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Sunrise Project

Project Execution Plan Modification

Appendix I

Social Impact Review

SOCIAL IMPACT REVIEW

For the Sunrise Project

Project Execution Plan Modification

Provided for

SUNRISE ENERGY METALS LIMITED

Authors

DANIEL HOLM

MOLLY WAGNER

SQUARE PEG SOCIAL PERFORMANCE

EXECUTIVE SUMMARY

The Sunrise Project (the Project) is a nickel, cobalt and scandium open cut mining project situated near the village of Fifield, approximately 350 kilometres west-northwest of Sydney, in New South Wales (NSW).

SRL Ops Pty Ltd owns the rights to develop the Project. SRL Ops Pty Ltd is a wholly owned subsidiary of Sunrise Energy Metals Limited (SEM)[1].

This Social Impact Review considers and assesses the likely social impacts of the Project Execution Plan Modification (the Modification), which involves changes to the approved mine and processing facility, accommodation camp, rail siding and road transport activities. This review has considered the social impacts that are directly attributable to the Modification.

Broadly following the NSW Department of Planning, Industry and Environment's (DPIE's) draft *Social Impact Assessment* (SIA) *Guideline State significant projects* (DPIE, 2020a) and the *Technical Supplement to support the Social Impact Assessment Guideline for State-significant projects* (DPIE, 2020b) (the SIA Guidelines), this Social Impact Review is based on a desktop review of social and demographic data supplemented with consultation with the Lachlan Shire, Forbes Shire and Parkes Shire Councils – to review and update the social impacts identified for the approved Project that may occur as a result of the Modification. The general scope for the Social Impact Review was communicated to the DPIE in the Modification Scoping Meeting and Scoping Letter and was subsequently endorsed by the DPIE in December 2020.

Identified potential social impacts include:

- additional employment and business opportunities associated with the increased construction workforce;
- additional pressures on local housing markets from the increased construction workforce during the initial construction phase;
- additional demand for community facilities from the increased construction workforce during the construction phase;
- impacts to people's way of life and sense of safety from changes to traffic volumes during the construction and operational phases; and
- amenity impacts from changes to the mine and processing facility and rail siding layout and activities.

[1] SEM was previously Clean TeQ Holdings Limited (Clean TeQ).

Utilising the social impact significance matrix in the SIA Guidelines, all identified social impacts associated with the Modification were rated as low significance, with the exception of the following two positive impacts rated as medium significance:

- additional employment opportunities for local residents as well as local businesses who can supply to the Project, arising from the increased construction workforce; and
- additional pressures on local housing markets arising from the increased construction workforce (prior to construction of the accommodation camp) which benefits landlords and short-term accommodation providers.

The existing social impact mitigation measures committed to by SEM include the following:

- preferentially sourcing suppliers from the Social Locality where they are cost and quality competitive;
- providing operational workforce bus transport from towns in the Social Locality to minimise workforce-related road traffic;
- operating high-capacity trucks to transport limestone and other materials and products to and from the mine and processing facility, to minimise heavy vehicle traffic volumes;
- deploying a community information and engagement program, and a complaints and grievance process, to ensure potentially affected communities are aware of impacts and have opportunities to raise concerns with the proponent;
- operating in accordance with an approved Traffic Management Plan and undertaking road and intersection upgrades and maintenance (in accordance with Development Consent [DA 374-11-00] and the Voluntary Planning Agreement [VPA]) to address the safety, road performance and quality aspects of the traffic changes;
- operating in accordance with an approved Air Quality Management Plan and Noise Management Plan (in accordance with Development Consent [DA 374-11-00]) to minimise potential amenity impacts associated with the approved Project; and
- continuing to make community contributions in accordance with the VPA, to support positive social outcomes, social infrastructure investments and/or community resilience improvements.

The existing social impact mitigation measures committed to by SEM are generally considered to be sufficient to address the potential social impacts associated with the Modification, with the following additions:

- increasing the size of the construction workforce accommodation camp to accommodate all non-residential construction workers;
- mitigation upon request rights for one property in accordance with the Voluntary Land Acquisition and Mitigation Policy (NSW Government, 2018) to reduce noise levels at the residence (e.g. mechanical ventilation, upgraded façade elements or roof insulation); and
- providing construction workforce transport from towns in the Social Locality to minimise workforce-related road traffic.

The risk of cumulative social impacts of the Modification, in conjunction with other projects, is considered manageable, due to the small scale of the other projects and their distance from the Project.

In summary, the potential social impacts associated with this Modification are all assessed to be relatively contained and readily manageable.

GLOSSARY AND ABBREVIATIONS

Term	Meaning
ABS	Australian Bureau of Statistics
DPIE	NSW Department of Planning, Industry and Environment
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
ETL	Electricity Transmission Line
FSC	Forbes Shire Council
LGA	Local Government Area
LSC	Lachlan Shire Council
m	Metres
ML	Mining Lease
NSW	New South Wales
PSC	Parkes Shire Council
SA2	Statistical Area Level 2
SA4	Statistical Area Level 4
SEIFA	Socio-Economic Indexes for Areas
SEM	Sunrise Energy Metals Limited
SIA	Social Impact Assessment
The Project	Sunrise Project
The Modification	The Modification described in Section 2
The SIA Guidelines	The draft *Social Impact Assessment Guideline State significant projects* (Department of Planning, Industry and Environment 2020a) and the *Technical Supplement to support the Social Impact Assessment Guideline for State-significant projects* (Department of Planning, Industry and Environment, 2020b)
VLAMP	*Voluntary Land Acquisition and Mitigation Policy* (NSW Government, 2018)
VPA	Voluntary Planning Agreement

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1. INTRODUCTION

1.1 Background

The Sunrise Project (the Project) is a nickel, cobalt and scandium open cut mining project situated near the village of Fifield, approximately 350 kilometres (km) west-northwest of Sydney, in New South Wales (NSW) (Figure 1).

SRL Ops Pty Ltd owns the rights to develop the Project. SRL Ops Pty Ltd is a wholly owned subsidiary of Sunrise Energy Metals Limited (SEM)[2].

Development Consent (DA 374-11-00) for the Project was issued under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) in 2001. Six modifications to the Development Consent (DA 374-11-00) have since been granted under the EP&A Act.

SEM has continued to review and optimise the Project design, construction and operation as part of preparations for Project execution. The outcomes of this review are outlined in the Project Execution Plan (Clean TeQ, 2020).

The Project Execution Plan identified a number of changes to the approved mine and processing facility, accommodation camp, rail siding and road transport activities. The Project Execution Plan Modification (the Modification) includes these Project Execution Plan changes to allow for the optimisation of the construction and operation of the Project. Details of the Modification are provided in Section 2.

Square Peg Social Performance was engaged to carry out a Social Impact Review for the Modification. This document presents the outcomes of the review, including updated social and demographic data for the communities near the Project, and an assessment of potential social impacts from the Modification.

1.2 Method

This Social Impact Review is based on a desktop review of social and demographic data supplemented with consultation with the Lachlan Shire Council (LSC), Forbes Shire Council (FSC) and Parkes Shire Council (PSC) (the Councils). These Local Government Areas (LGAs) constitute the Project's 'Social Locality'.

The general scope for the Social Impact Review was communicated to the NSW Department of Planning, Industry and Environment (DPIE) in the Modification Scoping Meeting and Scoping Letter and was subsequently endorsed by the DPIE in December 2020. Data for this Social Impact Review was collected over a period between January and March 2021. Table 1 summarises the data sources that have been used for this review.

[2] SEM was previously Clean TeQ Holdings Limited (Clean TeQ).

FIGURE 1 REGIONAL LOCATION

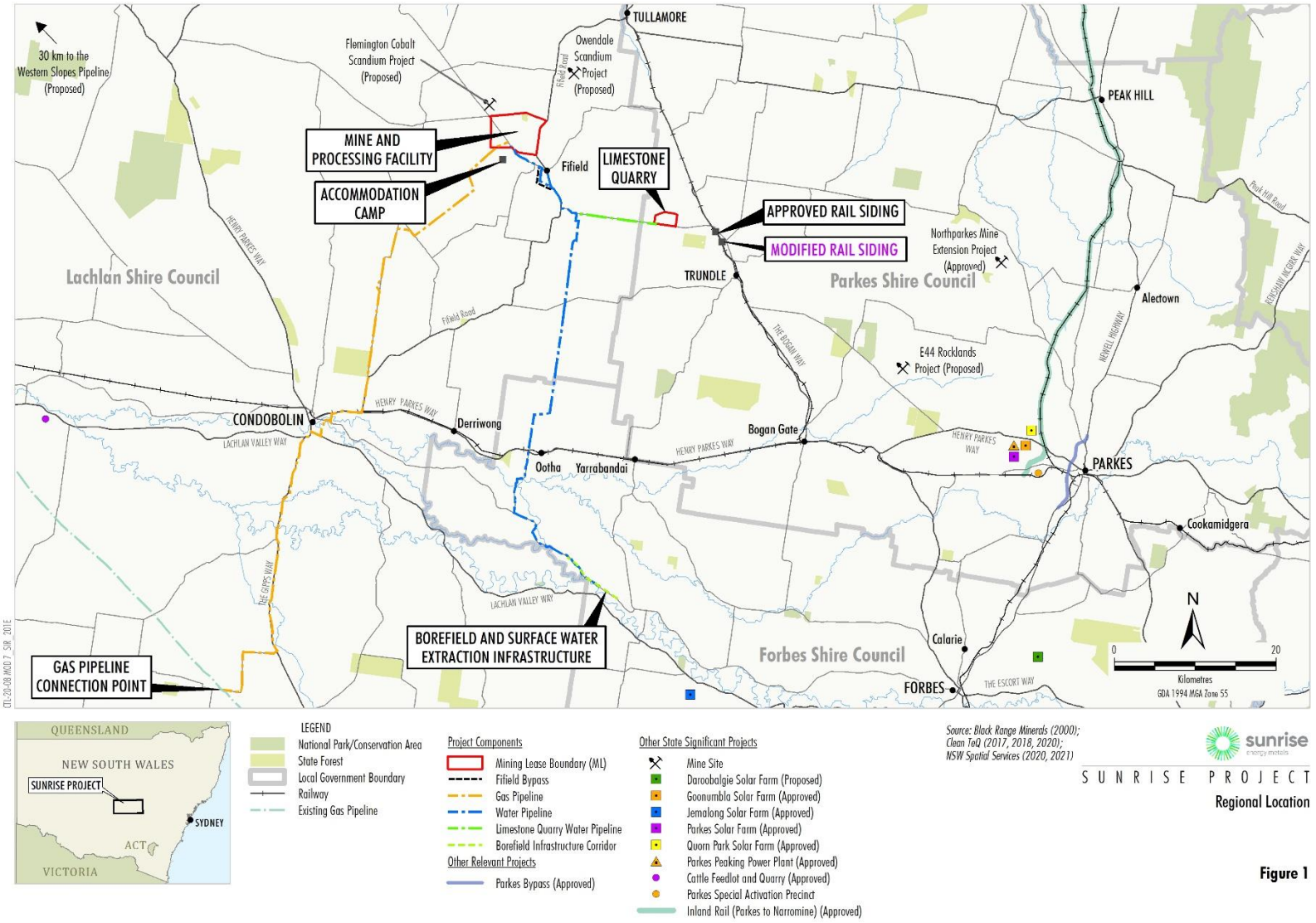


TABLE 1 SUMMARY OF DATA SOURCES

Primary Data	Quantitative Social and Demographic Data	Qualitative Community Data
• Consultation with representatives of the LSC, FSC and PSC.	• Australian Bureau of Statistics (ABS) Census Community, Time Series, and Indigenous Profiles from the 2016 Census. • The ABS Tourist accommodation survey and Personal income in Australia publications. • NSW government data including from DPIE, Department of Education and Department of Community and Justice. • School annual reports from Catholic Education Wilcannia – Forbes and one Independent school	• Community strategic plans for the Lachlan, Forbes and Parkes Shires. • Websites for the LSC, FSC and PSC.

In terms of process, as a first step a community profile was created by collecting up to date data regarding the Social Locality, primarily from the ABS, NSW Government departments, local Council community plans and websites. Indicators were selected to provide an update to the original Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000)[3] and some additional indicators were included to paint a more comprehensive picture of the Social Locality. Where available, the same data for NSW as a whole was presented as a comparison.

Secondly, consultation was undertaken with the Councils located in the Social Locality. The purpose of the consultation was to seek feedback on the potential social impacts they anticipated from the Modification. In addition, information was gathered as to their preferences for impact mitigation and benefit enhancement measures and community priorities and concerns. Consultation was held remotely via the Microsoft Teams videoconference platform. The Council representatives were presented with a description of the Modification prior to the meeting, and care was taken to ensure participants were informed of the purpose of the meeting and granted their consent to participate in it. Summary findings from the consultation are contained in APPENDIX A.

Thirdly, drawing on details of the Modification, the updated community profile and feedback from the Councils, the impacts identified in the Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) were reviewed and updated. In identifying and assessing impacts, aspects of the draft *Social Impact Assessment* (SIA) *Guideline State significant projects* (DPIE, 2020a) and the *Technical Supplement to support the Social Impact Assessment Guideline for State-significant projects* (DPIE, 2020b) (the SIA Guidelines) were used. The process followed for the assessment broadly included:

1) listing all aspects of the Modification;
2) considering whether each aspect may give rise to a potential social impact, using:
    a) the social impact categories provided in the SIA Guidelines; and

[3] The Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) was completed as part of the *Syerston Nickel Cobalt Project Environmental Impact Statement* (EIS) (Black Range Minerals, 2000).

    b) the original assessment in the Community Infrastructure Assessment.
3) identifying potentially affected stakeholder groups for each identified potential social impact;
4) analysing the potential impact of the incremental change associated with the Modification and likely community experience thereof;
5) evaluating the significance of each social impact using the likelihood and magnitude matrix provided in the SIA Guidelines; and
6) considering whether the impacts from the Project in conjunction with impacts from nearby projects may give rise to cumulative impacts. This assessment followed a three-step process, aligned with the draft *Assessing Cumulative Impacts Guide Guidance for State Significant Projects* (NSW Government, 2020):
    a) identifying relevant projects to be included in the assessment;
    b) considering the likelihood of cumulative social impacts arising for each relevant project (taking into account whether the projects would give rise to social impacts of a similar nature, whether the same or similar geographies or stakeholders would be impacted, and whether projects were likely to occur concurrently); and
    c) for those projects where there was a reasonable likelihood of cumulative social impacts, qualitatively assessing the significance of the impact based on publicly available information.

1.3 Assumptions and Limitations

It is important to note that the identification and evaluation of social impacts is not a mechanical or 'scientific' process. It does not provide exact predictions, but rather draws on primary and secondary data as well as the professional judgement of the authors to reason around how impacts may be experienced by various stakeholders. As social impacts are primarily about people's experience of a potential change, there is always an element of uncertainty associated with impact evaluations.

Additionally, as this is a Social Impact Review of potential social impacts that are directly attributable to the Modification, identified potential social impacts are considered in relation to the approved social impacts described in the Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000). This review has not considered the veracity of the assumptions or conclusions from the Community Infrastructure Assessment, but has taken the approved social impacts as a starting point to understand the incremental change that may be brought about by the Modification. This review has only considered social impacts that are directly attributable to the Modification.

2. OVERVIEW OF THE APPROVED PROJECT AND MODIFICATION

2.1 Approved Project Overview

The Project is a nickel, cobalt and scandium open cut mining project which includes the establishment and operation of a mine and processing plant; limestone quarry; rail siding; gas pipeline; borefield, surface water extraction infrastructure and water pipeline; accommodation camp and associated transport activities and transport infrastructure (Figure 1).

The Project infrastructure will be located in three Local Government Areas (LGAs); Lachlan, Forbes and Parkes Shires (Figure 1). The majority of the Project will be located in the Lachlan Shire, including the mine and processing facility, accommodation camp, gas pipeline, and a component of the water pipeline. The limestone quarry and the rail siding will be located in the Parkes Shire. The surface water extraction infrastructure, borefield and a section of the water pipeline will be located in Forbes Shire. Road and intersection upgrades and maintenance will be conducted in the Lachlan and Parkes Shire LGAs.

Construction of the Project commenced in 2006, which included components of the borefield, however construction of other Project components is yet to commence.

The approved construction phase workforce is up to approximately 1,000 personnel during the peak construction phase. Approximately 335 personnel would be required during the operational phase:

- Mine and processing facility – 300 personnel;
- Limestone quarry – 30 personnel; and
- Rail siding – 5 personnel.

2.1.1 Potential Social Impacts of the Approved Project

The Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) identified and described social impacts that may arise from the original Project proposed in the EIS. Table 2 below summarises the social impacts described in the Community Infrastructure Assessment.

The Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) assumed a peak operational workforce of approximately 371 full time jobs in year four of the Project. The operational workforce was subsequently reduced to 335 in Modification 1 and therefore the approved operational phase social impacts would be slightly less than described in Table 2.

TABLE 2 IDENTIFIED SOCIAL IMPACTS ASSESSED IN THE COMMUNITY INFRASTRUCTURE ASSESSMENT

Impact	Detail
Employment opportunities	A peak construction workforce of 962 persons, with an average of 611 persons over a 24 month construction period. Assumed that 21% of roles would be filled by local residents.
	An operational workforce of approximately 371 full-time jobs peaking in year four of the Project[4]. Assumed 73% of the workforce would be non-local and 27% local.
Housing and accommodation requirements	A peak of 180 workers required during the initial three months of construction prior to the accommodation camp being operational, leading to a total additional direct and indirect demand for 135 single accommodation and 30 family accommodation units.
	Average workforce of 611 during the remainder of the construction phase leading to a direct and indirect additional demand for 127 family accommodation units. All single accommodation demand catered for by the accommodation camp.
	Operational workforce of 371 assumed to consist of 100 local residents and 271 non-local, leading to a total direct and indirect additional accommodation requirement of 322 family accommodation units and 137 single accommodation units.
School facilities and services	Insignificant additional demand for schooling during construction. An additional 215 children expected during operations phase, spread between Parkes and Condobolin.
Health and community services and facilities	No significant impact expected on hospital or acute health services from the Project, although some expected increased demand on community health services during construction phase.

Source: Martin & Associates Pty Ltd, 2000

2.2 Proposed Modification

SEM has continued to review and optimise the Project design, construction and operation as part of preparations for Project execution. The outcomes of this review are outlined in the Project Execution Plan (Clean TeQ, 2020).

The Project Execution Plan identified a number of changes to the approved mine and processing facility, accommodation camp, rail siding and road transport activities (Figures 2 and 3). Specific details of the Modification are provided below.

Mine and Processing Facility

- addition of a temporary construction laydown area inside the approved tailings storage facility surface development area;
- optimised production schedule resulting in an increased mining rate during the initial years of mining and associated changes to mining and waste rock emplacement sequencing;

[4] Operational workforce size was reduced to 335 in Modification 1.

- revised processing facility area layout, including a revised processing plant layout and two additional vehicle site access points;
- reduced sulphuric acid plant stack height from 80 metres [m] to 40 m;
- revisions to processing plant reagent types, rates and storage volumes;
- revised tailings storage facility cell construction sequence and the addition of a decant transfer pond;
- relocated and resized evaporation pond;
- changes to the water management system to reflect the modified mine and processing facility layout;
- increased number of diesel-powered backup generators (and associated stacks) from one to four;
- addition of exploration activities within the approved surface development area inside Mining Lease (ML) 1770;
- increased duration of the construction phase from two years to three years; and
- increased peak construction phase workforce from approximately 1,000 to approximately 1,900 personnel;

Rail Siding

- revised rail siding location and layout;
- addition of an ammonium sulphate storage and distribution facility to the rail siding;
- extension of the Scotson Lane road upgrade;
- addition of a 22 kV Electricity Transmission Line (ETL) (subject to separate approval) to the rail siding power supply; and
- increased peak operational phase workforce from approximately five to approximately 10 personnel;

Accommodation Camp

- increased construction phase capacity from 1,300 to 1,900 personnel;
- increased size of the treated wastewater irrigation area;
- option for an alternative alignment of the last section of the accommodation camp water pipeline along the accommodation camp services corridor rather than along the access road corridor; and
- option to transfer treated wastewater to the mine and processing facility for reuse via a water pipeline located inside the approved services corridor;

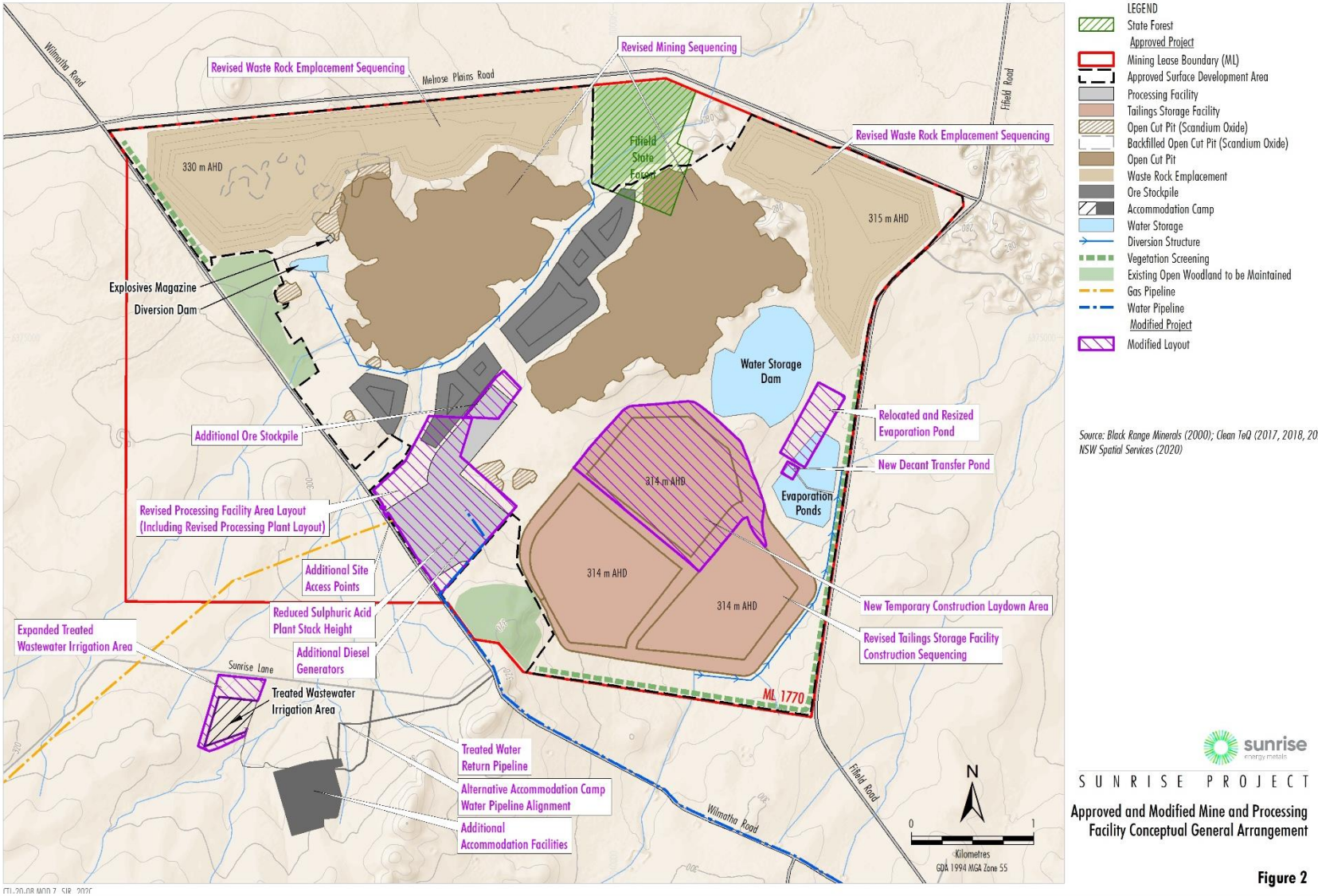
Road Transport Activities

- changes to construction phase vehicle movements associated with the increased construction phase accommodation camp capacity and changes to heavy vehicle delivery requirements;
- changes to operational phase heavy vehicle movements associated with revisions to processing plant reagent types, rates and storage volumes; and
- changes to operational phase heavy vehicle movements to and from the rail siding associated with the transport of metal and ammonium sulphate products.

The Modification would not change the following approved components of the Project:

- other mine and processing facility components (e.g. surface development area, mining method, processing method and rate, tailings management and water management concepts);
- other accommodation camp components (e.g. surface development area; operational phase capacity);
- other transport activities and transport infrastructure (e.g. the Fifield Bypass);
- limestone quarry;
- borefield, surface water extraction infrastructure and water pipeline; and/or
- gas pipeline.

FIGURE 2 APPROVED AND MODIFIED MINE AND PROCESSING FACILITY CONCEPTUAL GENERAL ARRANGEMENT



Source: Black Range Minerals (2000); Clean TeQ (2017, 2018, 2020); NSW Spatial Services (2020)

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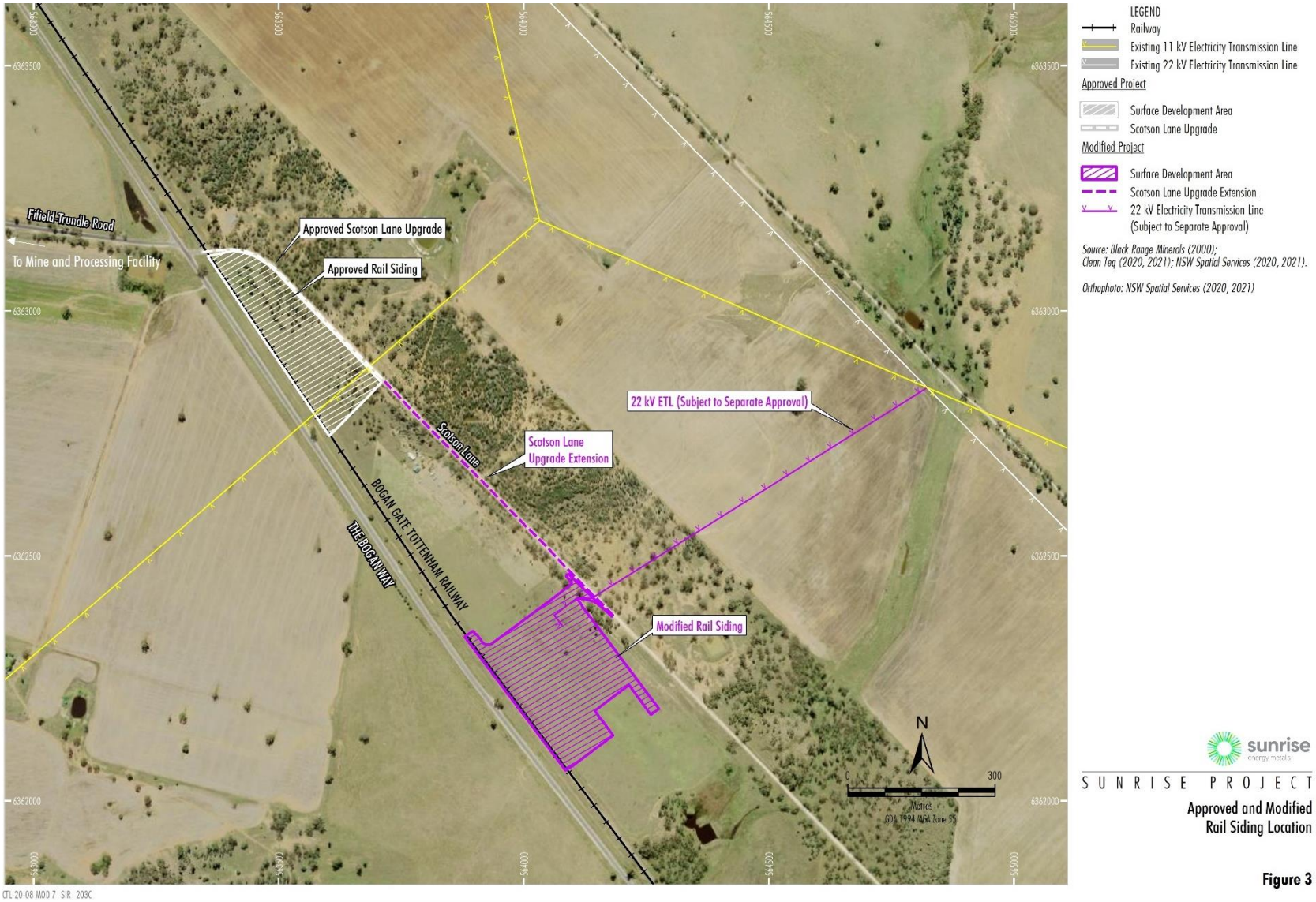
Approved and Modified Mine and Processing Facility Conceptual General Arrangement

Figure 2

FIGURE 3 APPROVED AND MODIFIED RAIL SIDING LOCATION



3. SOCIAL BASELINE

3.1 Overview of the Social Locality

As described in previous sections, the Project is located within three LGAs - Lachlan, Parkes and Forbes Shire LGAs. The three LGAs comprise the north-western portion of the Central West region in NSW and are located on Wiradjuri country. The Project is located predominately in rural communities, across primarily agricultural land, with the larger towns of Parkes, Forbes and Condobolin within commuting distance of the Project.

3.1.1 Lachlan Shire

Lachlan Shire is located in the Central West region of NSW, approximately 200 km west of Orange and 400 km west of Sydney. The Lachlan Shire encompasses an area of 14,965 km^2. Condobolin is the largest town in the Lachlan Shire, followed by Lake Cargelligo, Tottenham and the villages of Tullibigeal, Burcher, Derriwong, Albert, Fifield and Murrin Bridge. The Lachlan River, major roads such as Lachlan Valley Way and The Gipps Way and Broken Hill Railway Line pass through the Lachlan Shire (LSC, 2017).

The farming sector accounts for one quarter of the Lachlan Shire's employment. The rich agricultural district has made the Lachlan Shire one of the largest grain producers in the Central West. The LSC has invested in industrial estates to grow the region's light manufacturing sector. The LSC also manages NSW largest road network of any LGA, maintaining 3,918 km of roads (LSC, 2017).

The LSC has released the *Community Strategic Plan 2017/18 – 2020/27* highlighting the region's strategic goals over the ten-year period, in response to three key challenges – growth of population; maintaining a skilled workforce; and advocating and lobbying on behalf of the community (LSC, 2017). As a result, nine actions have been prioritised by the LSC:

1) *make the Shire attractive so we attract business and jobs;*
2) *grow tourism – identify the type of tourist to be attracted, and give an increased focus to an Indigenous theme;*
3) *attract industry to the Shire;*
4) *make the Shire attractive so we attract the right skilled labour;*
5) *train our own residents, particularly our youth;*
6) *address the housing shortage;*
7) *develop community advocates;*
8) *make the Shire attractive to support the advocacy; and*
9) *support decentralisation to bring government offices and facilities to the Shire.*

3.1.2 Forbes Shire

Forbes Shire is located in the Central West region of NSW, approximately 300 km west of Sydney. The Forbes Shire encompasses an area of 4,718 km^2 and includes the town of Forbes and the villages of Bedgerebong, Garema, Wirrinya, Corinella and Ootha. The Lachlan River (including Lake Forbes) is central to the identity of the Forbes Shire and runs directly through the middle of Forbes.

Positioned on the Newell Highway, halfway between Brisbane and Melbourne, almost 80% of Australia's population can be reached within 12 hours driving time from Forbes. Forbes is located four hours from Sydney via road (FSC, 2018). The Forbes Shire LGA is a regional community whose main source of employment is the agricultural, forestry and fishing sector (FSC, 2018).

The *Forbes Community Strategic Plan 2018-2028* (FSC, 2018) roadmaps a 10-year plan. As part of this plan, the Council has identified six key directions for the region:

1) *community and culture;*
2) *local economy;*
3) *natural environment;*
4) *rural and urban land use;*
5) *infrastructure and services; and*
6) *government and representation.*

3.1.3 Parkes Shire

Parkes Shire is located in the Central West region of NSW, approximately 300 km west of Sydney. Parkes Shire encompasses an area of 5,919 km^2, with its major town being Parkes. Parkes Shire also includes the towns of Peak Hill, Alectown, Bogan Gate, Trundle and Tullamore. Situated along the Newell Highway and the Orange to Broken Hill Railway, Australia's major inland touring route, Parkes provides an intersection for essential road and rail corridors (PSC, 2021).

The Parkes Shire was once an agricultural hub, which has evolved to encompass a diversified economy with strong industries in mining, health care and social assistance, education and training, retail trade and accommodation, and food service. The community is serviced by a regional airport with several return flights daily between Parkes and Sydney and is also accessed by daily coach and rail services to and from Sydney (PSC, 2021a). The *Parkes Shire 2030+ Strategic Community Plan* (PSC, n.d.) addresses overall community goals up to 2030 with eight strategic goals:

1) *develop education and lifelong learning opportunities;*
2) *improve health and well-being;*
3) *promote, support and grow our communities;*
4) *grow and diversify the economic base;*
5) *develop Parkes as a national logistics hub;*
6) *enhance recreation and culture;*
7) *care for the natural and built environment in a changing climate; and*
8) *maintain and improve the Shire's assets and infrastructure.*

3.2 Population

3.2.1 Population Trends

At the time of the 2016 census the three Shires in the Social Locality had a total population of approximately 30,000 people. Approximately half of these (14,608) resided in Parkes Shire, just over 30% in Forbes Shire (9,587), and the remainder (6,194) in Lachlan Shire. Overall, the population has remained relatively steady between 2001 and 2016, with a slight population increase in Parkes Shire, and a slight decrease in Forbes and Lachlan Shires. In total, the Social Locality population decreased by 3% between 2001 and 2016, compared to a growth of 18.5% for NSW as a whole. Table 3 below outlines population trends for the three Shires in the Social Locality and compares these with NSW.

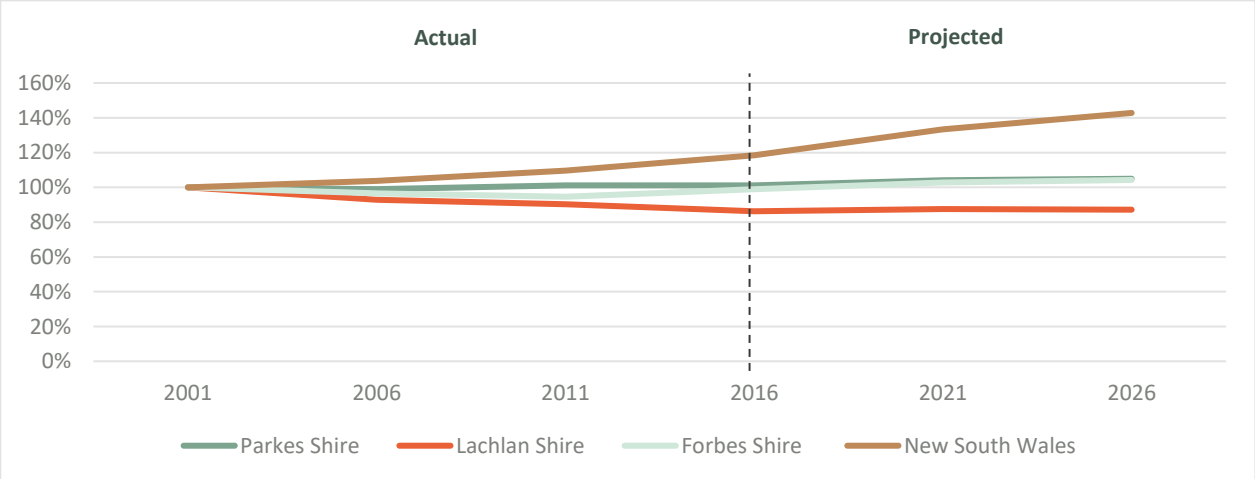
TABLE 3 POPULATION TRENDS

	2001	2006	2011	2016	Change Between 2001 – 2016 (%)
Parkes Shire	14,433	14,284	14,592	14,608	1%
Lachlan Shire	7,180	6,672	6,477	6,194	-14%
Forbes Shire	9,691	9,361	9,169	9,587	-1%
Total Social Locality	*31,304*	*30,317*	*30,238*	*30,389*	-3%
NSW	6,311,168	6,549,174	6,917,656	7,480,228	19%

Source: ABS Census Data 2016, Time Series Profile.

Figure 4 visualises indexed population trends and projections to show the proportional evolution of the population size in the Social Locality between 2001 and 2026. Notably, the population in NSW is projected to increase by 40% compared to the 2001 population by 2026, whereas the three Shires in the Social Locality are projected to grow modestly or experience a small decline.

FIGURE 4 EVOLUTION OF POPULATION (ACTUAL AND PROJECTED, INDEXED: 2001=100)



Source: Based on ABS Census Data 2016, Time Series Profile and DPIE Population Projections.

There is general similarity between the three Shires in the Social Locality with regards to median age, household size, number of persons per bedroom and the males to female ratio (Table 4). Compared to that of the NSW average, the Social Locality has slightly higher median ages, smaller household sizes, and fewer people per bedroom. The male to female ratio is relatively similar.

TABLE 4 COMPARATIVE POPULATION AND HOUSEHOLD INDICATORS

	Parkes Shire	Lachlan Shire	Forbes Shire	NSW
Median age	41	40	42	38
Average household size	2.4	2.4	2.4	2.6
Average number of persons per bedroom	0.8	0.8	0.8	0.9
No of males per female	0.969	1.000	1.005	0.971

Source: ABS Census Data 2016, General Community Profile

3.2.2 Indigenous Population and Cultural Diversity

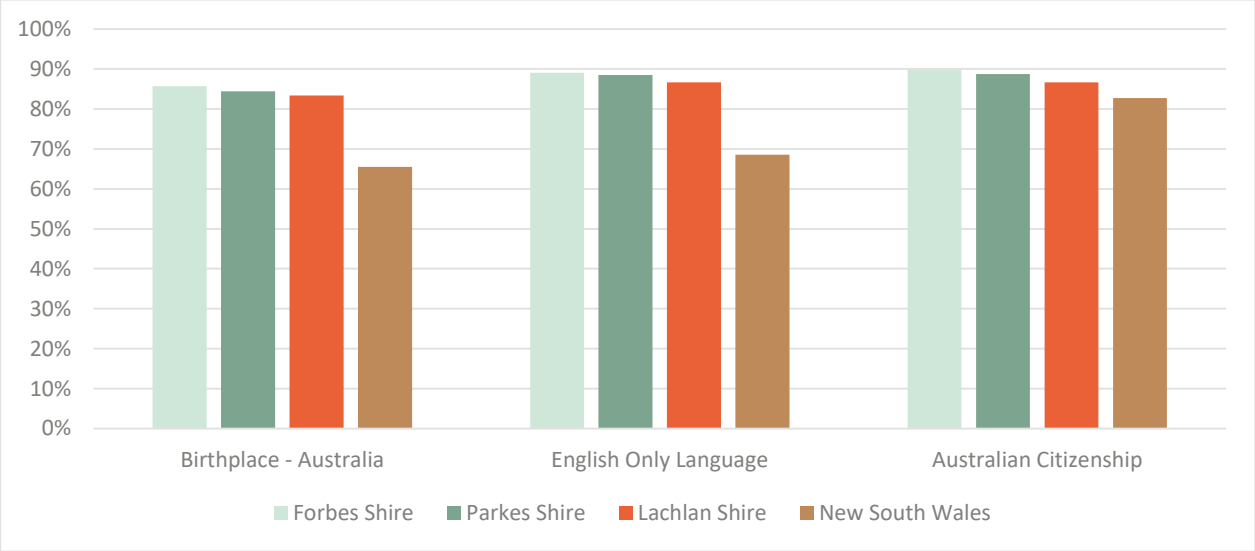
Figure 5 below shows the proportion of Indigenous people in each of the three Shires in the Social Locality, compared to NSW. The proportion of Indigenous people in the Social Locality is well above that of NSW, with approximately 18% of the population in Lachlan Shire, 11% in Forbes Shire, and 10% in Parkes Shire identifying as Aboriginal and/or Torres Strait Islander in the 2016 Census. This is to be compared with 3% for NSW.

FIGURE 5 INDIGENOUS POPULATION

Source: ABS Census Data 2016, General Community Profile

The population in the Social Locality appears to be slightly more culturally homogenous than NSW. Figure 6 shows that, compared to NSW, Parkes, Forbes and Lachlan Shires all have a higher proportion of the population whose birthplace is Australia, who only speak English at home and who have Australian citizenship.

FIGURE 6 CULTURAL DIVERSITY



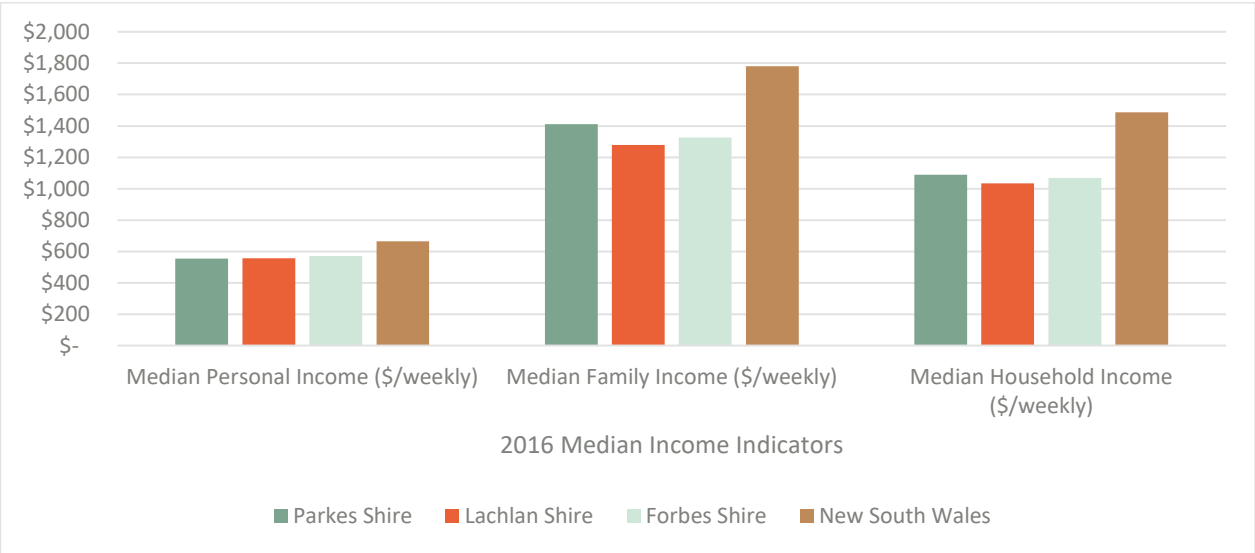
Source: ABS Census Data 2016, General Community Profile

3.3 Economic Indicators

3.3.1 Income

With regards to incomes, Figure 7 below shows the three Shires have lower median personal, family and household incomes compared to NSW. Among the Shires the differences are small, with Parkes Shire recording the highest median and family weekly incomes ($1,412 and $1,088 respectively) and Forbes Shire the highest median personal weekly income at $571 at the time of the 2016 Census.

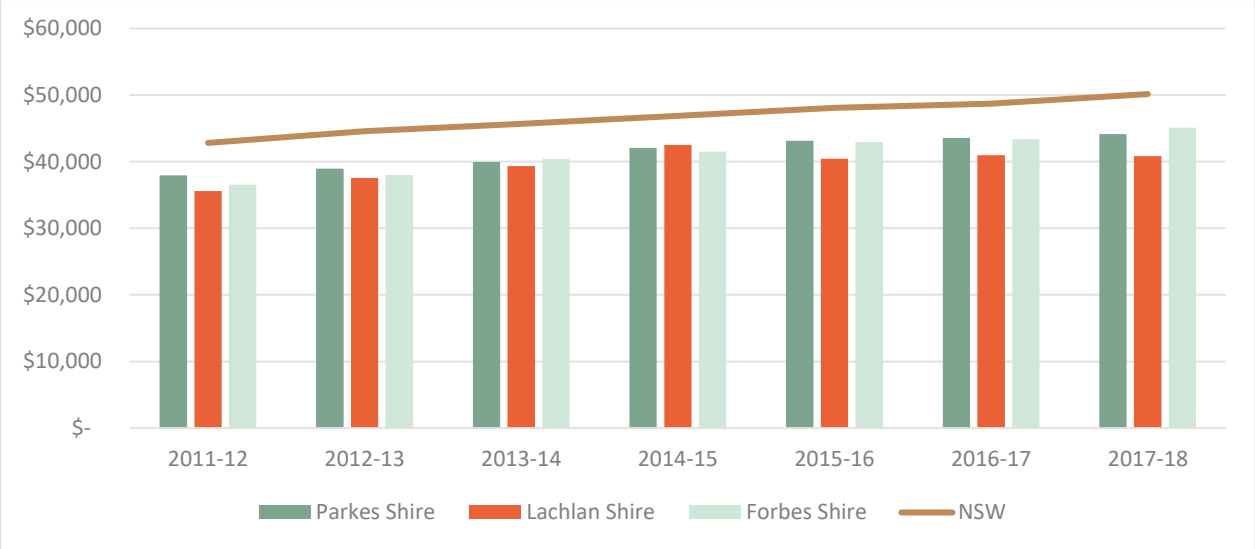
FIGURE 7 COMPARATIVE INCOME INDICATORS



Source: ABS Census Data 2016, General Community Profile

Figure 8 below shows the median personal annual income across the three Shires in the Social Locality compared to that of NSW between the 2011/2012 and 2017/2018 financial years. Incomes in the Social Locality are consistently somewhat lower than the NSW median, albeit growing on a similar trajectory. The exception is Lachlan Shire, where the median income fell between the 2014/15 and 2015/16 financial years and has remained relatively stable since.

FIGURE 8 MEDIAN PERSONAL ANNUAL INCOME TRENDS



Source: ABS 2020, Personal Income in Australia, Table 1, Total Income

3.3.2 Labour Market

At the time of the 2016 Census, labour force participation rates across Lachlan, Forbes and Parkes Shires were around 55%, compared with 59.2% in NSW. Compared to the NSW average of 6.3%, unemployment rates varied, with Forbes Shire below the NSW average at 5.4% and Lachlan and Parkes Shires above at 6.8% and 7.5% respectively. Unemployment among the Indigenous population also varied, with 24.4% and 20.9% of the Indigenous population in Lachlan and Parkes Shire respectively being unemployed, significantly higher than the NSW average of 15.3% and that of Forbes at 13.5%. Table 5 and Table 6 show labour market data for the Shires and the Indigenous population specifically.

TABLE 5 LABOUR FORCE

	Parkes Shire	Forbes Shire	Lachlan Shire	NSW
Total labour force	6,307	4,169	2,644	3,605,881
Unemployment rate	7.5%	5.4%	6.8%	6.3%
Labour force participation rate	54.1%	54.6%	54.6%	59.2%

Source: ABS Census Data 2016, General Community Profile

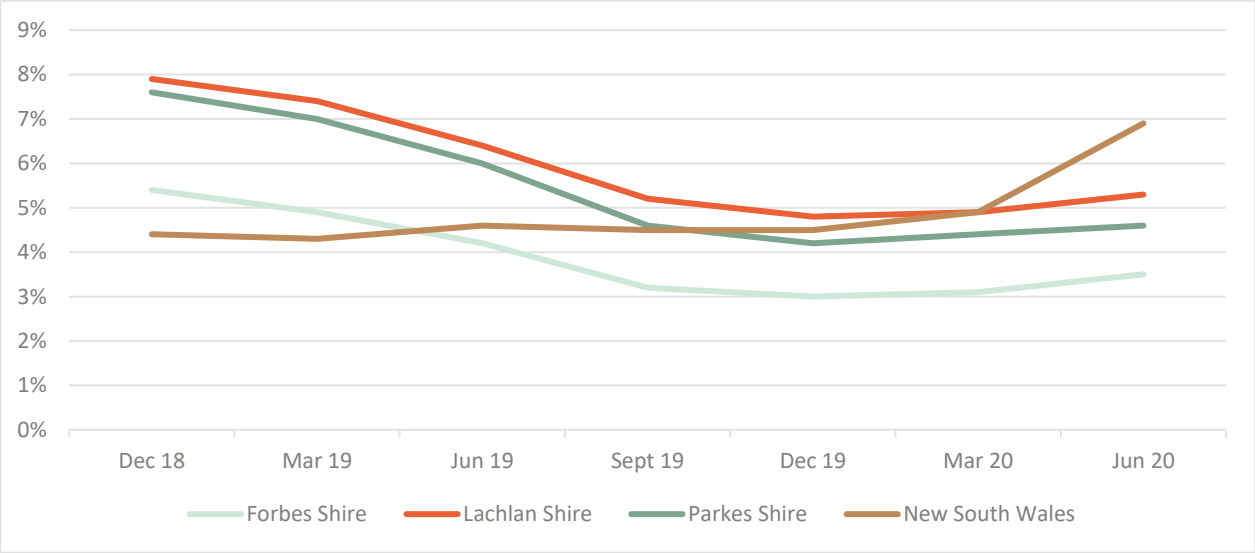
TABLE 6 INDIGENOUS LABOUR FORCE

	Parkes Shire	Forbes Shire	Lachlan Shire	NSW
Total labour force	487	394	352	77,143
Unemployment rate	20.9%	13.5%	24.4%	15.3%
Labour force participation rate	51.4%	55%	50.2%	54.4%

Source: ABS Census Data 2016, Aboriginal and Torres Strait Islander Peoples Profile

Current unemployment estimates show that Parkes and Lachlan Shires have similar unemployment rates (Figure 9). Noticeably, and similar to the 2016 Census figures, Forbes Shire has a lower unemployment rate. The unemployment rates in the Social Locality have followed a similar trajectory over the last two years, beginning with a general downward trend, followed by a stabilisation in the second half of 2019, and a slight increase in early 2020 as the effects of COVID-19 were beginning to be felt. By contrast, the NSW unemployment rates have remained relatively stable throughout most of this period, but with a more dramatic increase from the March quarter 2020. Unemployment estimates for the three Shires were 3.5% for Forbes Shire, 4.6% for Parkes Shire and 5.3% for Lachlan Shire in the June quarter 2020, to be contrasted with 6.9% for NSW as a whole[5].

FIGURE 9 UNEMPLOYMENT RATE TRENDS



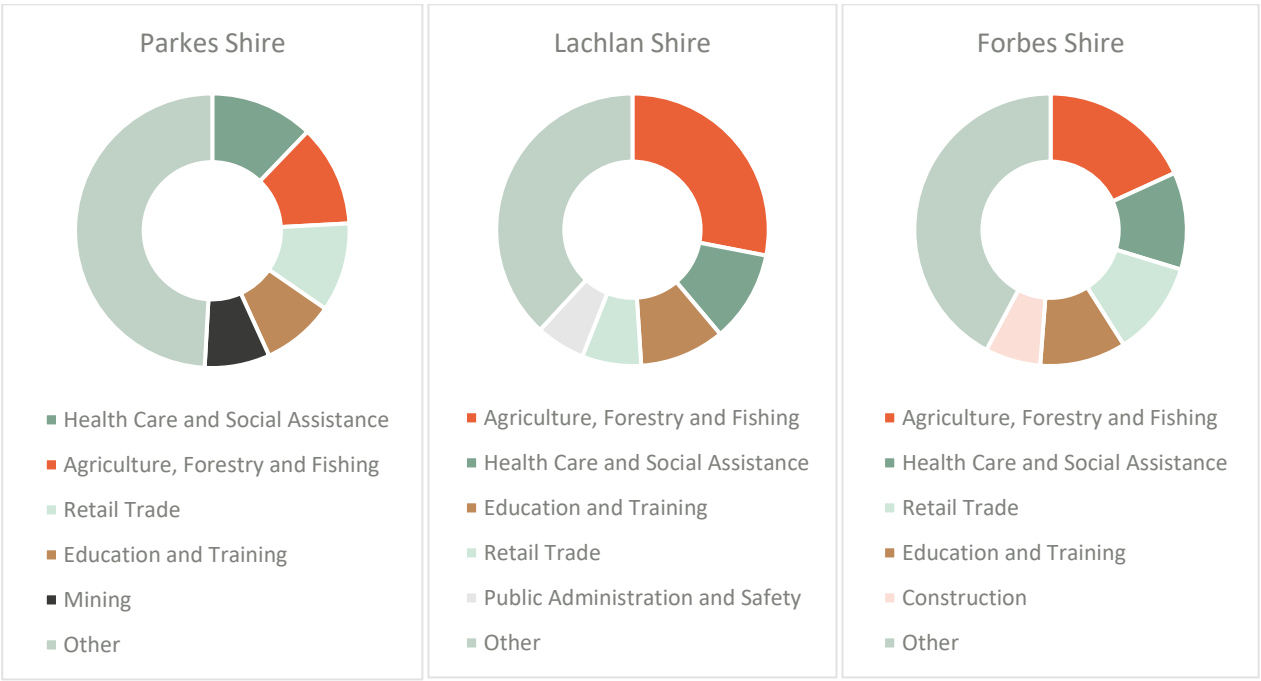
Source: Small Area Labour Markets, LGA Data Tables and SA4 Time Series Profile, June Quarter 2020

[5] The Labour Market Information Portal notes however that unemployment figures for the June quarter 2020 should be interpreted with caution due to uncertainty and volatility associated with COVID-19.

3.3.3 Industries of Employment

The industries which have the most employees are similar across each Shire. Agriculture, forestry, and fishing is a key employment sector across all three Shires, being the largest sector in Lachlan Shire (28%) and Forbes Shire (18%), and the second largest in Parkes Shire (12%), where health care and social assistance is the largest. Mining features as the fifth largest industry of employment in Parkes (Figure 10).

FIGURE 10 TOP FIVE INDUSTRIES OF EMPLOYMENT



Source: ABS Census Data 2016, General Community Profile

3.4 Housing

3.4.1 Dwellings

Overall, Parkes Shire has more dwellings than Forbes and Lachlan Shires; however, this is proportional to their overall population. Forbes has the highest percentage of occupied private dwellings, with the Lachlan Shire having a greater percentage of unoccupied private dwellings, although proportionally the differences are small (Table 7)[6].

[6] This may mean there is room for population growth within the existing housing stock. As the condition of the unoccupied private dwellings is not known, it is difficult to draw a conclusion to that effect with any degree of certainty.

TABLE 7 DWELLING STRUCTURE

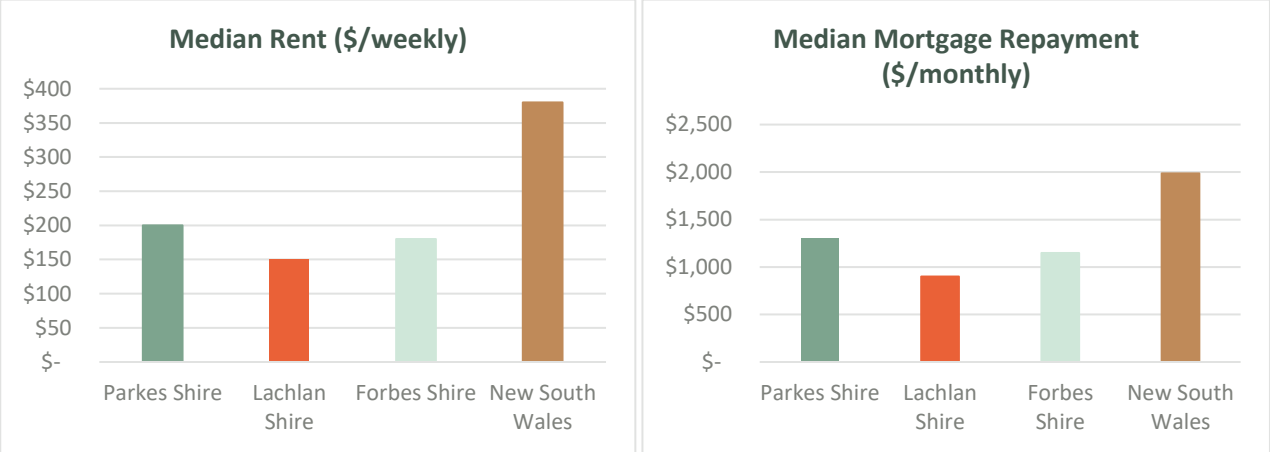
	Parkes Shire		Lachlan Shire		Forbes Shire	
	Number	*%*	*Number*	*%*	*Number*	*%*
Total occupied private dwellings	5,294	85.54%	2,206	84.36%	3,496	86.73%
Total unoccupied private dwellings	895	14.46%	409	15.64%	532	13.20%

Source: ABS Census Data 2016, General Community Profile

3.4.2 Housing Cost and Ownership

Housing costs in the Social Locality, including houses and units, were significantly lower than the NSW medians at the time of the 2016 Census. Figure 11 highlights how the Social Locality's median mortgage repayments and rents are significantly below the State's median, with housing costs in the Lachlan Shire less than half of the NSW medians.

FIGURE 11 MEDIAN HOUSING COSTS

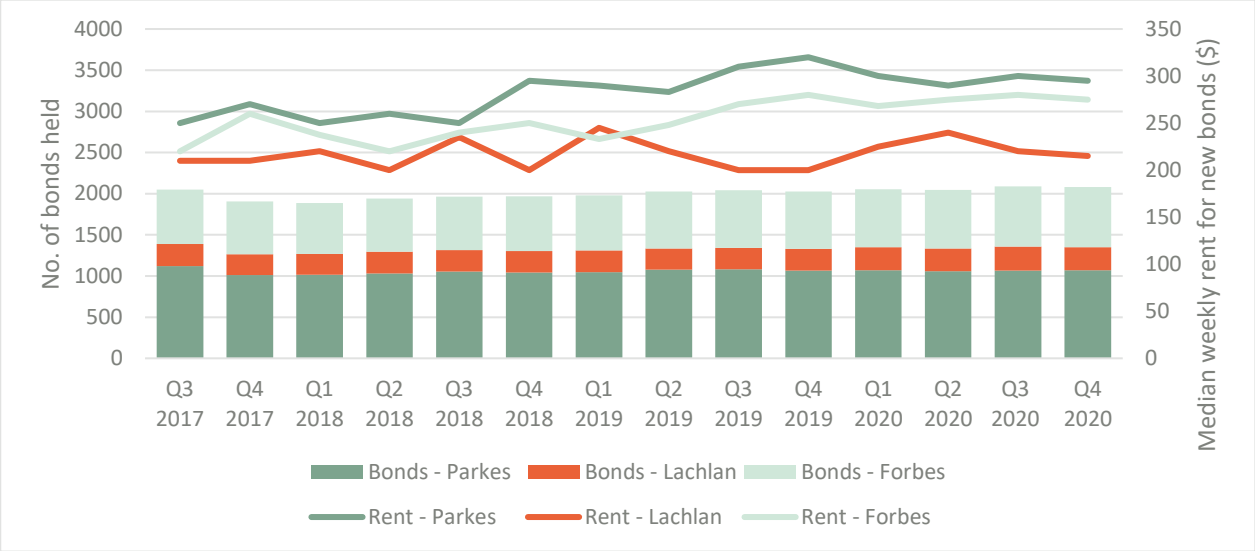


Source: ABS Census Data 2016, General Community Profile

More recent rental costs are provided in Figure 12, which shows the median rent for new bonds lodged by quarter in the Social Locality, as well as the total number of bonds held. The latter provides an indication of the evolution of the size of the rental market, although the total number of rental properties available is likely to be larger[7]. At the end of 2020 there were a total of 2,081 bonds held across the three Shires, and the median rents for new leases ranged between $215 and $295 per week. The total number of bonds have remained relatively stable over the last three years, but rents have experienced a general upward trend except in Lachlan Shire where the trend, albeit some fluctuations, is relatively stable. The increase in rental costs in Parkes between quarter two and four of 2019 is potentially associated with increased housing demand from construction of the Inland Rail Project.

[7] This is because the total rental market also includes properties that are rented privately and properties that are available but currently not rented.

FIGURE 12 MEDIAN RENT AND RENTAL BONDS



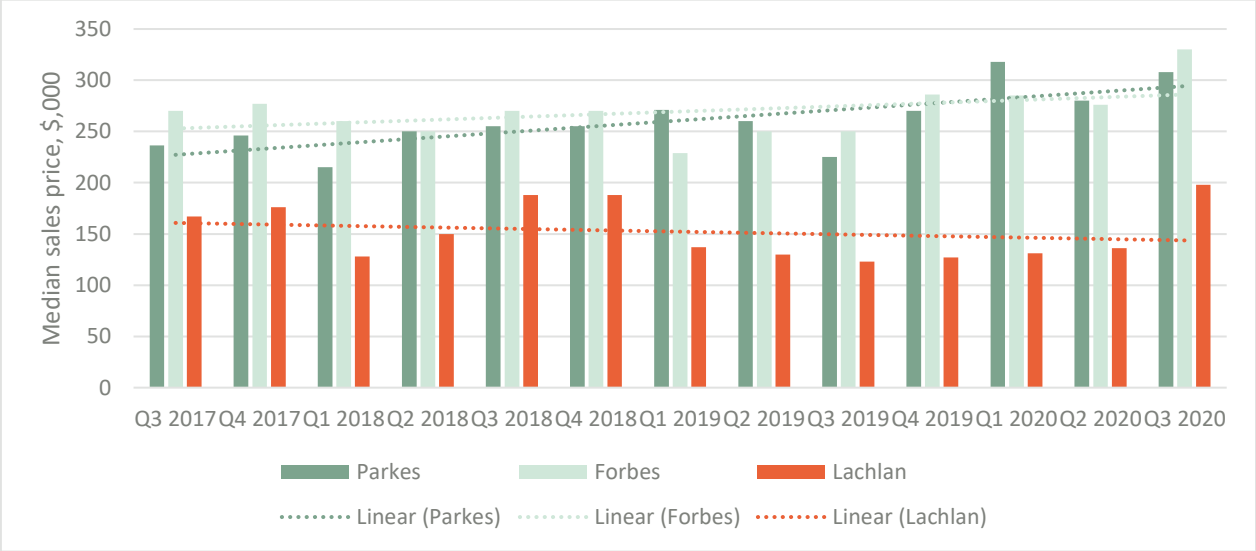
Source: Department of Communities and Justice, 2020

A search of National Shelter's 2020 rental affordability index revealed that rents for an average Australian rental household were considered affordable for postcode 2870, which approximates Parkes, and very affordable for postcodes 2871 (Forbes) and 2877 (Condobolin) (SGS Economics and Planning, 2020).

Figure 13 below shows recent median sales prices for dwellings in the three Shires, as well as linear trend lines. In the September quarter of 2020 the median sales price was $330,000 in Forbes, $308,000 in Parkes and $198,000 in Lachlan Shire. Over the period from Q3 2017 to Q3 2020 dwelling prices have trended slightly upwards in Forbes and Parkes, and marginally downwards in Lachlan Shire.

Figure 14 shows the rates of home ownership and renters within the Social Locality compared to NSW. Overall, housing ownership rates are higher in the Forbes, Parkes and Lachlan Shires compared to NSW with more homes owned outright, and fewer owned with a mortgage. Within the Social Locality the Lachlan Shire has a lower number of owners with a mortgage compared to that of Parkes and Forbes.

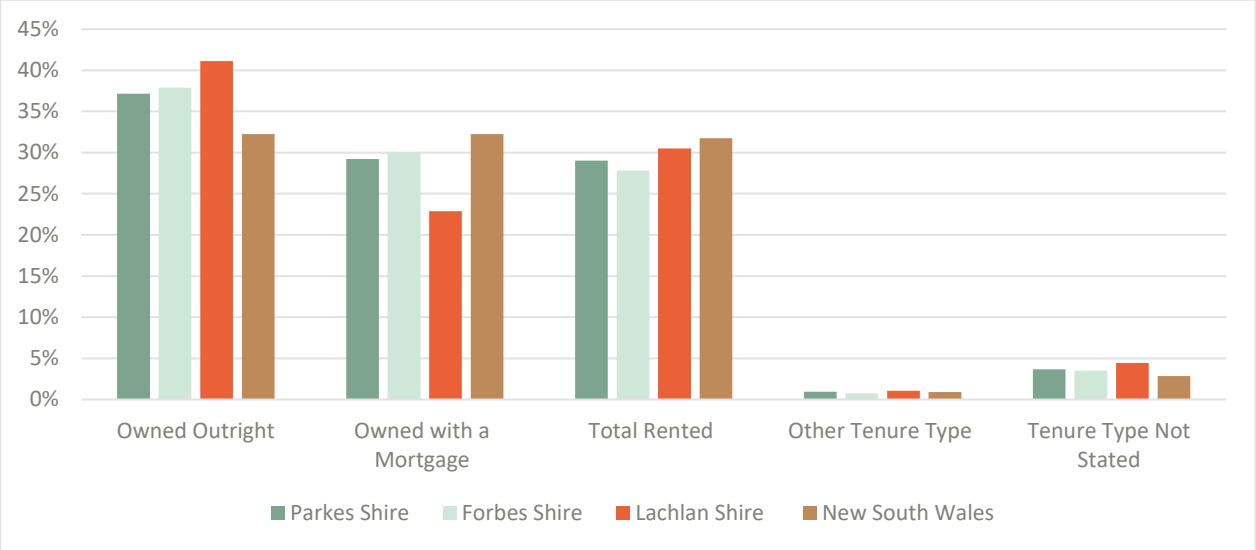
FIGURE 13 MEDIAN SALES PRICES



Source: Department of Communities and Justice, 2020

Note: no values were reported for Q4 2019 and Q1 2020 for Lachlan Shire, most likely because there were fewer than ten sales in those periods. The figures provided here are the mid points between the two immediate periods before and after so as not to skew the trend line.

FIGURE 14 HOME OWNERSHIP



Source: ABS Census Data 2016, General Community Profile

3.4.3 Short Term Accommodation

Short term accommodation available in the Social Locality in 2016 is shown in Table 8 below[8]. In total, there were 18 short term accommodation facilities in the area, 10 in Parkes, six in Forbes and two in the Condobolin Statistical Area Level 2 (SA2), with 293 and 156 rooms available in Parkes and Forbes respectively. Compared to figures presented in the Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) which reported a total of 26 establishments across the Social Locality (Martin & Associates Pty Ltd, 2000), it would appear the number of establishments has reduced[9].

TABLE 8 SHORT TERM ACCOMMODATION (HOTELS, MOTELS AND SERVICED APARTMENTS) IN SOCIAL LOCALITY, JUNE QUARTER 2016

	Parkes SA2	Forbes SA2	Condobolin SA2
Establishments	10	6	2
Rooms	293	156	-
Bed spaces	793	442	-
Room nights occupied	13,459	7,447	-
Room nights available	26,663	14,196	-
Room occupancy rate %	51%	53%	-
Guest nights occupied	19,256	12,842	-
Guest nights available	72,163	40,222	-
Bed occupancy rate %	27%	32%	-

Source: ABS 2016, Tourist Accommodation 2015-16.

3.5 Community Infrastructure

The following review of community facilities in the Social Locality is based on a desktop search for facilities within the respective Shire.

3.5.1 Education Facilities

PSC manages the Central West Family Day Care which services Parkes, Forbes, Condobolin and surrounding districts. Within Parkes there are three pre-schools/long day care services, a Family Day Care Scheme, four primary schools (three public and one Catholic), one high school and a Christian school for Kindergarten to Year 12. Whilst Parkes does not have a university, it does offer tertiary education through the Parkes TAFE College, which forms part of the TAFE Western NSW Institute (PSC, 2016).

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8 This data is based on the latest available ABS tourist accommodation survey. The survey reports data on an SA2 level. The Parkes, Forbes and Condobolin SA2's roughly covers a similar area as the Social Locality, with the exception of Parkes SA2 which approximates the town of Parkes. Other than the number of establishments, data is not available for Condobolin SA2.

9 Note however that the areas provided here are SA2's and the data in the Community Infrastructure Assessment is presented at LGA level, hence the figures may not be entirely comparable.

Forbes has five childcare and preschool centres, three primary schools (two public and one Catholic) and two high schools (one public and one Catholic). There is a TAFE campus in Forbes, providing a range of courses (FSC, n.d).

There are approximately 12 schools and child care centres in the Lachlan Shire, including in Condobolin, Tullibigeal, and Lake Cargelligo. The Lachlan Shire does not have a university or other form of tertiary education.

The Community Infrastructure Assessment identified a total of 14 schools in the Social Locality, with an enrolment of 4,769 students in 1996 (Martin & Associates Pty Ltd, 2000). A total of 18 schools have been identified in the Social Locality at the locations reported in the Community Infrastructure Assessment, with a total of 4,763 enrolments in 2019. Table 9 below outlines these schools.

TABLE 9 SCHOOLS AND ENROLMENTS IN THE SOCIAL LOCALITY

Location	School	Years	Enrolment 1996	Enrolment 2019
Parkes	Parkes High School	7-12	782	610
	Parkes Public School	K-6	425	426
	Middleton Public School	K-6	285	210
	Parkes East Public School	K-6	410	344
	Parkes Christian School	K-12	140	217
	Holy Family Parish Primary School	K-6	270	223
Bogan Gate	Bogan Gate Public School	K-6	29	8
Trundle	Trundle Central School	K-12	150	107
	St Patrick's Parish Primary School	K-6	59	28
Tullamore	Tullamore Central School	K-12	145	67
Forbes	Forbes Public School	K-6	-	280
	Forbes North Public School	K-6	-	268
	Forbes High School	7-12	-	340
	Red Bend Catholic College	7-12	719	715
	St Laurence's Parish Primary School	K-6	-	320
Condobolin	Condobolin Public School	K-6	703	295
	Condobolin High School	7-12	499	210
	St Joseph's Parish Primary School	K-6	153	95
Total			**4,769**	**4,763**

Source: NSW Department of Education, 2020, Catholic Education Wilcannia-Forbes, 2020, Parkes Christian School, 2020.

Notes: some of the schools are named marginally differently in the Community Infrastructure Assessment, with the public schools named primary schools, the Parkes Christian School being named Parkes Central West Christian School. Further, other than Red Bend Catholic College no schools were identified in Forbes in the Community Infrastructure Assessment. The 1996 enrolment figures for the Condobolin Public school were reported to include all of Lachlan Shire. Finally, there are additional schools located in the LGA's in the Social Locality. This list solely includes schools at the locations in the Community Infrastructure Assessment.

3.5.2 Social and Community Facilities

PSC offers residents and visitors free access to an array of library services, facilities, and programs through four locations – a central library in Parkes with branches in Peak Hill, Trundle and Tullamore. Twenty-seven parks and the Parkes Aquatic Centre also service the Parkes community, with PSC also operating pools in Peak Hill, Trundle and Tullamore (PSC, 2016). The Henry Parkes Centre located on the northern side of Parkes also incorporates the Parkes Visitor Information and four museums (PSC, 2021b).

Forbes has one central library which is a part of the Central West Libraries Network. The Wiradjuri Dreaming Centre is also located in Forbes. There are 14 parks within Forbes, providing free access to playgrounds, BBQ facilities and toilets. Forbes hosts a Conservatorium of Music providing residents access to music education and performances (FSC, n.d). Other community facilities include public pools, a museum and a ski dam (FSC, 2021).

The Lachlan Shire has two pools, one at Lake Cargelligo and the other in Condobolin. Recreation water sports are encouraged through access to the three lakes or rivers located in the Lachlan Shire – Gum Bend Lake, Lachlan River and Lake Cargelligo. Lachlan Shire has a strong historical presence with seven museums (LSC, n.d).

3.5.3 Health and Aged Care

Parkes has recently developed a 28-bed hospital, providing access to the region in the service areas of an emergency department, medical imaging, ambulatory care, inpatient units, and birthing suites (JBA Urban Planning Consultants Pty Ltd, 2014). The Peak Hill Multipurpose Service is also new and provides the community four acute beds and 10 high care residential aged care beds, emergency, allied health, oral health and community health services. Parkes has the primary hospital facilities in the Social Locality (PSC, 2016).

Four public and private health care services are located in the Forbes Shire. The main hospital precinct is a combination of two medical centres, with 18 consultation rooms and two treatment rooms, amongst a range of other services. Home and aged care services in Forbes are provided through the local Home and Community Care Program and the local Jemalong Residential Village. The Village is a 91-place individual room facility incorporating 30 dementia beds (FSC, n.d).

Lachlan Shire offers a district hospital, medical centre and Aboriginal health service in Condobolin. In the smaller towns and villages in the Lachlan Shire, there is a family medical practice and district hospital in Lake Cargelligo and a medical centre and multi-purpose health service in Tottenham (LSC, n.d).

3.6 Summary of Social Baseline

In summary, key points that emerge from this social baseline are:

- The population in the Social Locality is – on average – slightly older and more culturally homogenous than that of NSW, with slightly higher median ages, higher proportions of people born in Australia and who speak English only at home. The population is relatively stable with a minor decrease in population size between 2001 and 2016.
- A high proportion, ranging from 10% to 18% of the population of the Social Locality are Aboriginal and/or Torres Strait Islander peoples compared to NSW (3%).
- Agriculture plays a large part of the economy in the region, being the largest or second largest industry of employment in the Social Locality.
- Unemployment levels vary across the Social Locality, with Lachlan and Parkes Shires above the NSW average and Forbes Shire below at the time of the 2016 Census. Unemployment levels have since dropped to 3.1% in the Forbes Shire, 4.4% in the Parkes Shire and 4.9% in the Lachlan Shire in the March quarter of 2020, prior to COVID-19 affecting the labour market. Indigenous unemployment in the Social Locality was high at the time of the 2016 Census, at over 20% in Lachlan and Parkes Shires and 13.5% in Forbes Shire.
- Housing costs are relatively low in the Social Locality compared to NSW and are therefore more likely to be affordable relative to other parts of NSW. Home ownership levels are higher, particularly in Lachlan Shire. Rents have been generally trending upwards in Parkes and Forbes Shires, and remained relatively stable in Lachlan Shire over the last three years.
- Income levels are relatively low in the Social Locality compared to NSW.
- There are a range of social and community facilities across the Social Locality, including libraries, parks and health care facilities. Parkes, as the largest city in the area hosts a larger number of facilities.
- A total of 18 primary and secondary schools have been identified in key locations in the Social Locality, with a total enrolment of more than 4,700 students.

4. SOCIAL IMPACTS OF THE MODIFICATION

This chapter identifies and evaluates the potential social impacts that may arise from the Modification. The impact identification and evaluation process involved the following steps.

Step One: Identify Aspects of the Modification Likely to Give Rise to Social Impacts
Initially, all the aspects of the Modification were listed and assessed as to whether they may give rise to a social impact in any of the categories identified in the SIA Guidelines. This was further correlated with the potential impacts described in the Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000). For each aspect and attendant potential social impact, potentially affected stakeholder groups were identified. The key aspects of the Modification identified that may give rise to potential social impacts are further described in Section 4.1. Appendix B contains the full list of aspects of the Modification and potential social impacts.

Step Two: Analyse Likely Impacts
Each of the potential social impacts were then analysed to identify the nature and extent of the change brought about by the Modification. Where possible the change was quantified using the assumptions in the Community Infrastructure Assessment and contemporary Project information associated with the Modification. Importantly, this quantification is not an exact prediction, but rather a means of reasoning about the likely scale of the change.

Step Three: Evaluate Social Impacts
Potential impacts were then evaluated using the significance matrix and associated definitions and guidance provided in the SIA Guidelines (see Appendix C). This evaluation drew on the nature and extent of the change considered in relation to the existing social environment, feedback from the consultation process, as well as a review of submissions to previous modifications for the Project. At this stage it was also considered whether the relevant potential impact was addressed in other specialist studies supporting the Modification and these were referenced. For potential impacts with a medium or high significance, mitigation measures were then considered and a residual assessment carried out.

Step Four: Conduct Cumulative Impact Assessment
Finally, a cumulative impact assessment was carried out considering whether the identified potential social impacts may coincide with impacts from other nearby projects.

4.1 Consideration of Key Aspects of the Modification

This section discusses the key aspects of the Modification that may give rise to potential social impacts. A list of all aspects of the Modification and an assessment of their potential to generate social impacts is provided in Appendix B.

4.1.1 Construction Phase

Construction Phase Workforce

The Modification would include an increase in the peak construction phase workforce from approximately 1,000 personnel to approximately 1,900 personnel. A detailed review of the Project construction phase manning conducted as part of the Project Execution Plan (Clean TeQ, 2020) concluded that the workforce would peak at approximately 1,900 personnel for approximately two months (Figure 15).

The duration of the construction phase would increase from two to three years as part of the Modification. The commissioning phase component of the construction phase is expected to be longer than originally contemplated based on the time required to commission similar processing plants. A monthly breakdown of the indicative modified construction workforce numbers, as well as indicative construction timing for each construction activity, is provided in Figure 15.

Accommodation Camp

The Modification would include an increase in the capacity of the accommodation camp during the construction phase, from approximately 1,300 personnel to 1,900 personnel, to accommodate the modified construction workforce. The capacity of the accommodation camp would be progressively expanded during the construction phase as the construction workforce increases to its peak (Figure 15).

The Modification would increase the period for construction of the accommodation camp, until first rooms become available, from approximately three months to six months. During this initial construction phase, the construction workforce size would average 211 personnel, peaking at close to 300 personnel (Figure 15).

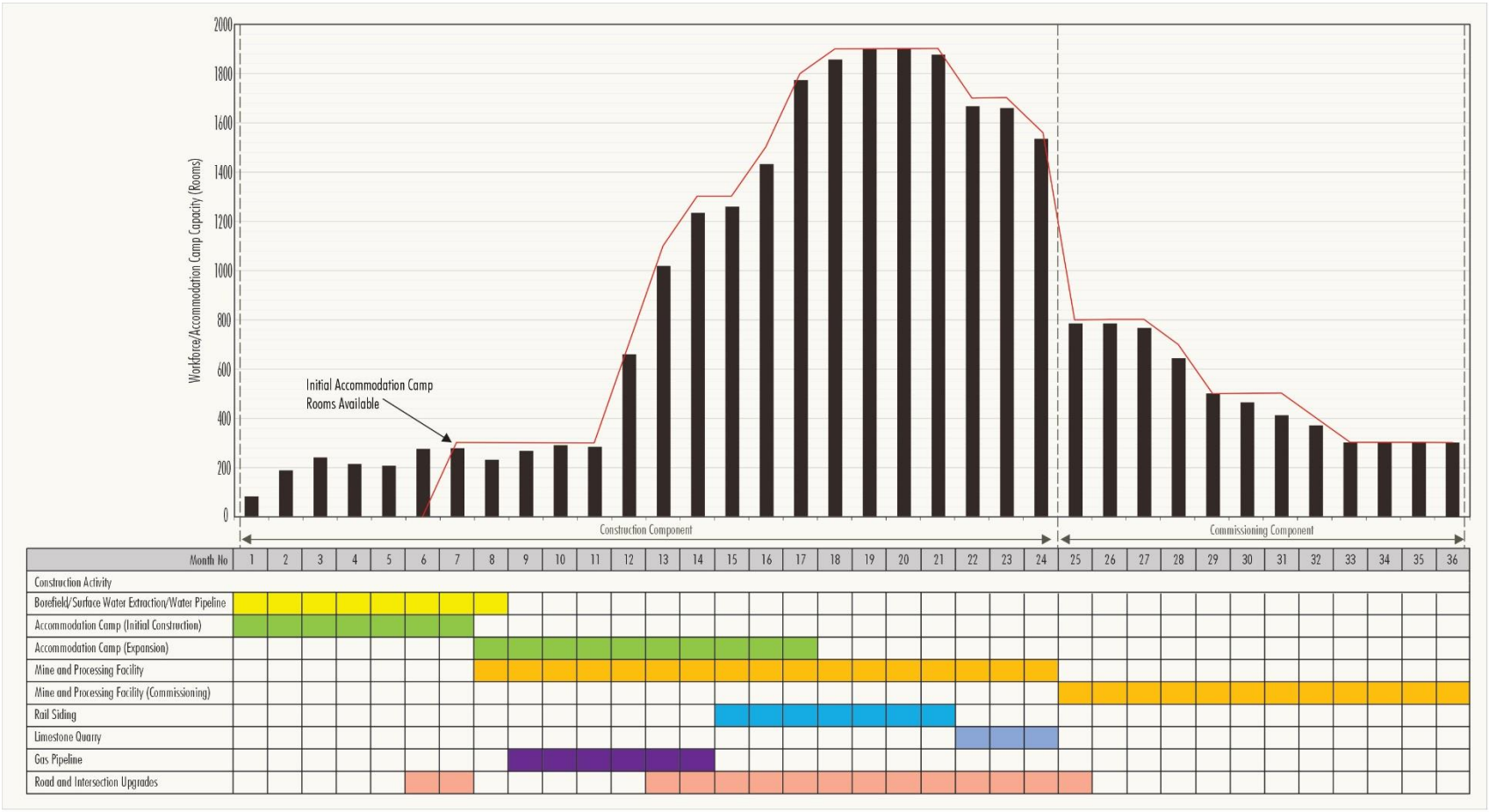
The residential distribution of the construction workforce during construction of the accommodation camp is expected to be 50% in Parkes, 33% in Condobolin, 10% in Forbes and 7% in other surrounding areas.

Due to the highly specialised, skilled nature of the construction workforce, it is expected that 90% of roles would be filled by non-local workers and the remaining 10% filled by local residents already residing in the region. As such, following first availability of rooms at the accommodation camp (i.e. month seven), approximately 90% of the construction workforce are expected to reside in the accommodation camp, and the remaining 10% in surrounding areas (local residents already residing in the region). The distribution of this 10% is expected to reflect the distribution of the workforce during construction of the accommodation camp.

Construction Phase Project Traffic

Heavy vehicles are approved to deliver construction equipment, construction materials, processing plant components, and construction consumables to the Project. A peak of 160 heavy vehicle movements per day is expected over the approved Project construction period.

FIGURE 15 INDICATIVE MODIFIED CONSTRUCTION WORKFORCE AND CONSTRUCTION TIMING



Source: Clean TeQ (2021)

SUNRISE PROJECT

Indicative Modified Construction Workforce and Construction Timing

Figure 15

A detailed review of the Project road transport requirements was conducted as part of the Project Execution Plan, which identified that changes to heavy vehicle movements would be required for the modified Project. The Road Transport Assessment for the Modification (The Transport Planning Partnership [TTPP], 2021) concludes there would generally be decreases in truck movements across the road network during the construction phase.

In addition, as part of the Modification, SEM would operate shuttle buses between towns in the Social Locality (Parkes, Condobolin, Forbes) and the mine and processing facility, which would reduce the number of light vehicle movements associated with the modified Project during construction. Shuttle buses would also be operated between the accommodation camp and the mine and processing facility during the construction phase.

The Road Transport Assessment for the Modification (TTPP, 2021) also concludes that the modified Project would have acceptable impacts on the operation of the road system during the construction phase. It further concludes that implementation of the various mitigation measures for the approved Project, with some refinements for the modified Project, would result in no significant impacts to road performance, capacity, efficiency or safety arising as a result of the traffic associated with the modified Project.

Road and intersection upgrades and maintenance would be undertaken in accordance with Development Consent (DA 374-11-00) and the Voluntary Planning Agreement (VPA). A summary of these road and intersection upgrades and maintenance is outlined in the Road Upgrade and Maintenance Strategy (Clean TeQ, 2019). In addition, the approved Scotson Lane road upgrade would be extended to the modified rail siding access.

Furthermore, in accordance with the Development Consent (DA 374-11-00), a Traffic Management Plan has been developed for the approved Project. This would be updated to incorporate the Modification, consistent with the requirements for the approved Project, including:

- details of all transport routes and traffic types to be used for development-related traffic;
- a program to monitor and report on the amount of metal sulphate precipitate and scandium oxide transported from the mine;
- a program to monitor and report on the amount of limestone transported from the limestone quarry;
- the measures that would be implemented to minimise traffic safety issues and disruption to local users of the transport route/s during construction and decommissioning of the development, including:
    - temporary traffic controls, including detours and signage;
    - notifying the local community about development-related traffic impacts; and
    - a traffic management system for managing over-dimensional vehicles; and
- a Road Transport Protocol for all drivers transporting materials to and from the site with measures to:
    - ensure drivers adhere to the designated transport routes;
    - verify that these heavy vehicles are completely covered whilst in transit;

- co-ordinate the staggering of heavy vehicle departures to minimise impacts on the road network, where practicable;
- minimise disruption to school bus timetables and rail services;
- ensure travelling stock access and right of way to the adjacent travelling stock route;
- maintain radio communications between all school buses and heavy vehicle operators operating on the transport route between the rail siding and mine;
- manage worker fatigue during trips to and from the site;
- manage appropriate driver behaviour via a Driver Code of Conduct including:
  - obey all the laws and regulations that apply to vehicles on public and private roads;
  - respect the rights of others, including drivers and pedestrians, to use and share the road space;
  - maintain a safe following distance between vehicles;
  - ensure the Project-related vehicle is clean and in good mechanical condition to reduce environmental impacts;
  - do not travel in convoys unless under approved escorts;
  - follow the designated access routes for the Project;
  - abide by all NSW/interstate road rules and vehicle regulations;
  - ensure a high level of courtesy; and
  - turn off flashing/rotating beacons when on public roads.
- inform drivers of relevant drug and alcohol policies;
- regularly inspect vehicles maintenance and safety records;
- implement contingency procedures when the transport route is disrupted;
- respond to emergencies;
- transport processing reagents safely; and
- ensure compliance with and enforcement of the protocol.

Community Contributions

SEM is committed to engaging with communities to understand their priorities, provide information about the Project, and seek opportunities to create shared value.

In December 2018, SEM entered into a VPA with LSC, PSC and FSC. The first community contribution payment of $200,000 to LSC, $100,000 to PSC and $100,000 to FSC was made in January 2019. These community contributions have been used to fund various community initiatives (e.g. development of Trundle Main Street Masterplan and the Forbes Recreation and Open Space Strategy).

In 2019, SEM provided financial and/or non-financial support to local agricultural shows, primary and secondary schools (in Trundle, Condobolin, Parkes and Forbes), and the Trundle Bush Tucker Day (Clean TeQ, 2020). SEM intends to continue its support of local agricultural shows and events as they recommence after the COVID-19 pandemic.

During 2020, SEM donated 100 mega litres of its surface water allocation to the LSC to assist filling Gum Bend Lake to allow for the continuation of recreational activities over the 2020/2021 summer.

SEM would continue to make community contributions supporting positive social outcomes, social infrastructure investments and/or community resilience improvements as part of the modified Project.

4.1.2 Operational Phase

Operational Phase Workforce

The Modification would increase the operational phase workforce from approximately 335 personnel to approximately 340 personnel as the rail siding workforce would increase from five to 10. Given this relatively minor change (approximately 1%), no significant changes to approved social impacts associated with the operational workforce are anticipated.

Operational-related Traffic

Products and ammonium sulphate are approved to be transported from the mine and processing facility to the rail siding by road. These products were to be backloaded in trucks transporting sulphur from the rail siding to the mine and processing facility. However, a detailed review of the Project road transport requirements conducted as part of the Project Execution Plan (Clean TeQ, 2020), determined the metal products and ammonium sulphate could not be backloaded in trucks transporting sulphur as the products may become contaminated. Separate truck movements would therefore be required to transport these products.

In addition, revisions to processing plant input types, quantities and storage would be required as part of the Modification. These revisions to processing plant inputs and quantities would result in changes to road transport requirements.

The Road Transport Assessment for the Modification (TTPP, 2021) concludes that there would generally be decreases in truck movements across the road network during the operational phase.

SEM would continue to operate shuttle buses between Parkes, Condobolin and Forbes and the mine and processing facility consistent with the approved Project, which would reduce the number of light vehicle movements associated with the Project during operations.

Management measures in the existing Traffic Management Plan for the approved Project, which would be updated to incorporate the Modification, are described in Section 4.1.1.

Changes to Mine and Processing Facility

Section 2.2 lists changes proposed to the approved mine and processing facility as part of the Modification. Of these, the following changes have the potential to change the amenity of the mine and processing facility:

- addition of a temporary construction laydown area inside the approved tailings storage facility footprint;
- optimised production schedule resulting in an increased mining rate during the initial years of mining and associated changes to mining and waste rock emplacement sequencing;
- revised processing facility area layout, including a revised processing plant layout and two additional site vehicle access points;
- reduced sulphuric acid plant stack height from 80 m to 40 m;

- revised tailings storage facility cell construction sequence and the addition of a decant transfer pond;
- relocated and resized evaporation pond; and
- changes to the water management system to reflect the modified mine and processing facility layout.

In accordance with the Development Consent (DA 374-11-00), an Air Quality Management Plan and Noise Management Plan have been developed for the approved Project. These management plans include a range of measures to minmise potential amentity impacts associated with the approved Project. Management measures in the existing Air Quality Management Plan and Noise Management Plan for the approved Project would be updated to incorporate the Modification.

Relocation of Rail Siding

The approved rail siding is located on the Tottenham Bogan Gate Railway approximately 25 km south-east of the mine and processing facility (Figures 1 and 3).

The Modification would include the relocation of the rail siding approximately 500 m south of the approved location (Figure 3) to allow for the development of the ammonium sulphate storage and distribution facility and to improve operability of the rail siding.

The existing Air Quality Management Plan and Noise Management Plan for the approved Project would be updated to incorporate the Modification (including the modified rail siding).

Community Contributions

As described in Section 4.1.1, in accordance with the VPA, SEM would continue to make community contributions supporting positive social outcomes, social infrastructure investments and/or community resilience improvements as part of the modified Project.

4.2 Description of Potential Social Impacts During the Construction Phase

4.2.1 Additional Employment and Business Opportunities Arising from the Construction Workforce Improving People's Livelihoods

As noted above, the Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) forecast a construction workforce peak of 962 persons, with an average of 611 workers over a 24-month construction phase (Table 10). The assessment also assumed that approximately 21% of the workforce could potentially be filled by residents in the Social Locality of Lachlan, Forbes and Parkes Shires, equating to an average of 128 local workers.

The Modification involves a larger peak workforce of approximately 1,900 persons and an extended construction period of 36 months in total, with the average workforce being 784. As described in Section 4.1.1, it is expected that 10% of roles in the construction workforce would be filled by local residents already residing in the region. As such, on average approximately 78 local residents can be expected to find employment in the construction workforce, with a peak of 190 local residents.

This impact is likely to be experienced positively by the local community, including jobseekers and businesses. Anticipation for local employment was mentioned as a key expectation by all the Councils consulted for the Modification. A review of submissions on previous modifications also suggested there is a concern that the Project would not provide meaningful local employment opportunities, and as such provide only limited benefit to the local communities. It is however also worth noting that unemployment rates in the Social Locality are generally low, meaning that there is a risk, albeit low, of unsustainable competition for labour potentially affecting local businesses negatively.

TABLE 10 INCREMENTAL CHANGE IN EMPLOYMENT

	Community Infrastructure Assessment	Modification
Average Total Construction Workforce	611 workers over 24 months.	784 workers over 36 36 months.
Average Local Construction Workforce	Assumed 21% local workforce, equals 128 persons for 24 months.	Assumed 10% local workforce, 78 workers for 36 months.

This impact is expected to last the duration of the construction phase, albeit at varying intensities. Operational employment levels, where the opportunities for local participation are likely to be greater, remain unchanged by the Modification.

4.2.2 Additional Pressure on Local Housing Markets from the Construction Workforce Prior to the Accommodation Camp being Constructed

The increased construction workforce size and the longer construction period may lead to additional demand for temporary housing and accommodation, particularly prior to the accommodation camp being constructed (Table 11). The Community Infrastructure Assessment anticipated that the accommodation camp would be constructed in three months, and a peak workforce of 180 persons would be required during this period (Martin & Associates Pty Ltd, 2000). Taking into account indirect or induced additional employment, certain assumptions around family sizes and proportions of local and non-local workforces, it was anticipated that an additional 30 units of accommodation for families and 135 for singles would be required during the initial three-month phase.

The assessment considered that most of these would be required in Condobolin, followed by Trundle/Tullamore and Parkes, and concluded that there was adequate accommodation available to accommodate this increase (Martin & Associates Pty Ltd, 2000).

TABLE 11 INCREMENTAL INCREASE IN HOUSING DEMAND – INITIAL PHASE

	Community Infrastructure Assessment	Modification
Demand for Family Accommodation Units	30 units during initial three-month phase.	No demand expected.
Demand for Single Accommodation Units	135 units during initial three-month phase.	270 units (90% of peak construction workforce) during initial six-month phase.

The Modification would see six months of the accommodation camp construction before first rooms are available. The workforce would average 211 personnel and would peak at close to 300 personnel at that time, an increased peak of 54% on the Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000). It is expected that 90% of the construction workforce during this time would move to the region as singles, with few – if any – bringing family members (due to the temporary nature of the construction workforce). The remaining 10% are expected to be local residents already residing in the region. Therefore, no demand for family dwellings is expected, while demand for single accommodation is expected to be 270 units for six months.

As noted in Section 3.4.3, there were a total of 293 short term accommodation rooms in Parkes Shire and 156 in Forbes in 2016.[10] Further, Section 3.4 noted that a total of 2,081 rental unit bonds were held in the Social Locality in the December quarter 2020, and that the total rental market is likely to be larger than this. Assuming that approximately half of the additional dwelling demand would access the rental market and the other half use short-term accommodation, this would represent an additional demand of 6.5% of total existing rental bonds and 30% of short-term accommodation. The incremental demand created by the Modification (total of 135 units of accommodation during the initial six-month phase), would hence represent half of this: 3.2% of the total bonds and 15% of the short-term accommodation units. This would constitute a short-term impact during the initial six-month phase, and would also be to some extent offset by the reduced anticipated demand for family accommodation.

It thus seems likely that the short-term accommodation and rental markets would be able to cater for the additional non-local workforce during the initial six-month phase until first rooms are available at the accommodation camp. Nevertheless, the Project induced increased demand may contribute to localised and short-term rent increases depending on where the demand eventuates and whether other projects contribute to cumulative pressures (discussed further in Section 4.6). In the consultation with Councils, housing and accommodation emerged as a key point with respondents both expressing an expectation that Project workforces should locate in their Shires and a slight concern about the flow on effects of too rapid or too large influxes. The key opportunities for Project employees to relocate to the Social Locality are likely to be associated with the operational workforce (only a minor change is proposed to the operational workforce for the Modification [Section 4.1.2]).

4.2.3 Additional Pressure on Local Housing Markets from the Construction Workforce during the Remainder of the Construction Phase

The Community Infrastructure Assessment considered the potential direct and indirect/induced housing demand from an average construction workforce of 611 persons (Martin & Associates Pty Ltd, 2000). Similar to above and utilising assumptions about family sizes and non-local vs local workforces, it was anticipated the Project would lead to demand for 127 family dwellings during the remainder of the construction phase. All demand for single accommodation units, a total of 435, would be absorbed by the accommodation camp (Table 12).

[10] More current LGA level tourism accommodation data for the LGA's is not available, and the ABS tourist accommodation data from 2015/16 does not report data for Lachlan Shire.

As described in Section 4.1.1, it is expected that approximately 90% of the modified construction workforce would reside in the accommodation camp and, therefore, most of the additional demand for housing and accommodation would not be required to be met by the local housing or short-term accommodation markets. It is anticipated that the remaining 10% of the construction workforce would be local residents already residing in the region.

TABLE 12 INCREMENTAL CHANGE IN HOUSING DEMAND – REMAINDER OF CONSTRUCTION PHASE

	Community Infrastructure Assessment	Modification
Demand for Family Accommodation Units	127 units during remainder of construction phase.	No or negligible demand.
Demand for Single Accommodation Units	All demand absorbed by accommodation camp during remainder of construction phase.	90% of demand absorbed by accommodation camp, remaining 10% already residing in local area during remainder of construction phase.

The average construction workforce for the Modification is 784; 28% greater than for the approved Project. As 90% of the construction workforce is expected to reside in the accommodation camp, with the remaining 10% including local residents already residing in the region, the Modification is not expected to impact the local housing market for the remainder of the construction phase. It is nevertheless possible that the Modification would give rise to some additional indirect or induced demand for housing, however this is likely to be small.

4.2.4 Additional Demand for Schooling and Other Services and Facilities from Increased Construction Workforce and Accompanying Families

The Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) considered that existing services and facilities, including health services and schools would be able to mostly absorb additional demand induced by the construction workforce and accompanying families. It was predicted the construction workforce would bring 68 in-migrating children, which would be readily catered for by schools in the region. Likewise, the assessment considered it likely the hospitals in the region could absorb additional demand, and noted that community health services may experience some increased demand.

As noted above, 90% of the modified construction workforce is expected to reside in the accommodation camp, with the remaining 10% including local residents already residing in the region. The additional student demand brought about by the incremental change in the construction workforce in the Modification is therefore expected to be negligible.

The Community Infrastructure Assessment (Martin & Associates Pty Ltd, 2000) anticipated the construction workforce would not lead to any noticeable impact on Condobolin Hospital, but that nearby community health centres may experience some additional demand during the construction phase.

It is difficult to quantify the demand for health services from the non-resident construction workforce, as it is likely they would access most non-acute health care at their home location. In addition, SEM would provide first aid facilities at the mine and processing facility that would minimise demand for acute health care from existing health services. Nevertheless, consultation with Councils revealed some concern about the potential for impacts to existing services and facilities including health and social facilities.

4.2.5 Changed Construction Traffic Impacts Peoples' Way of Life and Sense of Safety

The Modification would change light and heavy vehicle traffic volumes stemming from the increased construction workforce requirements and to deliver construction equipment, materials, components and consumables. Workforce traffic which is likely to predominantly comprise buses, would mostly originate from Parkes (including the Parkes airport), Condobolin and Forbes.

As described in Section 4.1.1, the Road Transport Assessment for the Modification (TTPP, 2021) concludes an expected decrease in truck movements and total vehicle movements on most routes across the road network during the construction phase.

Consultation with Councils and an analysis of submissions on previous modifications suggest traffic related impacts are of concern to the community, particularly in Trundle. As such, the overall incremental reduction in construction traffic movements from the Modification is likely to be experienced as a positive impact by the community. Notwithstanding this, there will be minor increases in truck movements and total vehicle movements along some routes, particularly between Condobolin and the mine and processing facility. Residents near these routes are therefore likely to experience this impact negatively. It should however be noted that the temporal extent of this impact (both positive and negative) is limited – during the construction phase only, and the increases in traffic movements between Condobolin and the mine and processing facility represent a very small number of vehicle movements in comparison to the total traffic volume along these roads.

The findings of the Road Transport Assessment for the Modification (TTPP, 2021) are summarised in Section 4.1.

4.3 Description of Potential Social Impacts During the Operational Phase

4.3.1 Changed Operational Traffic Impacts Peoples' Way of Life and Sense of Safety

The Modification involves changes to truck and total vehicle movements across the road network during the operational phase. There would be a reduction in truck movements along some key routes, particularly along the Bogan Way through Trundle, and no significant change to truck traffic between the rail siding and mine and processing facility. Total vehicle movement along other routes may increase somewhat, as detailed in the Road Transport Assessment for the Modification (TTPP, 2021). Overall, the incremental change in truck and total vehicle movement stemming from the Modification is likely to be small and contained, impacting some residents marginally negatively and others marginally positively, depending on their location. On the other hand, the impacts – both positive and negative – are of a relatively long duration; the entirety of the operational phase.

In addition, the Road Transport Assessment for the Modification (TTPP, 2021) concludes the modified Project would have acceptable impacts on the operation of the road system. It further concludes that implementation of the various mitigation measures for the approved Project, with some refinements for the modified Project, would result in no significant impacts to road performance, capacity, efficiency or safety arising as a result of the traffic associated with the modified Project.

4.3.2 Changed Operational Workforce

The Modification would increase the operational phase workforce from approximately 335 personnel to approximately 340 personnel as the rail siding workforce would increase from five to 10. Given this relatively minor change (approximately 1%), no significant changes to the approved social impacts associated with the following are anticipated:

- employment and business opportunities;
- pressure on local housing markets; and
- demand for schooling and other services and facilities.

4.3.3 Amenity Impacts from Mine and Processing Facility

The Modification proposes some changes to the general arrangement of the mine and processing facility (Section 4.1.2). Although these revisions are likely to constitute a minor impact, nearby residents may nevertheless experience amenity impacts from it.

Air Quality

The Air Quality and Greenhouse Gas Assessment (Jacobs [Australia] Pty Ltd, 2021) prepared for the Modification considered potential air quality impacts in detail and a summary of the results is provided below.

The Air Quality and Greenhouse Gas Assessment (Jacobs, 2021) considered the potential air quality impacts of an indicative construction scenario and three indicative 'maximum case' operational scenarios of the modified Project at the mine and processing facility.

Jacobs (2021) concluded that there would be no exceedances of the relevant air quality criteria at any nearby residences for the modified Project. As such, the modified Project is anticipated to have minimal impact on the local air quality environment (Jacobs, 2021).

Jacobs (2021) also assessed the potential air quality impacts of the gaseous pollutants generated at the processing facility, and various other activities at the mine and processing facility. It was concluded that no exceedances of the relevant criteria for the modified Project is anticipated (Jacobs, 2021).

The existing Air Quality Management Plan for the approved Project would be updated to incorporate the Modification.

Noise

The Noise and Blasting Assessment (Renzo Tonin, 2021) prepared for the Modification also considered potential noise impacts in detail and a summary of the results is provided below.

The Noise and Blasting Assessment (Renzo Tonin, 2021) considered the potential noise impacts of an indicative construction scenario and three indicative operational scenarios of the modified Project at the mine and processing facility.

Renzo Tonin (2021) concluded that elevated noise levels are anticipated at several sensitive receivers in the vicinity of the mine and processing facility for the modified Project. Incorporating reasonable and feasible noise mitigation measures, a 'moderate' exceedance of the relevant noise criteria is predicted at one property. In accordance with the *Voluntary Land Acquisition and Mitigation Policy* (VLAMP) (NSW Government, 2018), this property would be afforded mitigation measures upon request rights to reduce noise levels at the residence (e.g. mechanical ventilation, upgraded façade elements or roof insulation).

Several other receivers in the vicinity of the mine and processing facility are predicted to experience a 'negligible' exceedance of the relevant noise criteria (Renzo Tonin, 2021). The VLAMP states the following regarding negligible exceedances of the relevant noise criteria (NSW Government, 2018):

> *The exceedances would not be discernible by the average listener and therefore would not warrant receiver based treatment or controls*

The existing Noise Management Plan for the approved Project would be updated to incorporate the Modification.

Visual

There would be no significant changes to potential visual impacts associated with the modified mine and processing facility relative to the approved mine and processing facility, with the exception of the reduced sulphuric acid plant stack height from 80 m to 40 m. This is expected to result in a reduction in the overall visual impact of the mine and processing facility.

4.3.4 Amenity Impacts from Rail Siding

The Modification proposes changes to the location of, and addition of certain activities at, the approved rail siding (Section 4.1.2). Although these changes are likely to constitute a minor impact, nearby residents may nevertheless experience amenity impacts from it. The Air Quality and Greenhouse Gas Assessment (Jacobs, 2021) and Noise and Blasting Assessment (Renzo Tonin, 2021) prepared for the Modification consider this potential impact in detail and a summary of the results is provided below.

Air Quality

The Air Quality and Greenhouse Gas Assessment (Jacobs, 2021) considered the potential air quality impacts of indicative construction and operational scenarios of the relocated rail siding. Jacobs (2021) concluded that there would be no exceedances of the relevant air quality criteria at any nearby residence of the modified rail siding. Given the above, there would be no significant changes to air quality impacts associated with the modified rail siding.

Noise

The Noise and Blasting Assessment (Renzo Tonin, 2021) considered the potential noise impacts of indicative construction and operational scenarios of the relocated rail siding. Renzo Tonin (2021)

concluded that there would be no exceedances of the relevant noise quality criteria at any nearby residence of the modified rail siding. Given the above, there would be no significant changes to noise impacts associated with the modified rail siding.

Visual

Consideration of the potential visual impacts associated with the modified rail siding is provided in the Modification Report. There would be no significant changes to visual impacts associated with the modified rail siding.

4.3.5 Road Noise

Renzo Tonin (2021) conducted an assessment of the potential road noise impacts of the Modification, in accordance with the NSW *Road Noise Policy* (RNP) (Department of Environment, Climate Change and Water, 2011). Traffic movements associated with the modified Project are expected to comply with the relevant road noise criteria outlined in the RNP and therefore there would be no significant change to the approved road noise impacts.

4.4 Summary of Assessment

Table 13 describes the social impacts and potentially affected stakeholders and provides a significance evaluation for each impact. The social impact significance matrix, which informs the significance ratings in Table 13 is provided in Table 15 (Appendix C) and draws from the SIA Guidelines (DPIE, 2020a).

TABLE 13 IMPACT EVALUATION

Impact	Phase	Potentially affected stakeholders	Impact category	Positive/ negative	Likelihood	Magnitude	Significance
Additional employment and business opportunities arising from increased construction workforce	Construction	Local residents / jobseekers and local businesses who can supply to the Project	Livelihoods	Positive	Possible	Minor	Medium
		Local businesses experiencing competition for labour	Livelihoods	Negative	Unlikely	Minor	Low
Additional pressures on local housing markets from increased construction workforce (prior to construction of the accommodation camp) impacts renters and landlords	Construction	Landlords and short-term accommodation providers	Livelihoods	Positive	Possible	Minor	Medium
		Renters, particularly those on lower incomes	Livelihoods	Negative	Unlikely	Minor	Low
Additional demand for schooling and other services and facilities from increased construction workforce and accompanying families	Construction	Service providers	Accessibility	Negative/ positive	Very unlikely	Minor	Low
Changes to construction traffic impacts people's way of life and sense of safety	Construction	Residents and road users along Project routes experiencing a decrease in traffic	Way of life Health and Wellbeing	Positive	Likely	Minimal	Low
		Residents and road users along Project routes experiencing an increase in traffic	Way of life Health and wellbeing	Negative	Likely	Minimal	Low
Changes to operational traffic impacts people's way of life and sense of safety	Operations	Residents and road users along Project routes experiencing a decrease in traffic, particularly of heavy vehicles	Way of life Health and wellbeing	Positive	Likely	Minimal	Low
		Residents and road users along Project routes experiencing an increase in traffic	Way of life Health and wellbeing	Negative	Likely	Minimal	Low
Air quality impacts from mine and processing facility	Operations	Nearby residents	Surroundings	Negative	Possible	Minimal	Low
Noise impacts from mine and processing facility	Operations	Nearby residents	Surroundings	Negative	Possible	Minimal	Low
Visual impacts from reduced sulphuric acid plant stack height	Operations	Nearby residents	Surroundings	Positive	Possible	Minimal	Low

4.5 Mitigation Measures and Residual Impacts

As Table 13 above shows, a total of seven negative impacts were identified, all with a low significance. It should also be noted that the magnitude for each of these were assessed as either minor or minimal. The existing mitigation measures committed to by SEM include the following:

- preferentially sourcing suppliers from the Social Locality where they are cost and quality competitive;
- providing operational workforce bus transport from towns in the Social Locality to minimise workforce-related road traffic;
- operating high-capacity trucks to transport limestone and other materials and products to and from the mine and processing facility, to minimise heavy vehicle traffic volumes;
- deploying a community information and engagement program, and a complaints and grievance process, to ensure potentially affected communities are aware of impacts and have opportunities to raise concerns with SEM;
- operating in accordance with an approved Traffic Management Plan and undertaking road and intersection upgrades and maintenance (in accordance with Development Consent [DA 374-11-00] and the VPA) to address the safety, road performance and quality aspects of the traffic changes; and
- operating in accordance with an approved Air Quality Management Plan and Noise Management Plan (in accordance with Development Consent [DA 374-11-00]) to minimise potential amenity impacts associated with the approved Project; and
- continuing to make community contributions in accordance with the VPA, to support positive social outcomes, social infrastructure investments and/or community resilience improvements.

The existing social impact mitigation measures committed to by SEM are generally considered to be sufficient to address the potential social impacts associated with the Modification, with the following additions:

- increasing the size of the construction workforce accommodation camp to accommodate all non-residential construction workers;
- mitigation upon request rights for one property in accordance with the VLAMP (NSW Government, 2018) to reduce noise levels at the residence (e.g. mechanical ventilation, upgraded façade elements or roof insulation); and
- providing construction workforce transport from towns in the Social Locality to minimise workforce-related road traffic.

4.6 Cumulative Social Impacts

The Modification may give rise to cumulative social impacts in conjunction with other relevant projects in the Social Locality. To assess potential cumulative social impacts that may arise from the Modification in conjunction with other projects, the three-step process described in the methodology section (Section 1.2) was followed.

Key proposed or approved projects that may potentially interact with, or have potential cumulative impacts with, the modified Project are listed in Table 14 and are shown on Figure 1.

Table 14 also classifies each of the projects as 'relevant' or 'potentially relevant' in accordance with the draft *Assessing Cumulative Impacts Guide Guidance for State Significant Projects* (DPIE, 2020c).

Cumulative impacts with the modified Project and the relevant projects have been considered in Table 14 in accordance with the draft *Assessing Cumulative Impacts Guide Guidance for State Significant Projects* (DPIE, 2020c). Further, key uncertainties associated with the assessment are noted.

In summary, of the nine relevant projects required to be considered, most were deemed unlikely or very unlikely to contribute to cumulative social impacts in a material way. For those that were deemed 'possible' to contribute to cumulative impacts, there are significant uncertainties with regards to the project components that would cause these impacts (e.g. timing, workforce sourcing, accommodation or traffic solutions).

Further, most of the relevant projects are relatively contained (in extent of impact area) and with small proposed workforces and short construction timeframes. As such it seems unlikely that they would, in conjunction with the identified social impacts of the Modification, contribute to significant cumulative social impacts. The main exception to this is the Parkes Bypass Project, which with a peak workforce of approximately 400 personnel and an anticipated three-year construction phase (early works commenced in late 2020 with completion in late 2024 [Department of Infrastructure, Transport, Regional Development and Communications, 2021]) may – if the construction phases coincide – contribute to cumulative pressures on labour demand and housing and accommodation sectors in Parkes Shire. It should however be noted that the main driver for potential cumulative impacts is the approved Project, and not the Modification per se. SEM has committed to ongoing engagement with local councils, including PSC, which would enable planning for managing these impacts, should the construction phases occur concurrently.

Nevertheless, should all of the relevant projects with a possibility to contribute to cumulative social impacts be constructed concurrently, all seek to source their workforce from the Social Locality, and none develop purpose-built workforce accommodation, it is possible that this will lead to noticeable competition for local labour and pressures on housing markets, as well as noticeable increases in traffic. This is however considered highly unlikely. Further, as the modified Project is the only one which is known to have proposed a workforce accommodation facility, it is likely to be a minor contributor to housing related impacts, as well as having the capacity to source additional workers from outside the Social Locality should competition for local labour be unsustainable.

TABLE 14 CUMULATIVE SOCIAL IMPACT ASSESSMENT

Project	Overview	Status	Cumulative Impact Assessment[1]	Consideration of potential for cumulative social impacts		
				Likelihood	Rationale and nature of potential impacts	Key uncertainties
Lachlan Shire Council						
Cattle Feedlot and Quarry (Department of Infrastructure, Planning and Natural Resources, 2005)	50,000 head cattle feedlot and quarry (providing material to the feedlot for construction and maintenance), located approximately 30 km west of Condobolin. The construction workforce is approximately 85 personnel in the first year of construction and 53 personnel over the following three years of construction. The operational workforce is approximately 50 personnel.	Approved (2005) – Not constructed	Relevant Project – Required to be Considered	Unlikely	The location approximately 80 km from the Project means no cumulative amenity impacts are anticipated. There is a possibility for cumulative social impacts related to employment and housing depending on construction timing and proposed workforce solutions. These are however considered negligible considering the small construction and operational workforce. Proposed traffic routes do not intersect with the Project's traffic routes.	Timing, workforce sourcing and accommodation solutions are unknown.
Flemington Cobalt Scandium Mine (Australian Mines Limited, 2017)	A proposed nickel, cobalt and scandium open cut mine located to the immediate north-west of the Project. The proposed construction workforce is approximately 120 to 150 personnel for approximately 12 to 18 months. The proposed operational workforce is approximately 75 personnel for 18 years.	Environmental Assessment Requirements (EARs) Issued (2018)	Potentially Relevant Project – Not Required to be Considered	–	–	–
Owendale Scandium Mine (R.W. Corkery & Co. Pty. Limited, 2018)	A proposed nickel, cobalt and scandium open cut mine (immediately north-east of the Project), processing site (located approximately 5 km west of Condobolin) and associated infrastructure. The proposed construction period is approximately two years (no workforce estimate provided). The proposed operational workforce is approximately 121 personnel for 28 years of mining operations.	EARs Issued (2018)	Potentially Relevant Project – Not Required to be Considered	–	–	–

Project	Overview	Status	Cumulative Impact Assessment[1]	Consideration of potential for cumulative social impacts		
				Likelihood	Rationale and nature of potential impacts	Key uncertainties
Western Slopes Pipeline (APA, 2017)	A proposed high pressure gas pipeline approximately 450 km in length to connect the Narrabri Gas Project to the NSW gas transmission network, with the alignment located north and west of the Project. The proposed construction workforce is between 250 and 350 personnel for approximately eight to 10 months. The proposed operational workforce is four to five personnel until the end of the pipeline's useful life (estimated to be approximately 40 years).	EARs Issued (2019)	Potentially Relevant Project – Not Required to be Considered	–	–	–
Parkes Shire Council						
Northparkes Mine Extension Project (CMOC Mining Services Pty Ltd, 2018)	A copper-gold mine located approximately 27 km north-west of Parkes via the Newell Highway and Bogan Road. Operational workforce of approximately 700 personnel until end of the mine life in 2032.	Approved (2014) – Operational	Relevant Project – Required to be Considered	Unlikely	Relative proximity to Project means there is a possibility for cumulative social impacts related to traffic, workforce and housing. However, as the project is already operational and represents a continuation of mine operations those change processes are unlikely to be experienced cumulatively.	N/A
Inland Rail Parkes to Narromine (ARTC, 2021)	An upgrade of the existing rail line between Parkes and Narromine as part of the Inland Rail Project, including 98.4 km of upgraded track and 5.4 km of new track.	Approved (2018) – Operational	Relevant Project – Required to be Considered	Very unlikely	Already constructed project with minimal ongoing workforce and traffic impacts means cumulative impacts related to these are very unlikely. Project is located at a significant distance from the mine and processing facility and rail siding and as such will not contribute to amenity related cumulative impacts.	N/A

Project	Overview	Status	Cumulative Impact Assessment[1]	Consideration of potential for cumulative social impacts		
				Likelihood	Rationale and nature of potential impacts	Key uncertainties
Parkes Solar Farm (Neoen Renewing Energy, 2016)	A 65 Megawatt (MW) photovoltaic solar farm located approximately 10 km west-northwest of Parkes. The operational workforce on-site is approximately one person for the expected 25 to 30-year operational life.	Approved (2016) – Operational	Relevant Project – Required to be Considered	Very unlikely	Project is located approximately 60 to 70 km from mine and processing facility and rail siding and as such unlikely to cause amenity related cumulative impacts. Ongoing workforce and traffic impact is minimal and as such unlikely to cause housing, employment or traffic related cumulative impacts.	N/A
Goonumbla Solar Farm (Geolyse, 2016)	A 70 MW photovoltaic solar farm located approximately 10 km west of Parkes and immediately north of the Parkes Solar Farm. There are no operational employees stationed on-site at the solar farm.	Approved (2016) – Operational	Relevant Project – Required to be Considered	Very unlikely	Project is located approximately 60 to 70 km from mine and processing facility and rail siding and as such very unlikely to cause amenity related cumulative impacts. Ongoing workforce and traffic impact is minimal and as such unlikely to cause housing, employment or traffic related cumulative impacts.	N/A
Quorn Park Solar Farm (Premise, 2019)	An 80 MW photovoltaic solar farm located approximately 10 km north-west of Parkes. The peak constructed workforce is 100 personnel for approximately nine months. The operational workforce is two to three personnel for the expected 30 year operational life.	Approved (2020) – Not constructed	Relevant Project – Required to be Considered	Possible	Project is located approximately 60 to 70 km from mine and processing facility and rail siding and as such very unlikely to cause amenity related cumulative impacts. Should construction of the two projects occur concurrently there is a possibility of cumulative social impacts related to traffic (for a short section of Henry Parkes Way), employment and housing. It is likely the project will involve sourcing workforce locally. No accommodation camp appears to be proposed. There are no anticipated cumulative impacts associated with operations.	Timing is unknown.

Project	Overview	Status	Cumulative Impact Assessment[1]	Consideration of potential for cumulative social impacts		
				Likelihood	Rationale and nature of potential impacts	Key uncertainties
Parkes Peaking Power Plant (NSW Department of Planning, 2008)	A gas turbine peaking power plant with a nominal output between 120 MW to 150 MW, located approximately 10 km west of Parkes. The construction workforce is approximately 44 personnel for six to eight months. The operational workforce is approximately four personnel.	Approved (2008) – Not constructed	Relevant Project – Required to be Considered	Possible	Project is located approximately 60 to 70 km from the mine and processing facility and rail siding and as such very unlikely to cause amenity related cumulative impacts. Should construction of the two projects occur concurrently, there is a possibility of cumulative social impacts related to traffic, employment and housing	Timing, workforce sourcing, accommodation and traffic solutions are unknown.
Parkes Bypass[2] (Transport for NSW [TfNSW], 2019 and 2021)	A 10.5 km Newell Highway bypass approximately 2 km west of Parkes. The main construction workforce is up to approximately 400 personnel for approximately three years.	Approved (2019) – Under construction	Relevant Project – Required to be Considered	Possible	Project is located approximately 80 km from the mine and processing facility and rail siding and as such is very unlikely to cause amenity-related cumulative impacts. Should construction of the two projects occur concurrently there is a possibility of cumulative social impacts related to employment and housing.	Workforce sourcing and accommodation solutions are unknown.
Rocklands Project (MineSoils, 2021)	A proposed open cut mine to supplement existing underground operations at Northparkes Operation, approximately 50 km east of the Sunrise Mine.	Submitted Site Verification Certificate Application (2020)	Potentially Relevant Project – Not Required to be Considered	–	–	–
Forbes Shire Council						
Jemalong Solar Farm (NGH Environmental Pty Ltd, 2017)	A 50 MW photovoltaic solar farm undergoing construction, approximately 36 km west of Forbes. The construction workforce is approximately 100 direct jobs and 100 indirect jobs over a construction period of approximately 12 months. The operational workforce is three to four personnel for approximately 30 years.	Approved (2018) – Under construction	Relevant Project – Required to be Considered	Very unlikely	Construction most likely completed prior to Project commencement. Project is located more than 80 km from mine and processing facility and rail siding and as such will not give rise to cumulative amenity impacts. Minimal operational workforce means cumulative traffic, employment and housing related impacts are very unlikely.	N/A

Project	Overview	Status	Cumulative Impact Assessment[1]	Consideration of potential for cumulative social impacts		
				Likelihood	Rationale and nature of potential impacts	Key uncertainties
Daroobalgie Solar Farm (Pacific Hydro, 2019)	A 100 MW photovoltaic solar farm located approximately 11 km north-east of Forbes. A proposed peak construction workforce of approximately 160 personnel for approximately 12 to 18 months. A proposed operational workforce of approximately four to six personnel for the expected operational life of approximately 25 years.	EARs Issued (2019)	Potentially Relevant Project – Not Required to be Considered	–	–	–

[1] Source: SEM (2021).

[2] Approved under Part 5 of the EP&A Act.

In addition, the NSW Government has established the Parkes Special Activation Precinct under the *State Environmental Planning Policy (Activation Precincts) 2020*. The Parkes Special Activation Precinct is a 3,600 hectare industrial park located approximately 3 km west of Parkes (Figure 1). Construction of Stage 1 infrastructure for the industrial park (i.e. road and electricity distribution infrastructure) is expected to commence in June 2021 (Regional Growth NSW, 2021).

The Parkes Solar Farm, Goonumbla Solar Farm and Parkes Peaking Power Plant (Table 16) are located in the Parkes Special Activation Precinct. Any future developments associated the Parkes Special Activation Precinct may also potentially interact with, or have potential cumulative impacts with, the modified Project. These potential interactions or cumulative impacts would be assessed as part of separate development applications for these future developments.

5. CONCLUSION

This Social Impact Review has considered and evaluated the likely social impacts that may arise from the Modification, in isolation or in conjunction with relevant nearby projects. Overall, all identified social impacts associated with the Modification are evaluated as low significance, with the exception of the following two positive impacts rated as medium significance:

- additional employment opportunities for local residents as well as local businesses who can supply to the Project, arising from the increased construction workforce; and
- additional pressures on local housing markets arising from the increased construction workforce (prior to construction of the accommodation camp) benefits landlords and short-term accommodation providers.

The existing social impact mitigation measures committed to by SEM include the following:

- preferentially sourcing suppliers from the Social Locality where they are cost and quality competitive;
- providing workforce bus transport from towns in the Social Locality to minimise workforce-related road traffic;
- operating high-capacity trucks to transport limestone and other materials and products to and from the mine and processing facility, to minimise heavy vehicle traffic;
- deploying a community information and engagement program, and a complaints and grievance process, to ensure potentially affected communities are aware of impacts and have opportunities to raise concerns with SEM;
- operating in accordance with an approved Traffic Management Plan and undertaking road and intersection upgrades and maintenance (in accordance with Development Consent [DA 374-11-00] and the VPA) to address the safety, road performance and quality aspects of the traffic changes; and
- operating in accordance with an approved Air Quality Management Plan and Noise Management Plan (in accordance with Development Consent [DA 374-11-00]) to minimise potential amenity impacts associated with the approved Project; and

- continuing to make community contributions in accordance with the VPA, to support positive social outcomes, social infrastructure investments and/or community resilience improvements.

The existing social impact mitigation measures committed to by SEM are generally considered to be sufficient to address the potential social impacts associated with the Modification, with the following additions:

- increasing the size of the construction workforce accommodation camp to accommodate all non-residential construction workers;
- mitigation upon request rights for one property in accordance with the VLAMP (NSW Government, 2018) to reduce noise levels at the residence (e.g. mechanical ventilation, upgraded façade elements or roof insulation); and
- providing construction workforce transport from towns in the Social Locality to minimise workforce-related road traffic.

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APPENDIX A Consultation summary

This section summarises the key themes from the consultation meetings with the three Councils; Lachlan Shire Council, Parkes Shire Council and Forbes Shire Council.

A meeting with representatives of the Lachlan Shire Council took place on 3 March 2021, the Forbes Shire Council on 15 March 2021 and the Parkes Shire Council on 3 March 2021 and 19 May 2021.

In general, officers from all three Councils noted that communities looked forward to opportunities for local employment and business participation. They also noted that they would like to see relocating workers settle in their Shires, thus increasing patronage for local community organisations and services. The various strategic plans, liveability initiatives and community plans the Councils have developed to increase the attractiveness of their areas were discussed.

In this context, some also expressed concerns that if growth is too rapid or too large, this could put unsustainable pressures on the local communities, housing markets and facilities.

Another general comment was that the Modification itself was unlikely to cause major change in many respects. The exception was that the community of Trundle had previously expressed concerns around traffic impacts and that this was an important issue for SEM to manage. In relation to traffic and other matters, the importance of working around and minimising impacts to existing industries was also noted. In particular during harvest season, traffic relating to agriculture is increasing and it was suggested the Project should take this into account.

Another important theme was the importance of community engagement and communication. The Councils suggested that keeping communities informed of change, both positive and negative, would lead to greater acceptance and support. The Council representatives also expressed a wish to see more details around the Modification, particularly around traffic impacts. Council representatives also raised some very specific questions relating to their Shires, such as where to locate pick up points for the workforce transport to avoid overcrowded car parks.

Council representatives also raised a number of issues that were unrelated to the Modification (but related to the Project), for instance noting that water was a sensitive topic in some areas, and that the construction of the approved borefield and pipeline could be perceived negatively by some community members.

APPENDIX B Aspects of the Modification and Attendant Social Impacts

Aspect	Approved project	Change	Potential Impact	Stakeholder
Mining Method	Conventional open cut mining methods	Increased mining production rate during initial years	Potential for amenity impacts for nearby residents (noise, air quality, visual)	Residents nearby the mine and processing facility
Open Cut Pit Extents	Progressive development of two main open cut pits and multiple small-scale scandium open cut pits	Minor changes to the mining sequence	Potential for amenity impacts for nearby residents (noise, air quality, visual)	Residents nearby the mine and processing facility
Waste Rock Management	Waste rock deposited in open cut voids and in waste rock emplacements	Minor changes to the waste rock emplacement sequence	Potential for amenity impacts for nearby residents (noise, air quality, visual)	Residents nearby the mine and processing facility
Mine Infrastructure Area	Key components include process plant, sulphuric acid plant, limestone slurry plant, process input storages, power plant, workshops, warehouses, offices, fuel storages, water treatment plants, run-of-mine pad, laydown areas and access roads	Revised process plant layout Two additional site access points	Potential for amenity impacts for nearby residents (noise, air quality, visual) No expected material social impact other than improved road safety from additional access points	Residents nearby the mine and processing facility
Sulphuric Acid Plant Stack	Stack height would be 40 m.	Reduced sulphuric acid plant stack height from 80 m to 40 m.	Potential for amenity impacts for nearby residents (air quality, visual)	Residents nearby the mine and processing facility
Process Plant Inputs	Other process plant inputs delivered to the mine and processing facility via road and rail	Revisions to process plant input types, rates and storage volumes	No expected material social impact	N/A
Tailings Management	Tailings deposited in the tailings storage facility	Revised tailings storage facility cell construction sequence	No expected material social impact	N/A
Site Water Management	Overall objective is to control runoff from the construction and operational areas while diverting upstream water around these areas	Relocated evaporation pond and addition of a separate decant transfer pond. Other changes to the site water management system to reflect modified layout	No expected material social impact	N/A
Power Supply	Co-generation power plant (40 megawatts) and diesel-powered generator (backup)	Increased diesel-powered generator (backup) capacity	No expected material social impact	N/A
Exploration Activities		Addition of exploration activities within ML 1770	No expected material social impact	N/A

Aspect	Approved project	Change	Potential Impact	Stakeholder
Accommodation Camp	Development of an accommodation camp on the Sunrise property.	Increased construction phase capacity from 1,300 to 1,900 personnel	Potential for changed workforce traffic from larger workforce (discussed below) Additional opportunities for local workforce and supplier participation (discussed below)	Residents living nearby camp and along access routes Local jobseekers and businesses
	Approximate capacity of 1,300 personnel during the construction phase.	Increased construction phase capacity from 1,300 to 1,900 personnel	No expected material social impact	N/A
Rail Siding	Development of a rail siding on the Tottenham to Bogan Gate Railway	Relocated rail siding and the addition of an ammonium sulphate storage and distribution facility to the rail siding	Potential for amenity impacts for nearby residents (noise, visual, air quality)	Residents nearby rail siding
	Rail siding operational workforce of five personnel	Rail siding operational workforce of ten personnel	No expected material social impact	
	Power from existing ETL that passes through the approved rail siding site.	A new 22 kV ETL (subject to separate approval) to provide power to the modified rail siding	No expected material social impact	
Material Transport	Transport of inputs and products via a combination of road and rail	Changed construction phase heavy vehicle movements	Potential impacts on people's way of life and sense of safety	Residents near transport route Other road users
		Changed operational phase heavy vehicle movements to and from the rail siding associated with the transport of product and ammonium sulphate	Potential impacts on people's way of life and sense of safety	Residents near transport route Other road users
		Changed operational phase heavy vehicle movements associated with revisions to processing plant inputs and storage volumes.	Potential impacts on people's way of life and sense of safety	Residents near transport route Other road users
Employees	Peak of approximately 1,000 personnel during construction phase	Increase to the peak construction phase workforce to approximately 1,900 personnel	Potential for increased local employment and contracting opportunities (noted in Community Infrastructure Assessment)	Local jobseekers and businesses
			Potential for additional housing demand (noted in Community Infrastructure Assessment)	Landlords, renters
			Potential for increased demand for social services and facilities including health, education and community facilities (noted in Community Infrastructure Assessment)	Service providers

APPENDIX C Impact Evaluation Tools

The following tables and figures are drawn from the SIA Guidelines and technical supplement (DPIE, 2020).

TABLE 15 SOCIAL IMPACT SIGNIFICANCE MATRIX

		Magnitude Level				
		1. Minimal	2. Minor	3. Moderate	4. Major	5. Transformational
Likelihood Level	A. Almost certain	Medium	Medium	High	Very High	Very High
	B. Likely	Low	Medium	High	High	Very High
	C. Possible	Low	Medium	Medium	High	High
	D. Unlikely	Low	Low	Medium	Medium	High
	E. Very Unlikely	Low	Low	Low	Medium	Medium

TABLE 16 DEFINING LIKELIHOOD LEVELS OF SOCIAL IMPACT

Likelihood Level	Meaning
Almost certain	definite or almost definitely expected (e.g. has happened on similar projects)
Likely	high probability
Possible	medium probability
Unlikely	low probability
Very unlikely	improbable or remote probability

TABLE 17 CHARACTERISTICS OF SOCIAL IMPACT MAGNITUDE

Characteristic		Details needed to enable assessment
Magnitude	Extent	Who specifically is expected to be affected (directly, indirectly and/or cumulatively), including any potentially vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional).
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Severity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
	Sensitivity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/ interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/ or severity. Concern itself can lead to negative impacts, while interest can lead to expectations of positive impacts.

TABLE 18 DEFINING MAGNITUDE LEVELS FOR SOCIAL IMPACTS

Magnitude Level	Meaning and Examples
Transformational	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	No noticeable change experienced by people in the locality.

TABLE 19 SOCIAL IMPACT CATEGORIES

Impact Category	Description
way of life	including how people live, how they get around, how they work, how they play, and how they interact each day
Community	including composition, cohesion, character, how the community functions and people's sense of place
accessibility	including how people access and use infrastructure, services and facilities, whether provided by a public, private or not-for-profit organisation
Culture	both Aboriginal and non-Aboriginal, including shared beliefs, customs, values and stories, and connections to Country, land, waterways, places and buildings
health and wellbeing	including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, and changes to public health overall
Surroundings	including ecosystem services such as shade, pollution control, and erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity
Livelihoods	including people's capacity to sustain themselves through employment or business, whether they experience personal breach or disadvantage, and the distributive equity of impacts and benefits
decision-making systems	particularly whether people experience procedural fairness, can make informed decisions, can meaningfully influence decisions, and can access complaint, remedy and grievance mechanisms

DOCUMENT PROPERTIES

Version	Purpose	Issued	Contributors	Approver
1.0	Final Report	29 June 2021	Molly Wagner Daniel Holm	Daniel Holm

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