact assessment, school bus routes in the regional study area include state-controlled roads that are expected to be utilised by the Project, including the Flinders and Barkly highways.

The Project's use of the road network such as wider loads may result in short and temporary delays, potentially resulting in minor increase in travel time for other road users along some roads. Any wide loads and associated delays would be subject to approval from the Department of Transport and Main Roads, Queensland Police Service and the relevant local government, and would be required to be included in the contractor's construction program.

The extent of impacts to pavements and road user safety will be identified and managed in line with the additional investigations and management framework identified in Volume 3 Appendix U Transport impact assessment.

The Project's construction traffic related impacts will be managed by a Road Use Management Plan. The Road Use Management Plan will be developed in consultation with government agencies including the Department of Transport and Main Roads, local government authorities, and the Queensland Police Service. The plan will include but not be limited to:

- Construction safety measures and awareness in local communities about construction traffic and safe behaviour around it.

[6] Once the contractor has developed a comprehensive construction plan that determines the vehicle movements, an assessment will occur to understand the impacts on the road network.

- Manage the efficiency of the road network impacted by the Project, including consideration of existing periods of peak use and protecting sensitive users, including school bus operation hours, and during tourism events.
- Provide information to local road users about the construction traffic haul routes, including visitors the area through engagement with Tourist Information Centres.
- Maintain the local roads from any damage from the Project's construction traffic.

The risk assessment for this impact is outlined in Table 7-7.

Table 7-7 Risk assessment – road connectivity and perceived safety (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction vehicles presence on the road network may result in a perceived decrease in road safety.	Possible	Moderate	Medium	Possible	Minor	Low

Operation

Operation of the Project is expected to generate minimal traffic and normally comprise of service vehicles carrying personnel undertaking general maintenance. Consequently, the impact would be negligible and has not been assessed.

7.2.2 Community safety and values

Construction

The presence of the construction workforce in regional towns was identified as a cause of potential concern for the community in the initial scoping for this SIA (see Section 2.3).

The broader literature has found that concerns around community safety and non-residential populations are commonly raised during project planning (Ruddell & Ortiz, 2015). The literature is inconclusive in regards to whether this is a long-term concern, with some finding that community fear reduces once the development begins (Ruddell & Ortiz, 2015). Similarly, the literature has generally found that non-residential workforces represent no higher risk for crime or disorder than the general population, but are often the source of 'blame' for existing issues (Campbell, Paterson de Heer, and Kinslow 2014; Ruddell and Ortiz 2015; Scott, Carrington, and McIntosh 2011).

During consultation, communities with previous experience of hosting non-residential workforces had limited concerns regarding non-residential workforce and community safety. However, in smaller communities such as Julia Creek, Richmond, and Hughenden some concerns were raised about the social integration of the non-resident workforce. Specifically, it was noted that smaller communities in particular had low rates of crime, with a strong sense of safety and trust which is highly valued by the community, and expressed the importance of ensuring that feeling of safety was maintained (see Section 4.6). Those who did have experience in hosting camps, noted that workforces are drug and alcohol tested and managed by codes of conduct, and therefore unlikely to engage in undesirable behaviour, which may impact on perceptions of safety.

Similarly, hosting a non-resident workforce was seen by a number stakeholders to hold the potential to support community organisations, such as sports groups and local gyms. A number

of stakeholders expressed a desire for the Project to work with councils and community organisations to develop an integration plan which provides opportunities for those in the camps to better integrate into the communities. Although some opportunities for integration exist, for example, use of local gyms or outdoor recreation areas for exercising. However, given the temporary nature of the construction workforce and long shifts, other opportunities for integration of the workforce with local communities, such as participation in local sporting clubs would be limited.

The above discussion generally relates to communities that host a non-resident workforce camp within or proximal to the community. Where camps are located some distance from a community, such as the camps proposed for Julia Creek and Charters Towers (Section 5.3.1), the potential for the community to experience changes in the perception of safety is often very limited due to the separation of the workforce from the community. At the same time, non-resident workforce separation from a community is likely to reduce workforce spending in a community and therefore limit the potential economic benefits associated with the temporary increase in population.

CuString have undertaken consultation with Burdekin, Charters Towers, Flinders, Richmond and Cloncurry local governments regarding the location of construction camps in January 2020. Local governments generally requested that further consultation be held when the Project is ready to commence. Follow up consultations were held in October 2020 and negotiations are continuing.

While the potential for the construction workforce to negatively impact the community safety and values is limited, CuString will develop a workforce management plan, including a code of conduct, which will address:

- Workforce code of conduct and behaviour management
- Fitness for work policy including drug and alcohol testing
- Expectations and standards when dealing with external parties and the broader community
- Promoting the participation of workforce in local clubs and events.

The risk assessment for this impact is outlined in Table 7-8.

Table 7-8 Risk assessment – community perceptions of safety (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's workforce's presence in communities may result in a decrease in perceived safety.	Possible	Minor	Low	Possible	Minimal	Low

Operation

The operational workforce would be limited to 30 personnel, half of whom will be residents in Townville and the other half residents within the regional study area or Townsville. Therefore, no workforce related impacts to community values are expected during operation.

7.3 Community infrastructure

7.3.1 Impacts on health and emergency services

Construction

It is expected that the construction workforce would be in good health and that the majority of their health needs would be addressed at their usual place of residence. However, as the workforce would be located in the regional study area for the duration of their roster, the workforce may need to access local general practitioner services. Similarly, in case of emergency or accident, the Project may need to access emergency or medical services within the closest town.

Consultation undertaken for this SIA found that the majority of communities had access to a general practitioner. However, as noted in Section 4.7.1, for higher levels of generalist or specialist care people are generally referred to a secondary or tertiary health service at Mount Isa or Townsville depending on timing, availability and urgency. Consultation with emergency services providers within the regional study area indicated that local services would have the capacity to respond to any incidents from the Project.

Given the small increase in demand likely to be associated with the project, the ability of local health services to provide for the existing community is unlikely to be compromised. In the unlikely event of serious injuries, they would be treated in the nearest regional centre and would not compromise on local community's needs.

While the risk for the construction workforce to negatively impact the community's access to health and emergency services is unlikely, the following management measures would be developed:

- Conducting 'fit for work' examination for all project construction workforce
- Informing the workforce and any contractors of the limitations in medical services in the regional study area
- Developing a health and safety plan to minimise injuries and health emergencies of the workforce
- Incorporating first aid facilities, including the provision of a registered nurse at workforce accommodation and construction sites as outlined in Section 5.3.1
- Developing an emergency response plan in consultation with local emergency service providers.

The risk assessment for this impact is outlined in Table 7-9.

Table 7-9 Risk assessment – health and emergency services (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's workforce's use of health and emergency services may compromise capacity to service the existing community.	Possible	Minor	Low	Possible	Minimal	Low

Operation

The operational workforce will be limited to 30 personnel, half of whom will be residents in Townville and the other half residents within the regional study area or Townsville. Therefore, the operational workforce is not expected to increase demand on health and emergency services.

7.3.2 Workforce wellbeing

Construction

There are a number of factors that could influence workforce wellbeing, including non-residential workforce practices, which incorporate both non-residential living arrangements, alongside shift-work. On behalf of the Western Australian government, the Centre for Transformative Work Design (2018) undertook a detailed literature review to understand the relationship between non-resident worker practices and mental ill health. This study found that:

- Non-resident workers had a greater risk of mental ill health than workers undertaking similar work under residential work arrangements, even when taking account of associated risk factors such as age, sex, and education.
- Isolation and loneliness was linked to the majority of poor mental health and wellbeing measures.
- Long rosters and travelling long distances contributed to increased fatigue, which is understood to contribute to increased mental ill-health.
- Other factors that are common in non-residential workforces in Australia, such as working in high temperatures and access to poor quality and a limited variety of food were raised as potentially contributing to poor mental health (*ibid*.)

Given the Project's construction workforce use of non-residential workforce practices, there is potential that the workforce would be exposed to practices that would result in poor mental health and wellbeing.

The workforce management plan would be developed and include but not be limited to the following measures to promote wellbeing within the workforce:

- Workforce accommodation would be developed with view to the principles of the *Economic Development Queensland Non-Resident Worker Accommodation Guideline* (2015) with an emphasis on providing accommodation that adequately provides for occupants[7]. This would include but not be limited to providing access to amenities (e.g. barbeques, communal areas) and recreational activities that have a clear social element within or proximal to workforce accommodation.
- Access to telecommunication infrastructure (e.g. free Wi-Fi, mobile phone network) would be provided within workforce accommodation.
- Activities to integrate with the local community through memberships at local sporting and recreational clubs and community events. CuString, through its workers accommodation services provider would encourage and facilitate workers participate in local community sporting and recreational clubs and access local businesses and facilities.
- Mental health training for managers and supervisors

[7] As the Project's workforce accommodation facilities would be temporary, it is not expected that the requirements of the Guideline would be met in full, as the Guideline, including the design benchmarks were predominantly targeted at permanent and larger-scale camp-style facilities.

- Procedures for increasing the mental health literacy and wellbeing knowledge of the workforce
- Access to a mental health and wellbeing support services, including but not limited to the Employee Assistance Program.

In addition, fatigue and alcohol management strategies would be developed, as is discussed further in Volume 3 Chapter 16 Hazards, health and safety.

The risk assessment for this impact is outlined in Table 7-10.

Table 7-10 Risk assessment – workforce wellbeing (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's use of non-residential workforce practices may reduce wellbeing for the workforce.	Likely	Moderate	High	Possible	Moderate	Medium

Operation

The operational workforce will be limited to 30 personnel, half of whom will be located in Townville and the other half within the regional study area or Townsville. Although the work may require travel, it is not expected that the workforce would be required to spend large proportions of their time away from their place of residence. Therefore the potential for the wellbeing of the workforce to be impacted by non-residential workforce practices would be negligible and has not been assessed.

7.3.3 Recreational and natural conservation areas

Construction

Important historic and cultural recreation areas are located within the regional study area, a few of which are located within five kilometres from the corridor selection (see section 4.7.3). During construction, a range of equipment and activities will be visible including construction areas, gradual clearing of the easement and the erection of towers. Volume 3 Appendix M Visual amenity found that the distance between the recreational area and the Project corridor (section 4.7.3), and the way in which the existing landscape would reduce the visibility of the Project would result in a limited change in visual amenity. Consequently, the change in amenity from the Project's construction is unlikely to impact on the community use and enjoyment of nearby recreational areas.

The risk assessment for this impact is outlined in Table 7-11.

Table 7-11 Risk assessment - recreational areas (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's construction may reduce the community use and enjoyment of nearby	Unlikely	Minimal	Negligible	Unlikely	Minimal	Negligible

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
recreational areas.						

Operation

Changes to the visual environment would include the presence of new power lines, towers, maintenance tracks, substations, and the removal of some vegetation. In general, Volume 3 Appendix M Visual amenity found that the distance between the recreational area and the Project (section 4.7.3), and the way in which the existing landscape would reduce the visibility of the Project would result in a limited change in visual amenity. This is in part a result of the Project corridor selection, which avoids and minimises amenity changes for nearby sensitive receptors.

Operation of the transmission line will require ongoing maintenance that will be of less scale and intensity than the construction activities. The planned maintenance cycle is expected to occur on a regular basis, according to the maintenance contractor's maintenance plan. The frequency of maintenance will vary for different aspects of the transmission network and is dependent on aspects such as their immediate operating environment, seasonal constraints, risks associated with their failure and regulatory requirements.

Visual inspection of the transmission line, easement and access tracks will be conducted via four wheel drive vehicles and aerial inspection via helicopter or via aerially acquired data using LiDAR technology. The scale of operational activities in the vicinity of recreational areas is expected to be small, sporadic and in some ways similar to usual activities in the surrounding area, such as presence of four wheel drives and heli-mustering.

Overall, the change in amenity due to the presence of the Project's permanent infrastructure and operational activities would be unlikely to impact on the community use and enjoyment of recreational areas. Consequently, social impacts to recreational and natural conservation areas are negligible, as outlined in Table 7-12.

Table 7-12 Risk assessment - recreational areas (operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's establishment may reduce the community use and enjoyment of nearby recreational areas.	Unlikely	Minimal	Negligible	Unlikely	Minimal	Negligible

7.4 Cumulative impacts

7.4.1 Competition for labour

Construction

It was noted through the SIA consultation and the regional baseline (see Section 4.5.1) that there is skills shortage across the regional study area and there was unlikely to be the specialist skills required for the Project in the existing workforce.

Project related employment may draw workers away from existing employment and future local employers. There are a number of other projects expected to be developed in the regional study area, which may overlap with the Project in terms of skill sets required. These projects include the 15 Mile Irrigated Agricultural Development, along with projects in Townsville (North Queensland Country Club Resort and Equestrian Centre). In addition, during consultation stakeholders indicated that other projects may also coincide with the Project's timeline, including Big Rocks Weir, Singapore Military Training Initiative, and a number of local government works programmes.

Should all project's be developed, there is potential that there may be competition for labour in the regional study area, drawing workers from existing jobs and creating shortfalls. However, as noted in regards to employment opportunities (Section 5), it is expected that the Project's workforce would be sourced from a combination of local and other parts of Queensland and Australia, along with opportunities for training local workforce.

To minimise draw of workforce from existing jobs, the following mitigation measures would be implemented:

- Continue to engage with Mount Isa Townsville Economic Zone (MITEZ) to discuss workforce procurement and timing of other projects.
- Maximise Indigenous employment, through investment in work-ready programs in the region
- Identify opportunities for the employment of apprentices and trainees
- Work with local training providers to provide training for regional Indigenous and non-Indigenous workers to gain the required qualification to be employed on the project.

The risk assessment for this impact is detailed in Table 7-13.

Table 7-13 Risk assessment – competition for labour (construction)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's workforce requirements may result in competition for labour in the regional study area	Possible	Minimal	Low	Unlikely	Minimal	Negligible

Operation

The operation workforce will be 30 personnel at peak, half of whom would be residents of Townsville and the other half from the regional study area. Therefore, it is unlikely to result in competition for labour within the regional study area.

No mitigation or management measures are proposed for this impact. Consequently, the risk assessment is detailed in Table 7-14.

Table 7-14 Risk assessment – competition for labour (operation)

Potential impact	Pre-mitigated risk			Residual risk		
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk
The Project's workforce requirements may result in competition for labour in the regional study area	Rare	Minimal	Negligible	Rare	Minimal	Negligible

7.5 Social impact summary

The social impacts and opportunities identified in Section 6 and Section 7 have been summarised in Table 7-15 for construction of the Project and Table 7-16 for operation of the Project.

Table 7-15 Summary of potential social impacts and opportunities during the construction stage

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Local study area							
The Project's planning and construction may reduce the wellbeing of landholders through feelings of stress, anxiety, and frustration.	Possible	Moderate	Medium	• Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, and communication arrangements • Developing and implementing a Construction Environmental Management Plan for the Project • Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members • Developing a stakeholder engagement plan to communicate project related updates and complaints management procedure to effectively respond to and monitor complaints.	Possible	Moderate	Medium
The Project's construction activities and the time required for landholders to engage with the Project may increase requirements for property management and reduce property productivity.	Likely	Moderate	Medium	• Developing and implementing a Construction Environmental Management Plan for the Project • Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, and communication arrangements • Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members • Land access and compensation negotiations will be undertaken individually with affected landholders.	Possible	Minimal	Low
The Project's construction may reduce the amenity and privacy of landholders.	Likely	Minimal	Low	• Developing and implementing a Construction Environmental Management Plan for the Project, which will mitigate noise, air quality and visual impacts to receivers. • Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, communication and compensation arrangements. • Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members, • Developing a complaints management procedure to effectively respond to and monitor complaints.	Likely	Minimal	Low

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Regional study area							
Economy							
The Project's construction and operation would result in an increase in economic output and real income.	Likely	Moderate	Medium	NA	Likely	Moderate	Medium
The Project's construction would increase the availability of local and regional employment opportunities.	Likely	Minimal	Low	• Prioritises local and regional employment • Maximises Indigenous employment, through investment in work-ready programs in the region • Identifies opportunities for the employment of apprentices and trainees • Work with local training providers to provide training for regional Indigenous and non-Indigenous workers to gain the required qualification to be employed on the project.	Likely	Minor	Low
The Project's construction would increase the availability of local and regional business opportunities.	Likely	Minimal	Low	Develop a local and Indigenous business participation plan that: • Will outline an approach for CuString to engage with local businesses to ensure that they are aware of supply opportunities • Give preference to local, regional and Indigenous-owned businesses in tendering evaluation where their offers meet CuString's scope of work and are equal in terms of health, safety, and environment requirements, price, timing, quality and other evaluation criteria.	Likely	Minor	Low
Increased business opportunities for short term accommodation providers	Possible	Minimal	Low		Possible	Minimal	Low
The use of short term accommodation by the Project may displace other users.	Unlikely	Minimal	Negligible	NA	Unlikely	Minimal	Negligible

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Community health, safety, and connectivity							
The Project's construction vehicles presence on the road network results in a perceived decrease in road safety.	Possible	Moderate	Medium	A Road Use Management Plan will be developed in consultation with government agencies including the Department of Transport and Main Roads and Queensland Police Service. The plan will include but not be limited to: • Construction safety measures and awareness in local communities about construction traffic and safe behaviour around it. • Manage the efficiency of the road network impacted by the Project, including consideration of existing periods of peak use and protecting sensitive users, including school bus operation hours, and during tourism events. • Provide information to local road users about the construction traffic haul routes, including visitors the area through engagement with Tourist Information Centres. • Maintain the local roads from any damage from the Project's construction traffic.	Possible	Minor	Low
The Project's workforce's presence in communities may result in a decrease in perceived safety.	Possible	Minor	Low	CuString will develop a workforce management plans including a code of conduct, which will address: • Workforce code of conduct and behaviour management • Fitness for work policy including drug and alcohol testing • Expectations and standards when dealing with external parties and the broader community • Promoting the participation of workforce in local clubs and events.	Possible	Minimal	Low

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Community infrastructure							
The Project's workforce's use of health and emergency services may compromise capacity to service the existing community.	Possible	Minor	Low	• Conducting 'fit for work' examination for all project construction workforce • Informing the workforce and any contractors of the limitations in medical services in the regional study area • Developing a health and safety plan to minimise injuries and health emergencies of the workforce • Incorporating first aid facilities, including the provision of a registered nurse, at workforce accommodation and construction sites • Developing an emergency response plan in consultation with local emergency service providers.	Possible	Minimal	Low

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
The Project's use of non-residential workforce practices may reduce wellbeing for the workforce.	Likely	Moderate	High	The workforce management plan would be developed and include but not be limited to the following measures to promote wellbeing within the workforce: • Workforce accommodation would be developed with view to the principles of the *Economic Development Queensland Non-Resident Worker Accommodation Guideline* (2015) with an emphasis on providing accommodation that adequately provides for occupants[8]. • Access to telecommunication infrastructure (e.g. free Wi-Fi, mobile phone network) would be provided within workforce accommodation. • Activities to integrate with the local community through memberships at local sporting and recreational clubs and community events. CuString, through its workers accommodation services provider would encourage and facilitate workers participate in local community sporting and recreational clubs and access local businesses and facilities. • Mental health training for managers and supervisors • Procedures for increasing the mental health literacy and wellbeing knowledge of the workforce • Access to a mental health and wellbeing support services, including but not limited to the Employee Assistance Program.	Possible	Moderate	Medium
The Project's establishment may reduce the community use and enjoyment of nearby recreational areas.	Unlikely	Minimal	Negligible	NA	Unlikely	Minimal	Negligible

[8] As the Project's workforce accommodation facilities would be temporary, it is not expected that the requirements of the Guideline would be met in full, as the Guideline, including the design benchmarks were predominantly targeted at permanent and larger-scale camp-style facilities.

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Cumulative impacts							
The Project's workforce requirements may contribute to a cumulative demand for labour in the regional study area.	Possible	Minimal	Low	• Continue to engage with Mount Isa Townsville Economic Zone (MITEZ) to discuss workforce procurement and timing of other projects. • Maximise Indigenous employment, through investment in work-ready programs in the region • Identify opportunities for the employment of apprentices and trainees • Work with local training providers to provide training for regional Indigenous and non-Indigenous workers to gain the required qualification to be employed on the project.	Unlikely	Minimal	Negligible

Table 7-16 Summary of social impacts and opportunities in the operation stage

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Local study area							
The Project's establishment would restrict landholder activities within the easement, and may increase the cost of property operation and maintenance.	Likely	Moderate	Medium	• Landholder compensation negotiation • Measures outlined in Volume 3 Appendix S Concept biosecurity plan • Where the transmission line crosses any area that is used for aviation purposes, transmission line identification markers will be installed to indicate the position and/or direction of the transmission line	Possible	Minimal	Low
The Project's establishment and operational activities are may reduce the amenity and privacy of landholders.	Likely	Minor	Low	• Developing a land access management plan for each landholder that documents the agreed access, rehabilitation, communication and compensation arrangements. • Developing a Code of Conduct, that outlines the behaviour expected of CuString staff and contractors when interacting with each other, landholders and other community members • Developing a complaints management procedure to effectively respond to and monitor complaints.	Likely	Minimal	Low
Regional study area							
Economy							
The Project's operation would increase the availability of local and regional employment opportunities.	Likely	Minimal	Low	NA	Likely	Minimal	Low

Potential impact	Pre-mitigated risk			Mitigation measures	Residual risk		
	Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
The Project's construction would increase the availability of local and regional business opportunities.	Unlikely	Minimal	Negligible	NA	Unlikely	Minimal	Negligible
Community infrastructure							
The Project's establishment may reduce the community use and enjoyment of nearby recreational areas.	Unlikely	Minimal	Negligible	NA	Unlikely	Minimal	Negligible
Cumulative							
The Project's workforce requirements may contribute to a cumulative demand for labour in the regional study area.	Rare	Minimal	Negligible	NA	Rare	Minimal	Negligible

8. Social impact management plan

This section summarises the management strategies that could be implemented to reduce potential negative social impacts and enhancement strategies to maximise opportunities. In summary, these strategies are:

- Project planning and design
- Landholder compensation negotiations
- Land access management plan
- Community and stakeholder engagement plan including complaints management
- Workforce management plan
- Local and Indigenous business and employment participation plans.

Other management plans that would influence the management of social impacts and opportunities include:

- Construction Environmental Management Plan
- Road Use Management Plan
- Emergency Response Plan
- Concept Biosecurity Plan.

The Project's Social Impact Management Plan would be updated during detailed design. It is expected that the Social Impact Management Plan would be updated and approved by the Coordinator-General prior to the Project's construction.

8.1 Project planning and design

CuString is responsible for the Project design. The Project's detailed design, including final selection of the corridor selection, workforce accommodation camp locations, location of laydown areas and concrete batching plants will be determined in consultation with Councils, landholders and other relevant stakeholders to minimise and avoid impacts associated with properties, land use and community values.

8.2 Landholder compensation negotiation

It is CuString's strong preference that a voluntary and commercial agreement is reached with landholders in the acquisition of land required for the Project. The easement acquisition process will follow detailed land access negotiations with landholders regarding the possible corridor selection for the transmission lines and specific issues regarding current and future land uses.

CuString will negotiate fair compensation with landholders directly impacted by the Project. A number of factors will be considered in assessing fair compensation, including but not limited to:

- The market value of land over which the easement is taken
- Reduced property value due to restricted use of land within an easement
- Area of easement
- Number of transmission towers located on the easement
- The effect on property management practices.

Registered independent property valuers will be engaged by CuString. CuString is supportive of landholders seeking their own independent valuations and legal advice at any time during the easement acquisition process and will meet reasonable costs for the landholders to seek this advice.

8.3 Land access management plan

CuString is committed to working with individual landholders to develop a land access management plan for all project activities carried out on private properties.

Specifically, the land access management plan will identify:

- Agreed access arrangements during construction and operation for each property
- Rehabilitation requirements of the property after construction and during operation
- Communication arrangements with each landholder.

8.4 Community and stakeholder engagement plan

A Community and Stakeholder Engagement Plan will guide engagement with stakeholders during construction of the Project. The Plan will act as a key mechanism to foster dialogue with communities and stakeholders and manage and monitor potential impacts and opportunities of the Project.

As the Project transitions from design to construction, engagement activities and tools will be developed and implemented with the purpose of gathering information and seeking opinions from stakeholders on solutions and impacts. CuString understands the importance of growing and maintain its social license to construct and operate the Project and will seek to identify and implement tangible programs and activities with stakeholders.

The Plan will include:

- Identification of key stakeholders
- Key messages
- Engagement methods and activities
- Complaints management procedure.

The Plan will be updated regularly to reflect the current situation on the ground such as new stakeholders, upcoming engagement activities and updated key messages.

8.4.1 Key stakeholders and engagement actions

Main stakeholder groups to be included in the Community and Stakeholder Engagement Plan are outlined in this section.

Councils

Councils throughout the regional study area act as a key community stakeholder and community representative. CuString will continue to meet with councils during the pre-construction phase to discuss:

- The findings of the EIS and the development of management plans
- Options for establishing worker accommodation in line with council preferences
- Methods to engage with local businesses to maximise local business participation
- Project design updates.

During construction, CuString will meet with councils to discuss:

- Project schedule
- Workforce numbers
- Upcoming tendering opportunities
- Use of council assets
- Upcoming community events and local facilities, which could be promoted to the construction workforce.

Landholders

CuString will continue to engage landholder liaison officers to inform the design and development of landholder compensation agreements and the development of land access management plans during the pre-construction phase.

During the construction phase, CuString will engage with individual landholders regarding CuString activities on their properties based on the communication protocols established in the land access management plans.

Business and regional economic development representatives

CuString will engage with local businesses and regional economic development representatives to:

- Understand local business capacity for upcoming tendering opportunities
- Provide a communication channel to local and regional businesses
- Engage directly with local businesses to discuss tendering requirements.

SIA consultation found that in some parts of the regional study area, councils act as regional economic development representatives, as there may not be a chamber of commerce.

Emergency and health services

CuString will engage with emergency and health services including Queensland Ambulance Service, Queensland Police Service and Queensland Health during pre-construction to:

- Provide an overview of project schedule
- Establish communication protocols for emergency response
- Provide advanced notice of increased population in each area
- Understand the capacity of emergency services to support Project activities where required, including wide load escort requirements.

8.4.2 Complaints management procedure

CuString will develop a complaints management procedure that supports an active response to community and stakeholder concerns about the Project and facilitates a resolution that meets the expectations of all parties. The procedure will identify:

- Communication channels for community stakeholders to access to report a complaint. These channels should be easily accessible for community stakeholders and published on the CuString website
- A pathway for complaints management within CuString including:
  - Who is responsible for initially handling complaints

  - Who is responsible for facilitating engagement with the community stakeholder
  - Who is responsible for engaging with internal stakeholders to investigate complaints.
- Initial response timeframes and actions
- A screening procedure that identifies whether a complaint is within the responsible or control of CuString or an external party
- A database to record any community interactions
- A process for monitoring complaints and updating management plans where complaints monitoring indicates that existing management and mitigation measures are not sufficient.
- A process for updating existing management and mitigation measures where complaints data indicates that existing mitigation measures are insufficient.

8.5 Workforce management plan

The workforce management plan will include the following:

Local training education, and employment program

CuString will work with councils, education and training providers, and labour force suppliers to develop a local training, education, and employment program guided by industry standards and relevant government policy that will develop measures to :

- Maximise local employment (including work readiness if appropriate)
- Maximise Indigenous employment through investment in work-ready programs in the region
- Employ apprentices and trainees (including work readiness if appropriate)
- Work with local training providers to provide training for regional Indigenous and non-Indigenous workers to gain the required qualifications to be employed on the Project.

Code of conduct

A code of conduct will be developed and implemented that describes the expected standard of behaviour for all personnel (construction and operation). The code of conduct is applicable for all project personnel whilst at work, travelling to and from work and when visiting and using public places.

The code of business conduct will include:

- Expected standards of behaviour in public places (e.g. town centres, parks, clubs and hotels)
- Fitness for work policy, including drug and alcohol testing
- Expectations and standards when dealing with external parties and the broader community, including respect for local community values
- Awareness of domestic violence and responsibilities for prevention
- Safe, legal and courteous driving.

The code of conduct would apply to the entirety of the workforce, inclusive of CuString employees, construction alliance partners, and sub-contractors. The code of conduct would be developed in consultation with Project stakeholders (CuString, construction alliance partners), and community stakeholders, including landholders, councils, and other community representatives, such as emergency services.

The workforce would be encouraged to participate in local clubs and events.

Wellbeing

The workforce management plan would be developed and include but not be limited to the following measures to promote wellbeing within the workforce:

- Workforce accommodation would be developed with view to the principles of the *Economic Development Queensland Non-Resident Worker Accommodation Guideline* (2015) with an emphasis on providing accommodation that adequately provides for occupants[9]. This would include but not be limited to providing access to amenities (e.g. barbeques, communal areas) and recreational activities that have a clear social element within or proximal to workforce accommodation.
- Access to telecommunication infrastructure (e.g. free Wi-Fi, mobile phone network) would be provided within workforce accommodation
- Activities to integrate with the local community through memberships at local sporting and recreational clubs and community events. CuString, through its workers accommodation services provider would encourage and facilitate workers participate in local community sporting and recreational clubs and access local businesses and facilities.
- Mental health training
- Procedures for increasing the mental health literacy and wellbeing knowledge of the workforce
- Access to a mental health and wellbeing support services, including but not limited to the Employee Assistance Program
- Initiatives to integrate workforce with local community and encouraging participation in local sporting and recreational clubs and societies.

8.6 Local and Indigenous business participation plan

CuString is committed to working closely with local communities, industry and government agencies to develop a Local and Indigenous business participation plan that maximises opportunities for local and Indigenous businesses.

The Local and Indigenous Business Participation Plan would include:

- Establishing an understanding of local business capacity to supply to the Project during the pre-construction phase through engagement with key stakeholders, including councils, state government agencies and regional economic development stakeholders. This would be collected into a Local and Indigenous Business register, which would be provided to contractors.
- Engaging with local councils, chambers of commerce, state government agencies and other regional economic development stakeholders to ensure that local and Indigenous businesses are aware of potential opportunities to supply during the Project's construction phase well in advance of work package release.
- Working with local councils, chambers of commerce, state government agencies and other regional economic development stakeholders to increase local and Indigenous business understanding of likely tender preparation requirements.
- Advertising procurement and employment requirements in local media to allow timely and equitable access to supply opportunities by local businesses.

[9] As the Project's workforce accommodation facilities would be temporary, it is not expected that the requirements of the Guideline would be met in full, as the Guideline, including the design benchmarks were predominantly targeted at permanent and larger-scale camp-style facilities.

- Giving preference to local, regional and Indigenous-owned businesses in tendering evaluation where their offers meet CuString's scope of work and are equal to other offers in terms of HSEC, price, timing, quality and other evaluation criteria.
- Encouraging contractors and sub-contractors to maximise the use of local and Indigenous businesses, including through
  - Providing contractors with the register of Local and Indigenous businesses.
  - Including local and Indigenous participation in tendering requirements and tender evaluation criteria
  - Requiring primary contractors to report on local and Indigenous business participation.

8.7 Monitoring

This section addresses the monitoring and reporting of potential social impacts and benefits during construction. Social impacts during operation are expected to be negligible (Section 7.5); consequently, no monitoring is proposed. The status of impact monitoring would be reported as part of Project update through the Project's website on a monthly basis.

Table 8-1 Social impact management plan monitoring and reporting plan (construction)

Area	Data
Complaints management	• The number and type of complaints and timeliness of the response. The type of complaints would be reported in the following high level categories: traffic, code of conduct and workforce management, air quality and noise amenity, construction camps, and land access.
Training and education	• Contribution to regional workforce initiatives that support local and Indigenous employment outcomes • Number of proportion of employees from the regional study area, including reporting from primary contractors • Number of apprentices and trainees.
Local and Indigenous business participation	• The number of local and Indigenous industry engagement events held (quarterly during construction) • Local and Indigenous business participation, including reporting from primary contractors.
Social infrastructure and community wellbeing	• Number of times the Project workforce is referred to local health facilities or require ambulance or emergency transport other than previously arranged, such as for wide load transport. • Contribution to community wellbeing initiatives

The monitoring of key social impact and benefit indicators outlined above will be formally reviewed on a six monthly basis. This review will incorporate:

- An overview of the effectiveness of SIMP, measured primarily through the indicators detailed in the monitoring plan, including:
  - A review of trends in complaints data
  - A review of key engagement activities and key outcomes of engagement
  - A review of local economic and employment benefits
- Proposed measures to improve future social performance.

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