Illabo to Stockinbingal
Response to Submissions

INLAND RAIL IS A SUBSIDIARY OF
AUSTRALIAN RAIL TRACK CORPORATION

INLAND RAIL

COVER IMAGE
The level crossing where the existing Stockinbingal to Parkes rail line meets Burley Griffin Way.

ACKNOWLEDGEMENT OF COUNTRY

Inland Rail acknowledges the Traditional Custodians of the land on which we work and, pay our respect to their Elders past, present and emerging.

Contents

Appendices

Figures

Tables

Glossary

Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEC	Areas of Environmental Concern
AEP	Annual Exceedance Probability
AHD	Australian height datum
AHIMS	Aboriginal heritage information management system
ALCAM	Australian Level Crossing Assessment Model
ANZECC	Australian and New Zealand Environment and Conservation Council
APA	East Australian Pipeline
AOA	Angle of Attack
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ARR	Australian Rainfall and Runoff
ARTC	Australian Rail Track Corporation
ATMS	Advanced Train Management System
BAM-C	Biodiversity Assessment Method Calculator
BCD	NSW Department of Planning and Environment—Biodiversity Conservation and Science Directorate
BAM	Biodiversity Assessment Method
BDAR	Biodiversity Development Assessment Report
BOAMS	Biodiversity Offsets and Agreement Management System
CBA	Cost Benefit Analysis
CCC	Community Consultative Committee
CCTV	Closed-circuit Television
CEEC	Critically Endangered Ecological Communities
CEMP	Construction Environmental Management Plan
CGR	Cootamundra-Gundagai Regional Council
CIA	Cumulative Impact Assessment
CNOSSUS	Common Noise Assessment Methods
CNVIA	Construction Noise and Vibration Impact Assessment
CNVMF	Construction Noise and Vibration Management Framework
CNVMP	Construction Noise and Vibration Management Plan
CONCAWE	CONCAWE noise propagation model used for predicting noise over significant distances.
CoRTN	Calculation of Road Traffic Noise
COVID-19	Coronavirus disease of 2019
CRN	Country Rail Network
CSSI	Critical State Significant Infrastructure
CTTAMP	Construction Traffic, Transport and Access Management Plan
dBA	Decibel (A weighted)
DPE	NSW Department of Planning and Environment
DPIE	NSW Department of Planning, Industry and Environment
DPI	Department of Primary Industries
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement

Abbreviation	Description
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
EPL	Environment protection licence
ETV	Erosion Threshold Values
EY	Exceedances per year
FMD	Foot and Mouth Disease
FMOs	Flood Management Objectives
FRMP	Stockinbingal Flood Plain Risk Management Plan
GIS	Geographical information systems
GPS	Global positioning system
GWCC	Goldenfields Water County Council
GWMP	Groundwater Mitigation and Management Plan
ICNG	Interim Construction Noise Guideline
IRPL	Inland Rail Pty Ltd
ISO	International Standard Organisation
LALC	Local Aboriginal Land Council
LCVIA	Landscape Character and Visual Impact Assessment
LDM	Local Decision Makers
LEP	Local Environmental Plan
LGA	Local Government Area
LiDAR	Light Detection and Ranging
LLS	Local Land Service
LoS	Level of Service
LUCRA	Land Use Conflict Risk Assessment
LX	Level Crossing
MCA	Multi-Criteria Analysis
MNES	Matters of National Environmental Significance
NBN	National broadband network
NHVR	National Heavy Vehicle Regulator
NML	Noise Management Level
NPI	Noise Policy for Industry
NRAR	Natural Resources Access Regulator
NSW	New South Wales
NVR	Native Vegetation Regulatory
OOHW	Out of Hours Work
ONRSR	Office of the National Rail Safety Regulator
ONVIA	Operational Noise and Vibration Impact Assessment
PAD	Potential Archaeological Deposit
PCTs	Plant community types
PMR	Probably Maximum Flood
QDL	Quantitative design limits
RAPs	Registered Aboriginal Parties
REZ	Renewable Energy Zone
RFS	Rural Fire Service
RIC	Relative Increase Criterion
RIM	Rail Infrastructure Manager

Abbreviation	Description
RiFL	Riverina Intermodal Freight and Logistics
RING	Rail Infrastructure Noise Guideline
RMAR	Rail Maintenance Access Road
RMS	Roads and Maritime Services
RNP	Road Noise Policy
RSA	Road Safety Audit
RSNL	Rail Safety National Law
RtS	Response to Submissions
RVD	Rail Vehicle Detection
SAII	Serious and Irreversible Impact
SAP	Special Activation Precinct
SEARs	Secretary's Environmental Assessment Requirements
SES	State Emergency Service
SHR	State Heritage Register
SIA	Social Impact Assessment
SIDRA	Signalised and unsignalised Intersection Design and Research Aid
SIMP	Social Impact Management Plan
SSI	State Significant Infrastructure
SWMP	Soil and Water Management Plan
TECs	Threatened Ecological Communities
TfNSW	Transport for NSW
TISEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
TOW	Train Order Working
TSRs	Travelling stock reserves
UGLRL	UGL Regional Linx
UNE	University of New England
VI	Vegetation Integrity
VDV	vibration dose value
WHO	World Health Organisation
WQMP	Water Quality Management Plan

Definitions

Terminology	Definition
Active level crossing	At-grade road crossing of the rail corridor that uses flashing lights and boom barriers for motorists and automated gates for pedestrians. These devices are activated prior to and during the passage of a train through a level crossing.
Amendment	A change in what the proponent is seeking approval for during the assessment. It requires changes to the project description in the environmental impact statement (EIS) or modification report, and amendments to the associated infrastructure application or modification request. Applications can only be amended with the agreement of the Planning Secretary.
Amendment report	A report prepared by the proponent to support amendments to an infrastructure application or modification request.
Ancillary works	The works proposed to support the key features of the proposal, including modifications to level crossings, establishment of access tracks, modification to signalling infrastructure, new fencing, and signage.
Approval authority	The approval authority for a State significant infrastructure (SSI) application or SSI modification request. This will be the Minister or the Minister's delegate in the Department of Planning and Environment.
Alternate accommodation	Accommodation options for sensitive receivers, such as motels away from the worksite, that may be provided for residents living near construction sites.
Ballast	Crushed rock, stone, etc. used to provide a foundation for a railway track. Ballast usually provides the bed on which railway sleepers are laid, transmits the load from train movements and restrains the track from movement.
Cess drains	Cess drains are open-surface drains located at the side of tracks to remove water that has percolated through the ballast and is flowing along the formation towards the outside of the track.
Construction environmental management plan	A site-specific plan developed for the construction phase of a project to ensure that all contractors and sub-contractors comply with the environmental conditions of approval for the project and manage environmental risks properly.
Construction compound	An area used as the base for construction activities, usually for the storage of plant, equipment and materials, and/or construction site offices and worker facilities.
Construction footprint	The area that would be used for the construction of the proposal.
Culvert	A structure that allows water to flow under a road, railway, track, or similar obstruction.
Cumulative impacts	Impacts that, when considered together, have different and/or more substantial impacts.
Degree of saturation	Measures the demand relative to the total capacity during a given flow period. Also known as the volume to capacity ratio, utilisation ratio, utilisation factor and traffic intensity.
Formation	The earthworks or material on which the ballast, sleepers and tracks are laid.
Freight task	Measures the freight activity undertaken by road, rail and coastal shipping operators. Often measured in tonne-kilometres.
Gantry	An overhead metal structure with a frame supporting equipment such as a signals, lighting or cameras.
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment
Inland Rail program	Inland Rail is an approximate 1,600 km freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales and Queensland. The Inland Rail route will involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 local government areas. Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.
Intermodal	The movement of freight using multiple modes of transport (rail, ship, truck) without handling of the freight itself when changing modes. For a railway, this usually refers to the transport of freight in containers, which may be double stacked on the wagons carrying them.
Infrastructure Sustainability Council	ISC is a member-based, peak body working to embed sustainability in horizontal infrastructure in Australia and Aotearoa, New Zealand.

Terminology	Definition
Laydown	An area used for the temporary storage of equipment and supplies to support construction.
Level of Service	The operational performance of traffic on a roadway, traffic lane, approach, intersection, route or network, based on measures such as delay and degree of saturation during a given time period.
Main line	Primary track on which trains travel within a single-track section of corridor
Main South Line	A major rail line between Sydney and Albury, passing through the Southern Highlands, Southern Tablelands, South West Slopes and Riverina regions of NSW
Major projects website	**planningportal.nsw.gov.au/major-projects**
Matter	An element of the environment that may be affected by an SSI (e.g., air, amenity, biodiversity, economic, social).
Mitigation	Actions or measures to reduce the impacts of the project.
Modification	Changing the scope or terms of an SSI approval, including revoking or varying a condition of approval. A modification requires approval under the EP&A Act.
Modification request	A request seeking to modify an SSI approval under section 5.25 of the EP&A Act.
Modification report	A report prepared by the proponent to support a modification request (see the *State Significant Infrastructure Guidelines—Preparing a Modification Report*).
Overbridge	A bridge over a railway or road. For the proposal, overbridges refer to those structures that allow a road to pass over the railway.
Passive level crossing	At-grade road crossing of the rail corridor that uses stop or give-way signs for motorists, and 'Look for trains' signs for pedestrians.
Peak periods (traffic)	A state of traffic when traffic congestion is high or when speed is low.
Piles	A pile is a long cylinder made of a strong material, such as concrete, which is pushed into the ground to support structures built on top of it
Planning Secretary	Secretary of the Department of Environment and Planning
Plant community type	A native plant community that has been classified into a type using the plant community type (PCT) classification system. This classification system provides a common typology for describing, identifying and sharing information about NSW vegetation types. PCTs are described in the BioNet Vegetation Classification.
Precinct	Groupings of enhancement sites in line with the local government areas including Albury, Greater Hume–Lockhart, Wagga Wagga and Junee.
Preferred infrastructure report (PIR)	A report prepared by an SSI proponent at the request of the Planning Secretary that outlines any proposed changes to the SSI to minimise its environmental impact or to deal with any other issue raised during the assessment of the application concerned (see the *State Significant Infrastructure Guidelines—Preparing a Preferred Infrastructure Report*).
Proponent	The proponent seeking approval for an SSI application or modification request
The proposal	The proposal is a new 42.5 km rail corridor that would connect Illabo to Stockinbingal in NSW. The alignment branches out from the existing rail line north-east of Illabo and travels north to join the Stockinbingal–Parkes Line west of Stockinbingal and will include 39 km of new, single-track, standard-gauge railway.
The proposal site	The area that would be used for the construction and operation of the proposal, and includes the location of construction worksites and operational infrastructure. It is also referred to as the 'construction footprint.
Rail corridor	The corridor within which the rail tracks and associated infrastructure are located.
Rail possession	A period of time during which a rail line is blocked to trains to permit work to be carried out on or near the line.
Refinement	A change that fits within the limits set by the project description and does not change what the proponent is seeking approval for or require an amendment to the infrastructure application for the project
Road reserve	A legally defined area of land that contains facilities such as roads, footpaths and associated features for public travel.
Scour	The erosion of soil or other submerged material from high-flowing water.

Terminology	Definition
Sensitive receivers	People and land uses in the study area that are sensitive to potential noise, air and visual impacts, such as residential properties, schools and hospitals.
Siding	Short sections of rail off the main line, which can be used as temporary locations to park trains off the main line, or access loading or storage structures such as grain silos.
Short stacking	Refers to when a vehicle does not clear the track at a level crossing as the distance between the level crossing and the nearby intersection is insufficient to accommodate the expected (or design) vehicle length with a safety factor of 5 m.
Spoil	Excess soil, rock or dirt excavated from the site.
Standard-gauge track	Track gauge refers to the spacing between the rails. Standard-gauge track has rails 1,435 mm apart.
State significant infrastructure	Development that is declared to be State significant infrastructure under section 5.12 of the EP&A Act
Study area	The area including and surrounding the proposal site. The extent of the study area varies according to the requirements of each assessment to inform the impact assessment.
Surge capacity	Relates to the ability to obtain adequate workers to meet any unforeseen requirements of the construction phase.
Submission	A written response from an individual or organisation, which is submitted to the Department of Environment and Planning during the public exhibition of an EIS, amendment report, preferred infrastructure report or modification report for SSI.
Submissions report	A report prepared by the proponent to respond to the issues raised in submissions
Tonne kilometres	A unit of measurement for freight transport that represents the transport of 1 tonne of goods by a given transport mode, such as rail, over a distance of 1 km.
Track	The structure consisting of the rails, fasteners, sleepers and ballast that conveys trains.
Train path	The capacity needed to run a train between two places in a given period of time.
Underbridge	A bridge underneath a railway or road. For the proposal, underbridges refer to those structures that allow a road or a watercourse to pass under the railway but are longer in span than culverts.
Workforce accommodation camp	A facility used to accommodate the construction workforce for the proposal, and provide a range of facilities for the workforce, including accommodation and catering. Described in full in Appendix I (Workforce accommodation camp assessment) of the EIS.

Executive summary

Overview

Inland Rail is an approximate 1,600 kilometre (km) freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales (NSW) and Queensland. The Inland Rail route will involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 local government areas. Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the economy. Inland Rail will enhance our national freight and supply chain capabilities, connecting existing freight routes through rail, roads and ports, and supporting Australian's growth.

Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail. Each of these projects can be delivered and operated independently with tie-in points to the existing railway. Work south of Parkes has been prioritised for completion by 2027, which will enable Inland Rail to initially connect to existing rail networks between Melbourne, Sydney, Perth and Adelaide via Parkes and Narromine. The Parkes to Narromine (P2N) and Narrabri to North Star Phase 1 (N2NS P1) sections are complete.

Australian Rail Track Corporation (ARTC) is seeking approval to construct a new rail corridor that would connect Illabo to Stockinbingal in NSW (the proposal). This section of Inland Rail would be about 42.5 km in total, including 39 km of new single-track standard-gauge railway, and connecting to 3.5 km of existing rail at the northern and southern end of the section. The rail line and associated facilities would be built to accommodate double-stacked freight trains up to 1800 m long and 6.5 m high.

Approval and assessment process

The proposal is declared State significant infrastructure (SSI) and critical State significant infrastructure (CSSI) under Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act). The proposal is subject to assessment and approval by the NSW Minister of Planning and Public Spaces. The proposal is also a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) and requires approval from the Australian Government Minister for the Environment and Water.

An environmental impact statement (EIS) was prepared to support ARTC's application for approval of the proposal in accordance with the requirements of the EP&A Act and the environmental assessment requirements of the Secretary (the SEARs) of the (then) NSW Department of Planning, Industry and Environment (DPIE), now the Department of Planning and Environment (DPE). The EIS also addressed the assessment requirements of the EPBC Act.

The EIS was placed on public exhibition by DPE for six weeks, commencing on 14 September 2022 and concluding on 26 October 2022. During the exhibition period, interested stakeholders and members of the community were able to review the EIS and associated reports online, participate in consultation and engagement activities held by ARTC, and make a written submission to the DPE for consideration in its assessment of the proposal.

Purpose of this report

This report documents and considers the issues raised in community, government agencies, organisations and other submissions received by DPE during public exhibition of the EIS, in accordance with the requirements of Division 5.2 of the EP&A Act and as directed by the Secretary of DPE.

ARTC has considered the content of the submissions and has prepared responses to the issues raised. The report also describes the actions taken since the EIS was placed on public exhibition and provides an updated set of mitigation measures, which incorporate amendments made to respond to issues raised in submissions and/or consider additional information.

Overview of submissions

A total of 29 submissions were received by DPE on the Major Projects NSW Planning portal website and provided to ARTC for consideration, according to three categories:

- public submissions—12 submissions
- public authorities—15 submissions
- organisations—2 submissions.

For the purpose of the issues analysis and responses provided in this report, submissions were considered and analysed according to two broad groupings:

- community—includes local residents, members of the public and landowners
- government agency and other key stakeholders—includes government departments and agencies, local councils, regional businesses, and representative organisations/community groups.

Of the 14 submissions received from the community and organisations, 2 provided support for the proposal, 5 provided comments on the proposal and 7 submissions objected to the proposal.

Each submission was examined individually to understand the issue raised. The issues raised in each submission were extracted and collated, and corresponding responses to the issues were provided. Appendix A provides a list of all submissions received, by group.

Issues raised

The analysis of submissions involved identifying the issues raised and grouping the issues into the following five main issues identified by the guideline *State significant infrastructure —preparing a submissions report* (DPIE, 2022b):

- the proposal
- procedural matters
- environmental, social, and economic impacts
- justification and evaluation of the proposal
- issues that are beyond the scope of the proposal.

Each type of issue was then categorised into key issues and sub-issue categories, based on the information and environmental aspects considered by the EIS.

Community

A variety of issues were raised by the public, mostly centred on land use compatibility and traffic impacts of the proposal. Some community members raised more than one issue in their submission. The majority of issues raised by the community related to the potential impacts of the proposal (60 per cent), followed by issues relating to the proposal itself (16 per cent).

The most frequently raised issues relating to the potential impacts of the proposal are:

- land use and property impacts (55 per cent)
- transport and traffic impacts (19 per cent)
- flooding and water quality impacts (19 per cent)
- noise and vibration impacts (8 per cent).

The most frequently raised issues about the proposal are in relation to:

- alternatives and options (31 per cent)
- design features (19 per cent).

A more detailed breakdown of the land use and property impact shows that the most frequently raised sub-issues are:

- land use impacts (14 per cent)
- property access impacts (12 per cent)
- noise impacts during operation (7 per cent)
- impacts to agricultural land use and activities (7 per cent).

Government agencies and other key stakeholders

The majority of issues raised by government agencies and other key stakeholders related to the potential impacts of the proposal (82 per cent). The most frequently raised issues relating to the potential impacts of the proposal are:

- biodiversity impacts (26 per cent)
- traffic and transport impacts (21 per cent)
- flooding impacts (15 per cent)
- noise and vibration impacts (10 per cent)

- Aboriginal heritage impacts (7 per cent)
- land use and property impacts (7 per cent)

A more detailed breakdown of biodiversity impact sub-issues shows that the most frequent sub-issue raised by government agencies and key stakeholders is the proposal's impacts to threatened species and threatened ecological communities (47 per cent). The most frequent traffic and transport impact sub issue raised by government agencies and key stakeholders is how the potential impacts of the proposal would be mitigated (21 per cent).

Summaries of the issues raised in submissions, and responses to these issues, are provided in sections 4 to 7 of this report.

Consultation

Consultation with stakeholders was held during public exhibition of the EIS from the 14 September 2022 to the 26 October 2022. During the exhibition period, government agencies, key stakeholders (including interest groups and organisations), and the community were invited to make written submissions. Community and stakeholder engagement has continued since exhibition finished. Further details of the community and stakeholder engagement that has been undertaken since public exhibition of the EIS are included in this Response to Submission report.

Design refinements to the proposal

During and after public exhibition of the EIS, ARTC has undertaken further investigations and is proposing a number of design refinements to the proposal. The aim of these refinements is to address issues raised during consultation and address ARTC-led design refinements. The refinements have particularly focused on land use and property, and traffic and access. The refinements proposed are:

- removal of construction compound 29
- relocation of the construction compound 5 from the western side of Ironbong Road to the eastern side of Ironbong Road (adjacent the rail corridor), as requested by the landowner
- relocation of compound 7 onto land recently purchased by ARTC, including revised access road from Ironbong Road
- the area of the construction footprint has been refined to further avoid native vegetation impacts, respond to stakeholder feedback including reduction of restrictions on farming activities during construction, and address on-going design refinements
- elimination of using Troy Street as a traffic detour during construction of a portion of land within the proposal site as it will be constrained for use by the landowner during construction. This land will be leased by ARTC for the duration of construction
- additional land required to provide greater flexibility in detailed design for the final location of the level crossing and connection to the existing driveway at chainage 22,100 as per the landowner request
- extension of asphalt seal length on either side of the Old Sydney Road level crossing
- de-commissioned sleepers and track will be left in situ
- removal of proposed borrow pit in line with community engagement feedback
- relocation of the crossing loop located at chainage 9,200 to chainage 11,400 from the east side to the west side of the main rail
- the size of the detention basin for the Burley Griffin Way realignment has been increased in the updated Technical Paper 4 in response to the updated flood modelling.

Additionally, a clarification has been made to include the extent of the proposed temporary workforce accommodation camp into proposal footprint, as this aspect of the proposal was separately addressed in the EIS and in EIS Appendix I.

A further change to the proposal since completion of public exhibition is the closure of public level crossing LX602 (at chainage 2,789). This was approved by the Minister for Transport and Roads.

Mitigation measures

The EIS identified the proposed approach to environmental management and the mitigation measures that would be implemented to avoid or minimise the potential impacts of the proposal. After consideration of the issues raised in the submissions, and additional work undertaken since exhibition, the mitigation measures were updated to make additional commitments to respond to the issues raised and to the findings of further assessments. Some new measures were added, and the wording of some measures has been amended. The updated mitigation measures

are in Appendix B of this report and supersede those presented in the EIS. Note that some mitigation measures have been renumbered as a consequence of these updates.

Next steps

A copy of this Response to Submissions Report will be published by DPE on the Major Projects NSW Planning Portal website (Planning Portal website) (https://pp.planningportal.nsw.gov.au/major-projects/projects/inland-rail-illabo-stockinbingal).

The I2S proposal would continue to incorporate environmental management and design features to ensure that potential impacts are managed and mitigated as far as practicable. Most of the potential construction-related impacts would be effectively mitigated by the implementation of industry standard construction management, including the implementation of the environmental management approaches described in Section 27.2.1 of the EIS and the revised mitigation measures provided in this report (see Appendix B).

Subject to approval of the proposal, the detailed design would be developed with the objective of minimising potential impacts on the environment and the community. The design and construction methodology would continue to be developed with this objective in mind, considering the input of stakeholders and the local community, and the conditions of approval. With the implementation of the proposed mitigation measures, and the approach to management described in the EIS, it is concluded that the potential environmental impacts of the proposal would be adequately managed.

The DPE review the EIS, the submissions received and this Submissions Report. Once DPE has completed its assessment, a draft Environmental Assessment Report will be prepared for the Secretary of the DPE, which may include recommended conditions of approval. The Environmental Assessment Report will then be provided to the Minister for Planning.

The Minister for Planning will then decide whether or not to approve the proposal and identify any conditions of approval that would apply. The Minister's determination, including any conditions of approval and the Environmental Assessment Report, will be published on the DPE Major Projects website.

ARTC will continue to consult with community members, government agencies and other stakeholders during design development, construction and operation of this proposal to minimise potential impacts on the local and regional environment and the community.

1. Introduction

1.1 Inland Rail program

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the economy. Inland Rail will enhance our national freight and supply chain capabilities, connecting existing freight routes through rail, roads and ports, and supporting Australia's growth.

Australian Rail Track Corporation Ltd (ARTC) is the proponent for Inland Rail. ARTC is fully owned by the Australian Government and was created after the Australian and state governments agreed in 1997 to the formation of single entity to manage and operate the national interstate rail network. Following the release of the findings of the Independent Review of Inland Rail in April 2023, Inland Rail Pty Ltd was established as a subsidiary of ARTC to build Inland Rail on behalf of the Australian Government. Further information on ARTC and Inland Rail can be found at **artc.com.au** and **inlandrail.com.au**.

Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail. Each of these projects can be delivered and operated independently with tie-in points to the existing railway. Work south of Parkes has been prioritised, which will enable Inland Rail to initially connect to existing rail networks between Melbourne, Sydney, Perth and Adelaide via Parkes and Narromine. The Parkes to Narromine (P2N) and Narrabri to North Star Phase 1 (N2NS P1) sections are complete. Further information on ARTC and Inland Rail can be found at artc.com.au and inlandrail.com.au.

This Response to Submissions Report relates to the Illabo to Stockinbingal (I2S) section of the Inland Rail program (the proposal).

FIGURE 1-1 PROPOSED ALIGNMENT FOR THE INLAND RAIL PROGRAM

1.2 The proposal

The proponent is seeking approval to construct and operate the proposal, which includes a new rail line. This section of Inland Rail would be about 42.5 km in total, including 39 km of new single-track standard-gauge railway, and connecting to 3.5 km of existing rail. The rail line and associated facilities would be built to accommodate double-stacked freight trains up to 1,800 m long and 6.5 m high. The proposal is critical State significant infrastructure (CSSI) and is subject to approval by the NSW Minister for Planning under Division 5.2, Part 5 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act).

1.2.1 Location

The proposal is a new rail corridor that would connect Illabo to Stockinbingal in NSW. The alignment branches out from the existing rail line north-east of Illabo and travels north to join the Stockinbingal–Parkes Line west of Stockinbingal. The proposal passes through agricultural and rural properties in the Riverina region of NSW between the towns of Illabo and Stockinbingal. The location of the proposal is shown in Figure 1-2.

Further information on the location and proposal site is provided in Chapter 2 of the EIS.

1.2.2 Key features

The key features of the proposal include:

- a total extent of about 42.5 km, including about 39 km of new, greenfield railway between Illabo and Stockinbingal
- single-track standard-gauge railway on a combination of existing ground level, embankments and in cuttings
- eight new bridges at watercourses, two road overbridges and one grade-separated bridge (road-over-rail) at Burley Griffin Way
- one crossing loop and associated maintenance siding, located between chainage 9,200 and chainage 11,400
- construction of new level crossings and alterations of existing level crossings (at public roads and private accesses)
- stock underpasses to allow movement of livestock
- level crossings at grade for large farm equipment and vehicles across the rail line, and livestock where there is no nearby stock underpass
- one major drainage diversion to collect and transport stormwater away from the rail line
- large detention basin to control release and reduce peak flood levels
- installation and upgrade of about 88 cross drainage culverts below the rail formation and 27 longitudinal drainage culverts below level crossings
- upgrades to about 3.5 km of existing track for the tie-in works to the existing Main South Line at Illabo, and the Stockinbingal to Parkes Line at Stockinbingal
- construction of about 1.7 km of new track to maintain the existing connection of the Lake Cargelligo rail line either side of the proposal
- realignment of a 1.4 km section of the Burley Griffin Way to provide a underbridge at Stockinbingal
- realignment of Ironbong Road to allow for safe sight lines at the new active level crossing
- one workforce accommodation camp.

Key features of the proposal are shown in Figure 1-2.

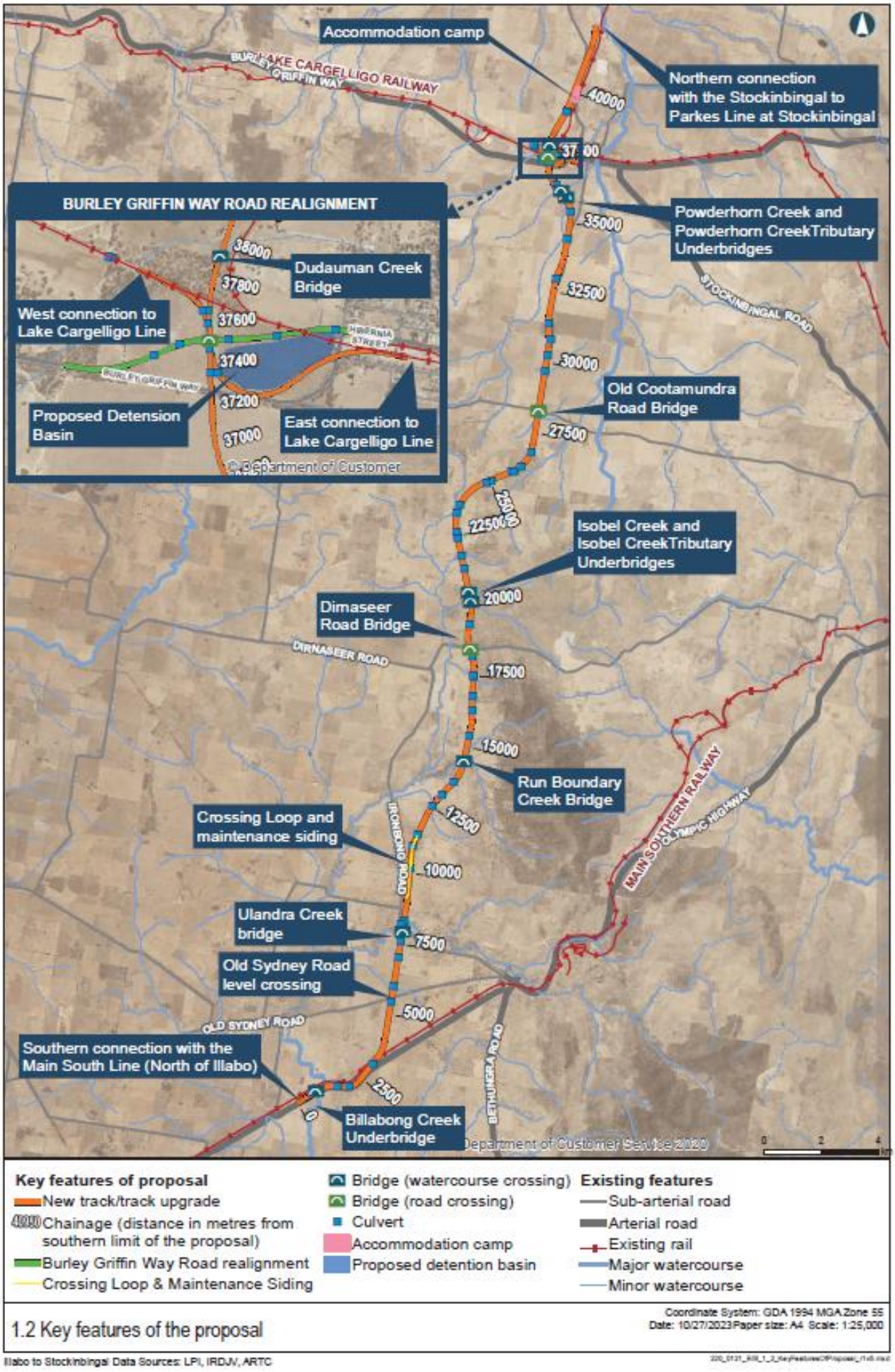

FIGURE 1-2 KEY FEATURES OF THE PROPOSAL

1.2.3 Operation

The proposal would form part of the rail network managed and maintained by ARTC. Train services would be provided by a variety of operators. The trains would be diesel powered, and would be a mix of grain, intermodal (freight), and other general transport trains. The EIS assesses the operational impacts of the use of the proposal as part of Inland Rail in EIS chapters 10 to 26. If business and market demands require increased capacity, consultation with relevant agencies would be undertaken, and approvals sought as required.

The proposal would enable the use of double-stacked trains along its entire length. Inland Rail would operate 24 hours per day and would accommodate double-stacked freight trains up to 6.5 m high and up to 1,800 m long (see Figure 1-3). The approval would limit Inland Rail train operations to 1,800 m, with rail infrastructure built having regard to that limitation.

FIGURE 1-3 INDICATIVE HEIGHT AND LENGTH OF A DOUBLE-STACKED INLAND RAIL FREIGHT TRAIN

1.2.3.1 Train numbers

The average number of freight train movements varies in different sections of the overall Inland Rail route as there are several connections to other sections of the rail network, along with terminals at sites along the alignment. A schematic diagram of Inland Rail, and the interstate and regional freight rail networks, is provided in Figure 1-4, showing the significant connection points. There is some seasonality effect on train numbers due to agricultural commodity shipments.

Anticipated train numbers remain as reported in the EIS and have not been revised, with 2040 retained as the design year for assessment purposes. Based on current demand forecasting, it is estimated that the I2S section of Inland Rail would be trafficked by an average of 6 trains per day (both directions) from early in the phase of Inland Rail's operation when all projects are operating. Train numbers would increase to about 11 trains per day (both directions) over the following years upon further take up of the service. Use of the I2S railway by rail traffic other than Inland Rail services is not included in these estimates and would be an additional use of the line. Train numbers will vary with freight demand and operations over time. The new rail line would be a faster, more efficient route that bypasses the steep and windy section of track, called the Bethungra Spiral, and would enable the use of double-stacked trains (up to 6.5 m high) along its entire length.

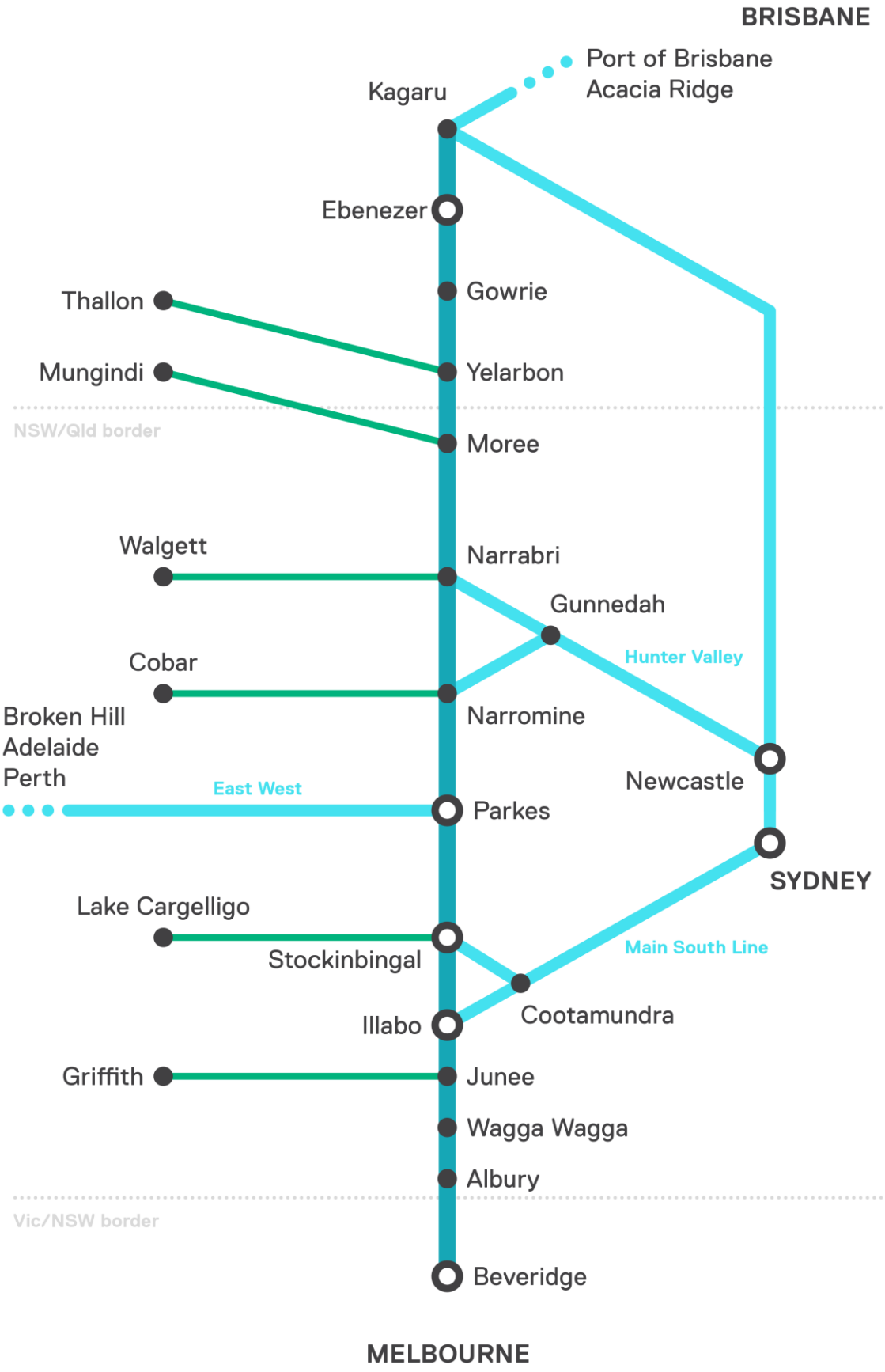

FIGURE 1-4 SCHEMATIC DIAGRAM OF INLAND RAIL, THE INTERSTATE AND REGIONAL RAIL NETWORK

1.2.3.2 Train speeds and lengths

Inland Rail freight trains would travel at speeds up to 115 km/h, which is consistent with current freight train maximum speeds on the interstate and regional rail networks. Trains may travel at speeds less than 115 km/h for operational or safety reasons, including rollingstock capability and performance, management of braking and acceleration on steep grades, and occupancy of the line by other trains.

1.2.3.3 Maintenance

ARTC would maintain the line during operations. While maintenance activities are part of the operational activity, they would be undertaken as controlled by the State Environmental Planning Policy (Transport and Infrastructure) 2021 and the ARTC operational Environment Protection Licence (EPL 3142). Maintenance would include standard activities such as inspections and maintenance of bridges, culverts, and fauna connectivity structures, rail grinding and track tamping, through to major maintenance, such as reconditioning of track and topping up of ballast as required.

Further information on the construction and operation of the proposal is in EIS Chapter 7: Proposal features and operation and EIS Chapter 8: Construction of the proposal.

1.2.4 Timing

In response to the Independent Review of Inland Rail, the Australian Government has prioritised completing the sections of Inland Rail between Beveridge in Victoria and Narromine in NSW by 2027. In line with the Government's response to the review, ARTC is now taking a staged approach to Inland Rail, with a focus south of Parkes on construction and delivery to progressively unlock the benefits of Inland Rail ahead of end-to-end completion. North of Parkes, attention is on obtaining approvals, securing the route, and refining cost and delivery arrangements ahead of commitments for construction.

Subject to approval, further design and procurement, construction of the proposal is planned to start with early works in late-2024, with main works expected to take about 24 months. Construction is currently expected to be completed by 2027.

The proposal is expected to be operational as part of the Inland Rail Melbourne to Narromine section in 2027.

1.3 Statutory context

The proposal is declared State significant infrastructure (SSI) and critical State significant infrastructure (CSSI) under Division 5.2 of the EP&A Act. The proposal is permissible without development consent and is subject to approval by the NSW Minister for Planning under Division 5.2, Part 5 of the EP&A Act.

An environmental impact statement (EIS) was prepared to support ARTC's application for approval of the proposal in accordance with the requirements of Division 5.2 of the EP&A Act. The EIS addressed the Secretary's environmental assessment requirements (SEARs) for the proposal, which were issued by the (then) Department of Planning, Industry and Environment (DPIE) on 30 April 2021. In 2022, the department changed its name to the Department of Planning and Environment (DPE).

1.4 EIS exhibition

The EIS was placed on public exhibition by DPE for a period of six weeks, commencing on 14 September 2022 and concluding on 26 October 2022.

During the exhibition period, interested stakeholders and members of the community were able to review the EIS online, participate in consultation and engagement activities (as described in section 3.2.2 and make a submission to DPE for consideration in the assessment of the proposal.

1.5 Engagement

Community and stakeholder engagement has continued throughout the EIS exhibition, and since it has finished. Further details of the community and stakeholder engagement that has been undertaken since public exhibition of the EIS is discussed in Section 3.2.4.

1.6 Purpose and structure of this report

ARTC was provided with copies of the submissions received on the proposal during public exhibition of the EIS by the Secretary of DPE. In accordance with section 5.17(6)(b) of the EP&A Act, this Response to Submissions Report has been prepared to provide a response to the issues raised in the submissions.

This Response to Submissions Report has regard for the *State Significant Infrastructure Guidelines* (DPIE, 2021a), including the form and content requirements for submissions reports as outlined in *State Significant Infrastructure guidelines—preparing a submissions report* (DPIE, 2021b) as follows:

- an introduction to the proposal and the assessment that has been carried out to date (Chapter 1: Introduction)
- an analysis of the submissions received, including a breakdown by submitter type and key issues raised (Chapter 2: Analysis of Submissions)
- a summary of the refinements to the proposal, further engagement that was carried out and the further assessment of impacts that ARTC has carried out since public exhibition (Chapter 3: Actions taken since exhibition)
- a summary of the issues raised in submissions and ARTC's response to the issues raised (Chapters 4, 5, 6 and 7)
- an updated justification/evaluation of the proposal and conclusion (Chapter 8: Conclusion)
- a summary of report references (Chapter 9: References).

2. Analysis of submissions

This chapter provides an analysis of the submissions received, including a breakdown by submitter type and key issues raised.

2.1 Submissions received

During the exhibition period of the EIS (14 September to 26 October 2022), submissions were invited from the community and other stakeholders. The receipt of submissions was coordinated and managed by DPE. Submissions were received and registered by DPE and uploaded onto the Major Projects NSW Planning Portal website (Planning Portal website) (available at: https://pp.planningportal.nsw.gov.au/major-projects/projects/inland-rail-illabo-stockinbingal). Submissions were received by electronic online submission or by post and were provided to ARTC for review and consideration.

A total of 29 submissions were recorded on the Major Projects website according to three categories. A breakdown of submissions by the submitter category registered on the website is provided in Table 2-1.

Submissions were classified according to three categories:

- public—12 submissions
- public authorities—15 submissions
- organisations—2 submissions.

A breakdown of the 29 submissions registered on the Planning Portal website and directly to ARTC by submitter category type is in Table 2-1. Greater detail regarding the organisations and authorities that provided a submission is provided in Chapter 4 to 7 of this report.

TABLE 2-1 BREAKDOWN OF SUBMISSIONS REGISTERED ON THE MAJOR PROJECTS WEBSITE BY SUBMITTER TYPE

Submitter category	Number of submissions	Types of submitters	Total
Public	12	Members of the public	12
Public authorities	15	NSW Government departments and agencies	12
		Local councils	3
Organisations	2	Community groups	1
		Other businesses	1
Total	29		29

The following information was also recorded by DPE as a part of the public submission registration process:

- 7 submissions registered an objection to the proposal
- 3 submissions registered support to the proposal
- 19 submissions registered a comment on the proposal.

For the purpose of the issue analysis and responses provided in this report, submissions were considered and analysed according to two broad groupings:

- community—includes local residents, members of the public, landholders, and property owners
- government agency and other key stakeholders—includes government departments and agencies, local councils, regional businesses, and representative organisations/community groups.

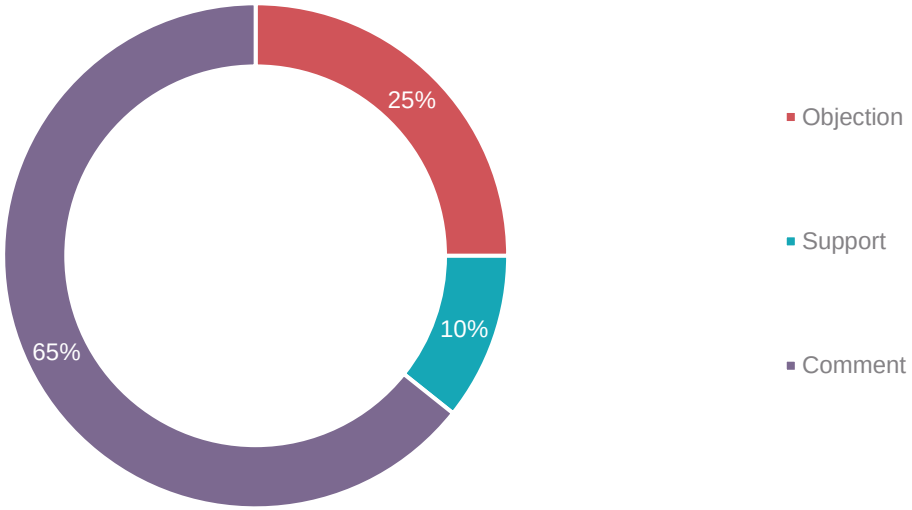

FIGURE 2-1 BREAKDOWN OF SUBMISSIONS UPLOADED TO THE MAJOR PROJECT'S WEBSITE

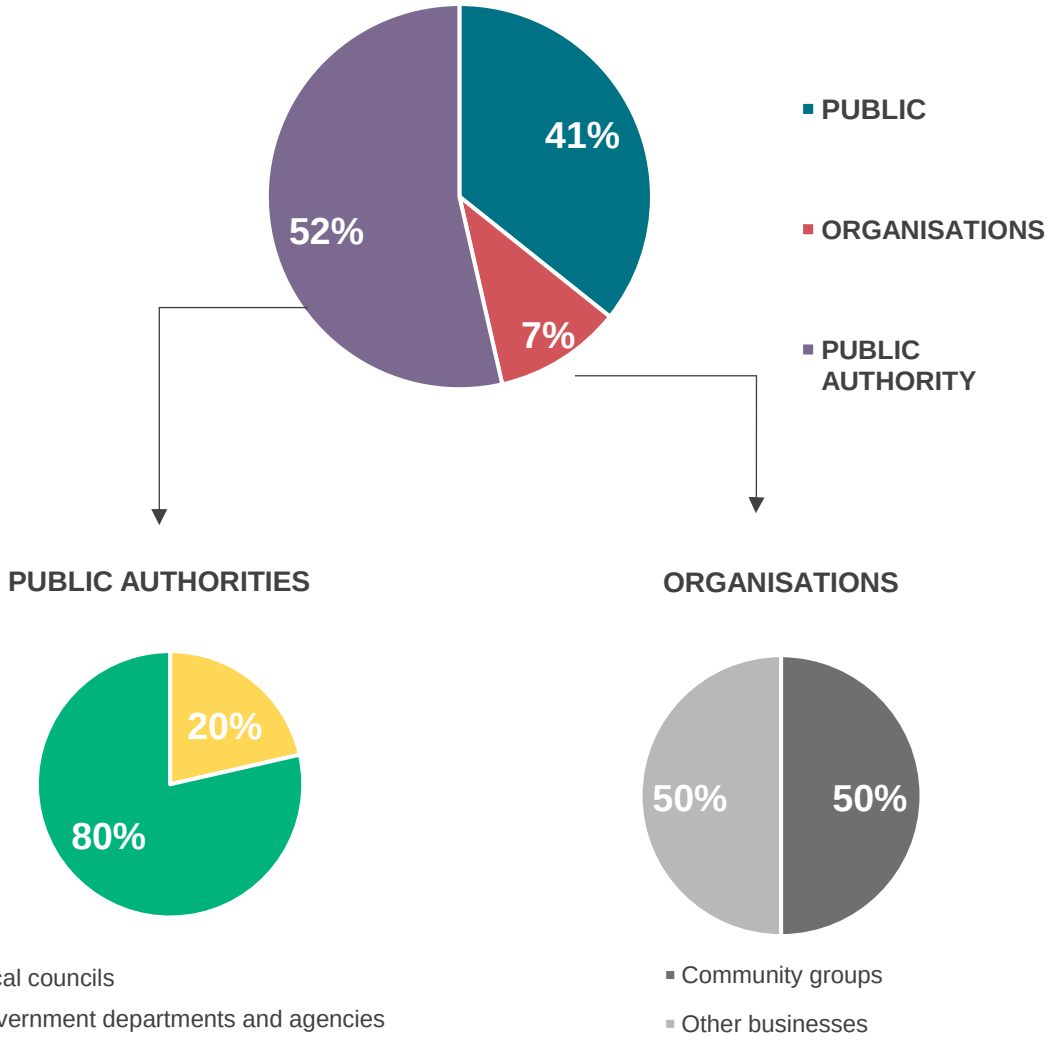

FIGURE 2-2 BREAKDOWN OF SUBMISSIONS BY SUBMITTER TYPE

2.2 Approach to analysis of submissions

2.2.1 Review of public (community) submissions

Each submission was reviewed, and the issues raised were summarised, categorised, and grouped. The analysis of submissions involved identifying the issues raised and grouping the issues into the five main issue types identified by the *State significant infrastructure guidelines—preparing a submissions report* (DPIE, 2022b):

- the proposal
- procedural matters
- environmental, social and economic impacts
- justification and evaluation of the proposal
- issues that are outside of the scope of the proposal.

Each type of issue was then categorised into key issues and then further categorised into sub-issues. For example, a submission relating to construction noise impacts at a residential receiver would be categorised as:

- main issue type—environmental, social and economic impacts
- key issue—noise and vibration
- sub-issue—construction noise.

This provided categorisation of the frequency of the issues that were raised and the key areas of concern.

Responses to the issues raised are provided in Chapter 7, according to the key issue and sub-issue categories. Where relevant, input to the responses was sought from the technical specialists who assisted with preparing the EIS.

Each issue identified in Chapter 7 is presented as a summary of the issues raised by individual submissions. This means that, while the exact wording of a particular submission may not be present in the summary of the issue, the intent of issues raised has been captured. A response has been provided to each grouped issue summary, which may be relevant across multiple submissions.

Appendix A contains a table identifying community and organisation submissions using a unique identifier. For each submission, the table presents a cross reference to where the issues were addressed in this report.

2.2.2 Review of public authorities and organisation submissions

An assessment of each public authority and organisation submission was undertaken, with each submission individually reviewed to understand the issues, and a summary was prepared for each key issue. Issues raised in public authority submissions were not further categorised into sub-issues as the issues raised were largely dependent on each stakeholder's technical discipline area and/or assets. Instead, a direct response to each government agency and public authority submission is provided in Chapter 4: NSW Government department or agency advice and Chapter 5: Public authorities (including councils). Where relevant, input to the responses was sought from the technical study specialists who assisted with preparation of the EIS.

2.3 Public (Community) submissions

2.3.1 Summary of submissions

Submissions received from the public (community) are categorised by main issue type in Figure 2-3. The key issue types are further categorised in Table 2-2 by sub-issue.

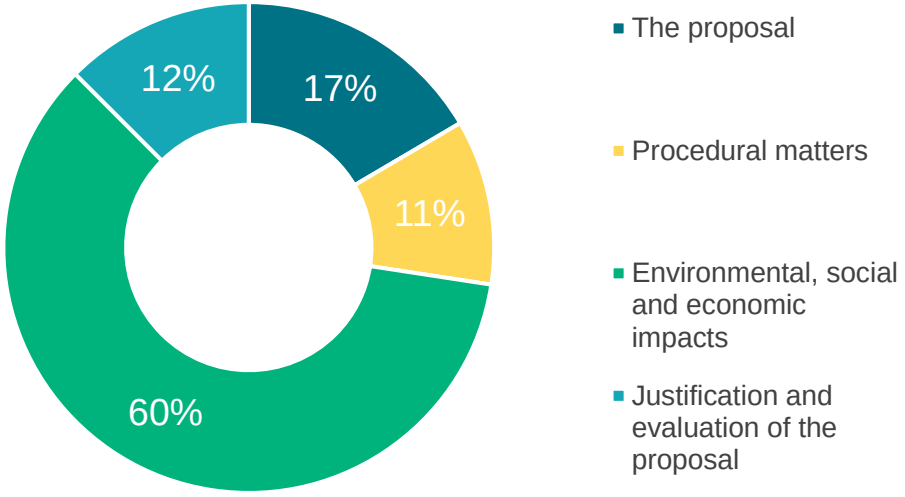

FIGURE 2-3 MAIN ISSUE TYPES FOR COMMUNITY AND ORGANISATION SUBMISSIONS

2.3.2 Community issues breakdown

A breakdown of the main issue types for the issues raised in community submissions is shown in Figure 2-3. This figure shows that the majority of issues raised (60 per cent) related to the potential impacts of the proposal, followed by issues relating to the proposal itself (17 per cent).

A breakdown of the impact issues raised in community submissions is shown in Figure 2-4. This figure shows that the most frequently raised impact issues are:

- land use and property impacts (46 per cent)
- traffic and transport (16 per cent)
- flooding impacts (16 per cent)
- Noise and vibration (7 per cent)
- hazards and safety impacts (6 per cent).

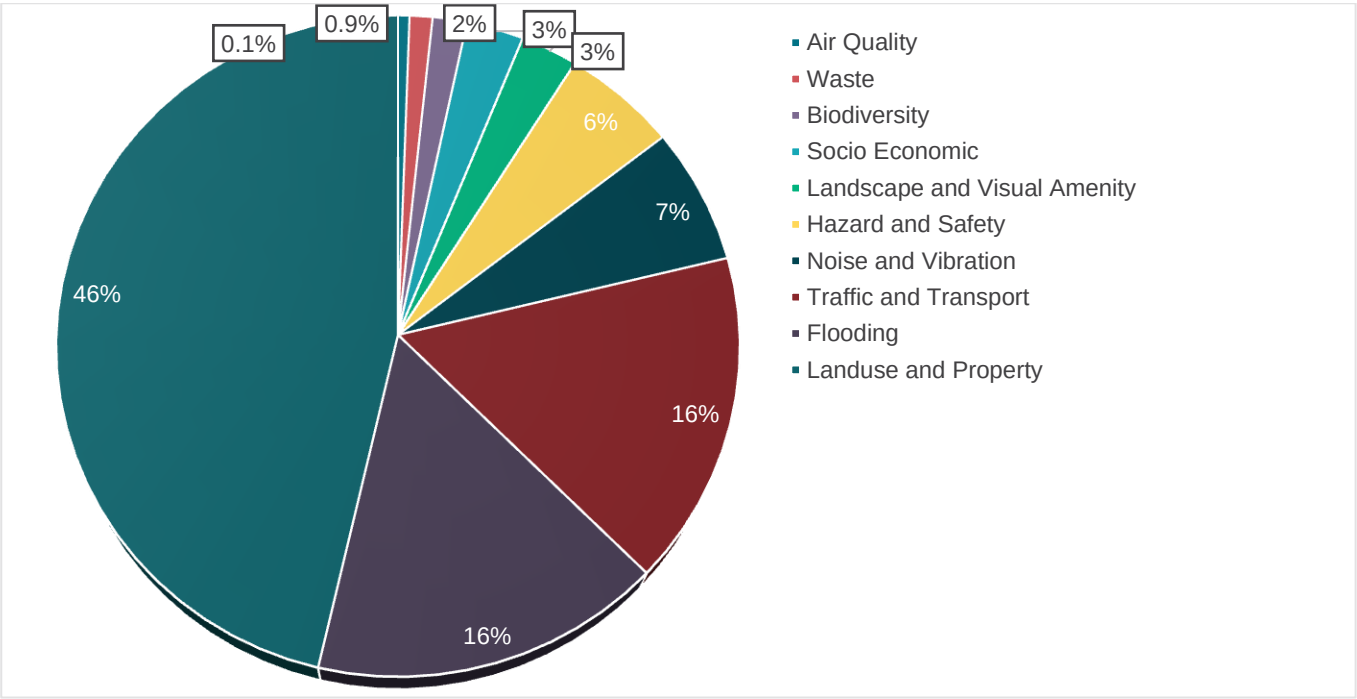

FIGURE 2-4 KEY IMPACT ISSUES RAISED IN COMMUNITY SUBMISSIONS

A more detailed breakdown of the land use and property sub-issues raised in community submissions is shown in Figure 2-5. This figure shows that the most frequently raised key proposal issues are:

- property impacts during operation (32 per cent)
- property acquisition impacts (30 per cent)
- impacts to biosecurity (10 per cent)
- impacts to farm dam (7 per cent)
- impacts to agriculture activities (5 per cent).

Further information on the issues raised in community submissions is provided in section 6 of this report.

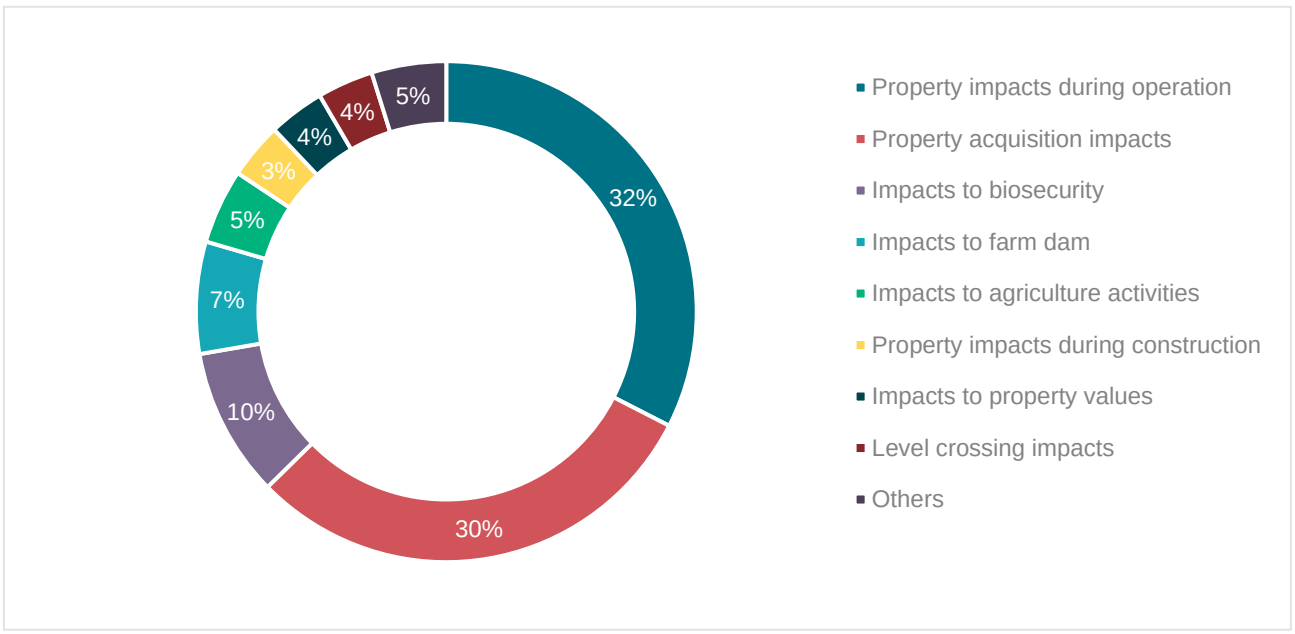

FIGURE 2-5 BREAKDOWN OF LAND USE AND PROPERTY SUB ISSUES

TABLE 2-2 SUMMARY OF KEY ISSUES AND SUB-ISSUES RAISED IN SUBMISSIONS FROM THE COMMUNITY AND ORGANISATIONS

Key issue	Sub-issue	Number of submissions issue was raised in
Options and alternatives	Route options, level crossing treatments, construction methodology	4
Design features	Detailed design, track infrastructure, road infrastructure, bridges	5
Engagement	Adequacy of consultation, implementation of community feedback, engagement with landowners	6
Impact assessment	Assessment methodology	1
Transport and traffic	Impacts to level crossings, emergency vehicles access, transport access and haulage arrangements, impacts on public transport, assessment methodology, construction access	2
Land use and property	Property acquisition, fencing, operational land use impacts, construction land use impacts, agricultural land use and activities, operational noise and vibration impact, public recreational impacts during construction, public recreational impacts during operation	9
Noise and vibration	Construction noise impacts, construction vibration impacts, traffic noise impacts during construction, traffic noise impacts during operation, operational noise impact, operational vibration impact, mitigation and management of impacts for noise and vibration	6
Biodiversity	Impacts to biodiversity, impacts to threatened species and threatened ecological communities	3
Landscape and visual amenity	Operational landscape and visual impacts, mitigation and management of impacts, replacement of shelter trees for livestock	4
Hydrology, flooding and water quality	Flooding impacts during construction, flooding impacts during operation, impacts to water courses and water quality during construction, mitigation and management of impacts during flooding	6
Groundwater	Impacts to groundwater sources	1
Air quality	Mitigation and management of impacts	1
Hazards	Bushfire risk, emergency response	6
Justification and evaluation of the proposal	Evaluation of the proposal impacts and benefits, benefits of the Inland Rail program, detailed design, evaluation of the proposal impacts and benefits, connections and access to other markets	4
Construction of the proposal	Construction compounds and laydown areas, water supply, temporary land requirements, fencing, transport access and haulage arrangements	7
Design features	Detailed design, track infrastructure, level crossing design, road infrastructure, bridges, ancillary infrastructure, urban design and landscaping	6
General opposition to the Inland Rail project	Need for detailed design, evaluation of proposal, impacts and benefits, Compliance with SEARS, adequacy of consultation, mitigation and management of impacts	6
Other out-of-scope issues	References and terminologies	1

2.4 Origin of community and organisation submissions

Eleven submissions received from the community were all local residents (or representatives of local residents). There was one community submission where the submitter withheld their address. A breakdown of the level of community interest based on location is shown in Table 2-3.

TABLE 2-3 COMMUNITY AND ORGANISATION LOCATIONS

Location	Number of community submissions
Stockinbingal	**5**
Bethungra	**5**
Illabo	**1**
No location identified	**1**

2.5 NSW Government department or agency advice

Advice was received from the following eight NSW Government departments and agencies in response to the EIS during the exhibition period:

- NSW Department of Planning and Environment—Biodiversity Conservation and Science Directorate
- NSW Department of Planning and Environment—Crown Lands
- NSW Department of Planning and Environment—Heritage NSW (provided separate submissions for Aboriginal heritage and non-Aboriginal heritage)
- NSW Department of Planning and Environment—Water
- NSW Department of Primary Industries—Agriculture
- NSW Department of Primary Industries—Fisheries
- NSW Environmental Protection Authority
- Transport for NSW
- NSW Police
- UGL Regional Linx (as the operator of the Country Rail network)

The advice received from these departments, agencies and organisations were reviewed and each identified matter was summarised and addressed. A response to each department and agency is provided in chapter 4.

2.6 Public authority submissions

Submissions were received from two local councils in response to the EIS during the exhibition period:

- Cootamundra-Gundagai Shire Council
- Junee Shire Council.

Additionally, Goldenfields Water made a submission. Goldenfields Water is a statutory authority and is classified as a County Council.

These submissions were reviewed, and each identified issue was summarised and addressed. A response to each public authority submission is in chapter 5.

3. Actions taken since public exhibition

This chapter details the activities that were carried out by the proponent since the public exhibition of the EIS, including refinements to the proposal, further engagement and the further assessment.

3.1 Proposal refinements

During and after public exhibition of the EIS, ARTC undertook further investigations and is proposing a number of design refinements to the proposal. The aim of these refinements is to address issues raised since EIS exhibition and has resulted in further design refinement led by ARTC to minimise the potential impacts of the proposal where practicable. The refinements have particularly focused on land use and property, and traffic and access. The refinements were developed by considering consultation with the community and key stakeholders, and submissions made. The proposed refinements are summarised in Table 3-1.

TABLE 3-1 SUMMARY OF PROPOSAL REFINEMENTS

Proposal feature	Proposed refinement
Proposal site revision	The area of the proposal site has been revised to further avoid native vegetation impacts, respond to stakeholder feedback including reduction of restrictions on farming activities during construction, and address on-going design refinements. The revisions include the relocations of construction compound 5 and 7; the additional lease area; and the private level crossing, which are detailed in this table. A clarification has been made to include the extent of the proposed temporary workforce accommodation camp into project footprint, as this aspect of the proposal was separately addressed in the EIS and in EIS Appendix I. The proposed changes are discussed further in Appendix L.
Construction compounds	Construction compound 29 is no longer required for the proposal based on additional construction planning and landowner feedback. Relocation of the construction compound 5 from the western side of Ironbong Road to the eastern side of Ironbong Road (adjacent the rail corridor), as requested by the landowner. Relocation of compound 7 onto land recently purchased by ARTC, including revised access road from Ironbong Road.
Troy Street	Troy Street will no longer be used as a traffic detour during construction.
Public level crossing	The public level crossing unnamed road from Olympic Highway at chainage 2,789 (LX602) has been closed, following approval by the Minister for Transport and Roads.
Additional lease area	Inclusion of a portion of land, between chainage 38,300 and 39,100 within the proposal site which would be constrained for use by the landowner during construction. This land will be leased by ARTC for the duration of construction, in agreement with the landowner.
Private level crossing	Additional land required to provide greater flexibility in detailed design for the final location of the level crossing and connection to the existing driveway at chainage 22,100, as per the landowner request.
Old Sydney Road	The design will now include an extension of the asphalt seal on Old Sydney Road to minimise dust and maintain visibility of the proposed passive level crossing.
Decommissioned rail	Decommissioned sleepers and track will now be left in place.
Crossing loop	Relocation of the crossing loop located at chainage 9,200 to chainage 11,400 from the east side to the west side.
Borrow pit	Removal of the proposed borrow pit at Stockinbingal chainage 38,000 in response to community feedback.
Detention basin	The size of detention basin for the Burley Griffin Way realignment has been increased in the updated Technical Paper 4 in response to the updated flood modelling. The detention basin is on land acquired by ARTC.

An assessment of the refinements to the proposal are outlined in:

- Appendix L—Impact Assessment of Proposal Site Revisions
- Appendix D—Updated Flooding and Hydrology Assessment Report
- Appendix E—Updated Biodiversity Development Assessment Report
- Appendix F—Noise and Vibration Assessment Clarifications

3.2 Community and stakeholder engagement

3.2.1 Overview

ARTC's values commit the organisation to active engagement with agencies, stakeholders and the community. For Inland Rail, effective communication and stakeholder engagement are fundamental to reducing risk and minimising the potential for social and environmental impacts as far as possible. ARTC believes that identifying, engaging and communicating effectively with stakeholders is critical to the successful delivery of Inland Rail.

Prior to the exhibition of the EIS, engagement activities were carried out during the following key periods:

- Inland Rail announcement and preliminary consultation—2016 to end 2018
- route option assessment—February 2018 to July 2019
- preliminary design development and environmental assessment—July 2019 to October 2020.

The purpose of engagement was to raise awareness about Inland Rail and the proposal, understand community and stakeholder issues, and obtain feedback to help shape the proposal's route, design, and environmental assessment. Further information about the engagement activities undertaken as part of the above stages is provided in EIS Chapter 4 and EIS Appendix C.

3.2.2 Consultation prior to exhibition

Subsequent to the consultation activities described in the EIS, additional consultation was undertaken prior to public exhibition. As the EIS was being finalised at the time, these activities were not described in the EIS. Table 3-3 lists the engagement activities undertaken from May 2022 to September 2022 prior to the exhibition of the EIS.

TABLE 3-2 CONSULTATION UNDERTAKEN BETWEEN MAY 2022 AND COMMENCEMENT OF EIS EXHIBITION

Activity	Detail
Inland Rail program website inlandrail.artc.com.au/where-we-go	▸ The project website was updated advising of the public release of the EIS for review and welcoming of submissions. This update included links to the EIS (hosted on DPE's Major Projects website), the process for formal submission, and information related to planned consultation activities.
Toll-free community information line (1800 732 761) and Inland Rail Program email (inlandrailnsw@artc.com.au)	▸ Requests for information were responded to by the ARTC stakeholder engagement team.
Briefings	▸ Meetings with the community consultative committee (CCC) for the proposal (the Illabo to Stockinbingal Community Consultative Committee) ▸ Meetings were held with the interested community members to inform them of the approaching EIS public exhibition period. ▸ Briefing held with TfNSW to present updates on hydrology and flooding modelling around Burley Griffin Way, and the workforce accommodation camp near Stockinbingal
Operational noise engagement	▸ Face-to-face and online meetings with 8 stakeholders and landowners that are potentially impacted by operational noise ▸ Meetings discussed operational noise and vibration impacts, proposed construction works hours, potential mitigation, and ongoing investigations
Letters to landowners	▸ Registered postal letters were sent to 48 directly and indirectly impacted landowners. These letters were distributed two weeks prior to the public exhibition period and notified stakeholders of the upcoming public exhibition, ongoing consultation activities and the formal submission process.
Letters to key stakeholders	▸ Registered postal letters were sent to 27 key stakeholders. These letters were distributed two weeks prior to the public exhibition period and notified stakeholders of the upcoming public exhibition, ongoing consultation activities and the formal submission process.

Activity	Detail
Ongoing email and telephone contact with stakeholders	▸ Regular communication was undertaken with Junee Shire Council, Cootamundra-Gundagai Regional Council and Goldenfields Water County Council. ▸ Ongoing engagement was undertaken with the elected representatives as required. ▸ Landowner enquires were responded to as required ▸ A community e-newsletter was sent to the Illabo to Stockinbingal stakeholder mailing list. This comprehensive database includes contact details of affected impacted landowners, interested community members and business groups. The email blast notified stakeholders of the upcoming EIS public exhibition period.
Community Consultative Committee	▸ All Community Consultative Committee members were notified via email two weeks in advance of the public exhibition period to assist representatives remain informed and engaged. ▸ A CCC meeting was held on the 28 of July 2022 to provide updates on the EIS, including the temporary workforce accommodation, property acquisition, hydrology and flooding updates by a special matter expert, and stakeholder engagement.

3.2.3 Consultation during EIS exhibition

The EIS was placed on public exhibition from 14 September 2022 to 26 October 2022. During the exhibition period, government agencies, key stakeholders (including interest groups and organisations), and the community were invited to make written submissions. A summary of the engagement activities with and tools used to encourage community and key stakeholders participation during the exhibition period is provided in Table 3-3.

TABLE 3-3 ENGAGEMENT UNDERTAKEN DURING THE I2S EIS EXHIBITION

Activity	Detail
Website updates	▸ The Inland Rail Program website was updated advising of the public release of the EIS for review and welcoming of submissions. This update included links to the EIS (hosted on the Major Projects website), the process for formal submission, and information related to planned consultation activities.
Emails to key stakeholders	▸ An email was sent to key stakeholders, elected representatives, local councils, directly and indirectly impacted landowners, advising of the EIS exhibition, ongoing consultation activities and formal submission process.
Advertisements	▸ Advertisements were placed in the following local papers from 5 – 15 September 2022 to provide information about exhibition of the EIS, display locations and information sessions: – Wagga Wagga Daily Advertiser – Temora Independent – Junee Independent
Briefings	▸ Briefings were offered to Junee, Cootamundra-Gundagai and Temora councils and elected representatives.
Community e-news	▸ A community e-newsletter was sent to the I2S stakeholder mailing list on 14 September 2022. This comprehensive database includes contact details of affected landowners, interested community members and business groups. The e-newsletter provided an overview of the EIS and exhibition process, where to find more information, and the process on how to make a formal submission to DPE.
Community Drop-in Sessions	▸ Three Community Drop-In Sessions were held during the public exhibition period in from 19 – 21 September 2022 across the I2S alignment by Inland Rail to provide interested stakeholders an opportunity to access further information, Summary of Findings documents and to receive guidance on how to make submissions to DPE. Community information sessions were held at: – Junee Library, 92 Lorne St, Junee NSW 2663 – Ellwood Hall, Stockinbingal, 32 Martin St, Stockinbingal NSW 2725 – Cootamundra Library, 61-71 Wallendoon St, Cootamundra NSW 2590 – There were approximately 40 attendees across these sessions.
Static displays	▸ The EIS (via USBs) and the EIS 'Summary of Findings' document was made available to the public at the following locations: – Junee Library, 92 Lorne St, Junee NSW 2663 – Cootamundra Library, 61-71 Wallendoon St, Cootamundra NSW 2590

Activity	Detail
Summary of Findings	▸ A condensed version of the EIS, known as the Summary of Findings, was produced to aid in communicating the main topics addressed in the EIS to members of the public. ▸ This was distributed to 23 directly impacted landowners. ▸ Available for pick up by the community at Junee and Cootamundra Libraries. ▸ Linked on the I2S website.
Podcast	▸ An audio podcast was released with six episode covering area of the EIS that were of key interest to stakeholders. Each episode was 7 – 11 minutes long and hosted on the Inland Rail website as well as other podcast streaming services.
USBs containing the EIS	▸ USBs with the EIS were delivered to all affected landowners, elected representatives, CCC members, council members, members of community that registered interest and provided to local councils and libraries for use at the static displays. ▸ The USBs were also given out during the community drop-in sessions.
Social media	▸ Social media channels (such as Facebook, Twitter, and LinkedIn) provided an effective means to engage in a targeted manner with key stakeholders. Social media channels were used to advise of the public release of the EIS, including the process for formal submissions, and provide information on planned consultation activities.
Phone and email	▸ Community engagement contact details (phone and email) were published on all advertising. This included the community engagement hotline (1800 732 761) and email inlandrailnsw@artc.com.au.
Fact sheet	▸ A fact sheet on the assessment process for major projects in NSW, which included information on how to make a submission, was made available on the Inland Rail Program website; included at community drop-in sessions and emailed, as requested, to interested community members.

3.2.4 Consultation since EIS exhibition

Following the I2S EIS exhibition consultation continued with all stakeholder groups. During this period the engagement with directly impacted landowners involved property adjustment planning and valuation for acquisition purposes as well as the additional assessments undertaken including additional geotechnical investigations, survey for flood modelling, Erosion Threshold Velocity calculations, and flora/fauna surveys. Other engagement included follow up with key stakeholders relating to their submissions to the EIS and subsequent development and review of the draft responses.

The engagement during this period to date is summarised below in Table 3-4.

TABLE 3-4 ENGAGEMENT UNDERTAKEN AFTER THE I2S EIS EXHIBITION

Activity	Detail
Website updates	The website has been updated during this period to maintain contemporary information.
Interactive mapping / Social Pinpoint	The interactive mapping was made available again for review and comment after the EIS exhibition period concluded. 3 comments or enquiries were raised and responded to during this period (October 2022 to November 2023). The mapping of predicted operational noise levels has also continued to be available for public review. Refer to **https://maps.inlandrail.com.au/i2s#/**
Refinement of the proposal site	Engagement occurred with all 21 impacted private landowners, Crown Lands and the 2 councils, where the proposal site was expanded, reduced or altered. There are no new landowners impacted by the refinement of the proposal site and 3 landowners no longer have land impacted. The revisions resulted in a net reduction in area. Broader engagement was deemed unnecessary pending the publication of the detail in the Response to Submissions report. Refer to Section 4.1 and Appendix L of the Response to Submissions report for further details.
Updated flooding and hydrology assessment	Engagement occurred with 1 directly impacted private landowner and the 2 councils relevant to the updated flooding and hydrology assessment.
Field investigations	Land Access Agreements were renewed with 18 private landowners and further field investigations conducted on twelve properties during this period. Investigations included hydrology, geotechnical, erosion threshold velocity, and flora/fauna. Cadastral survey was conducted on all directly impacted property.

Activity	Detail
Engagement with directly impacted landowners	The Inland Rail Property and Stakeholder Engagement teams have engaged with all landowners and/or their agents throughout the period since EIS exhibition. The engagement has focussed on property acquisition negotiation including the development of property adjustment plans and refinement of acquisition plans relating to the refinement of the proposal site.
Updates to Registered Aboriginal Parties (RAPs)	A project update letter was sent to the RAPs in April 2023. This letter outlined that the EIS was placed on exhibition and that a Response to Submissions Report was being prepared. No responses to the letter were received. An information letter was sent to the RAPs in May 2023 to provide an update on the EIS status.
Supplier capability development program	Inland Rail's supplier capability development program was rolled out to the regional business community in June 2023.
Industry engagement	Local businesses were invited to "Meet the shortlisted contractors" events in March 2023. 91 participants attended sessions in Junee and Cootamundra.
Public Authorities meetings concerning Response to Submissions	Meetings occurred with the following public authorities: Junee Shire Council: ▸ since exhibition to the submission of the Response to Submissions report, Inland Rail has met with Junee Shire Council on several occasions. The purpose of these meetings varied and included update on hydrology and flooding modelling and results, review of draft responses to Council EIS submission and updates to the Master Inland Rail Development Agreement (MIRDA). The MIRDA is a third-party agreement between Inland Rail and Council outlining delivery of works, protection of infrastructure, design review and handback of returned works. Cootamundra-Gundagai Regional Council: ▸ met with Council on numerous occasions to provide project updates which included updates to the MIRDA agreement, review draft response to submissions, road acquisition and updated hydrology and flooding modelling and results. Goldenfields Water County Council: ▸ Met with Goldenfields Water after the EIS exhibition to discuss submission on EIS and draft responses. This meeting went into the details of the temporary workforce accommodation water supply, existing water reservoir, access, construction water and relocations of existing infrastructure.
Community Consultative Committee	The I2S Community Consultative Committee met in October 2023 where ARTC provided an update on the response to submissions, including an overview of additional assessments undertaken since EIS exhibition.
Community e-news	A quarterly e-newsletter has been sent to the I2S stakeholder mailing list. This list includes affected landowners, interest community members and business groups. The content of the newsletter changes per quarter and includes an update on the status of the I2S project, including outlining the actions involved in the preparation of this Response to Submissions Report and project refinements. Since the EIS exhibition there has been 3 newsletters distributed.
Community events	The following events have been attended since the EIS exhibition: ▸ Henty Machinery Field Days, Henty NSW 2658 (September 2023) ▸ Ellwood Hall, 32 Martin St, Stockinbingal NSW 2725, heritage room refurbishment opening
Social media	Continued use of social media channels (such as Facebook, Twitter, and LinkedIn)
Phone and email	Community engagement contact details (phone and email) have been published on all advertising, the project website, and notifications during this period. The community engagement hotline (1800 732 761) and email inlandrailnsw@artc.com.au continues to be available and six (6) contacts have been made using this engagement portal during this period.
Fact sheet	The project fact sheet was last updated in August 2023 and is available from the website and at events.

3.2.5 Planned engagement to be undertaken for the Response to Submissions report

The engagement planned to coincide with the publication by DPE of the I2S EIS Response to Submissions report is summarised in Table 3-5 below.

TABLE 3-5 PLANNED CONSULTATION TO BE UNDERTAKEN FOR THE RESPONSE TO SUBMISSIONS

Activity	Detail
Website updates	The Inland Rail Program website will be updated advising of the public release of the Response to Submissions. This update will include links to the Response to Submissions (hosted on the Major Projects website).

Activity	Detail
Emails to key stakeholders	An email will be sent to key stakeholder, elected representatives, local councils, directly and indirectly impacted landowners, advising them that the Response to Submissions document is available for viewing on the Major Projects website.
Advertisements	Advertisements will be places in the following local papers to advertise the availability of the report: ▸ Wagga Wagga Daily Advertiser ▸ Temora Independent ▸ Junee Independent ▸ Cootamundra Herald
Community e-news	A community e-newsletter will be sent to the I2S stakeholder mailing list. This comprehensive database includes contact details of affected landowners, interested community members and business groups. The e-newsletter will provide a link to the Major Projects website hosting the Response to Submissions.
Factsheet	A factsheet will be produced to describe the structure of the report, what additional assessment has been undertaken and where to find the report.
Social media	Social media channels (such as Facebook, Twitter, and LinkedIn) will provide an effective means to provide awareness to community the availability of the report.
Social PinPoint	The I2S interactive Social PinPoint map will continue to available on the website for community to enquiries. Refer to **maps.inlandrail.com.au/i2s#/**
Phone and email	Community engagement contact details (phone and email) will be published on all advertising. This included the community engagement hotline (1800 732 761) and email inlandrailnsw@artc.com.au.

3.2.6 Future engagement

3.2.6.1 Consultation during design and delivery of the proposal

Comprehensive and appropriate communication and consultation with the community and other key stakeholders will play a key role in managing the potential for impacts during detailed design, construction and operation. Effective communication and engagement are fundamental to reducing risk and minimising potential impacts. Identifying, engaging and effectively communicating with stakeholders is critical to the successful delivery of the proposal.

Inland Rail would continue to engage with stakeholders and the community in the lead up to, and during, construction. A Communication and Engagement Strategy would be developed for the construction phase to ensure that:

- key stakeholders, including directly impacted landowners are provided opportunities for input to the design and construction planning, where appropriate
- enquiries and complaints are managed, and a timely response is provided for concerns raised
- there is a procedure and mechanism in place to resolve and mediate disputes in relation to construction and impact to property infrastructure.

Targeted consultation methods, such as letters, notifications, signage and face-to-face communications, would continue to be used. The Inland Rail website and social media platforms would also include updates on the progress of the proposal.

Other communication tools and activities that would be used in the lead up to and during construction include:

- a community complaints and response management system (see section 3.2.6.2)
- notifications regarding work outside standard working hours and work that might impact residents, businesses and stakeholders
- email and SMS updates
- newsletters, information brochures and fact sheets
- regular community updates on the progress of the construction program
- meetings with key stakeholders, as needed
- traffic alerts
- site signage around construction facilities.

3.2.6.2 Complaints management

A complaints management system would be developed and implemented before construction begins. This system would be maintained throughout the construction period and for a minimum of 12 months after construction finishes.

The complaints management system would include the following as a minimum:

- a 24-hour, 7 days a week response line for complaints and enquiries
- a postal and email address to send complaints and enquiries to
- publication of contact details in local newspapers and the proposal's webpage
- management of complaints in accordance with Inland Rail's complaints management procedure and the conditions of approval for the proposal, including:
  - steps to receive, manage and take appropriate action in relation to community enquiries and complaints
  - verbal and written responses describing what action will be taken provided to the complainant within agreed time limits
  - a complaints register to record all enquiries, complaints and contact with community members and stakeholders
- a system for managing unresolved complaints including opportunities for mediation
- reporting requirements in accordance with the conditions of approval.

3.3 Updated assessment reports

There are number of technical assessments that were further refined or clarified since public exhibition of the EIS. These assessments were updated to assist with considering and responding to issues raised by stakeholders, and in submissions.

The updated or clarified technical assessments are:

- updated flooding and hydrology assessment report (Appendix D)
- updated biodiversity development assessment report (Appendix E)
- additional construction noise and vibration assessment (Appendix F)
- Aboriginal cultural heritage clarification (Appendix G)
- supplementary landscape character and visual impact assessment (Appendix I)
- land use conflict risk assessment—workforce accommodation camp (Appendix J)
- updated proposal site impact assessment (Appendix L).

A summary of the scope of these updated assessments is provided below. The findings of the updated assessments were incorporated (where relevant) into the responses provided in chapters 4 and 5 of this report.

3.3.1 Updated hydrology technical report

The Hydrology and Flooding Impact Assessment (Technical Paper 4 of the EIS) assessed the hydrology, flooding and surface water aspects of the environment in which the proposal will interact with. The report has been updated to address issues raised in the public and agency submissions made in response to the EIS, such as:

- compliance with the intentions of the *Stockinbingal Floodplain Risk Management Study and Plan* (2002)
- ensure the recent changes to the hydraulic structural design as modelled are incorporated into the reference design amendments
- confirmation of the proposed quantitative design limits (QDL) for the proposal
- impacts and mitigation measures during construction
- inclusion of appropriate reference documents and government guidelines.

A summary of the key changes and outcomes presented in the updated Technical Paper 4 are outlined below.

The flood models have been updated following adequacy review, which was completed in November 2022. The 2023 updates included refining the flood model grid, and inclusion of additional survey of creeks and levees in the vicinity of Stockinbingal, further stakeholder engagement, and updates to the hydraulic structures including the detention basin, to minimise impacts of the proposal.

The updated flood modelling and related design refinements has resulted in reductions in predicted impacts of the proposal for the urban areas of Stockinbingal and there are no exceedances of afflux QDLs for buildings. Overall,

the proposal is predicted to have only localised impacts to flood behaviour, hydrology and geomorphic conditions. These impacts have been minimised and mitigated through the design.

Overbridges will allow for fish passage, with round piers to minimise hydraulic disturbance and geomorphic changes to the channels. Culverts have been located to maintain existing overland flow paths, and will incorporate scour protection measures to manage the transition of flow into and out of the drainage structures. Construction work will generally be located away from flood-prone areas. Where this is not possible in the Dudauman Creek floodplain, works will be appropriately managed to minimise risks to the environment. The proposal will not significantly change the existing flood behaviour for the land around the proposal nor will it impact the use of the land and surface water resources around the proposal.

Additional mitigation measures have been proposed, including:

- a geotechnical investigation and design of new and existing structures on the floodplain at Stockinbingal to minimise the risk of rail formation failure; during a flood event
- Implementation of a geomorphology monitoring program in accordance with the soil and water management plan, to help identify any early stages of erosion and scour

The updated report is provided in Appendix D. The report includes discussions regards development and assessment of the updated hydraulic model, and information to address the matters listed above.

3.3.2 Updated Biodiversity Development Assessment Report

The Biodiversity Development Assessment Report (BDAR) (EIS Technical Report 1) has been updated with the revised proposal site, and in response to feedback from DPE Biodiversity Conservation and Science Directorate (BCD), with:

- additional survey, updated methodology and results
- updated classification of vegetation zones
- inclusion of a Connectivity Strategy including revised mitigation measures
- recalculation of credit obligation

An explanation of the updates to the BDAR is provided below.

Revised proposal site

The BDAR has been updated to assess impacts of the revised proposal site. The revision of the proposal site was undertaken to reduce native vegetation impacts (including impacts on SAII entities); to respond to stakeholder feedback; and to incorporate design refinements. Refer to Appendix L for further details on the revised proposal site.

Additional survey, updated methodology and results

Further survey was undertaken to address previous survey gaps and limitations, including:

- gathering survey data including outside of dry conditions to supplement existing data which was undertaken in below average rainfall conditions
- applying dry benchmarks in BAM-C to adjust vegetation integrity scores for data collected during below average rainfall conditions
- access to previously inaccessible properties
- survey covering new areas where design optimisation had resulted in impacts outside of previously assessed areas
- targeted threatened species surveys, including for the Key's Matchstick Grasshopper (*Keyacris scurra*), golden sun moth (*Synemon plana*), Glossy-black Cockatoo (*Calyptorhynchus lathami),* flora and breeding habitat for threatened bird species.

The report was also updated to present information on survey techniques and data recorded, this has been included in Section 3 of the updated BDAR. These additions include:

- clarification and expansion on the discussion of the survey methodology
- presentation of survey effort and tracks for all target species survey
- updates to the candidate and predicted species considered and removal of excluded species based on survey results (White Fronted Chat, Black Falcon and Glossy Black Cockatoo)
- updated species polygons based on survey results and assumption of presence of flora in unsurveyed areas.

Updated classification of vegetation zones

Comments in the BCD submission raised concerns regarding the vegetation assessment and how the results were presented. The issues were reviewed by subject matter experts, and additional discussion and clarification has been provided within the updated report. The BDAR has now been amended as follows:

- reassessment and reclassification of scattered trees
- refined vegetation zone mapping—revised classification of native plantings and justifications for Plant Community Types identified within the study area, including derived native grasslands Plant Community Types which had previously been excluded due to their condition and vegetation integrity
- updated map figures and the addition of detailed information on the vegetation integrity (VI) plots
- threatened ecological communities and SAII entities were reviewed and updated to include poor condition areas
- updated list of 11 species of high-threat weeds with the potential to indirectly impact the proposal.

A summary of the change in impacts identified within the updated BDAR is presented in Table 3-6.

Connectivity strategy

A draft fauna connectivity strategy has been provided as attachment L to the updated BDAR. The strategy details the current habitat connectivity features and; identification of impacts; species requiring mitigation; measures to minimise connectivity impacts, types of connectivity structures and their general locations; and outlines an approach to monitoring. The strategy outlines monitoring and reporting requirements in relation to the operational performance of the final measures. In addition, the strategy identifies the risk and consequence of mitigation failure.

Recalculation of credit obligation

The offset credits for each species and threatened ecological community were re-calculated to be in accordance with the updated Biodiversity Assessment Method Calculator (BAM-C) requirements (March 2023); to take into consideration DPE drought benchmarks and to include results of all additional survey undertaken since EIS exhibition.

A summary of the recalculated native vegetation impacts is presented in Table 3-6.

TABLE 3-6 CHANGE IN IMPACTS TO NATIVE VEGETATION

Impact type	Impacts in exhibited BDAR (hectares)	Final impacts, following proposal site revision (hectares)
Native vegetation	72.93	77.17
Threated ecological communities	43.43	69.31
Serious and Irreversible Impact (SAII) entity, *White Box Yellow Box Blakely's Red Gum Woodland*	19.93	38.98

The credit obligation for the proposal will require:

- 1,982 ecosystem credits for PCTs
- 53 ecosystem credits for scattered trees
- 3,460 fauna species credits
- 2,617 flora species credits based on assumed presence in unsurveyed areas.

The assessment found that there were no credit requirement for prescribed impacts as the residual impact was negligible. Section 7, section 9.2 and section 10.3, of the updated BDAR, present the assessment of prescribed impacts. This is primarily driven by the agricultural nature of the surrounding area and application of the avoid, minimise and mitigate hierarchy.

The updated BDAR is provided in Appendix D of this report.

3.3.3 Additional noise and vibration assessment

The construction noise and vibration impact assessment report (EIS Technical Paper 8) assessed the potential impacts of constructing the proposal. Additional noise and vibration information has been provided in Appendix F in response to submissions from the Environment Protection Authority (EPA) and DPE. The additional information in Appendix F clarifies the:

- inclusion of the relative increase criteria for construction traffic noise impacts in line with *NSW Road Noise Policy* (Department of Environment, Climate Change and Water (DECCW), 2011)
- operational noise modelling methodology.

An amended noise assessment was also included to consider the potential impact of the changes to the proposal site (refer to Appendix L) on predicted levels of noise and vibration.

A summary of the outcome of these updates is below.

Relative increase criterion

The EPA requested that the Relative Increase Criterion (RIC) be included for the consideration of construction road traffic noise; therefore, updated road traffic noise predictions were completed. The consideration of RIC road noise criteria has increased the number of predicted property exceedances from along one proposed haulage route to three. Previously, potential exceedances were predicted for properties along Troy Street only, whereas exceedances of construction NML have now also been predicted for properties along Ironbong Road, Junee Reef Road and Retreat Road during daytime only. It should be noted that ARTC no longer proposes to use Troy Street as a detour during construction and, therefore, these exceedances no longer occur.

Operational noise modelling methodology

In their review, DPE raised concerns about the use of the Calculation of Road Traffic Noise (CoRTN) modelling algorithm to predict potential changes to operational road noise. In response, ARTC has undertaken additional noise and vibration assessment against three new modelling algorithms.

The results demonstrate that base levels of predicted road noise are largely similar at areas close to the road alignment under all four modelling algorithms, however, predicted noise impacts decrease more rapidly with increasing distances for the three alternative algorithms. No changes in the receivers qualifying for operational road noise mitigation was noted under the alternative prediction algorithms.

Noise assessments of the revised proposal site

The amended noise assessment adopted two methods for determining the noise impact as a result of the changes to the proposal site. Where the revised proposal site moved:

- less than 70 m from the original proposal site (outlined in the EIS) a subjective noise assessment was followed. This was on the basis that the change in noise levels was anticipated to be less than 2 dB. Noise levels less than 2 dB are not discernible to the human ear
- More than 70 m from the original proposal site (outlined in the EIS) potential noise impacts were modelled.

There are three locations where the updated proposal site is moving substantially closer to a noise sensitive receiver. These locations are new compound locations at Stockinbingal, Ironbong Road and Eulomo Settlement Road. The results indicate:

- At the Stockinbingal site, an overall increase in noise level is expected for the closest receivers. The increase is mostly considered minor, except for one receiver located approximately 80m from the revised proposal site. Despite the small margin of increase in potential noise levels, several work stages may now exceed criteria during out-of-hours-work (OOHW) periods where no exceedance was previously predicted.
- At the Ironbong Road site, a moderate increase to noise levels is predicted for two residential receivers near the new location. Both receivers are now predicted to exceed their Noise Management Levels (NMLs) across most work stages. Previous exceedances were predicted during work stage 3 only.
- At the Eulomo Settlement Road site, an overall minor increase to noise levels is predicted for the residential receiver near the new location. This receiver is now predicted to exceed their NMLs across all work stages. Previous exceedances were predicted during work stages 1, 2, and 3a only. Additionally, exceedances may now occur during daytime works for two construction scenarios.

For all other locations where changes to the proposal site are less than 70m and typically in the order of 30m . These differences typically will result in an increase (or decrease) in noise in the order of 1-2 dB . Because of the sparsity of receivers and linear nature of the proposal site, the impact on a majority of the receivers outside of the Stockinbingal area would be unchanged from the CNVIA.

3.3.4 Aboriginal cultural heritage clarification

The Aboriginal cultural heritage report (Technical Paper 7 of the EIS) assessed the potential impacts from construction and operation of the proposal. Heritage NSW requested additional information and mapping of the areas subject to survey be updated as per Requirement 5 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010). This revised Aboriginal cultural heritage report is provided in Appendix G. No changes to the mitigation measures are required as a result of the additional information.

An updated search of the Aboriginal heritage information management system (AHIMS) was conducted (4 January 2023—Client Service ID: 743187 and 743188) and resulted in two additional sites being located outside the study area—50-5-0291 (scarred tree) and 50-5-0289 (artefact).

An updated Native Title Applications, Registration, Decision and Determinations search was completed for the following shire council areas:

- Cootamundra-Gundagai Regional Council, where five search results were returned
- Junee Shire Council, where one search result was returned.

All six results were recorded on the National Native Title Tribunal registry as being either discontinued or dismissed. Additionally, each case was located outside of the study area.

Survey track logs with more detailed mapping of the areas are provided in Appendix G. The AHIMS search results are provided in Appendix G.

An assessment of the impacts on Aboriginal and non-Aboriginal heritage associated with the change in proposal site is included in Appendix L.

3.3.5 Landscape Character Visual Impact Assessment Memo

A supplementary Landscape Character Visual Impact Assessment (LCVIA) has been prepared to provide a greater understanding of the potential visual impacts associated with the proposal. This was undertaken to address submission from the community and government agencies.

The supplementary LCVIA updated aspects of the previous assessment, including updated photomontages and impact ratings for viewpoint 2,3,4,8 & 10. In addition, the photomontages for viewpoint 6 and 11 have been updated to include visualisation of the train and proposed mitigation measures.

The supplementary LCVIA also includes photomontages of the temporary workforce accommodation camp and the proposed mitigation measures to understand the potential visual impact of the camp. It was assessed that mitigation measures provide in the EIS would be adequately manage visual impacts associated to the camp.

An additional assessment is also provided on the potential for residential receivers to be impacted by vehicle head lights travelling eastbound along the proposed realigned Burley Griffin Way. The light spill associated to the eastbound vehicles traveling along the realigned Burley Griffin Way was assessed as having a negligible impact on existing receivers following the implementation of the proposed mitigation measure LV-2.

The supplementary LCVIA is presented in Appendix I.

3.3.6 Land use conflict risk assessment

A land use conflict risk assessment (LUCRA) in accordance with *Land Use Conflict Risk Assessment Guide* (DPI, 2011), was prepared to assess the potential impacts of the temporary accommodation camp on surrounding land use, and to provide mitigation of potential impacts. The LUCRA was undertaken to address comments from the Department of Primary Industries - Agriculture.

The LUCRA identified that there is potential for conflicts associated with accommodation and agricultural activities, bushfire risk, traffic associated with residents of the temporary accommodation camp, agricultural traffic and air quality issues associated with dust being produced by agricultural activities. Mitigation measure SE-3, from the EIS, has been revised to ensure the Social Impact Management Plan (SIMP) includes measures to educate the construction workforce on safety matters, including driving on rural roads and measures to manage fire risk at the temporary workforce. Additionally, the construction traffic, transport and access management plan (T-5) and the code of conduct for workers (ASE-1) would complement the SIMP provisions around road safety. These revised mitigation measures and existing measures from the EIS will minimise the potential for land use conflict to occur. The LUCRA is provided in Appendix J.

3.3.7 Impact assessment of revised proposal site revisions

ARTC has proposed refinements to the proposal site since public exhibition of the EIS. The proposal site refers to the area used for the construction and operation of the proposal. Revisions to the proposal site have been made primarily to reduce impacts, to respond to refinement of the infrastructure design, submissions received on the proposal and consultation with landowners. Appendix L provides a detailed assessment of the proposed revisions,

justification for the revisions and an assessment of the potential change in impacts associated to the revised Proposal Site.

Revisions to the proposal site aim to:

- reduce impacts to native vegetation including impacts to Serious and Irreversible Impact (SAII) entities
- improve access and remove restriction on farming operations during both construction and operation of the proposal
- relocate infrastructure onto land that has since been acquired by ARTC
- accommodate design refinements
- respond to stakeholder feedback
- respond to safety considerations
- mitigate conflicts with utilities and improve tie-ins with existing and planned infrastructure (including known works by other entities).

The refined proposal site has changed the impacts associated with the proposal. This assessment has found the following:

- the revised proposal site has reduced the proposal area by 31.12 ha across the proposal alignment, improving access and removing restriction on farming operations
- impacts to native plant community types have been reduced by 17.46 ha
- impacts to SAII entities have been reduced by 4.21 ha
- impacts to landowners have been reduced by relocation of proposal components at the request of landowners to improve access and reduce impacts on agricultural land. One proposal component will now be located on land owned by ARTC rather than on private land
- increase of predicted noise levels at five sensitive receivers.

This assessment has determined that the existing revised mitigation measures presented in the RtS will adequately manage environmental impacts associated with the revised proposal site.

4. NSW Government department or agency advice

4.1 Heritage NSW—non-Aboriginal heritage

4.1.1 Heritage listings

Issue

The subject site is not listed on the State Heritage Register (SHR), and no SHR items are in the immediate vicinity of the project area. The site does not contain any known historical archaeological relics. Heritage NSW advises that no further heritage comments are required. The Department of Planning and Environment does not need to refer subsequent stages of this proposal to Heritage NSW.

Response

ARTC acknowledges the advice from Heritage NSW.

4.1.2 Mitigation and management of impacts—non-Aboriginal heritage

Issue

The proposal impacts one item listed in the Section 170 register and two locally listed items. There are also several locally listed items which lie in the immediate vicinity of the proposed site area. It is recommended that the relevant state agency and local councils are consulted for advice related to the impact and mitigation measures for these items.

Response

The Stockinbingal Public School, which is listed on the NSW Department of Education Section 170 listing (5064338), is not within or near the proposal site and will not be impacted.

ARTC agrees that engagement with the local council and relevant state agencies should continue regarding the mitigation measures for the protection of the two locally listed items (the Stockinbingal Railway Station and Stockinbingal Heritage Conservation Area area).

A new mitigation measure has been added to the table of updated mitigation measures (please refer to Appendix B of this Submissions Report.). The mitigation measure NAH – 2 states: '*During the detailed design and construction planning phase ARTC will continue engagement with Heritage NSW and relevant local councils to ensure impacts on non-Aboriginal heritage assets are minimised and mitigated*.'

4.2 Heritage NSW—Aboriginal cultural heritage

4.2.1 Aboriginal Cultural Heritage Assessment Report

Issue

The Aboriginal Heritage Information Management System (AHIMS) search is older than 12 months at the time of submission. Heritage NSW requires, as per Requirement 1b of the Code of Practice, that AHIMS searches are contemporaneous with the project. We request that AHIMS searches older than 12 months must be updated. Please update the AHIMS search.

Response

An updated AHIMS search was undertaken on 4 January 2023 (Client Service ID: 743187 and 743188). The results are listed in Appendix G of this Submissions Report. Updated results show two new sites recorded within the search area since the EIS study was undertaken. New sites are:

1. 50-5-0291 (ARTC21)—a scarred tree recorded on Burley Griffin Way at Stockinbingal approximately 80 m east of the proposal site
2. 50-5-0289—an isolated artefact recorded in the Bethungra Ranges approximately 10 km from the proposal site.

Mapped locations are included in Appendix G of this Submissions Report.

Mitigation measures for scarred tree ARTC21 are detailed in mitigation measure AH-7. No impact is anticipated on the other newly recorded site, given its location.

Issue

Additional documentation of the consultation process is requested. The applicant needs to provide evidence that consultation was kept continuous as the last consultation recorded in the Aboriginal Cultural Heritage Assessment Report (ACHAR) is dated July 2021. Heritage NSW requires that consultation with Registered Aboriginal Parties (RAPs) is continuous. Under our guidelines, breaks in consultation of over six months may not constitute continuous consultation. If an unexpected break of greater than six months has occurred, the applicant may be required to restart the consultation process.

Response

A detailed consultation log (including further information about the consultation process) is provided in ACHAR Appendix C—Consultation Log. ARTC recognises that there are gaps of greater than six months in consultation with the RAPs.

Consultation beyond July 2021 has included:

- a proposal update letter to the RAPs in June 2022, to inform the RAPs of the proposed workforce accommodation camp, which was added to the EIS during EIS adequacy review
- a proposal update letter was sent to RAPs on 26 April 2023 outlining that the EIS was placed on public exhibition and that a Response to Submissions Report was being prepared. No responses to the RAP letter were received
- an information letter was sent to the RAPs in May 2023 to inform of the status of the EIS. No responses to the RAP letter were received.

Consultation on the changes to the proposal site was not considered warranted as the changes are all in areas that were not nominated for assessment in the EIS. The added area at Stockinbingal is close to an AHIMS scarred tree (ARTC 19). Mitigation measure AH-7 includes a requirement for demarcation of scarred trees with high-visibility fencing as far as practicable to avoid accidental impact during construction impacts. This measure is considered to provide appropriate protection for the tree.

4.2.2 Survey and test excavation

Issue

The ACHAR states that surface artefacts were collected during the test excavation program. As per Requirement 18a of the Code of Practice, an Aboriginal object should only be removed during test excavation if it is located on or in a test unit. Any other Aboriginal objects removed without prior consent from Heritage NSW may be in breach of the *National Parks and Wildlife Act 1974* (NSW). Please provide additional information on the collection of these artefacts.

Response

ARTC is actively working with Heritage NSW to review works associated with the collection of surface artefacts during the test excavation program in 2019. ARTC can confirm that all surface artefacts collected in 2019 are securely held and will be repatriated at the completion of construction, subject to RAPs consultation and the relevant landowner's consent, in line with the repatriation process prepared as part of the Aboriginal Cultural Heritage Management Plan (AH-9).

Issue

Heritage NSW recommends that a complete archaeological assessment is conducted to better inform the EIS. An adequate and complete assessment, including archaeological survey and subsurface testing is needed to demonstrate that any cultural values associated with the project were adequately assessed.

Large tracts of the project area, including areas of archaeological sensitivity (zones 5, 6, 9, and 10), have not been subject to survey. While the predictive model argues that Aboriginal cultural heritage should be concentrated around the margins of watercourses, the survey and AHIMS data indicate that there are several sites, including scarred trees, artefacts, and a grindstone, outside of these zones. Additionally, there are large paddocks in the vicinity of watercourses between zones 10 and 11, and near zone 5 that were not subject to survey.

Response

ARTC acknowledges Heritage NSW's concerns. Except for item ARTC18 (50-5-0286) all other sites and artefacts are within 500 m of a water course or drainage line; these are as follows:

- zone 1—all artefacts are within 90 m of the creek line
- zone 2—all artefacts are within 15 m of the creek

- zone 4—the site (ARTC8/50-5-0284) was 718 m from a creek; however, the test excavation revealed a former buried stream channel in the area. The result of this is that at some point in time these artefacts were close to a creek line—within 50 m
- zone 7—artefacts ranged from 100–475 m from Ironbong Creek
- zone 11—all artefacts are within 110 m of Dudauman Creek
- two AHIMS sites to the west of the proposal along Run Boundary Creek within 50 m of the creek line
- twelve recorded sites (scarred trees and artefacts) to the west of the proposal within 450 m of Billabong Creek/Ulandra Creek
- a group of 9 recorded sites to the south of the Olympic Highway, which are within 200 m of Billabong Creek and one of its tributaries
- a group of 12 sites to the east of the proposal around Bethungra that range from 200 m to 1400 m from Ulandra Creek. Whether this is the closest source of water for these sites has not been established by field survey.

The assessment, survey and test excavation methodologies are set out in detail in Sections 3 and 5 of the ACHAR. The methodology for the survey includes a justified approach to predictive modelling and survey sampling. Zone 11 was surveyed, and test excavated. Areas not subject to survey were due to lack of access (zones 5, 6, 9 and 10). This limitation has been noted in the ACHAR in Section 5.2.3.6.

Mitigation measures AH-3 and AH-4 account for the requirement to return to these areas for future assessment, including a revision of AH-3 to include reference to zones 9 and 10:

- AH-3 Management of salvaged items: Archaeological survey and test excavation (if required) would be performed prior to the commencement of impact works at zone 5, 6, 9 and 10 to confirm the precise nature and extent of the archaeological resource and to inform the selection of the applicable mitigation measures.
- AH-4 Management of salvaged items: Additional mitigation and management measures would be developed, in consultation with the registered Aboriginal parties, for areas or items of Aboriginal cultural heritage significance identified during the archaeological survey (mitigation measure AH-3). The additional measures would be included in the Aboriginal Cultural Heritage Management Plan (mitigation measure AH-9).

Issue

Heritage NSW has requested additional information and updated mapping of the areas subject to survey. As per Requirement 5 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010, please include the survey track logs and more detailed mapping of the areas subject to survey.

Response

ARTC acknowledges the request from Heritage NSW. Mapped GPS track logs are included in Appendix G of this Submissions Report.

Issue

Clarify whether the surveys and ACHAR have considered all ancillary elements of the project, including road grading, road widening, external fencing, internal road construction, and existing track to be decommissioned.

Response

ARTC confirms that the ACHAR has considered, and, where accessible, surveyed the proposal site as defined and shown in Figure 8.1 of the EIS. This consists of the area that would be directly impacted by the construction and operation of the proposal, including all ancillary elements.

Issue

Clarify if the surface artefact located between the test excavation areas in zone 11 relates to any of the four surrounding sites or if it is a new site. Please clarify if this artefact was subject to surface collection during the test excavations.

Response

ARTC confirms that the surface artefact in zone 11 was not part of the other sites surrounding it. It was an isolated artefact and was not collected during the test excavation work.

4.2.3 Scarred trees

Issue

The ACHAR has determined that three registered scarred trees were not culturally modified, however no supporting evidence was provided. Heritage NSW would like supporting evidence provided for this determination. Heritage NSW recommends that an arborist who specialises in Aboriginal cultural heritage assesses the anthropogenic nature of the scarred trees, and possible scarred trees, within and in proximity of the project area. A separate independent report should be compiled to address these concerns.

Response

The three registered scarred trees, two of which are shown in Figure 4-1 below, were reviewed with the Registered Aboriginal Parties (RAPs) on site. Each of the three trees has a broadly triangular shaped ground-level scar with a wide base. The shape is typically derived from fire damage and accords with descriptions from the *Aboriginal scarred trees in New South Wales: a field manual* (DEC and Andrew Long 2005). This is detailed further in Section 5.2.2.4 and Tables 6.1, 7.1 and 8.1 of the ACHAR.

Discussion was also held with the RAPs onsite regarding the identification of these scars and whether they were considered as cultural markers. The RAPs concluded that they were not culturally modified trees.

Nonetheless, noting Heritage NSW's comments regarding the scarred trees, mitigation measure AH-9 has been revised to include further investigation into the potential anthropogenic nature of scarred trees.

Scar on 50-5-0117

Scar on 50-5-0120

FIGURE 4-1 REGISTERED SCARRED TREES IDENTIFIED DURING ASSESSMENT

Issue

As per Requirement 23 of Code of Practice the recording of any new scarred trees found during survey must be consistent with *Aboriginal scarred trees in New South Wales, a field manual* (DEC and Andrew Long 2005). As such, Heritage NSW requests updated site information and higher resolution images are provided.

Response

The recordings of the new scarred trees, including high-resolution images, were provided to AHIMS and these were accepted as AHIMS ID #s 50-2-0058, 50-5-0286, and 50-5-0277.

4.2.4 Additional information and corrections

Issue

Provide additional information on the process and proposed impacts expected during the decommissioning of the existing rail track.

Response

ARTC acknowledges that the EIS proposes the decommissioning and removal of existing railway track; however, this will no longer take place as described in EIS section 8.8.3. ARTC confirms the redundant sections of the Stockinbingal to Parkes Line will cease operation. Abandoned rail track, ballast and formation will be kept in situ—no removal will take place within the proposal other than the disconnection of the old track at the tie in points of the new track. Consequently, the decommissioning of the existing trail track is not expected to result in any additional impacts to heritage places or items.

Issue

The ACHAR requires several editorial improvements to ensure that the data provided correctly represents the findings. These include, but are not limited to:

- Please clarify if the lithology of the artefacts in Figure 5.43 is quartz or fine-grained siliceous material
- Please clarify the artefact counts in Figures 5.55 and Figure 5.58.

Response

ARTC acknowledges the editorial errors within the ACHAR. Clarifications below:

- the caption for Figure 5.43 should read ‘Quartz material from Zone 1’ not ‘Fine-grained siliceous material’
- artefact counts in Figure 5.55 are correct but there is an error in the key requiring amendment. TP Artefact count ‘200’ should read ‘unexcavated’
- artefact counts in Figure 5.58 are correct and require no amendment.

4.2.5 Management and mitigation

Issue

Heritage NSW recommends that the ACHAR is revised to provide additional information of the proposed management and mitigation options for the conservation, protection, and salvage of Aboriginal cultural heritage across the project area. These include, but are not limited to:

1. Clarification on the areas that will be subject to salvage excavation
2. Details on the salvage excavation and surface collection methodologies
3. Protection measures for scarred trees located along access routes
4. Long-term protection and conservation of sites adjacent to the project area.

Response

The four points outlined by Heritage NSW above will be addressed within the ACHMP, as stipulated by mitigation measure AH-9—Protecting Aboriginal heritage and minimising impacts during construction. This mitigation measure states that an Aboriginal Cultural Heritage Management Plan (ACHMP) would be prepared prior to construction and implemented as part of the Construction Environmental Management Plan (CEMP). The plan would include measures to minimise the potential for impacts, and manage Aboriginal heritage, including:

- a salvage methodology (mitigation measure AH-2)
- an unexpected finds procedure (mitigation measure AH-11)
- plans and installation procedures for fencing and protective coverings
- induction package for construction workers and supervisors
- erosion and sediment controls in accordance with *Managing Urban Stormwater: Soils and construction – Volume 1* (Landcom, 2004) to minimise the potential for erosion impacts to Aboriginal sites located close to watercourses and drainage lines
- investigation of the anthropogenic nature of scarred trees within the project area by a specialist in Aboriginal cultural heritage
- measures to manage the potential for impacts to potential Aboriginal heritage items (including burial sites) located in sensitive landscapes (such as alluvium landscapes)

- measures to protect sites close to the proposal site from inadvertent impacts
- outcomes of further investigations (mitigation measures AH-3 and AH-5).
- A repatriation process for collected artefact.

The plan would be prepared in consultation with Registered Aboriginal Parties and the NSW Department of Planning and Environment.

4.3 NSW Department of Planning and Environment

4.3.1 Rehabilitation

Issue

DPE identified the term “agreed pre-existing’ in relation to rehabilitation of land to be conflicting, and for additional clarification of the term to be provided in the RtS.

Response

ARTC can confirm that ‘“agreed pre-existing”’ means that temporary construction areas will be rehabilitated to the same state as they were prior to construction, unless otherwise agreed with the relevant landowners.

4.4 NSW Department of Planning and Environment—Biodiversity Conservation and Science Directorate

4.4.1 Biodiversity

4.4.1.1 Native vegetation

Issue

BCD recommended review of vegetation zone and scattered tree mapping for accuracy. Specifically, this review involved:

- Revise vegetation zone mapping and streamlined assessment modules
- Provide specific detail about scattered trees where they were identified and assigned to species and size classes in areas with no access and discuss any issues/limitations in assigning those trees to a PCT and tree class
- Revise Figure 5.4 of the EIS to include vegetation zone boundaries to demonstrate that all native vegetation within the subject land, including scattered trees, has been assessed.

Response

ARTC recognises BCD’s concern. Vegetation zone and scattered tree mapping has been reviewed in detail, including checks to ensure that all scattered trees are mapped, including:

- planted native vegetation with locally occurring species are assigned to a PCT
- all areas of native vegetation are included in a vegetation zone
- planted vegetation within the study area was assigned to two separate types:
  - PCT 277—native plantings
  - miscellaneous ecosystem—ornamental plantings.

When applying these planted vegetation types, the decision-making key under Appendix D.1 of the BAM streamlined assessment module—*planted native vegetation* was applied.

For patches of planted vegetation that occurred containing a mosaic of planted and remnant native vegetation, these patches were assigned to most reasonably associated PCT being *PCT 277 – Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion*. This approach is consistent with the treatment of such planted vegetation in accordance with Appendix D.1 (1) of the BAM streamlined assessment module—planted native vegetation.

Figure 5.4 of the BDAR has been updated to include vegetation zone boundaries to demonstrate that all native vegetation within the subject land, including scattered trees, were assessed.

Updates to the BDAR addressing these points were undertaken in April 2023. This action resulted in an increase in the total area of native vegetation through the inclusion of the updated PCT assignments and integrity classifications. Following this, the project area was revised, in part to reduce impact to SAII, and included in the updated BDAR,

Revised mapping has been used for updated BAM calculations and associated reporting.

The updated BDAR is included as Appendix E to this report.

Issue

BCD was concerned about how vegetation zones and scattered trees were assigned in areas with no access. BCD requested further justification and information for PCTs identified including accessed and non-accessed land.

Response

While additional survey of previously inaccessible has been undertaken and included in the updated BDAR, some land was still inaccessible and unable to be surveyed. The process for assessing areas not accessible has been based on best available data and information, including existing vegetation mapping, aerial imagery, inspection from and of accessible areas, including extrapolation of vegetation mapping and condition data from nearby areas. Subject to approval of the proposal, these areas would be surveyed to confirm the PCT allocation once access to land is available. A precautionary approach was taken; scattered trees not surveyed were assigned to the highest category and vegetation zones were assigned to the highest condition being *Class 3 with hollows*.

ARTC recognises allocation of vegetation to PCTs is reliant on a range of features (including soil and topography). More detailed justification of allocation of PCT has been provided within the updated BDAR in Section 5.2, including use of BAM data and reference to State Vegetation Type Mapping.

Issue

BCD identified that plots should adequately sample vegetation variability across a vegetation zone and be in relative proximity to the vegetation zone. Specifically, BCD has requested:

- More detail about plot locations and justify the use of any that do not occur in the subject land.
- Update spatial data to include all VI plots used as per the numbering in the BDAR and provide an updated version of the data to BCD.

Response

VI plots were sampled across the study area following the BAM guidelines for the number of plots within each vegetation zone. Plots were located within accessible land.

While plot locations were placed within the centre of the footprint where possible, the footprint is long, narrow and linear and plots were located in areas representative of vegetation zones, and avoided areas on edges of vegetation zones. In some cases, this was not within the centre of the footprint. Refinement of alignment also resulted in some plots no longer being located within the centre of the alignment but in contiguous area of the same vegetation zone.

Additional detail has been included in the updated BDAR in section 3.2.4.3, to justify use of plot data that is outside the subject land and its equivalence to vegetation zones within the subject land.

Issue

BCD were concerned that BAM plot data collected during drought conditions resulted in low or no ecosystem credit obligations.

Response

ARTC acknowledges that the data was collected during drought conditions and that benchmark data used to compare conditions within the subject land affects the credit calculations.

DPE has developed drought benchmarks of all PCTs within the study area. These can be used to allow comparison of vegetation conditions recorded during surveys to conditions at benchmark sites during similar dry conditions. Drought benchmarks (outlined in Section 3.4.1) were used and credit obligations recalculated in the BAM calculator based on drought data. The revised credit obligations are provided in Section 13 of the revised BDAR (Appendix D) and throughout the BDAR.

The drought benchmarks used for calculations are:

- IBRA region: NSW South West Slopes:
  - PCT 76 < 361 mm benchmark
  - PCT 79 < 379 mm benchmark
  - PCT 80 < 361 mm benchmark

- PCT 266 < 480 mm benchmark
- PCT 276 < 480 mm benchmark
- PCT 277 < 480 mm benchmark
- PCT 309 < 462 mm benchmark
- PCT 347 < 480 mm benchmark.

Issue

BCD were concerned that areas with low VI scores in low condition were excluded and TECs identification were inaccurate.

Response

ARTC acknowledges that areas in poor condition (with low VI scores) can still constitute TECs, where other key characteristics are present, even though there would not be a credit obligation for these areas under the BAM. All condition states of relevant PCTs were identified as TEC in the updated BDAR when consistent with a TEC listing (Section 10.1.2 of the EIS). PCT 76 and PCT 80 were identified as consistent with Inland Grey Box EEC and PCTs 266, 276, 277 and 347 were identified as consistent with *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (Box Gum Woodland).

Issue

BCD identified that patch size for some vegetation zones requires review.

Response

Based on BCD's comments, the patch size has been reviewed and revised (Section 5.4 of the BDAR). Given the scale and linear nature of the proposal and that patch size varies for each vegetation area, a conservative approach has been applied to patch size for each vegetation zone. All PCTs in good, moderate, derived and native plantings were assigned to the >100 ha patch size class, while all PCTs recorded in poor condition were assigned to the 25-<100 ha patch size class.

Issue

BCD identified areas mapped as *Category 1 - exempt land* includes areas that are mapped on the traditional Native Vegetation Regulatory (NVR) map as *Category 2 - vulnerable regulated* map.

Response

Additional analysis of Category 1 land categorisation has been undertaken and all conflicting mapping of woody/non woody native vegetation was amended. This has been summarised in Section 5 of the BDAR (Appendix D of this document).

Issue

BCD were unclear where streamlined assessment was applied and what the outcomes were. Specifically, BCD has requested to:

- clarify where streamlined assessment modules were applied and include all outcomes in the BDAR
- prepare a spatial layer to identify the locations where the streamlined assessment module has been applied to planted native vegetation and include the outcomes for each planted vegetation patch according to Appendix D of the BAM
- provide evidence that areas of planted vegetation are not under existing conservation obligations, including a list of sources/databases accessed.

Response

To provide further information on the streamlined assessment, a spatial layer identifying the locations where the streamlined assessment module has been applied to planted native vegetation and outlined in the updated BDAR, Section 3.2.4.5.

Planted vegetation within the study area was assigned to two types:

1. PCT 277—native plantings
2. miscellaneous ecosystem—ornamental plantings.

When applying these planted vegetation types, the decision-making key under Appendix D.1 of the BAM streamlined assessment module—*planted native vegetation* was applied.

For patches of planted vegetation that occurred containing a mosaic of planted and remnant native vegetation these patches were assigned to most reasonably associated PCT being *PCT 277 - Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion*. This approach is consistent with the treatment of such planted vegetation in accordance with Appendix D.1 (1) of the BAM streamlined assessment module—planted native vegetation. These areas, totalling 3.14 ha, were included in a new vegetation zone (VZ 20 -277_planted).

The output from the *Streamlined Assessment Module - Scattered Trees* has been included in Appendix K of the updated BDAR. Mapping of where this applies is provided in Figure 5.4 of the BDAR.

ARTC can confirm that no areas of planted vegetation are mapped by the Biodiversity Conservation Trust as being under a conservation agreement.

4.4.1.2 Threatened species

Issue

BCD identified that the exclusion and addition of ecosystem credit species requires additional justification.

BCD has requested:

- additional justification for excluding the Glossy Black-Cockatoo
- additional justification for the addition of the White-fronted Chat to the main BAM-C case.
- clarification on the survey results for *Grevillea wilkinsonii* in the BDAR and re-instate it in BAM-C
- additional justification for excluding Golden Sun Moth and Large Bent-wing Bat.

Response

The BDAR has been updated to address this comment:

- the Glossy Black-Cockatoo is now included in the assessment. Targeted surveys for this species were undertaken, and are outlined in section 3.6 of the BDAR, but it was not recorded during surveys
- the White-fronted Chat has been included in the BAM calculator
- inclusion of *Grevillea wilkinsonii*. Species included in assessment and targeted surveys (outlined in section 3.3 of the BDAR), but not recorded during surveys
- inclusion of Golden Sun Moth. Species included in assessment and targeted surveys (outlined in section 3.4 of the BDAR) but not recorded during surveys
- additional discussion and mapping of human-made structures that were surveyed for bats, including Large Bent-wing Bat (section 3.4.4.3 of the BDAR). Bats were not recorded during targeted surveys or inspection of human-made structures. The Southern myotis has been assessed as assumed present due to the availability of suitable habitat.

Issue

BCD requested additional information on threatened species survey effort. Specially, BCD has requested to:

- Revise the BDAR and spatial data to provide comprehensive clarification, review and description for the flora and fauna survey methods applied, locations of targeted surveys and justifications for survey outcomes, including low survey and out of season surveys.
- Include fauna survey effort by technique in each associated PCT habitat, and fauna survey locations, techniques and timing need to be specified.

Response

ARTC acknowledges that further information and clarification on survey effort would assist assessment of the proposal.

The initial surveys for this proposal were undertaken prior to the release of the DPIE (2020) guidelines and were designed on guidelines available at the time. Survey effort was restricted to accessible properties and focused on areas of native vegetation and habitats.

The BDAR has been revised to provide additional information on survey location and effort (Sections 3.3.3 and 3.3.4.3). This includes:

- review, clarification and updated survey location mapping
- estimate of survey effort by species (as outlined in the *Guidance for the Biodiversity Development Assessment Report Template References for requirements (nsw.gov.au)*.

Additional survey was also undertaken between 25–29 November 2022, 6–7 December 2022 and 17–24 October 2023.

4.4.1.3 Prescribed impacts

Issue

BCD requested additional information on the identification, assessment and mitigation of prescribed impacts. Specifically, BCD has requested to:

- re-assess prescribed impacts in the assessment area as per Stage 1 and section 6 of the *Biodiversity Assessment Method* (BAM). The assessment of prescribed impacts must identify the prescribed impacts and then clearly identify any residual impacts after mitigation measures were applied
- provide specific mitigation measures and detail according to section 8.4 of the BAM and the *BAM Operational Manual - Stage 2*
- prepare a revised assessment of the extent of prescribed impacts on threatened entities must be conducted in accordance with section 9.2 of the BAM.
- prepare a preliminary connectivity strategy in the BDAR that clearly documents the commitments to mitigate prescribed impacts and how any residual impacts will be offset.
- update section 10.3 of the BDAR to identify any residual impacts requiring offset via additional biodiversity credits and/or other listed conservation measures where residual prescribed impacts cannot be adequately avoided or mitigated.

Response

An updated and expanded assessment of prescribed impacts in accordance with section 9.2 of the BAM is provided in the updated BDAR, in section 10.3. This includes:

- assessment of connectivity and mortality impacts to threatened species (including Squirrel Glider, Superb Parrot and threatened woodland birds) and documentation of a preliminary connectivity strategy (Appendix L of the revised BDAR)
- specific mitigation measures
- discussion of residual impacts.

4.4.1.4 Assessment of impacts

Issue

BCD identified inconsistencies in areas in the BDAR, BAM-C and spatial data relating to direct impacts on native vegetation and threatened species habitats.

Response

ARTC understands that there were inconsistencies in the areas for Superb Parrot, Squirrel Glider and Key's Matchstick Grasshopper. ARTC has revised the BDAR as part of this Response to Submissions Report (Appendix D). The updated BDAR has revised the polygon mapping and areas for these species. This included removal of Key's Matchstick Grasshopper polygon as this species was subject to a targeted survey in November 2022 and not recorded.

As part of this update, the spatial data was updated and areas in the BDAR and BAM-C were updated to be consistent with the spatial data.

Issue

BCD raised concerns that impacts to Serious and Irreversible Impact (SAII) Entity Box Gum Woodland Critically Endangered Ecological Community (CEEC) may be underestimated.

Response

ARTC acknowledges that areas in poor condition (with low VI scores) can still constitute SAII Box Gum Woodland CEEC even though there would not be a credit obligation for these areas under the BAM.

In response to BCD comments, ARTC revised the BDAR to include all vegetation zones (condition classes) of Plant Community Types (PCTs) 266, 276, 277 and 347 as consistent with SAII Box Gum Woodland, as shown in section 12.1 of the BDAR. This resulted in a total impact on SAII of 43.19 ha.

Following this mapping revision, ARTC refined the proposal site. This was undertaken to reduce native vegetation impacts, including impacts on SAII entities; to respond to stakeholder feedback; and to incorporate design refinements. This resulted in a 4.21 ha reduction of impact on SAII entities; and a final impact on SAII 38.98 ha.

Refer to the updated BDAR prepared as part of the Response to Submissions Report (Appendix D) for further details.

The section of the Inland Rail alignment, and specifically the Illabo to Stockinbingal route, pass through a fragmented landscape that includes corridors of SAII Box Gum Woodland, which is typically associated with road edges, watercourses and other land that was historically not cleared for farming. The proposal has been designed to avoid these PCTs to the greatest extent possible, noting that linear infrastructure will cross these ribbons of remnant vegetation.

Additionally, mitigation measures that were developed and are relevant to the protection of the SAII include:

- BD-4 states that clearing extents/site boundary/limit of works would be consistent with proposal extents defined in a condition of approval
- BD-5 addresses managing the potential for biodiversity impacts during construction through clearly identifying and marking out working boundary limits
- BD-7 sets the requirements for the biodiversity management plan. The plan would include measures to manage biodiversity and minimise the potential for impacts during construction
- BD-8 commits to the rehabilitation of vegetation and habitats subject to temporary disturbance
- BD-11 sets out that weed management protocols for the operational rail corridor and other ARTC facilities would be in accordance with the requirements of the *Biosecurity Act 2015* (NSW) and incorporated into the operational environmental management framework.

Issue

BCD requested additional assessment of indirect and uncertain impacts, including impacts on all fauna. This includes addressing any limitations in the targeted fauna and scattered tree survey; the long-term degradation of Threatened Ecological Communities (TECs); and fauna habitat due to introduction and spread of high threat weeds.

Response

ARTC acknowledges that additional information would support the assessment of indirect and uncertain impacts. The updated BDAR prepared as part of the Response to Submissions Report (Appendix D) includes:

- review of spatial data for consistency with BDAR and BAM-C
- additional survey locations
- discussion of indirect impacts to all fauna (section 10.2 of the BDAR)
- review of mitigation measures in Table 11.1 of the BDAR include high-threat weed-control measures and documentation of fauna connectivity strategy (BD-2).

The likelihood of success, consequence of residual impact, risk and consequence of failure for mitigation has also been added.

4.4.1.5 Mitigation and management of impacts

Issue

BCD has requested additional information on the risk of failure of mitigation measures.

Response

ARTC has identified risk of failure of mitigation measures and resulting consequences in Table 11.1 of the updated BDAR (Appendix D). The probability of such risks eventuating has been reduced through the integrated environmental management measures set out in the mitigation measures, the CEMP and the governance arrangements in place for projects of this nature.

4.4.1.6 Matters of national environmental significance

Issue

BCD has requested further information to be able to complete the Matters of National Environmental Significance (MNES) review. Specifically, further information was requested on measures to avoid, minimise and mitigate impacts to MNES.

Response

ARTC understands that BCD requires additional information to assess impacts to MNES. The BDAR has been updated (Appendix D) to include the requested information:

- the impacts (section 10.4) and offsets (section 13) for all MNES including both ecosystem and species credits in the BAM-C

- additional detail in accordance with Attachment A of the SEARs on how impacts to MNES were avoided, minimised (section 9 of the BDAR) and mitigated (section 11 of the BDAR)
- a description of the predicted effectiveness and outcomes that the avoidance and mitigation measures will achieve has been provided (table 11.1 of the BDAR)
- mitigation measure BD-11 in table 11.1 of the BDAR has been updated to include specific management actions to control and manage high-threat weeds for the life of the proposal.

4.4.1.7 Avoid and minimise impacts

Issue

BCD considers that the BDAR does not demonstrate adequate measures to reduce impacts and has requested:

- ARTC to review actions to avoid and minimise impacts at key biodiversity and connectivity locations to ensure native vegetation is retained.
- Identify additional locations where impacts to SAII listed Box Gum Woodland CEEC can be minimised.

Response

ARTC acknowledges that avoidance and minimisation of impacts is an important aspect of the BAM. In response, the updated BDAR includes:

- review and update of mitigation measures, particularly in relation to SAII and connectivity (section 9 and 11 of the EIS)
- identification of key features for retention (section 9 of the BDAR)
- a draft fauna connectivity strategy, which identifies the areas where connectivity measures will be implemented and structures to be used
- the BDAR now addresses the revised proposal site, which has been refined to (among other reasons) avoid and minimise impacts to SAII entities. Proposal site refinements have reduced impacts on SAII entities from 43.19 ha to 38.98 ha.

4.4.1.8 Biodiversity credit reports

Issue

BCD identified that there were updates to the BAM-Calculator (BAM-C) application that:

- correct errors in like for like reporting (which was not part of report output for some PCTs)
- provide separation of *Biodiversity Conservation Act 2016* and EPBC Act listed communities.

Response

ARTC has updated the BAM-C based on these updates. Amendments to the BAM-C are:

- inclusion of like-for-like trading groups for all PCTs
- while there are now BC Act and EPBC Act threatened ecological community (TEC) options, only one can be selected in the BAM-C, despite some vegetation zones being consistent with both BC and EPBC Act listed TECs. As this is primarily an assessment under the BC Act, the BC Act listed TEC has been selected. The EPBC Act listed TEC is identified and discussed in section 8 of the BDAR.

4.4.1.9 Landscape context

Issue

BCD requested a review of the native vegetation cover in the landscape assessment to include scattered trees and planted native vegetation.

Response

ARTC has considered the native vegetation cover further. Remnant vegetation, derived grassland, scattered trees, and planted native vegetation are included in the native vegetation cover assessment based on survey data, aerial imagery and state vegetation mapping (section 5.1 of BDAR). The native vegetation cover was assessed as 951 ha (17 per cent), with the cover class being >10-30 per cent. A change in the cover class of native vegetation (to 30–70 per cent) would necessitate 1,705 ha of native vegetation in total, requiring the addition of a further 754 ha of scattered native vegetation. It is considered that any further reassessment of aerial imagery to identify scattered trees and vegetation would not reach this threshold due to historic clearing.

4.4.1.10 Terminology

Issue

BCD have identified that terms used to identify the study area, impact areas are not consistent, and that terminology used should be consistent with the Biodiversity Assessment Method (BAM).

Response

ARTC accepts that consistency of terms is important. The BAM uses various terminology including proposal footprint, development footprint, construction footprint, operational footprint, clearing footprint, development site.

The EIS for the project has used the term proposal site throughout all documents for project and reporting consistency. Proposal site is consistent with subject land. This has been made more explicit in the glossary. All terms used throughout this document are included in the glossary.

Issue

BCD have requested that:

- the *Biodiversity Development Assessment Report* (BDAR) follows the BDAR template, specifically that there should be a separate methods section.
- BAM-C cases are provided in one parent *Biodiversity Offsets and Agreement Management System* (BOAMS) case.

Response

BDAR template

The BDAR is consistent with the current Guidance for the Biodiversity Development Assessment Report Template References for requirements (nsw.gov.au) structure, which has a separate methods section (refer to Chapter 3 in the BDAR). Chapter 3 outlines the study area, native and threatened species vegetation methodology, weather conditions and field survey limitations.

The vegetation broad condition states that were applied to vegetation are summarised in table 3.3 of the BDAR. These states were defined by using factors such as levels of disturbance, weed invasion and resilience.

BOAMS case

The BAM-C did not allow additional cases (i.e. scattered tree assessment) to be entered under a single parent case, as requested.

Issue

BCD identified that the BDAR does not meet certification requirement of the BAM as certification is not current.

Response

ARTC accepts this feedback and will ensure that the BDAR has been certified within 14 days of the cases being finalised and credit reports provided from BOAMS.

4.4.2 Hydrology flooding & water quality

Issue

BCD has requested the infrastructure in the floodplain area upstream of Stockinbingal must ensure the flow paths of Dudauman Creek through Stockinbingal are preserved and preferably enhanced, with the resultant flood impacts across the village minimised. BCD believes this outcome will ensure compliance with the intentions of the Stockinbingal Floodplain Risk Management Study and Plan (2002).

Response

The urban areas of Stockinbingal are considered sensitive to changes in flood behaviour in Dudauman Creek; however, the proposal will not alter any of the existing structures, including two structures on Burley Griffin Way, two sets of culverts for the Lake Cargelligo line and the Stockinbingal to Parkes culverts. The flood modelling and reference design development has identified the complex nature of flooding in the vicinity of the Lake Cargelligo and Stockinbingal to Parkes rail lines and throughout Stockinbingal, due to the confluence of Dudauman Creek and Powder Horn Creek, along with existing structures, embankments and flood levees. Mitigation measures, such as flood relief culverts, flood relief channels and basins and scour protection, have been included in the design to minimise impacts on flood behaviour.

ARTC has agreements in place with local councils to mitigate the impacts from the proposal. Consequently, the proposal works are not proposing to impact or alter the ability of the Floodplain Risk Management plan mitigation measures currently being implemented.

Based on the available Light Detection and Ranging (LiDAR) data and flood modelling it is estimated that there is potential change in flood behaviour in the vicinity of the proposal (as described in section 7.2.2.1 of Technical Paper 4 : Updated Hydrology and Flooding Impact Assessment Report) that is compliant with the Quantitative Design Limits (QDL) but not within the main Dudauman Creek channel. Potential changes are expected across the eastern floodplain between the existing Burley Griffin Way and Lake Cargelligo Line. These impacts result in a slight reduction in peak flood levels in the main Dudauman Creek channel; however, these minor reductions do not change the intentions of the *Stockinbingal Floodplain Risk Management Study and Plan* (2002).

The flood modelling indicates that this area is subject to overland flows from the local catchment and breakout flows from Dudauman Creek for events larger than the 10% AEP event. Further detailed flood modelling will be undertaken during detailed design. ARTC will work with the Cootamundra-Gundagai Regional Council, BCD and DPE to manage the flood risks to the urban areas of Stockinbingal arising from the proposal.

Issue

BCD has noted that geotechnical investigation and design of structures at Stockinbingal is required to minimize the risk of rail formation failure.

Response

ARTC agrees with BCD that geotechnical investigation of new and existing structures, including on the floodplain at Stockinbingal, must be completed to inform the design and minimise the risk of rail formation failure. This will occur during the detailed design phase and be presented in the Flood Design Verification Report. A new mitigation measure (HF-4) has been included in Appendix B of this report.

Issue

Consideration should be given to installing a flood warning system in the upper reaches during construction in Dudauman Creek in consultation with Cootamundra-Gundagai Regional Council and the NSW SES.

Response

This consideration from BCD has been noted. Mitigation measure HF-5 has been amended to include the requirement for a flood warning system to be developed prior to construction, in the Dudauman Creek catchment upstream of construction areas fur use during construction, with reference to Bureau of Meteorology forecasts. The flood warning system outputs should be used to set trigger levels and associated actions in the flood emergency response plan. The proposal will be designed to ensure there is no significant increase in risk to residents and hence will not alter the requirements or otherwise for a flood warning system.

Issue

BCD would like ARTC to ensure the recent modifications to the hydraulic structural design as modelled are incorporated into the reference design amendments.

Response

The recent updates to the hydraulic design of the proposal in the vicinity of the realigned Burley Griffin Way have been included in the flood model, and the findings and results have been discussed in Section 7.2.1.4 of the Updated Hydrology and Flooding Impact Assessment Report.

The design would continue to be refined where practicable to not worsen existing flooding characteristics at sensitive receivers, up to and including the 1% Annual Exceedance Probability (AEP) event, and the detailed design will review and confirm that the proposed optimised flood mitigation measures are incorporated into the final infrastructure designs.

Issue

BCD has requested further consideration of QDL exceedances on non-residential buildings in Stockinbingal during the detailed design phase.

Response

The QDLs have been established in consultation with DPE and are based on relevant policies, planning controls and guidelines detailed in section 5 of Technical Report 4, other Inland Rail projects and similar infrastructure projects in NSW. Assessment of compliance against QDLs would continue through the detailed design phase.

For non-residential buildings in Stockinbingal, the habitable 10 mm increase for levels above floor level has been adopted as a conservative measure, unless the building has specifically been identified as being non-residential through a ground truthing exercise. For non-habitable buildings, an increase of 20 mm has been adopted.

The recent flood model updates have demonstrated that there will be no exceedances of this QDL for non-habitable buildings in Stockinbingal in floods up to and including the 1% AEP event.

Issue

BCD has noted the erosion threshold velocity of soils, and adoption of the velocity QDL should be consistent with other Inland Rail projects.

Response

As outlined in section 5 of Technical Report 8: Hydrology and Flooding Impact Assessment the velocity QDL adopted for the proposal is consistent with other Inland Rail projects. The default velocity is as follows:

- Where existing velocities are < 0.5 m/s, post development velocity is limited to lesser of:
  - 0.5 m/s
  - 20 per cent increase or 0.5 m/s, whichever is greater.
- Where existing velocities are > 0.5 m/s, post-development velocities are limited to a 0.025 m/s increase.

Section 8.1.1.3 of Technical Report 4: Hydrology and Flooding Impact Assessment includes relevant discussion on soil testing and detailed geomorphic assessment. Soil testing will be undertaken during detailed design. Soil testing will inform refinement of the design of the longitudinal channels and scour design to suit the existing conditions and overland flow paths. This would reduce this impact. Consistent with other Inland Rail projects, detailed erosion risk and geomorphic assessments could be undertaken to establish a site-specific erosion threshold velocity that may be higher than the current adopted value of 0.5 m/s, as contemplated in the QDLs.

Issue

BCD has requested additional detail regarding the blockage factor assessment and sensitivity analysis is required.

Response

As described in section 4.3.5 of Technical Report 4: Hydrology and Flooding Impact Assessment, a cross-drainage blockage assessment was completed following the ARR2019 risk assessment for blockage process. This determined values from 0 per cent blockage to 25 per cent blockage would be applicable. The determined values were adopted for the design culverts but a sensitivity test was also completed to understand the sensitivity of the estimated peak flood heights to blockage; therefore, an additional two scenarios for blockage were tested and compared against the base assumption of the ARR2019 assessment estimated values:

- 50 per cent blockage for the design culverts in the Lachlan flood model (to understand the sensitivity flood levels for the urban areas of Stockinbingal)
- clear or 0 per cent blockage
- double the ARR 2019 determined values with a minimum of 25 per cent blocked.

For existing culverts, the ARR2019 assessment was applied except for the Stockinbingal to Parkes rail line and Lake Cargelligo line culverts for which maintenance records and visual inspections during site visits indicated 50 per cent blockage.

Afflux maps for the 1% AEP event for blockage factors of 0 per cent and a double or minimum of 25 per cent are provided in Appendix D. The results show the following:

- Reducing culvert blockage factors to zero has no significant impact on flooding around the proposal. At some locations within agricultural land the flood levels change by ±100 mm upstream and downstream of the proposal for this scenario, when compared to the adopted blockage factors for design. At Stockinbingal, the flood level changes by up to 20 mm in some parts of the urban area (see further discussion below).
- For the double or minimum 25 per cent blockage case the estimated 1% AEP peak flood levels generally only vary by ±10 mm across the proposal when compared to the adopted blockage factors for design. This is not unexpected as the estimated blockage from the ARR2019 approach resulted in blockages of 12.50 per cent through to 25 per cent across the proposal. There are two locations where flood levels increase by up to 20 mm when compared to the design case—upstream of the Ulandra Creek crossing within agricultural land and around the detention basin at Stockinbingal.
- For 50 per cent blockage the estimated 1% AEP peak flood levels are lower through the Dudauman Creek channel by up to 50 mm but are increased by up to 85 mm outside of the levees between Hibernia Street and Grogan Road. An increase of up to 30 mm is predicted for agricultural land south of Temora Street and a 20 mm increase is predicted in the urban areas between Temora Street and Troy Street.

Section 7.2.7 of the Updated Hydrology and Flooding Impact Assessment Report discusses the results of the blockage sensitivity testing completed.

Issue

BCD has noted that the rating curve at the Wattle Creek at Dudauman gauge (number 412134) should be extended, and additional cross sections should be obtained to verify the modelling.

Response

The gauge is a low-profile crump weir with a cease to flow level of 0.5 m. The largest rating recorded is approximately 300 ml/day with the majority between 0.03 ml/day 20ml/day; however, the rating curve will not be updated as part of this stage of the assessment.

This gauge provides little value in determining design flows for the majority of the alignment given that it records flows in a relatively small sub-catchment, has limited period of record and has a number of local complexities, as noted in the updated report Section 4.3.7.

A key focus of the review was the validation of the flow estimates produced by the hydrologic models. Attempts were made to calibrate the LAC XP-RAFTS model (which includes the Wattle Creek catchment) to the flow records at the Water NSW Wattle Creek at Dudauman (412134) gauge, which is the only streamflow gauge in the vicinity of the proposal. Calibration of the model to this gauging data was abandoned due to the following issues (refer to Appendix A for further details):

- limited length of flow record (30 years)
- the catchment area to the gauge is small (< 7 $km^2$7km^2) and therefore the gauge is not representative of the majority of catchments that drain to the proposal
- lack of accuracy of the gauge rating curve for high flows (ratings were undertaken for low flows only up to 0.46 m^3/s). Consideration was given to constructing a local hydraulic model at the gauge to derive a more accurate rating curve; however, this was ruled out due to the issues noted above, the lack of detailed survey in the area, the nature of the structure being a very low crump weir that would not be represented well in a hydraulic model and the proximity of a farm dam upstream, which has an influence on flow at the gauge site.

Issue

BCD has requested a number of amendments be made to Technical Paper 4: Hydrology and Flooding to ensure the information is correct and that the assessment is robust. These matters include:

- The responsibility for water access licences and associated approvals of State Significant Development proposals has transferred from the Natural Resources Access Regulator to DPE Water.
- The Technical Report states that no local flood management guidelines apply to the study area. The Stockinbingal Floodplain Risk Management Study and Plan (2002) should be included in the assessment.
- The Technical Report lists the key information sourced for the assessment. The use of the River Styles Framework should be added to the list within the Technical Report.
- Typically, a 20-metre width from the base of the rail embankment to the boundary contains all drainage design features, but in some locations this extends to 50 m. Confirmation is required that these 50 m widths are included in the exhibited development footprint.
- Longitudinal drainage has been included along the alignment. Additional information should be added to this section to describe the drainage design criteria to be applied.

Response

At the time of commencing the assessment, the NRAR were responsible for the licences. This has now changed to DPE Water. This is acknowledged and will be updated in the list of agencies that need to be consulted with as part of the detailed design.

The Stockinbingal Floodplain Risk Management Study and Plan (2012) applies to the urban areas of Stockinbingal that are downstream of the proposal. The study and plan will be included in the list of guidelines. The document is referenced and discussed in section 6.8.1.1 of the Updated Hydrology and Flooding Impact Assessment Report to acknowledge the flood risk to the urban areas of Stockinbingal.

Reference to the NSW River Styles Framework will be added to the list of technical guidelines in Section 2.5.

ARTC confirms that the areas where 50 m is required at the base of the embankment are included in the exhibited development footprint.

Longitudinal drainage has been included as required at the base of all fill embankments and along the top of cuttings. All longitudinal drains will consist of a typical cross section, with a minimum 0.1 per cent grade, and have capacity to convey the 1% AEP local catchment flow.

4.5 NSW Department of Planning and Environment—Crown Lands

4.5.1 Land use and property

Issue

Any Crown road required for access to the development/proposal will need to be transferred to Council, or application made to close and purchase the roads. As authority to access or use Crown roads is required prior to the commencement of any works or access, and to avoid any delays for the proposal, a tenure may be required in the interim. If lineal infrastructure (such as railway lines, pipelines and/or electricity transmission lines) are expected to traverse Crown land, roads and/or waterways, an easement over said Crown land, roads and/or waterways will be required for protection of the infrastructure, or that land will need to be acquired by a public authority.

Response

The proposal will cross one unnamed Crown road at chainage 11390. This Crown road is included in ARTC's Crown Construction License, currently being finalised with DPE—Crown Lands. The license permits all investigative and construction works to be carried out while the permanent acquisition process is in place. No easements or further licences are required to be obtained from DPE Crown Lands.

Any acquisition of Crown land would be undertaken in consultation with the Crown lands division of the NSW Department of Planning and Environment, and in accordance with the requirements of the *Crown Land Management Act 201*6 (NSW) and the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

Crown Lands confirmed on 14 September 2023 that they will be the road manager of level crossing LX11390. All infrastructure and land at level crossing LX11390 within the rail corridor will be managed by ARTC.

4.6 NSW Department of Planning and Environment—Water

4.6.1 Water requirements

Issue

NSW DPE highlight that the EIS provided conflicting estimates of water requirements for the proposal between chapter 8 of the EIS with 675 ML and chapter 12 of the EIS with 797 ML. NSW DPE would like ARTC to clarify the water requirements for the proposal and where relevant obtain approvals (for water supply works not considered in this proposal) and licences under the *Water Management Act 2000* (NSW).

Response

ARTC acknowledges an error was made in Chapter 12 of the EIS regarding estimates of water requirements. The correct estimate is 675 ML, as stated within Chapter 8 of the EIS, and section 7.1.3 of the Hydrology and Flooding Impact Assessment.

Extraction of groundwater exists as a potential supplementary water source, and groundwater quality sampling has identified highly variable groundwater recharge rates; however, the proposal would not extract groundwater due to high risks with this approach and potential additional licensing requirements.

Dewatering may occur during construction if excavations intersect with the groundwater table. Mitigation measure GW-6 would ensure that if excavations intersect the water table, potential impacts would be assessed by a hydrogeologist and adaptive management measures implemented as required. It is considered unlikely that any dewatering would exceed 3 ML of groundwater per year, meaning that licences or approvals under the water regulatory regimes may not be required.

If required, relevant licences and approvals would be sought, noting that water management work approvals under sections 89, 90 and 91 of the Water Management Act are not required for the proposal as it is a declared CSSI project.

4.6.2 Impacts to watercourses and water quality—Construction

Issue

NSW DPE has requested ARTC to consider:

- a geomorphology monitoring program of the stability of riverbanks or watercourses for the construction phase and extending for an appropriate period beyond
- providing details of mitigation measures to prevent damage to watercourses, including scour protection design

- additional space that may be required, particularly if the measures need to extend beyond the works boundary to achieve the necessary energy dissipation. Similar changes were made to the Narromine to Narrabri section of the Inland Rail and presented in the Preferred Infrastructure Report.

Response

Risks to watercourse and riverbank stability and potential geomorphological change will be assessed and managed during detailed design within the proposal site. Adaptive management techniques to maintain riverbank stability will be adopted to address this potential risk during construction.

Issue

NSW DPE has requested ARTC to ensure works within waterfront land are in accordance with the NSW Guidelines for Controlled Activities on Waterfront Land.

Response

All work to watercourse crossings will be designed and constructed in accordance with the *Guidelines for Controlled Activities on Waterfront Lands Riparian Corridors* (Department of Planning, Industry and Environment, 2018) (NRAR 2018) and *Policy and Guidelines for Fish Habitat Conservation and Management* (Department of Primary Industries, 2013a). This is outlined in Mitigation Measure BD-1 in Appendix B.

4.7 NSW Department of Primary Industries—Agriculture

4.7.1 Land use and property

4.7.1.1 Agricultural land use

Issue

The Department of Primary Industries – Agriculture (DPI - Agriculture) Land Use Conflict Risk Assessment (LUCRA) should be considered for the accommodation camp, to assess extra traffic and farm activities associated with the grain harvesting season.

Response

Appendix I of the EIS includes a separate assessment of the workforce accommodation camp. Chapter 2 of Appendix I outlines the process followed to select the preferred site for the accommodation camp. Potential locations for the accommodation camp were identified and a Multi-Criteria Analysis (MCA) was undertaken by ARTC.

In assessing the location of the workforce accommodation camp, a specific criterion was used to address the impacts on rural amenity issues, environmental protection issues and direct impacts from the proposal on farming operations.

The movement of farm traffic across the proposal site was considered in Section 4.2.1 of Technical Report 3: Traffic, Transport and Access. The assessment on the accommodation camp has considered such effects. Existing traffic data and additional traffic counts were undertaken as described in Section 4.2.1 of Technical Report 10 and used in the workforce accommodation camp assessment.

The results of the traffic assessment show that the use of buses to travel to and from the accommodation camp makes for generally fewer vehicles on the roads and improved levels of service in comparison to the scenario assessed in the EIS, where there is considerably more private car use to travel to and from the construction access points.

Workers arriving and departing the accommodation camp for leisure or at the start and end of working periods will add to the background volumes on the road network. At the end of a working period, as many as 225 workers may leave the site in a short period of time. Depending on the distribution of these trips there may be short-term congestion at nearby intersections. The assessment concluded that acceptable levels of service are maintained at all approaches to this intersection with the addition of the departing workforce.

An increase in heavy vehicles and construction traffic may lead to a perceived increased trip duration, increased safety risks and conflict with other machinery used by local residents and industries along Grogan Road.

Mitigation measures outlined in the traffic and transport assessment, including the preparation of a traffic management plan, will help to address these impacts. The construction and operation of the accommodation camp is expected to have a medium impact on road safety impacts due to increased workforce traffic movements.

It is noted that background traffic volumes are likely influenced by agricultural land use in the area and may fluctuate due to the seasonal nature of farming activities such as periods of harvest. This may result in periods of higher traffic volumes. The variation in traffic volumes between peak and off-peak harvesting seasons may be significant but regarded insignificant in relation to the maximum capacity of the road.

It is also noted that the local government areas surrounding the site participate in the NSW Grain Harvest Management Scheme, which allows heavy vehicles to exceed the regulated total mass limits by up to 5 per cent when delivering some cereals, oilseeds and pulses. This applies from the farm to the participating grain receivers, of which there are a few within proximity of the proposal. As above, this variation is regarded insignificant in relation to the maximum capacity of the road.

ARTC will continue to work collaboratively with stakeholders during detailed design. In accordance with mitigation measure T-4, input would be sought from relevant stakeholders (including local councils and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

4.7.1.2 Biosecurity

Issue

Protocols associated with potential and current emergency animal disease issues have not been considered/covered for the proposed accommodation camp.

Response

Section 18.4.2.3 of the EIS identified that the Biosecurity Act provides a framework for the prevention, elimination and minimisation of biosecurity risks. The General Biosecurity Duty under the Biosecurity Act requires a person who deals with a biosecurity risk, and ought reasonably to know it, to ensure (as far as reasonably practicable) that the risk is prevented, eliminated or minimised. This framework also applies to the proposed accommodation camp.

In practical terms this requires people to be aware of their surroundings and take action to prevent the introduction and spread of pests, diseases, weeds and contaminants. The Biosecurity Regulation 2017 (NSW) sets out a range of additional mandatory measures for biodiversity risk management.

If a new weed, pest or disease becomes established, it can affect agricultural properties through increased costs (for monitoring, production practices, additional chemical use and labour), reduced productivity (in yield and/or quality) or loss of markets.

The proposal would result in increased movement of vehicles and people to, around and within the proposal site during construction. The main biosecurity risk relates to the spread of weeds that may result from the increased movement of vehicles. Weed seeds could be transported through and within the site on clothing and via vehicle wheels and undercarriages.

The potential implications for adjoining landowners include:

- dependency on the construction contractor to undertake weed control (spraying and grazing) within the worksite
- the need for additional weed, pest and disease inspections and controls required on adjoining land
- impacts on productivity from introduced weeds, pests and diseases
- impacts on human health and biodiversity.

Issue

DPI Agriculture notes the CEMP needs to include a specific Biosecurity Management Plan for management of pest weeds and diseases on the agricultural lands and operations that are being interrupted by the proposed Inland Rail construction corridor - particularly important for Foot and Mouth Disease (FMD) and Japanese Encephalitis.

Response

The Biodiversity Development Assessment Report (EIS Technical Report 1) assessed the potential for biosecurity impacts to land adjacent to the proposal, through the spread of weeds and pathogens. A detailed biosecurity assessment is included in Chapter 18 of the EIS. This includes identification of pest species, weed species and livestock diseases such as footrot, sheep lice and Ovine Johne's disease. This identified that construction and operation activities may create the possibility of introducing or spreading weeds, pests and diseases onto a property, which could affect agricultural properties through increased costs (for monitoring, production practices, additional chemical use and labour), reduced productivity (in yield and/or quality) or loss of markets.

In accordance with mitigation measure BD-7 and LP-10, a Biosecurity Management Plan would be developed with reference to the Riverina Regional Strategic Weed Management Plan 2017-2022 (LLS, 2017) and in consultation with Local Land Service (LLS) and DPI.

4.7.1.3 Property access

Issue

NSW DPI has outlined that the EIS does not provide a definitive response to impact on property access as it is relying on individual property plans which would cover 'reasonable and practicable measures'. There is no definition of 'reasonable and practicable', and more information on options being offered to property owners.

Response

A generally accepted definition of 'reasonable and practicable' means available and capable of being implemented after consideration of cost, existing technology, logistics considering the overall purpose of the proposal, environmental impact, and ability to obtain all necessary approvals for implementation.

In accordance with mitigation measure LP-3, during the property acquisition process, ARTC would seek agreement with affected landowners, to guide property-level design requirements and the management of construction on, or immediately adjacent to, private properties. Each impacted property owner would be consulted to identify and understand the operational needs of their property and the activities conducted upon it, with a view to seeking tailored agreements to reflect agreed outcomes.

Furthermore, mitigation measure LP-5 ensures feasible and reasonable property-specific measures would be identified during detailed design in consultation with landowners. These measures would be implemented during construction, where construction is located on or immediately adjacent to private properties and has the potential to affect farm operational arrangements. The measures would include, as appropriate:

- arrangements in terms of works timing and practices
- any required adjustments to fencing, access, and farm infrastructure relocation of any impacted structures.

Wherever possible, the proposal will ensure access and/or connectivity to severed parcels of land. This connectivity will be provided via either public/Crown roads, private level crossings, stock underpasses or a combination thereof. Details of this connectivity will be discussed with each affected landowner and compensation for any impact from severance will be assessed under the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

Compensation for land to be acquired either permanently or temporarily will be assessed under the *Land Acquisition (Just Terms Compensation) Act 1991*. This assessment will include consideration of any impact of the proposal on land value for the residual land.

A new mitigation measure SE-2 (see Appendix B of this report) is proposed that commits ARTC to preparing a consultation management plan to inform landowners and provide clarity of how ARTC will interact with them in relation to the design process, property changes, acquisition steps and processes with the aim of reaching agreement on these matters.

Refer to Section 6.1.6.1 for a more detailed response to property severance.

4.8 NSW Department of Primary Industries—Fisheries

4.8.1 Biodiversity—mitigation and management of impacts

Issue

DPI Fisheries supports the inclusion of improvement to aquatic habitat such as reinstatement of removed riparian vegetation within the watercourse, i.e. 're-snagging', and reinstatement of native riparian vegetation to be incorporated into the rehabilitation strategy.

Response

The outline CEMP, including the required sub-plans and a guide to the general construction management measures required in each, is provided in Appendix E of the EIS. The outline CEMP includes a Biodiversity Management sub-plan. This has also been captured as mitigation measure LP-10, stating a biodiversity management plan would be prepared prior to construction and implemented as part of the CEMP. The plan would include measures to manage biodiversity and minimise the potential for impacts during construction, including the relocation of any large woody debris in the development footprint upstream or downstream.

Additionally, in accordance with mitigation measure BD-8, a rehabilitation strategy would be prepared to guide rehabilitation planning, implementation, monitoring, and maintenance of disturbed areas once construction is complete. The strategy would include clear objectives for seed collection and rehabilitation of native vegetation in temporary disturbances areas and in riparian areas.

ARTC would prepare the biodiversity management plan in consultation with relevant stakeholders, including DPI Fisheries.

4.9 NSW Environment Protection Authority

4.9.1 Air quality—mitigation and management of impacts

Issue

The EPA recommends Conditions of Approval should include the requirement for the preparation and implementation of an Air Quality Management Plan as part of the Construction Environmental Management Plan (CEMP).

Response

ARTC would prepare an air quality management plan as part of the CEMP, in accordance with mitigation measure AQ1. The plan would include measures, processes, and responsibilities to minimise the potential for air quality impacts on the local community and environment during construction, including:

- spoil handling
- machinery operating procedures
- soil treatments
- stockpile management
- haulage dust suppression
- monitoring.

4.9.2 Cumulative noise impacts—mitigation and management of impacts

Issue

NSW EPA has asked ARTC to consider the duration and working hours for activities from different Inland Rail project sections and other major projects, including those that were recently completed when determining the potential for cumulative impacts from consecutive and concurrent construction impacts.

Response

ARTC can confirm a high-level assessment of cumulative impacts has been included in chapter 7 of Technical Report 8: Construction noise and vibration, of the EIS. Technical Report 8 stated that in most cases the cumulative noise impact experienced at receivers potentially impacted by multiple projects will be equivalent to the highest construction noise level or, in worst case scenarios, up to 3 dBA higher than the highest noise level. These cumulative impacts would be experienced for limited periods of time when the highest noise-generating construction activities in each area are occurring simultaneously.

To quantify specific cumulative impacts, ARTC acknowledges it is essential to understand the scheduling for each project, and further assessment of cumulative noise and vibration impacts would be undertaken during preparation of the Construction Noise and Vibration Management Plan (CNVMP). Any potential cumulative impacts would be managed in line with mitigation measure CR-1, which outlines the consultation and coordination with proponents impacted by cumulative impacts. Depending on the nature of the conflict, this could involve coordination of traffic management arrangements between projects, where reasonable and feasible.

4.9.3 Impacts to watercourses and water quality

Issue

NSW EPA recommends Conditions of Approval include the requirement to prepare a Soil and Water Management sub-plan as part of a CEMP and a Water Quality Monitoring Program to underpin protection of waterways. The EPA advises that any water that is captured on site will need to be treated to appropriate levels prior to discharge.

Response

ARTC would prepare a soil and water management plan as part of the CEMP in accordance with mitigation measure SC-6. The plan will include measures, processes, and responsibilities to minimise the potential for soil and water impacts (including impacts to groundwater) during construction. This includes the testing and treating of water and, if necessary, prior to re-use, discharge or disposal in accordance with the testing results. Requirements in relation to the contents of the soil and water management plan are provided in the outline CEMP in Appendix E of the EIS. This includes the following guidelines:

- *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom, 2004)
- *Managing Urban Stormwater: Soils and Construction Volume 2A: Installation of Services* (DECC, 2008a)
- *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed roads* (DECC, 2008b)

- *Erosion and sediment control on unsealed roads* (OEH, 2012)
- *Technical Guideline: Temporary stormwater drainage for road construction* (RMS, 2011)
- *Waste Classification Guidelines* (EPA, 2014).

The plan would identify monitoring locations at discharge points and selected watercourses where works are being undertaken, monitoring parameters, and frequency and duration of monitoring.

A surface water monitoring framework would be developed and implemented as part of the soil and water management plan in the CEMP. The monitoring framework would identify:

- monitoring locations at discharge points and selected watercourses where works are being undertaken
- monitoring parameters
- frequency and duration of monitoring.

The monitoring framework would include relevant water quality objectives, parameters and criteria. It would be developed in consultation with NSW DPE and NSW EPA.

4.9.4 Noise and vibration

4.9.4.1 Construction noise impacts

Issue

The *Approved Methods for Measurement and Analysis of Environmental Noise in NSW* were published in January 2022 and can apply to the construction of I2S. The NSW EPA recommends amending the ARTC document Construction Noise and Vibration Management Framework (CNVMF) accordingly.

Response

ARTC acknowledges the recently published *Approved Methods for Measurement and Analysis of Environmental Noise, NSW EPA, 2022)*. The CNVMF, and any future assessments, will be updated to reference the Approved Methods and incorporate any relevant requirements.

Issue

Chapter 8.5.3 of the EIS describes the potential for a borrow pit or quarry located near Stockinbingal. The Construction Noise and Vibration Impact Assessment (CNVIA), Operational Noise and Vibration Impact Assessment (ONVIA) Non-Rail or CNVMF do not appear to consider the potential impact from noise, vibration and blasting, or noise from traffic generated by the borrow pit. The borrow pit may require assessment under the *Noise Policy for Industry* (EPA, 2017) (NPI) or the Interim Construction Noise Guideline (EPA, 2009) (ICNG) depending on a number of factors including: if a separate EPL is required for it, the duration it will operate, hours of work, and extraction rate/capacity. In either case, the potential noise, vibration and blasting impact from the borrow site should be addressed in the application.

Response

The potential borrow pit identified in the EIS was located on a private property; however, through further consultation with the landowner since EIS exhibition, ARTC has determined to remove this as a potential borrow pit site.

4.9.4.2 Construction vibration impacts

Issue

The EPA recommends that, consistent with the ICNG, the proponent investigates and applies all feasible and reasonable mitigation and management measures to reduce construction noise and vibration impacts as far as practicable, regardless of whether the measures are listed in the CNVMF (EIS Appendix H), prior to implementing any measures for residual impacts.

Response

The CNVMF is a framework that details a suite of mitigation measures for all NSW Inland Rail projects. Proposal-specific construction noise mitigation measures are outlined in the EIS (chapter 16, table 16-23).

Until a construction contractor is engaged and the construction methodology is finalised, confirmation of all applicable noise and vibration mitigation is not possible. Development of the construction methodology will seek to further reduce noise and vibration impacts from the proposal, and all feasible and reasonable construction noise mitigation measures will be identified and implemented through the contractor's Construction Noise and Vibration Management Plan (CNVMP).

This may include measures such as:

- restricting work to standard program construction hours
- equipment selection that favours the use of less vibration-emitting construction methods
- vibration monitoring in response to complaints and at the commencement of vibration-generating activities
- dilapidation surveys on potentially affected buildings
- respite offers.

Issue

NSW EPA has noted the Australian and New Zealand Environment and Conservation Council (ANZECC) (1990) guidelines should be used to assess blasting in accordance with the SEARs, instead of using AS 2187. Where the threshold levels in the ANZECC (1990) guidelines cannot be met, appropriate alternative thresholds must be justified and established in consultation with the potentially affected receivers.

Response

The airblast overpressure assessment was calculated according to the method in AS 2187. Blasting guidelines are presented in ANZECC and AS 2187 as identified in Table 2.2 of Appendix F.

The assessment limits presented are effectively the same in both guidelines and therefore the assessment in the CNVIA is considered to be consistent with the ANZECC guideline. It is noted that restrictions/mitigation measures are provided within the ANZECC guidelines and the CNVMF, and these will be considered where potential impacts may occur.

Based on preliminary information of the location of required rock cuttings, a maximum charge size was provided for each proposed cut in Appendix F of the CNVIA. All locations complied with the ANZECC guideline criteria. The calculations are considered conservative, with the use of typical blasting factors, and do not account for any topographical shielding or other blast controls.

All vibration and blasting impacts and management will be confirmed in the construction noise and vibration management plan as required by mitigation measure NV-6.

Additionally, mitigation measure NV-1 requires that location- and activity-specific construction noise and vibration impact statements would be prepared based on a more detailed understanding of the construction method, including the size and type of construction equipment, duration and timing of works, construction traffic associated with the proposal, and detailed reviews of local receivers as required.

4.9.4.3 Operation noise impacts

Issue

The night period LAmax trigger level in the Rail Infrastructure Noise Guideline (EPA, 2013) (RING) should not be inferred in isolation to determine or indicate the potential or likelihood for sleep disturbance, awakenings, or disruption.

Response

Sleep disturbance impacts are discussed in Section 9.4 of the Operational Noise and Vibration Impact Assessment (Rail) Report. This section discusses potential for sleep disturbance in the context of the NSW EPA's *Rail Infrastructure Noise Guideline* and the World Health Organisation (WHO) *Night Noise Guidelines for Europe* (2009) and the WHO *Environmental Noise Guidelines for European Region* (2018). Refer to Section 6.1.3 of the Report.

4.9.4.4 Traffic noise impacts

Issue

The CNVIA appears to have omitted from the assessment the relative increase criteria as described in Chapter 2.4 of the NSW Road Noise Policy (RNP) (DECCW, 2011), without a suitable justification. Table 4.8 and Table 4.9 of the CNVIA show increases of more than 12 dB above the existing level of road traffic at a number of locations. For roads that are not classified as local roads, the RNP requires feasible and reasonable mitigation to be investigated and applied where there is an increase of more than 12 dB above the existing traffic noise level.

NSW EPA has requested ARTC update the road traffic noise assessment criteria to be consistent with the RNP and revise the assessment and mitigation measures accordingly to account for the relative increase criteria.

Response

ARTC acknowledges that Relative Increase Criteria (RIC) were not included in the consideration of construction road traffic noise impacts in error. The assessment of road noise impacts against other criteria was correct.

The updated road traffic noise predictions are provided in Appendix F.

The consideration of RIC road noise criteria has increased the number of predicted exceedances from one proposed haulage route to three. Previously, potential exceedances were predicted for Troy Street only, whereas exceedances of construction NML have now also been predicted to potentially occur at times along Ironbong Road and Retreat Road for the worst impacted properties. It should be noted that ARTC no longer proposes to use Troy Street as a detour during construction.

Reasonable and feasible noise mitigation measures as outlined in Section 8 of Technical Paper 8: Noise and Vibration should be considered along these routes to reduce the impact of the predicted road traffic noise levels.

Issue

NSW EPA would like ARTC to clarify how the traffic noise impacts to receivers near site and compound entrances and exits were assessed and how noise was calculated at these receivers.

Response

The assessment in the EIS assessed trucks operating at the sign-posted speed limit at the point of exit from worksite. In reality, a truck is not able to accelerate this quickly and as a result this assessment is considered conservative. The assessment undertaken for the EIS is in line with the ICNG and RNP.

For all assessed compound locations where receivers are located close to road exits, noise exceedances are already predicted due to construction. Consequently, these receivers have already been identified as sensitive receivers and noise at these locations will be mitigated and managed as per mitigation measure NV-1.

Issue

The road traffic noise assessment for use of the workers' camp does not appear to be consistent with the proposed working hours. It is also not clear how many vehicles were used in the assessment. NSW EPA recommends the traffic volumes for the workers' camp are either justified or amended to sufficiently account for the number and time of vehicles travelling on public roads.

Response

Traffic noise from the workforce accommodation camp was assessed in Appendix I to the EIS. In Appendix I, traffic associated with workers accessing the accommodation camp was assessed as follows:

- Arrival of staff: workers travelling between their home base and the accommodation camp; staggered arrival and departures (225 light vehicles) at commencement and completion of camp stay periods. Light vehicles are expected to remain at the accommodation camp car park for the duration of these periods.
- Travel to construction site: workers travelling between the accommodation camp and construction sites; minibuses (assumed to be approximate 20 seater) using existing haul routes (up to 12 mini buses to deliver workers to construction sites and 12 mini buses to return workers to the accommodation camp at the end of each shift). Minibuses are expected to remain at the construction work sites for the duration of the work shifts.

Construction traffic on public roads will be in line with the proposed working hours (6 am–6 pm, 7 days a week), with the exception of the below instances, where work is required outside of the proposed working hours:

- installing precast bridge beams over existing public highways
- installing level crossings where road closures are not approved during normal hours
- relocating utilities that are required to be undertaken out of hours to avoid impact to local residents and businesses
- delivering oversized plant or structures as required by police or other authorities for safety reasons
- facilitating emergency work to avoid the loss of life or damage to property, or to prevent environmental harm
- implementing utility works (such as connections) to minimise disruption to customers.

This would be managed in line with the ICNG and has been considered within the noise assessment. The Traffic, Transport and Access Management Plan as part of the CEMP, will also outline pre-determined haulage routes for minimal impact on the community.

Issue

EIS Appendix I Chapter 4.5.5.2 states 'no road traffic noise impacts were predicted' for the accommodation camp. However, Table 4.16 predicts an increase in noise levels of 10dB and 9dB during the day and night respectively. NSW EPA requests Appendix I should be amended to remove the inference that no impacts will occur resulting from additional traffic noise caused by the accommodation camp as it is considered that this could be a noticeable increase in noise levels.

Response

The concluding sentence of section 5.2.3 of the EIS Appendix I (Workforce Accommodation Camp) should have stated that 'Following the addition of the workforce camp traffic to the EIS construction traffic, no road traffic noise exceedances were predicted'.

It is accepted by ARTC that an increase of this magnitude is likely to be perceived as an impact, even though it does not constitute an exceedance of the relevant NML.

Issue

NSW EPA has highlighted insufficient detail in the CNVIA on the methodology used to calculate road traffic noise levels. Chapter 4.1 of the CNVIA describes that the CONCAWE method was used but it was not described how this method was used to calculate road traffic noise levels. ARTC Inland Rail technical specifications for noise and vibration assessments were referenced but not included. EPA recommends the proponent:

- details the methodology used to calculate road traffic noise levels
- provides the methodology, justification and any specific considerations for calculating traffic noise for roads with high percentages of heavy vehicles.

Response

In the CNVIA, a single source height, spreadsheet implementation of Calculation of Road Traffic Noise (CoRTN) was used for the calculation of road traffic noise at the nearest receiver to each road. This method represents a conservative approach—calculating noise for the worst impacted location and not including mitigation from ground and air absorption and terrain screening.

During DPE's adequacy review of the EIS, additional information was provided by ARTC to outline potential changes to predicted noise impacts if a more complex modelling algorithm is implemented (i.e. sensitivity testing of noise results using alternative modelling methods). The results of this assessment were used to identify the likely risk of substantial differences in the receivers identified for noise mitigation. The additional assessment compared the four most widely researched road noise assessment methods that would be applicable to the proposal. The potential for substantial changes to the number or location of receivers identified for noise mitigation in the NVIA because of this assessment was evaluated.

It was found that while there appear to be fundamental differences to how noise propagation is modelled using the four algorithms, the noise mitigation outcomes are largely consistent, with the same receiver identified for treatment for all methods excepting CNOSSUS, where the single receiver qualifying for treatment no longer qualifies.

The NVIA is therefore considered appropriate for the EIS.

Further information on the assessment is provided in Appendix F.

4.9.5 Train operation

Issue

NSW EPA has requested clarification on the location and adoption of rail lubrication systems, where curves in the alignment can be expected.

Response

The proposal includes one relatively short (less than 300 m) section containing a tight-radius curve where the proposal ties into the existing rail corridors at the Lake Cargelligo Line. A track lubrication system will be installed at this tight radius curve location.

Table 21 in the Operational Noise and Vibration Impact Assessment (ONVIA) incorrectly notes that the proposal has tight radius curves less than 500 m and greater than 300 m, and that the correction factors for potential curving noise emissions applied are +3 SEL and +3 LAmax.

Instead, the proposal only has one section of tight radius curves <300 m as detailed above and was modelled with a +8dB correction to both the LAeq and LAmax. Table 21 of the ONVIA should therefore read 'A modelled correction of +8dB for LAeq and for LAmax was applied. There are no curves with a radius between 300 m and 500 m'.

4.9.6 Soils and contamination—mitigation and management of impacts

Issue

The EPA recommends that an unexpected finds protocol be prepared to ensure that any unexpected contamination encountered during construction works are appropriately managed.

Response

ARTC would implement an unexpected finds protocol. This protocol would be included in the contamination and hazardous materials plan, which would be prepared and implemented as part of the CEMP in accordance with mitigation measure SC-7.

4.10 Transport for NSW

4.10.1 Engagement

4.10.1.1 Engagement with government departments and agencies

Issue

Transport for NSW has noted that key stakeholders are mentioned for consultation but there is no evidence of consultation with Transport for NSW or the National Heavy Vehicle Regulator (NHVR). Transport for NSW has requested ARTC to provide details of liaison with Cootamundra-Gundagai Regional Council and National Heavy Vehicle Regulator, Transport for NSW also requests additional information be provided in the EIS to identify the key issues raised and demonstrate how the proposal has responded to the inputs received from Transport for NSW.

Response

Since November 2021, ARTC's engagement has been guided by the requirements of the SEARs. ARTC has been engaging in an open and ongoing manner with government agencies. Table 9-7 of the Response to Submissions Report provides details of all consultation with Transport for NSW leading up to EIS exhibition. Consultation with other key stakeholders, including Cootamundra-Gundagai Regional Council, is detailed in section 3 of the Response to Submissions Report.

Consultation with the NHVR will occur to the extent necessary, at detailed design and has been included in mitigation measure T-4. ARTC is committed to seeking input from relevant stakeholders (including Council, NHVR and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders. Any further issues raised by Transport for NSW that relate to roads under TfNSW's control will be addressed through the formal Works Authorisation Deed Process.

Issue

Transport for NSW has stated they should be engaged early by ARTC to ensure that social procurement and Aboriginal procurement targets are consistent with or exceed NSW Government targets and reflect local community priorities.

Response

ARTC acknowledges Transport for NSW's interest in maximising outcomes for First Nations communities. ARTC—Inland Rail is committed to working with and supporting First Nations outcomes. Established and ongoing engagement with First Nations stakeholders and community centres around understanding impacts and shared visions for maximising outcomes, such as connection to country, training, employment, and procurement for First Nations people and businesses, will be incorporated in the development of the Social Impact Management Plan (SIMP).

Transport for NSW's interest in the targets presented in the SIMP are noted. The proposal SIMP to be developed in the next phase of the proposal will consider the appropriateness of including the suggested targets.

Issue

In the EIS the *Construction Traffic, Transport and Access Management Plan* (CTTAMP) is nominated for development during construction. Transport for NSW requests that the conditions of approval require CTTAMP be accepted by Transport for NSW prior to any works commencing. Any subsequent works identified as per the CTTAMP will require approval from Transport for NSW prior to works commencing.

Response

Should the proposal be approved, any conditions of approval are decided by DPE and recommended to the Minister for Planning. The CEMP (and relevant CEMP sub-plans such as the CTTAMP) would be prepared and submitted to the Department of Planning and Environment for approval prior to the commencement of construction. The CTTAMP would be developed in consultation with relevant stakeholders, including Transport for NSW, in accordance with mitigation measure T-5.

4.10.2 Cumulative impacts—mitigation and management of impacts

Issue

Transport for NSW has requested ARTC to resubmit an accurate Cumulative Impact Assessment inclusive of all regional and transport projects, not just the immediate LGA. Transport for NSW disagrees with the assurance that 'the potential for cumulative impacts between the proposal and other existing or proposed projects is low'. Several major projects are missing from the Cumulative Impacts Assessment including Snowy Hydro 2.0, Riverina Intermodal Freight and Logistics (RiFL) Hub, Victoria to New South Wales Interconnector West, Project Energy Connect, Wagga Wagga Special Activation Precinct (SAP) and projects associated with the South-West Renewable Energy Zone (REZ). In addition to these major infrastructure projects, there are a host of smaller projects also in the pipeline.

Response

The Cumulative Impact Assessment outlined in the EIS was undertaken in line with the *Cumulative Impact Assessment Guidelines for State Significant Projects, October 2022* (CIA Guidelines) (DPIE, 2022a). The additional projects identified by Transport for NSW are included in Table 4-1.

TABLE 4-1 ADDITIONAL PROJECTS CONSIDERED FOR POTENTIAL CUMULATIVE IMPACTS WITH THE PROPOSAL

Project	Distance from the proposal site	Project details	Status and indicative timing	Potential cumulative impacts
Project Energy Connect	50 km south west of Illabo	Project EnergyConnect involves the construction of a new 330 kilovolt (kV) above ground transmission line, with approximately 800MW transfer capacity. Project EnergyConnect will connect South Australia and New South Wales, with an added connection to north west Victoria. The interconnector is being built between Wagga Wagga in New South Wales and Robertstown in South Australia, with a connection to Red Cliffs in Victoria.	Planning approval received 2 September 2022. Construction commenced and anticipated to finish 2024.	No significant cumulative impacts are anticipated at the time of writing based on the distance and timing of the project compared to the I2S proposal
Snowy Hydro 2.0	180 km180km south of Illabo	Snowy 2.0 is a pumped hydro-electric expansion of the existing Snowy Scheme that will link the existing Tantangara and Talbingo reservoirs through a series of new underground tunnels and a hydro-electric power station, to be constructed within an underground cavern. Most of the project's facilities will be underground, which minimises the project's footprint and impact on the surface.	Planning approval 2 September 2022. Under construction, expected to be operational 2024.	No significant cumulative impacts are anticipated at the time of writing based on the distance from the I2S proposal
Victoria to New South Wales Interconnector West	220 km south-west of Illabo	Proposed new 500 kV double circuit transmission line connecting the high-voltage electricity grids in New South Wales and Victoria.	Preferred Corridor Report released 6 October 2023. Recommended preferred route option will be placed on public display in the first half of 2024. Construction is currently estimated to begin in 2026, subject to receiving all relevant environmental and planning approvals, with delivery estimated by 2028.	No significant cumulative impacts are anticipated at the time of writing based on the distance and timing of the project compared to the I2S proposal

Project	Distance from the proposal site	Project details	Status and indicative timing	Potential cumulative impacts
Riverina Intermodal Freight and Logistics (RiFL) Hub, Wagga Wagga	40 km40km south-west of Illabo	The project involves a new major rail and road infrastructure and a freight terminal on 80 ha of land at Bomen Business Park. The RiFL Hub consists of rail infrastructure, installation of turnouts off the Main Southern Railway Line, as well as an intermodal terminal for the transfer of containers between road and rail development and adjoining industrial land development.	Construction completed and commenced operation 1 December 2022	No significant cumulative impacts are anticipated at the time of writing based on the timing of the project compared to the I2S proposal
South-West Renewable Energy Zone (REZ)	300 km 300km West of Illabo	South-West REZ is proposed to have 2.5 gigawatts of new renewable generation and storage capacity	The South-West REZ was formally declared by the Minister for Energy on Friday 4 November 2022. The REZ declaration is the first step in formalising the REZ. There are currently two EISs being prepared for wind farms within the REZ.	No significant cumulative impacts are anticipated at the time of writing based on the timing and distance of the project compared to the I2S proposal

Based on the methodology outlined above, the projects referred to by Transport for NSW are considered to present a low potential cumulative impact.

4.10.3 Construction of the proposal

4.10.3.1 Construction schedule and staging

Issue

Transport for NSW has requested ARTC provide further information on the proposed construction methodology, timing, and duration to assess the impact on Transport's Grade Separating Road Interfaces program. Transport for NSW states they have not completed an assessment of the proposed access gates on the Grade Separating Road Interfaces works.

Response

A construction access gate is likely to be constructed at the level crossing on Olympic Highway (north of Illabo). ARTC understands this has been identified as a future grade separation.

Construction planning at this stage is preliminary only—this will be further developed once a construction contractor is engaged. At this time the construction contractor will prepare a CEMP, which will include further details on construction methodology, timing and duration. ARTC has included a new mitigation measure, T-4, that commits to seeking input from relevant stakeholders (including Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure. This would include confirming the proposed construction methodology, timing, and duration for works at this location.

Issue

Transport for NSW would like clarification on the construction commencement time and ensure impact is assessed against that period.

Response

Construction is currently forecast to start in mid-2024, with a duration of up to 24 months. Section 8.1 of the EIS outlines this timing in the construction overview, which the impact assessment is based on.

4.10.3.2 Quarries

Issue

Transport for NSW has asked for clarification on which quarries are suitable for supply of individual materials. Table 8-7 of the EIS lists volumes of individual materials required but only includes a list of possible quarries.

Response

The construction of the proposal would require a range of materials, and the final materials supply strategy would be confirmed by the construction contractor(s) during construction planning. Although not an exhaustive list, potential quarries to be used are described in section 8.5.2 of the EIS and outlined below:

- Tegra Quarry—Young
- Milbrae quarries—west of Temora
- Millers metals—Wyalong
- Jackson's Hill Quarry—Coolamon
- Rocky Point Quarry—Euberta
- Coota Concrete—Cootamundra.

Where fill or other material is sourced from a commercial quarry, the supply of this material would be undertaken in accordance with the approval for that quarry. Similarly, if material is sourced from a private landowner, the necessary approvals would be obtained prior to removal of any material.

4.10.4 Train operation

Issue

Transport for NSW has requested further information on expected train speed and operability of rolling stock through the proposed new turnouts on the Lake Cargelligo line during the construction phase.

Response

The speed and operation of rollingstock on the Lake Cargelligo Line is not anticipated to be impacted by construction. The majority of works will occur offline with the only impact to the existing line occurring during the 60-hour possession when the trains are switched onto the new junction.

Issue

Transport for NSW has asked ARTC to confirm if train number estimates include regional train movements.

Response

Estimates of train numbers on the I2S railway have been prepared for Inland Rail operations only. Use of the I2S line by rail traffic other than Inland Rail services is not included in these estimates and would be an additional use of the line. Modelling completed for the Inland Rail program has considered the growth in train numbers required for the national domestic freight task, and associated changes to existing freight services.

It is assumed that there would be little or no regional services using the I2S route, given existing patterns of use for the regional lines are dominated by commodities originating in the regional areas, with little consequential change to these services. Nonetheless, prior to the full operation of the Inland Rail program, use of the I2S corridor by existing train services that travel between Junee and Parkes in either direction cannot be ruled out. These services could use I2S in preference to the longer ARTC interstate route via the Bethungra Spiral, Cootamundra and Stockinbingal.

4.10.5 Traffic and transport

4.10.5.1 Active transport

Issue

Transport for NSW would like ARTC to consider safer access to Burley Griffin Way bridge (grade separation) for active transport/pedestrians/cyclists.

Response

While no active transport requirements were outlined by Transport for NSW during the review of proposal concept design, ARTC is committed to safer access for active transport/pedestrians/cyclists throughout the proposal. The current road design for Burley Griffin Way bridge is for 3.5m travel lanes with a fully sealed 2.5-m shoulder on both sides, which is consistent with *Austroads Guide to Road Design Part 3: Geometric Design* (Austroads, 2021). Given

the current road network is not provisioned for active transport, the space provision of the 2.5-m shoulders can be considered space for cyclists, as noted by Austroads.

4.10.5.2 Construction access

Issue

ARTC is proposing five construction access points from the State Road network. Transport for NSW requests additional information on the proposed intersection treatments at each access location to demonstrate the location and treatment is suitable for the type and volume of vehicles expected to use the intersections. This includes consideration of road safety impacts or measures required to address potential short stacking issues.

To prevent short stacking, Transport for NSW has requested ARTC ensure that all new intersections have a minimum storage length of 70m, to account for current design vehicles (36.5m), plus potential for a future, larger Higher Productivity Vehicle design (60m). The EIS only mentions current heavy vehicle prescriptive 18m and 26m B-doubles. It has not considered the impacts of the 36.5m design vehicle as agreed to by ARTC and Transport and there is no mention of class 1 OSOM movements. This additional information must be considered during traffic and transport assessment, in particular, within the assessment of proposed diversion routes.

Transport for NSW has requested ARTC to include Higher Mass Limits network and correct/clarify approved B-double routes subject to conditions. Further consultation with Transport for NSW is required to ascertain all approved vehicle combinations along the route.

Response

The temporary intersection treatments would vary depending on the location, traffic conditions and haulage movements. Treatments would be considered in the Traffic, Transport and Access Management Plan, which would be prepared as part of the CEMP (mitigation measure T-5). ARTC would obtain all required approvals and permits to undertake the proposal, as described in chapter 3 of the EIS, and in accordance with the conditions of approval. Any vehicle access points would be designed to meet the relevant Australian, ARTC and road manager standards.

Short stacking is not an issue for any proposed work sites on I2S. All interfaces currently accommodate a 36.5 m minimum design vehicle except for level crossing LX602 (adjacent Olympic Highway), did not comply. The Minister for Transport and Roads officially approved the proposed closure of level crossing LX602 on 31 March 2023 under Section 99B(1) of the *Transport Administration Action 1988* (NSW). In line with this approval, the level crossing was closed 31 May 2023.

All rural roads within Cootamundra Shire are within an approved B-double area with the exception of roads affected by the 15-tonne load limit. All classified and rural roads within Junee Shire are approved for use by B-double trucks. Tenandra Road and residential streets within Junee, Bethungra and Illabo townships, unless gazetted as approved, are excluded from the general approved areas.

A new mitigation measure, T-4, is proposed, which requires ongoing engagement with Transport for NSW or Councils, as relevant, on those aspects of the proposal design that affect the operation of road and other transport infrastructure.

Issue

Upgrades are required to the road network to support access to site without the need to temporarily control traffic. It is also unclear to Transport for NSW which access locations will be maintained for maintenance access during operation of the proposal.

Response

Detailed design and construction planning would avoid or minimise the potential for impacts on the surrounding road and transport network as far as reasonably practical. Mitigation measure T-1 has been amended to strengthen the requirements for road safety audits and risk assessment where changes to the road network are required, in accordance with relevant Austroads guidelines and supplements; and that audit findings would be actioned before construction of the relevant infrastructure.

The EIS is developed on an indicative level of design and construction methodology. Details of construction techniques, where maintenance access will be located and specific measures to manage impacts cannot be finalised until a construction contractor is appointed, as they will be responsible for the day-to-day activities onsite.

In accordance with mitigation measure T-5, a Traffic, Transport and Access Management Plan would be prepared and implemented as part of the CEMP. The plan would include measures, processes and responsibilities to minimise the potential for impacts on the community and the operation of the surrounding road and transport environment during construction. The plan would be developed in consultation with relevant stakeholders, including local councils, Transport for NSW, emergency services and public transport/bus operators.

Maintenance access points will be provided at every location where the rail corridor interfaces with a public road.

Section 5.5.1 of Technical Paper 3 states that low volumes of maintenance and repair vehicles are likely to be required along the proposal during operation, on an ad-hoc basis. Given the presumed low volume and occasional nature of these trips, their impact on the road network is considered negligible.

Issue

ARTC to clarify which livestock highways are proposed for workforce and construction vehicles.

Response

There is a livestock highway that traverses five roads that are also used as proposed workforce and construction routes. These roads include:

- construction route from Temora (Old Cootamundra Road)
- construction route from Wagga Wagga (Olympic Highway, Goldfields Way)
- construction route from Cootamundra (Dudauman Road, Grogan Road)
- workforce accommodation and camp location (Grogan Road)
- construction route (Dudauman Road).

Issue

Transport for NSW has requested ARTC to clarify the Level of Service (LoS) for Hibernia Street (with proposal) and the impact of construction traffic on LoS.

Response

The LOS of the roads used as routes to the alignment have been determined for the 2026 assessment year, with and without two-way peak-hour construction vehicles. It is noted that a proportion of the total peak-hour construction vehicles was applied to each road based on assumptions about trip generation and routes detailed in section 5.1, 5.3.3 and 5.3.4 of EIS Technical Paper 3.

During construction, all assessed roads are calculated to maintain operation at LoS B apart from Hibernia Street, Troy Street and Olympic Highway (west of Bethungra), which decline to LoS C but remain at a satisfactory performance level. Following construction the LoS would revert to pre-construction service levels.

Issue

Transport for NSW has requested ARTC to provide maximum delay times at public level crossings to manage community expectations.

Response

Estimated maximum delays at public level crossings are provided in Table 11-9 of the EIS. For average delay times at construction route intersections refer to Section 5.4.1 of Technical Report 3: Traffic, Transport and Access. For estimated delays due to diversions, refer to Section 5.4.8 of Technical Report 3: Traffic, Transport and Access.

Issue

Transport for NSW has highlighted an error in the EIS. The EIS makes reference to construction intersection access details provided in section 5.3.8 of Tech Paper 3 – Traffic, Transport and Access. This section does not exist. Proponent to correct references.

Response

ARTC acknowledges this error. Chapter 11 of the EIS reference to construction intersection access details should reference section 5.4.1 of Technical Paper 3: Traffic, Transport and Access.

4.10.5.3 Construction detours

Issue

Transport for NSW has requested additional information on the proposed upgrades to Troy Street and confirm the detour is safe for heavy vehicles and if not provide detail of further mitigation measures. Transport for NSW has also requested that dilapidation reports be undertaken on Troy Street and Dudauman Street and that diversion routes are included under mitigation measure T-8.

Response

ARTC no longer proposes to use Troy Street as a detour during construction.

In relation to dilapidation surveys, ARTC has amended mitigation measure T-8 to include the requirement for diversion routes to be surveyed at the start of construction.

Issue

Modelling conducted as part of the traffic assessment should use industry standard guidelines and consider the guidance provided on model technique selection. The assessment methodology does not refer to Transport's Traffic Modelling Guidelines 2013. The proposal is not considered a traffic generating development. The proponent's modelling shall utilise industry standard guidelines and consider the guidance provided on model technique selection.

Response

In line with the SEARs for the proposal, the SIDRA modelling used in the assessment of traffic impacts has been informed by industry standard guidelines including the *Guide to Traffic Generating Developments* Version 2.2 (RTA, 2002). ARTC understand that the proposal is not a traffic-generating development; however, the methodology and performance standards, such as level of service criteria, has been applied to inform the assessment of construction traffic impacts on the local road network.

The RMS Traffic Modelling Guidelines 2013 were also used to inform the approach, including aspects such as the Level of Service (LoS) method as RTA NSW, and the core performance outputs used. ARTC notes that this latter guideline has been erroneously excluded from the reference list.

Issue

Transport for NSW has requested further information on estimation of the number of light vehicles traveling to site or otherwise indicate how peak personnel will be travelling to site.

Table 8-11 of the EIS indicates a maximum of 80 two-way trips per day for light vehicles. Elsewhere in Chapter 8 of the EIS it states that 'Light vehicle movements would largely be based on the amount of construction workers travelling to site each day'. Section 8.4.2 of the EIS notes a peak workforce of 425 personnel. Can ARTC provide clarification on inconsistencies around traffic volumes.

Response

Based on feedback from DPE during adequacy review, the EIS was updated with a workforce accommodation camp location and impact assessment (EIS Appendix I). For this assessment, shuttle buses were assumed to be used to transport workforce between the accommodation camp and construction site accesses, rather than individual light vehicles as assessed in Technical Report 3: Traffic, Transport and Access.

Due to the late stage of these changes, this refined approach was not captured in a revised traffic technical report or EIS traffic chapter but was only presented in the EIS Appendix I accommodation camp assessment. Further details regarding the traffic associated with the workforce accommodation camp are provided in Section 4.7.1.1 and Appendix J of this report.

4.10.5.4 Road safety

Issue

Transport for NSW requests that the Road Safety Audit team include appropriately qualified Transport for NSW representatives independent of the proponent's project team for enhancement sites where changes to the road network are proposed.

Response

Mitigation measure T-1 requires Road safety audits and risk assessment to be undertaken by independent advisors where changes to the road network are required, in accordance with relevant Austroads guidelines and supplements, to ensure the safety of all road users is considered in the design process. Audit findings would be actioned before construction of the relevant infrastructure.

Issue

Transport for NSW has requested ARTC undertake a formal risk assessment in consultation with Transport for NSW to determine whether Dudauman Creek Bridge is a hazard as a result of the construction of the Burley Griffin Way bridge. Consideration should be given to an upgrade of Dudauman's Creek bridge as part of the proposal.

Response

Transport for NSW's concerns and considerations are noted. Mitigation measure T-1 has been amended to strengthen the requirements for Road Safety Audits (RSA), and a risk assessment of the design has been conducted where changes to the road network are required, in accordance with relevant Austroads guidelines and supplements. Audit findings would be actioned before construction.

4.10.6 Hydrology, flooding and water quality

4.10.6.1 Flooding impacts—operation

Issue

Transport for NSW has asked ARTC to continue to liaise with Transport as a key stakeholder regarding hydrology and flooding mitigation and design.

Response

ARTC would continue to liaise with all agencies as relevant as the detailed design progresses. In accordance with a proposed new mitigation measure, T-4, ARTC is committed to seeking input from relevant stakeholders (including Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

Issue

TfNSW has indicated the assumed QDLs are not suitable for the proposal and should not be used for the below reasons:

- The position held by the NSW Government, and Transport for NSW, is that any road covered by water should not be driven through. As such hazard category is no longer relevant to the proposal. The references to 'Hazard Category' can be removed as they are now redundant.
- Concessions granted by Transport for NSW for increased afflux to 50mm where highway upgrades were being planned are not applicable to the I2S proposal. The assumption that QDLs for I2S will be the same as those for the N2NS Separable Portion 1 or NS2B is not supported.
- Transport for NSW does not accept additional flooding on the State Road Network. Greater assurance that the proposed afflux impacts can be eliminated or further mitigated through design is required.

Response

DPE was consulted to develop proposal-appropriate and consistent QDLs. The QDLs, including the use of hazard categories proposed in Section 5 of the Updated Hydrology and Flooding Impact Assessment Report resulted from this consultation and the considerable assessment of hydrology matters across the Inland Rail program. The QDLs are the same as the recently approved values for the Inland Rail Narromine to Narrabri project. Subject to ongoing consultation with DPE and other stakeholders, it is envisaged that the QDLs would form part of the Conditions of Approval and be used during detailed design of the proposal.

As documented in Table 7.6 and Table 7.14 of the Updated Hydrology and Flooding Impact Assessment and reproduced in Table 4-2, the afflux criterion of 50 mm is not exceeded at any of the roads (local or state) at the proposal crossings. From a review of the flood model data, and as presented in Table 4-2, the following roads are already subject to inundation at the proposal crossings:

- Olympic Highway
- Old Sydney Road
- Ironbong Road.

The flood assessment has determined that there is an additional 23 mm of flooding across the Olympic Highway for the 1% AEP flood event. While this increase is within the QDL, it can be mitigated through design refinement of longitudinal drainage infrastructure between the Olympic Highway and the existing Main South Rail line and discharge into Billabong Creek.

TABLE 4-2 EXISTING ROADS THAT EXPERIENCE INUNDATION AT PROPOSAL CROSSINGS

Road	Existing 1% AEP flood depth (mm)	Afflux (mm)	Afflux criterion exceedance (mm)	Risk assessment
Olympic Highway	237	43	0	Existing conditions hazard H4 predicted for a length of 40 m with depths less than 0.5 m and VD <1.0 m^2/s Maximum of 26 0mm flooding above pavement level. Flood duration above pavement level is approximately 18 hours. Both travel lanes flooded up to 140 m. **CONCLUSION: No change to hazard or management of the road during a flood event**
Old Sydney Road	430 mm	0	0	Existing conditions hazard H1 predicted for a length of 45 m with depths at proposal crossing. No flooding above pavement level. **CONCLUSION: No impact on Old Sydney Road at proposal** It is noted that there will be no change to flood immunity or flood hazard for remainder of Old Sydney Road.
Ironbong Road	300 mm	0	0	For existing conditions immunity less than 5% AEP to the north and south of Ulandra Creek based on LIDAR level of road surface. Existing conditions hazard H4 predicted for a length of 15 m with depths less than 0.5 m and VD<1.0 m^2/s The Ironbong Road level crossing is flood free in the 1% AEP event. The realigned section north of the level crossing will experience depths up to 400 mm for the 1% AEP event on the eastern edge but the western edge will experience depths up to 200 mm. Currently the full road width is inundated up to 300 mm but the hazard will be H2 with isolated sections of H3. The duration of inundation is up to 20 hours for design conditions, which is similar to existing conditions. **CONCLUSION: the flooding affectation of Ironbong Road has been improved with the level crossing and realignment, and the hazard has been reduced. Flood warning and flood depth markers will still be required.**
Dirnaseer Road	0	0	NA	It is noted that Dirnaseer Road is subject to inundation along sections away from the proposal. The proposal will have no impact on the behaviour of flooding along Dirnaseer Road.
Old Cootamundra Road	0	NA	NA	It is noted that Old Cootamundra Road is subject to inundation along sections away from the proposal. The proposal will have no impact on the behaviour of flooding along Old Cootamundra Road.
Dudauman Road	0	0	0	For existing conditions, road is subject to inundation from Powder Horn Creek for the 2% AEP event and above. Existing conditions 1% AEP hazard H2 predicted for a length of 4 0m with depths less than 0.1 m. No change in flood hazard and therefore no change to operation of the Dudauman Road at Powder Horn Creek.
Burley Griffin Way—at Dudauman Creek		58	8	For existing conditions at the bridge crossing of Dudauman Creek, the road has a 1% AEP immunity. To the east of the crossing a 35 m section of road inundated up to 0.13 m in the 2% AEP event. The remainder of the road has at least one lane flood free for the 2% AEP. **CONCLUSION: No impact to Burley Griffin Way at Dudauman Creek.** The increase is localised to a section of road that will be made redundant with the realigned road. **CONCLUSION: The hazard does not change for this section of road and remains at H1. The section of road impacted will not have public access following the realignment of Burley Griffin Way and therefore the increase is not considered material or relevant.**

Road	Existing 1% AEP flood depth (mm)	Afflux (mm)	Afflux criterion exceedance (mm)	Risk assessment
Burley Griffin Way—at Hibernia Street		0	0	For existing conditions at Hibernia Street, between West and Cynthia Street, the road in inundated up to 150 mm for the 10% AEP event at the level crossing and reduces to 100 mm around the corner. For the 1% AEP, peak flood depths are 400 mm at the level crossing but reduce to 300 mm at the corner on Hibernia Street, and further reduce to 100 mm near the bowling club. The realigned Burley Griffin Way will not result in an increase in flood depths on the new or existing road pavement. (refer to figure and discussion below.) The intersection of West Street and Hibernia Street will now have a 1% AEP immunity. **CONCLUSION: Improvement to flood immunity and no change to immunity beyond the proposal corridor**

A new mitigation measure, T-4, is proposed to seek input from relevant stakeholders, including TfNSW, prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

Issue

Transport for NSW recommends detailed survey be undertaken at key locations where existing flood immunity is likely to be impacted by the Proposal (as an absolute minimum) to confirm the accuracy of the LIDAR data used to determine existing infrastructure AHD levels in the flood assessment.

Response

Detailed survey of the Olympic Highway is proposed as part of the future design stages. This includes survey of the drainage channel adjacent to Olympic Highway and Main South Line, and the Billabong Creek road over bridge. Refer to mitigation measure HF-1. Detailed flood modelling would consider potential changes to:

- building and property inundation (including floor-level surveys and consideration of existing inundation levels)
- contour banks and dams (including survey of these features to ensure continuous operation of these features)
- existing rail line, at rail connections
- level crossings and road flood levels, and extent of flooding along roads
- overland flow paths and storage effects of construction and operational infrastructure
- consequential changes arising through TfNSWs Harris Gates Grade Separation Project.

Issue

Transport for NSW has requested additional information on the potential scour and erosion impacts to the embankment and any proposed scour protection to mitigate these impacts along the proposed realignment of Burley Griffin Way.

Response

The section of the proposed realignment of Burley Griffin Way is located on a floodplain with slow-moving floodwaters and therefore it is subject to ponded water rather than erosive flows. Refinement of the drainage design will continue during detailed design. Refinement of flood risk management measures around the realigned Burley Griffin Way will continue to consider scour, erosion and embankment stability due to deep flood water.

The estimated design velocities for the 1% AEP flood event are less than 0.5 m/s along the base of the Burley Griffin Way embankment except at one location. Mitigation measure HF-3 outlines that detailed design would consider channelling of water around Ironbong Road Level Crossing and Burley Griffin Way realignment. This includes the potential formation of detention basins as a means of retaining flows in a similar manner to existing farm dams and flood levees. The detention basin will be designed to consider the inflow velocities.

Issue

Proponent to correct document errors for readability:

- Include a table of contents at the beginning of Appendix C and D of EIS Technical Paper 4 to assist with navigating the document
- The flood maps in Appendix C and D to include an inset map with smaller scale which clearly identify and label the reference location for each road
- Flood maps for hazard category be provided if being relied upon in the assessment
- Flood maps include velocity depth product map in order to better understand depth and velocity of flow in critical areas.

Response

A list of the flood maps is provided at the front of Appendix C and D of the Updated Hydrology and Flooding Impact Assessment Report. This list is also summarised in Table 7.2 in section 7.2.2 of the updated Technical Paper 4.

The flood maps of the updated Hydrology and Flooding Impact Assessment Report identify all roads intersected by the proposal and the inset map for each map shows the roads as key features. No changes have been made to the maps included in updated Hydrology and Flooding Impact Assessment Report.

Flood hazard maps have been prepared and included in Appendix C of the updated Technical Paper 4 and the maps show the velocity depth product rather than the flood vulnerability classification.

Refer to the Updated Hydrology and Flooding Impact Assessment Report for all updated information with regards to the updated flood maps.

Issue

Transport for NSW noted that sufficient drainage structures are required to mitigate potential overflow of water onto the State Road/Rail Network, this includes any access roads onto the State network. The controls need to be sufficient to mitigate the potential impacts on the safe operation of the State Road Network.

Transport for NSW has requested flood modelling to be undertaken in consultation with Transport for NSW and the listed stakeholder groups. Transport notes the commitment to undertake flood modelling to further refine the detailed design under mitigation measure HF-1.

Response

There are two state roads in the proposal study area—Burley Griffin Way and Olympic Highway. No existing drainage infrastructure to these roads is being altered or flow being changed; therefore, the potential for scour and flow distribution changes are anticipated to be minimal. Noting Burley Griffin Way is being realigned but the existing culverts are not being altered.

New drainage infrastructure will be provided with the realigned road. In line with mitigation measure HF-1, the design would continue to be refined where practicable to not worsen existing flooding characteristics at sensitive receptors, up to and including the 1% Annual Exceedance Probability (AEP) event.

Detailed flood modelling would consider potential changes to:

- building and property inundation (including floor-level surveys and consideration of existing inundation levels)
- contour banks and dams (including survey of these features to ensure continuous operation of these features)
- existing rail line, at rail connections
- level crossings and road flood levels and extent of flooding along roads
- overland flow paths and storage effects of construction and operational infrastructure.

Flood modelling for the proposal will be updated at detailed design. There has been ongoing refinement in consultation with NSW DPE to develop proposal-appropriate and consistent QDLs. The QDLs proposed in the Updated Hydrology and Flooding Impact Assessment Report have resulted from this consultation and the considerable assessment of hydrology matters across the Inland Rail program.

Subject to ongoing consultation with NSW DPE and other stakeholders, it is envisaged that the QDLs would form part of the Conditions of Approval and be used during detailed design of the proposal. Throughout the detailed design phase ARTC would continue to seek to improve flood behaviour outcomes and would continue to negotiate performance outcomes with asset owners, including TfNSW. It is acknowledged that Transport for NSW has been part of the Community Consultative Committee for the proposal and therefore has been informed at each of these meetings of the QDLs, and the flood model results have been presented at the November 2021 and February 2022 meetings.

Issue

Sufficient Erosion and Sediment Control is required to mitigate potential overflow of materials in solution onto the State Road Network. The controls need to be sufficient to mitigate the potential impacts on the safe operation of the State Road Network.

Response

A soil and water management plan (SWMP) would be prepared as part of the CEMP in accordance with mitigation measure SC-6 and WQ-3. The SWMP would be in accordance with best practice, reflected in *Managing Urban Stormwater: Soils and construction - Volume 1* (Landcom, 2004), *Volume 2C Unsealed roads* (DECC, 2008b) and *Volume 2D, Main Road Construction* (DECC, 2008c) (collectively known as the Blue Book).

The SWMP would include measures, processes, and responsibilities to minimise the potential for soil and water impacts (including impacts to groundwater) during construction. Requirements in relation to the contents of the soil and water management plan are provided in the outline CEMP in Appendix E of the EIS. The plan would identify monitoring locations at discharge points and selected watercourses where works are being undertaken, monitoring parameters, and frequency and duration of monitoring.

4.10.6.2 Impacts to water courses and water quality—construction

Issue

Transport for NSW has requested additional information regarding the proposed construction and operational water quality controls for the realigned Burley Griffin Way.

Response

The strategy to manage water quality is provided in Chapter 13 of the EIS. Section 13.7 of the EIS notes that the Burley Griffin Way Bridge would include longitudinal pit and pipe drainage to allow for the capture of road run-off flows from the bridge deck and at the edge of the pavement.

The implementation of erosion and sediment control measures to manage water quality and hydrology impacts during construction would be in accordance with the requirements of the Blue Book. The approach to managing water quality within receiving watercourses has been developed with reference to the water quality management framework defined in the ANZECC & ARMCANZ (2000) water quality monitoring guidelines and will be outlined in the soil and water management plan prepared as part of the CEMP (as required by mitigation measure WQ-3).

4.10.7 Aboriginal heritage

4.10.7.1 Engagement with Traditional Owners

Issue

Transport for NSW has emphasised the *Aboriginal Participation Plan* for this proposal should be co-designed with Transport for NSW, local Aboriginal Local Decision Makers (LDM), peaks and businesses in a holistic way that also considers cultural heritage values and other impacts on the broader Aboriginal community. It should reflect Transport for NSW and NSW Government policy around shared decision-making including Transport for NSW's *'Ngiyani Winangaybuwan Bunmay' Principles and Framework for Aboriginal Engagement* in a meaningful and culturally sensitive manner.

Further work needs to be undertaken to embed community engagement like the *Yarns Parai*, embed principles from the NSW Government Architect's *Connecting with Country* and *Designing on Country* frameworks.

Proponent to ensure Aboriginal voices are reflected in the reports not just for heritage. Consultation on cultural heritage needs to be uplifted to meaningful engagement on the whole project and shared decision making consistent with NSW Government policy under Closing the Gap.

In-depth engagement is required with local Aboriginal communities, peak bodies, local decision makers, and Aboriginal businesses to understand the impacts on Aboriginal communities. All of the affected land is Aboriginal 'Country' with impacts on the local communities. The SIMP should be developed in close consultation with Aboriginal LDMs, knowledge holders, peak organisations and community from the outset. NSW Government policy under Closing the Gap is to increase shared decision making with Aboriginal communities, peak bodies, Local Decision Makers, and Aboriginal businesses.

Response

ARTC acknowledges the interests of Transport for NSW in maximising outcomes for First Nations communities. ARTC has engaged with Aboriginal stakeholders and community centres during preparation of the EIS to gain an understanding of the impacts of the proposal and to share a vision to maximise outcomes such as training, employment, and procurement for Aboriginal people and businesses. This consultation will continue throughout the proposal design and construction stages in line with ARTC's principles.

Issue

Transport for NSW notes the EIS states ‘The Wiradjuri nation is comprised of 21 Local Aboriginal Land Councils...’. Local Aboriginal Land Councils are statutory bodies and do not reflect tribal nations nor tribal boundaries. Transport for NSW has recommended ARTC reword this section of Technical Paper 7 – Aboriginal Cultural Heritage.

Response

ARTC acknowledges this advice. NSW Local Aboriginal Land Councils are statutory bodies and do not reflect tribal nations nor tribal boundaries.

Issue

Transport for NSW has requested reference to ‘NSW Land Rights network’ be removed from the EIS as it is unclear as to the meaning of this phrase and how it relates to Inland Rail or Aboriginal heritage.

Response

The ‘NSW Land Rights network’ is incorrectly phrased and should be referenced as ‘NSW Local Aboriginal Land Council network’.

4.10.8 Noise and vibration

4.10.8.1 Construction vibration

Issue

Transport for NSW has requested any associated Traffic Management Plans (TMP) for blasting operations need to be developed through engagement and feedback from Transport, the local community and road users and progressively monitored to manage performance and expectations. Any blasting operations should be managed so that they do not impact the safe operation of the State road network, this includes management of potential fly rock, dust and/or excessive or distractive noise or vibration for road users. Specific maximum blast pressure tolerances may be required for Transport for NSW networks/assets.

Response

Blasting operations and relevant controls would be outlined in the *Blast Management Strategy* required by mitigation measure NV-3. The Blast Management Strategy would be prepared in accordance with relevant guidelines, and in consultation with the NSW EPA. Monitoring of blasting would occur under the *NSW EPA Approved Method for Measurement and Analysis of Environmental Noise* (2022) and guidelines. Under NV-3, drilling and blasting activities will be managed so as to not adversely impact state road networks, and has been updated accordingly.

The Construction Traffic, Transport and Access Management Plan (CTTAMP) required by mitigation measure T-5, would include measures, processes and responsibilities to minimise the potential for impacts on the community, and the operation of the surrounding road and transport environment during all construction works., including blasting The plan would be developed in consultation with local councils, Transport for NSW, emergency services and public transport/bus operators, as applicable and will include a traffic management plan and staging plans of the proposed works; accordingly, a blasting-specific TMP is not considered necessary.

As indicated previously, a new mitigation measure is proposed, which outlines that ongoing engagement with Transport for NSW will continue during the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

Issue

Transport for NSW has highlighted there is no unit of measurement for cut depth as shown in Table 8-4 of the EIS. 'Cut depth' ranges from 5 to 13.7. ARTC to confirm the unit of measurement.

Response

ARTC can confirm the units shown in Table 8-4 of the EIS for cut depth are in metres.

4.10.8.2 Operational noise

Issue

Transport for NSW has requested ARTC to review night-time train numbers and confirm and indicate changes to noise levels as appropriate.

Response

ARTC has reviewed night-time freight train numbers proposed for the proposal. The train numbers shown in Table 17 and 18 of Technical Paper 8: Construction Noise and Vibration outline respective train numbers in daytime and night-time, and are representative of likely operating scenarios in 2026 and 2040. It should be noted that the night-time period is deemed to be 9 hours (from 10 pm to 7 am) and the day-time period is therefore 15 hours (7 am to 10 pm).

ARTC will address operational noise impacts consist with the Rail Infrastructure Noise Guideline (EPA, 2013).

Issue

Transport for NSW suggests DPE should include Angle of Attack (AoA) monitoring in the consent for Inland Rail on a suitable tight-radius curve. A similar monitoring program to South Australia could be implemented to identify high noise events.

Response

The proposal includes one relatively short section of tight-radius curve where the proposal ties into the existing rail corridor. Modelling (which included correction factors for tight radius curves) identified no exceedance of the Rail Infrastructure Noise Guideline criteria. Inland Rail has been specifically designed to avoid tight radius curves and therefore potential locations and benefits of an AoA monitor are limited. For these reasons, ARTC does not propose to install an AoA monitor on the NSW section of Inland Rail.

4.10.9 Social outcomes

Issue

Transport for NSW has outlined the need for a strategy to maximise social outcomes from this proposal, not just mitigate or manage social issues. Transport for NSW would recommend this should go beyond the mitigation measures included in Table 17-6 of the EIS.

Response

Mitigation measure SE-1 requires that a *Social Impact Management Plan* (SIMP) would be prepared as part of the CEMP to manage the implementation of the proposed socio-economic mitigation and enhancement measures, and to detail the specific management actions that would be developed in response to these measures. The SIMP would define specific actions, roles and responsibilities, and a monitoring, reporting and adaptive management framework for construction.

Issue

Transport for NSW would like ARTC to clearly identify community benefits and costs in the *Social Impact Assessment* and *Economic Impact Assessment*, and demonstrate how these will be achieved in the draft *Social Impact Management Plan* (SIMP) Appendix D. These should include (but not be limited to) employment opportunities, education and training for regional youth and Aboriginal people. These benefits should be mapped to higher order outcomes e.g., wellbeing using a program logic or benefits realisation framework. They should be quantified. The plan should also include employment and training targets for people with disability.

Response

Table 8.10 of Technical Report 11: Social Impact Assessment includes an assessment of social impacts during construction and operation. Technical Report 11 includes cumulative impacts and impacts post implementation of mitigation measures. These impacts are summarised in section 11 of Technical Report 11.

The key social aspects likely to be positive are new workforce and industry participation opportunities for local residents, businesses, legacy skills and business capacity development opportunities for regional residences during construction.

The key negative impacts are potential impacts to short-term accommodation market availability during site visits, restriction, and changes to community and emergency access and movements due to level crossing delays, potential negative perceptions of safety for people and livestock, ongoing stress and anxiety relating to the acquisition process.

Section 4 of Technical Paper 12 outlines that the proposal alignment has been designed to minimise impacts to local business and industry as far as practicable; however, the proposal is likely to result in disruption to agricultural businesses through the loss of agricultural land (through disturbance, acquisition, or sterilisation), disruption to farm management, or changes in accessibility or connectivity to market.

This has the potential to negatively impact the productive capacity and total economic value from the local agricultural industry, including impacting potential exports from the study. It is anticipated, however, that the total scale of this impact is not anticipated to be material. ARTC will work with individual landowners to develop suitable management solutions based on individual farm management practices to mitigate and manage these impacts.

The SIMP would be prepared to consider the appropriateness of including the suggested targets and reference to local market conditions. The SIMP would outline measures to manage the implementation of the proposed socio-economic mitigation and enhancement measures. It would detail the specific management actions that would be developed in response to these measures. The SIMP would define specific actions, roles and responsibilities, and a monitoring, reporting and adaptive management framework for construction.

Issue

Transport for NSW would like ARTC to ensure social assessment and social impact management includes a methodology to weight and capture benefits accruing to the local regional communities including cohorts of interest. There should be an economic appraisal methodology (e.g., willingness to pay) to demonstrate how benefits are being optimised and costs minimised for these local communities (essentially 'triple bottom line' type analysis).

Response

The Social Impact Assessment (EIS Appendix 11) was prepared in line with the 2021 DPE SIA Guideline, and relevant ARTC Inland Rail procedures and policies. Broadly the approach included:

- identifying the preliminary potential social impacts of the proposal
- defining the proposal's social locality
- reviewing the outcomes of stakeholder engagement
- developing a social baseline
- predicting and identifying potential social impacts
- conducting tailored engagement through face-to-face and online surveys
- assessing cumulative social impacts
- assess the residual significance ratings
- determining mitigation and management strategies.

The Economic Impact Assessment (EIS Appendix 12) states that there were two components to the assessment:

- Evaluation of the likely benefits of the discrete proposal (economic benefits assessment). This analysis assesses only those impacts that would be likely if freight operators were to respond to the completion of the individual project.
- Description of the CBA economic performance measures calculated for the Inland Rail Program as a whole (as per the Inland Rail Program Business Case (2015)).

The approach to the economic benefits assessment taken in this technical report draws from the existing literature and guidelines surrounding the economic appraisal of infrastructure projects, including but not limited to:

- Infrastructure Australia's (IA) Assessment Framework
- Transport for NSW's Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives (2018)
- The Australian Transport Assessment and Planning (ATAP) Guidelines.

These guidelines include the consideration for projects around willingness to pay when developing economic assessments and business cases.

4.10.10 Statutory requirements

Issue

Transport for NSW has requested to include additional relevant acts and policy documents including *NSW Government Property Acquisition Standards*, *TfNSW Property Acquisition Policy*, *Transport Administration Act 1988, Roads Act 1993, Public Works and Procurement Act 1912* and the *Transport for NSW Property Acquisition Process (December 2021).*

Response

The EIS refers to the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW), which is the overarching property acquisition legislation. It is understood that Transport for NSW as the acquiring authority, and ARTC when representing Transport for NSW as acquiring authority, would follow all applicable statutory obligations, and all policies and guidelines as appropriate, in carrying out acquisitions under the Act.

4.10.11 Land use and property

4.10.11.1 Property severance

Issue

Transport for NSW has cited further consideration of transport access across Inland Rail for severed lands, or safe alternative routes, is required.

Response

Wherever feasible, the proposal would provide access and/or connectivity to severed parcels of land. This connectivity will be provided via either public/Crown roads, private level crossings, stock underpasses or a combination thereof. Details of this connectivity will be discussed with each affected landowner.

In accordance with mitigation measure LP-1, the design and construction planning would continue to be refined to minimise potential impacts on land uses and properties as far as reasonably practicable. Consultation with landowners would be ongoing during detailed design to identify feasible and reasonable measures and opportunities to minimise impacts on their operations/properties.

ARTC would seek agreement with affected landowners, to guide property-level design requirements and the management of construction on, or immediately adjacent to, private properties. Each impacted property owner would be consulted to identify and understand the operational needs of their property and the activities conducted upon it, with a view to seeking tailored agreements to reflect agreed outcomes. This process is confirmed through mitigation measure LP-3.

A new mitigation measure SE-2 (see Appendix B of this report) is proposed that commits ARTC to preparing a consultation protocol to inform landowners and provide clarity of how ARTC will interact with them in relation to the design process, property changes, acquisition steps and processes with the aim of reaching agreement on these matters.

4.10.11.2 Engagement with stakeholders

Issue

Transport for NSW has requested ARTC continue to liaise with Transport for NSW as a key stakeholder regarding future use of Transport for NSW road corridor.

Response

ARTC would continue to liaise with all agencies, including Transport for NSW, as relevant, as the detailed design progresses on future use of the Transport for NSW road corridor. As indicated previously, a new mitigation measure is proposed that outlines ongoing engagement with Transport for NSW will continue during the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

4.10.12 Landscape and visual impacts

Issue

Transport for NSW would like individual lights, including train lights, to be assessed against background light levels, the exposure to road users and the potential distractive range for safety impacts on road users.

Response

Trains must have a working headlight fitted to the leading locomotive, and travel with the headlight switched on full when the train is moving on the ARTC Network. The headlight must be dimmed under specific circumstances, such as when approaching an opposing train or workers on or about the track. Headlights may also be dimmed at the discretion of the train driver when the use of headlights in the full position may threaten the safety of road traffic on adjacent roadways. For example, lights may be dimmed when a train travel travels through an active level crossing where traffic has stopped at the level crossing.

ARTC will undertake the appropriate Safety in Design process during detailed design and TfNSW will be included in Safety in Design workshops where there is an interface to TfNSW.

Technical Paper 13: Landscape Character and Visual Impact included lighting assessment for a number of viewpoints along the proposal corridor. Lighting impacts during both the construction and operational phases has been assessed through a high-level qualitative assessment. Exact details of lighting such as locations, numbers and lux levels for both the construction and operational phases are yet to be determined and would be developed during the detailed design phase. A summary of this assessment is included in Section 5.5 of Technical Paper 13.

A supplementary landscape character and visual impact assessment is provided at Appendix I. The lighting assessments are unchanged from Technical Paper 13 in the EIS.

Issue

Burley Griffin Way is not shown in Figure 19.

Response

ARTC advises that figures are provided as indicative only. These will be updated during design development once a design and construction contractor is engaged, should the proposal be approved.

4.11 NSW Police

4.11.1 Workforce accommodation plan

Issue

Stockinbingal is a Single Unit Police Station and is a satellite station for the Cootamundra district. This means the station is generally unmanned. Stockinbingal Police Station does not respond to jobs at night as a single unit. The officer is only available for recall every second week, meaning on the off week all after hours jobs will be responded to by Cootamundra District. There are many incidents where a single unit police officer cannot attend by themselves, these include acts of violence, domestic violence, intoxicated persons, and incidents which may result in the arrest of any person. Due to the risk associated with these incidents, Police are required to wait for further officers to attend from Cootamundra for assistance. This would delay Police response to urgent jobs due to travel time from Cootamundra to Stockinbingal.

Response

ARTC acknowledges the remote and part-time staffing of the Stockinbingal Police Station. Maintaining safety and security of the community and the proposal's workforce, while not burdening the existing community services, is important to ARTC.

Mitigation measure ASE-1 has been revised to ensure a temporary workforce accommodation management plan is prepared. The measures would include managing potential impacts of the non-resident construction workforce on local and regional communities in conjunction with ASE-2, ASE-3 and ASE-4. The measures would be developed in line with ARTC's Inland Rail Program Accommodation Principles prior to the start of construction to define measures that would be implemented to manage the potential impacts of the construction workforce, including a code of conduct for workers and a zero-tolerance policy relating to anti-social behaviour.

The plans would be developed in consultation with local councils and service providers, including local and regional health and emergency services providers and NSW Police.

Issue

Regarding licenced premises, Stockinbingal Bowling Club currently operates Thursday and Friday evenings with one paid staff member working the bar and often runs on a volunteer basis if opened on the weekend. There is no security, and the facility is not large enough to cater for more than approx. 100 people.

As the accommodation camp is based at Stockinbingal, Police envision that there will be an increased patronage at the Bowling Club which may also increase alcohol fuel incidents at this premises. These incidents would require Police response therefore increasing the workload for the sector and stretching Police resources.

Response

The proposed accommodation camp would provide self-contained amenities, including a mess hall and recreational facilities, which is planned to limit the desire of workers to travel to local towns for these purposes.

Prior to construction, ARTC would confirm workforce requirements and the associated requirements for, and availability of, support services (including health, wellbeing and emergency services) to meet the needs of the non-resident construction workforce. ARTC would develop strategies and measures to meet these needs, as far as practicable, with minimal potential impacts on the local community. The measures would be developed in consultation with local councils and service providers (including NSW Police, health and emergency service providers), where relevant, and would be detailed in the SIMP (mitigation measure SE-1).

Anti-social behaviour within the accommodation camp would be mitigated through the adequate provision of camp policies (e.g. code of conduct), regulations, and security provisions, such as daily breath testing and closed-circuit television (CCTV) cameras. The controls are outlined in mitigation measures ASE-1, ASE-2, ASE-3 and ASE-4.

4.12 UGL Regional Linx (CRN)

4.12.1 Impact on the existing rail corridor

Issue

UGL Regional Linx (UGLRL) would like it noted that part of the proposal site is immediately adjacent to and within the Country Rail Network (CRN) rail corridor, there are a number of issues that were raised that relate to the proposal's proximity to the existing rail corridor, these are:

- Access to the rail land must be permitted in advance, if access is required for minor activities ARTC will be required to enter into a minor activity licence on each proposed location.
- ARTC must submit a Risk Assessment/Management Plan and Safe Work Method Statement detailing any impact on those rail corridors of the CRN for each stage including construction and operation of the development.
- Our records indicate that there has been no formal discussion with either the past CRN RIM or the current one relating to interfaces between the ARTC Inland Rail alignment and the CRN line.
- Prior to the commencement of any works, the Applicant shall provide an accurate survey locating the development with respect to the rail boundary and rail infrastructure.
- Compliance with State Environmental Planning Policy (Transport and Infrastructure) (TISEPP) 2021; UGLRL request that the Response to Submissions report address the requirements of clause 2.99 and Clause 2.98, which related to excavation near the existing rail corridor, and the use of equipment in the air space above the rail corridors respectfully.
- ARTC should provide additional and detailed information on the construction of new level crossing at the Junction of Burley Griffin Way and proposed new track.

Response

ARTC recognises concerns raised by UGLRL. Ongoing engagement between ARTC and UGLRL is covered under the Master Framework Deed with Transport for NSW, which requires ARTC to obtain approvals via UGL under the UGL Third Party Works Process—this includes all UGL requirements throughout the construction phase.

Rail corridor access

ARTC is committed to working with stakeholders in relation to accessing CRN rail corridor. ARTC will ensure its employees and all other persons do not enter any parts of the rail land unless otherwise permitted. ARTC may require access to the CRN during construction. Should access be required ARTC will liaise with UGLRL to agree on the best approach to manage and agree this through access agreements/licences.

Risk Assessment/Management Plan

ARTC will submit a Risk Assessment/Management Plan and Safe Work Method Statement as agreed through the UGL Third Party Works Process.

Engagement

A table of consultation and engagement with UGLRL is provided in Table 4-3.

TABLE 4-3 CRN/UGL ENGAGEMENT

Activity	Timing and location	Method	Stakeholder group	Purpose of engagement
Key stakeholder meeting	June 2018	Face-to-face meeting	CRN	Meeting with CRN gathered feedback on known issues/risks with rail interfaces on the project.
Project update meeting	April 2021	Online Meeting	John Holland (CRN)	Provided CRN with an update on the project with the main discussion focusing on works at Stockinbingal. CRN agreed pushing ownership further west.
Letter – Stockinbingal Boundary Refinement	January 2023	Letter	UGL (previously CRN)	Letter from UGL with Conditional Approval in Principle for the Stockinbingal Boundary Redefinition.
UGL Interface Discussion Meeting	February 2023	Online Meeting	UGL	Discussion about the interface of the UGL line at Stockinbingal. ARTC and UGL to agree on the interface location prior to construction application.

Survey

Boundary delineation between the ARTC network and the CRN will be managed in consultation with UGLRL. The EIS considers and assesses the potential impacts of construction on the local road network. Mitigation measure T-4 provides that input would be sought from relevant stakeholders (including local councils and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

Compliance with State Environmental Planning Policy

Clauses 2.99 and 2.98 of the TISEPP generally apply to development under Part 4 of the *Environmental Planning and Assessment Act 1979.* As this proposal is a project under Part 5 and Critical State Significant Infrastructure, these clauses are therefore not applicable in this instance.

Regardless, ARTC will continue to keep UGLRL informed throughout the project development. As indicated previously, a new mitigation measure is proposed that outlines ongoing engagement with Transport for NSW and UGLRL will continue during the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

Level crossing

Refer to response in Section 5.1.1 Hazards—Rail safety

Issue

UGLRL is not aware of whether there are contaminants found in the rail corridor or on the common boundaries of the development site. In accordance with State Environmental Planning Policy (Resilience and Hazards) 2021- Section 4.6 Contamination and Remediation, the consent authority must consider whether the land is contaminated.

Response

Technical Paper 14 of the EIS (Contaminated Land Assessment) has assessed the proposal's site history and current use to determine the potential risks associated with the physical environment and the proposal site (such as acid sulfate soils and salinity) as well as potential contamination sources, pathways and receptors. The contamination assessment identified a number of (AEC) and potential contamination sources. In the context areas of environmental concern of the proposal these identified risks are considered to be of low to medium risk as, if present, the contamination is likely to be localised and manageable through the implementation of mitigation during construction; however, further pre-work targeted investigations of various areas of concern would be conducted to confirm and clarify this risk rating.

4.12.2 Hydrology, flooding and water quality

Issue

Chapter 12 of the EIS and Technical Paper 4 - Hydrology and Flooding Impact Assessment stated that flood impacts in the construction phase are limited for the duration of the construction work, and the enhancement sites represent small areas in the wider local surface water catchments. As such, the impacts on drainage, flooding, and water quality would be temporary, localised, and minor. However, it does not have information regarding the stormwater management of the Proposal and its impact on CRN. Discharge of stormwater from development during and after construction should be designed to ensure that no adverse effects will be had on the existing watercourse and drain infrastructure system.

Response

The urban areas of Stockinbingal are considered sensitive to changes in flood behaviour in Dudauman Creek but the proposal will not impact any of the existing structures, including two structures on Burley Griffin Way, two sets of culverts for the Lake Cargelligo line and the Stockinbingal to Parkes culverts. The flood modelling and reference design development has identified the complex nature of flooding in the vicinity of the Lake Cargelligo and Stockinbingal to Parkes rail lines due to existing structures, embankments and flood levees. The drainage and flood works in the vicinity of the realigned Burley Griffin Way and Lake Cargelligo Line would be refined during detailed design, which will include detailed survey of the existing land and drainage features, and flood levees.

The existing CRN culverts for Dudauman Creek will not be altered as a result of the proposal works. The realigned CRN line will be designed in accordance Australian Rail Track Corporation Guidelines Track Drainage (RTS3432), Track and Civil Code of Practice – Section 10 Flooding – Technical Note ETC 10-02 and AS7637 Hydrology and Hydraulics (Rail Industry Safety and Standards Board, 2014).

4.12.3 Land use and property

4.12.3.1 Fencing

Issue

The EIS states that temporary site fencing will be installed to ensure construction areas and areas to be impacted are clearly delineated. However, UGLRL believes the EIS does not contain information regarding permanent fencing along the leased network boundaries upon completion of construction. The proposed leased network boundaries will be required to be re-defined and agreed upon. The recommended conditions to be followed include:

- The boundary fences along the CRN impacted by the Proposal should be installed and remain installed during the construction and operation of the proposal in accordance with UGLRL's engineering standards which is available in UGLRL Network Rules and Procedures. ARTC must submit an application to access the CRN to install the boundary fences to UGLRL for its endorsement and for Transport for NSW's approval/approval with conditions.
- The boundary fences along the proposed new rail corridor in its entirety to form part of ARTC's leased network should be installed and remain installed during the operation of the Proposal.
- As stated in I2S EIS – Chapter 8 Proposal description—construction, ARTC must remove temporary fencing once all works are completed and establish permanent fencing.

Response

ARTC has an Inland Rail Program-wide fencing strategy that would guide the detailed design of fencing for the proposal. This strategy assists with consistency of fencing across the Inland Rail program. Fencing requirements would be confirmed during the detailed design phase, in consultation with adjacent landowners, the relevant council, and other infrastructure owners. This is addressed further is Section 6.1.6.2 of this report.

5. Public authorities (including councils)

5.1 Cootamundra-Gundagai Regional Council

5.1.1 Hazards—Rail safety

Issue

Cootamundra-Gundagai Regional Council (CGR Council) requests that all level crossings are built considering all potential safety impacts for road users, and that appropriate safety measures are undertaken to cover these needs.

Response

ARTC acknowledges CGR Council's concerns and requests in relation to level crossings. ARTC's design approach will comply with the Rail Safety National Law in relation to road and rail interfaces.

ARTC uses a consistent safety-based methodology to develop all proposed road-rail interface treatments across the Inland Rail program. This is aligned with the Office of the National Rail Safety Regulator (ONRSR) guidelines, which require that the risks to safety are minimised so far as is reasonably practicable. ONRSR administers and regulates the safety of the Australian railway industry under *Rail Safety National Law*. This methodology has been audited by ONRSR and there were no findings or recommendations. The methodology is detailed in Appendix A of the EIS Technical Report 3: Traffic and Transport Assessment.

The methodology applies the Australian Level Crossing Assessment Model (ALCAM) to determine the 'risk score' for each level crossing. A cost-benefit analysis is then undertaken to assess whether higher levels of protection are justified (e.g. upgrade passive protection to active or active to grade separated). ALCAM is the nationally accepted tool for assessing risk at level crossings, and looks at a range of factors including road and rail volumes and speed, heavy vehicle use, sight distance, road/rail geometry. The road inputs are validated by the relevant road authority through the stakeholder consultation process.

In addition, and in accordance with mitigation measure T-2, all level crossings are designed to comply with the current ARTC and Australian Standards (AS1742.7-2016 *Manual of uniform traffic control devices Part 7: Railway crossings*) (Standards Australia, 2016).

Road safety audits are also included as part of the design development process. The road safety audits incorporate the principles of the Safe Systems Framework approach into considerations of level crossing safety.

To conclude, ARTC has appropriately considered safety for road users and has implemented safety measures where the above approach has highlighted the need to do so.

5.1.2 Hydrology, flooding and water quality

5.1.2.1 Flooding impacts—operation

Issue

CGR Council has been informed of the Hydrological Study completed for the proposed new railway line and what happens around the Stockinbingal township and is concerned that some areas will be adversely impacted by higher water levels. Several Stockinbingal residents have also expressed concern to CGR Council about possible changes to flood heights.

Response

ARTC acknowledges CGR Council's concern. The Updated Hydrology and Flooding Impact Assessment Report includes additional topographic survey that includes:

- Dudauman Creek channel from Burley Griffin Way to Grogan Road, Stockinbingal
- levee banks along Dudauman Creek from Burley Griffin Way to the Lake Cargelligo Line
- local depressions along the Stockinbingal to Parkes rail line and West Street.

For all events up to the 1% AEP flood event, the flood modelling predicts decreased flood levels along Dudauman Creek, downstream of the proposal. The flood model includes all the main hydraulic controls within the proposal footprint (such as the existing roads and rail lines). Local drainage channels have been included where they intersect the proposal footprint but the local drainage channels within the urban areas of Stockinbingal have not been included because they were deemed to not influence flood behaviour in the proposal footprint. It is understood that the area is very flat and there is potential for water to pond, and therefore impact local drainage and underground septic and waste systems. The flood modelling shows that for land beyond the existing Dudauman Creek levees the existing flood behaviour is not predicted to change and therefore worsen these current issues.

Issue

CGR Council has raised concern regarding the drainage at West Street Stockinbingal. CGR Council does not believe the existing drainage line will be sufficient to carry the flow of water from under the railway line and the proposed Culvert PR37559-04. The current open drain is shallow, and the lower end is overgrown with vegetation, which will impact the water flow. The driveway culverts as highlighted also don't seem large enough to carry the volume of water through them, creating additional overland flow into the neighbouring property. The residents of this property are concerned that they will have restricted access during rain events. Figure 12.8 from the EIS shows at this particular gateway there will be an increase in water level of approximately 50 to 100 mm.

There are also concerns that the outlet pipe at the end of this open drain where it runs through the levee bank is undersize; furthermore, flow thought this pipe needs redefining between the outfall and Dudauman Creek.

Response

ARTC acknowledges the concern regarding the capacity of the existing West Street drainage features, which include a channel and driveway culvert. The proposal results in reduced water levels for all events in this area. This will reduce pressure on the existing stormwater systems.

The design would continue to be refined where practicable to not worsen existing flooding characteristics at sensitive receptors, with consideration of the existing drainage infrastructure at this location, up to and including the 1% Annual Exceedance Probability (AEP) event. The detailed design will review and confirm that the proposed optimised flood mitigation measures are incorporated into the final infrastructure designs. ARTC is committed to working with the landowners and Cootamundra-Gundagai Regional Council to develop solutions that are in line with the Stockinbingal Flood Plain Risk Management Plan (FRMP).

The updated flood modelling and flood mitigation measures have resulted in no increase in peak water level at West Street at the outlet of the new culverts under the Burley Griffin Way for all events up to and including the 1% AEP. This is presented in the figures in Appendix D1 of Technical Paper 4: Updated Hydrology and Flooding Impact Assessment Report. There is an increase in velocities at the outlet to the new culverts under Burley Griffin Way but this is within the permanent acquisition boundary. Beyond the permanent acquisition boundary, the design velocities return to existing velocities, up to 0.8 m/s between the acquisition boundary and the landowner driveway approximately 60 m away. The velocities then reduce to less than 0.7m/s from the driveway through to the levees at the end of West Street.

An extract of that plan is included below.

The 2002 Stockinbingal Floodplain Risk Management Plan (FRMP), Section 5, includes recommendations to improve the local drainage. Table 5.1 outlines the specifics to include:

- assess existing drain capacity by survey and hydraulic analysis
- adopt a consistent design standard for the village. A design standard should be determined considering the benefit and costs (capital and ongoing maintenance) for various design events. Ideally a standard that allows open channel drains to be adopted would be preferred
- design drains to meet design standard. Drains may need to be open channel drains (lined or unlined) or concrete kerb and gutter with a piped network
- reconstruct existing drains or construct new drains
- implement a maintenance program for drains to remove vegetation and sediment deposition.

The FRMP also recommends to '*Raise existing levees - West Street to Geraldra Street. Maintain integrity of levees between Temora Road and O'Brien Street*'. This includes clearing culverts and vegetation. The proposal works are not proposing to impact or alter the ability of the Floodplain Risk Management plan mitigation measures being implemented.

Issue

CGR Council and community are concerned about increases to the flood heights in some areas.

Response

CGR Council's concerns are noted. The urban areas of Stockinbingal are considered sensitive to changes in flood behaviour in Dudauman Creek but the proposal will not impact any of the existing structures, including two structures on Burley Griffin Way, two sets of culverts for the Lake Cargelligo line and the Stockinbingal to Parkes culverts. The flood modelling and reference design development has identified the complex nature of flooding in the vicinity of the Lake Cargelligo and Stockinbingal to Parkes rail lines due to existing structures, embankments and flood levees.

The updated flood modelling and proposed flood mitigation measures show that there are no predicted increases to flood heights for the urban areas of Stockinbingal but a small decrease is predicted. Localised velocity increases are predicted on urban land above the QDL for an area 20 m from the boundary of the proposal; however, these will not

propagate into the urban areas. Refer to the updated flood maps included in Appendix D of the Updated Hydrology and Flooding Impact Assessment Report.

5.1.2.2 Mitigation and management of impacts—flooding

Issue

CGR Council has requested any stormwater captured on the site of the proposed accommodation camp, shall be captured in onsite retention ponds to allow minimal discharge to Grogan Road or other water pathways and neighbouring lands.

Response

Stormwater would be managed across the proposal in line with the mitigation measures through the soil and water management plan required by Mitigation measure WQ-3. Mitigation measure SC-6 states that drainage would be installed in accordance with the recommendations in *Managing Urban Stormwater: Soils and construction - Volume 1* (Landcom, 2004).

5.1.3 Social impacts

5.1.3.1 General amenity and socio-economic impacts—construction

Issue

CGR Council has raised concerns regarding the impact of the workforce on the local community, educational, social and policing services, and have suggested further investigation is required to assess the needs/shortage and means to address these shortfalls. Such an investigation would be a broader governmental task but the outcomes of such would be of wider and longer benefits to larger region/community.

CGR Council would also like it to be acknowledged there is to be no impact to the general amenity of the area including noise and other environment factors and any adverse effects to residents from the camp.

Response

CGR Council's concerns are noted. Mitigation measure ASE-1 has been revised to clarify that a temporary workforce accommodation plan would be developed in accordance with ARTC's Inland Rail Program Accommodation Principles, relevant council development codes and guidelines. The plan would follow overarching principles of:

- temporary workforce accommodation is designed to be integrated into, and minimise the negative impacts on the existing communities
- temporary workforce accommodation adequately provides for occupants and has a high level of onsite amenity
- each temporary workforce accommodation facility would have a dedicated health space that could be used for onsite occupational health and safety requirements.

ARTC would like to assure CGR Council that the plan would be developed in consultation with relevant key stakeholders, including CGR Council.

The SIMP would include measures for managing increased demand on health and emergency services resulting from the non-resident construction workforce. The plan would include appropriate processes and measures to ensure local health and emergency service providers are made aware of the potential demands on their services, and given support and assistance to plan their resources appropriately. The plan would include a monitoring and reporting framework, consistent with the overall monitoring and reporting framework that would be implemented via the social impact management plan (mitigation measure SE-1).

Further details on how the policing services and safety will be managed is addressed in section 4.11.1 of this report.

5.1.3.2 Community benefits

Issue

CGR Council expressed a desire with Inland Rail that some positive legacy would result from the workplace accommodation site. Unfortunately, none has been able to be identified but CGR Council is willing to consider options. All planning requirements with such would need to be adhered to.

CGR Council in March 2021 was fortunate to be accepted in round two of the Inland Rail Interface Improvement Program, which was to investigate a proposal for a rail interface and loading facility at Stockinbingal. When talking about Inland Rail leaving a 'legacy' for the future, then consideration could perhaps be given to this proposal if it proceeds.

Response

CGR Council's request is noted. ARTC will continue to investigate legacy opportunities, where this is within the proposal area, during detailed design and construction and is committed to open and ongoing engagement with CGR Council about legacy opportunities. Where there is benefit to the local community, the potential for retaining facilities installed for construction would be investigated and negotiated in consultation with relevant stakeholders (such as local councils). Any legislative approvals associated with retaining and ongoing use of these facilities would be the responsibility of the party who takes ownership.

5.1.4 Traffic and transport

5.1.4.1 Mitigation and management of impacts

Issue

While CGR Council is happy with this proposal, consideration should be given with Transport for NSW to reconsider the speed limits coming down into Stockinbingal from the overpass. CGR Council believes 60 km/h is too fast with a 50 km/h urban speed to be considered by Transport for NSW for the entire Burley Griffin Way through Stockinbingal. See extract from Plan 2-0001-220-DAL-00-DR-102.

Response

CGR Council's concern has been noted the speed limit of roads is not within the control of ARTC or the proposal. To revise the official speed through Stockinbingal from the overpass will require further discussion between CGR Council and Transport for NSW.

Issue

Existing pavement width of the Burley Griffin Way and the bridge over Dudauman Creek is not sufficient width and of suitable geometry to accommodate vehicles coming down from the overpass (travelling west) and re-joining the Burley Griffin Way. CGR Council believes there is potential for vehicle rollover or collision with other vehicles travelling east.

Response

ARTC acknowledges CGR Council's concerns around the existing width of Dudauman Creek bridge and pavement width of Burley Griffin Way; however, this location is not within the proposal footprint and Council should discuss their concerns with the asset owner, Transport for NSW.

The Burley Griffin Way overpass and adjacent tie-ins, which are within the proposal footprint, will be designed and constructed in accordance with Austroads standards and Transport for NSW requirements.

5.1.4.2 Public transport impacts—construction

Issue

CGR Council has requested that Troy Street not be terminated. CGR Council have stated the need for Troy Street to be connected to Burley Griffin Way or Hibernia Street.

With the increase in traffic volume along Troy Street, CGR Council would request some upgrades to Troy Street and intersections to be undertaken prior to the traffic being diverted. Discussion with residents of that area should also be undertaken prior to the detour.

Response

ARTC has reviewed the use of Troy Street and confirm it will no longer be used as a diversion.

Additionally, while the connection of Troy Street to the west will be closed, the connection of Troy Street to Hibernia Street (Burley Griffin Way) will remain unaffected.

5.1.4.3 Road performance impacts—construction

Issue

CGR Council requests all roads carrying traffic to and from the proposed construction site be reinstated to prior construction condition, at the end of the proposal. Furthermore, depending on works, some road damage that is attributed to traffic travelling to and from the site may be required to be repaired during the duration of the works. Council would consider damage attributed to any works associated with the construction be fully repaired and compensated by Inland Rail or their contractors.

Response

CGR Council's concerns are noted. ARTC is committed to open and ongoing engagement with CGR Council during detailed design and construction.

In accordance with mitigation measure T-8, a dilapidation survey would be undertaken of the public roads within the proposed haulage routes at the commencement of construction. The survey would be provided to the relevant road authority. Upgrades to pavements on construction routes would be undertaken prior to construction, as required.

Dilapidation surveys would also be undertaken for any roads used as diversion routes during construction and provided to the relevant road authority.

Pavement monitoring would be carried out during works. Rectification measures would be implemented as needed during and/or following completion of construction to address any damage caused by construction.

Issue

CGR Council would need to consider the adequacy of the road access along Grogan Road, prior to approval, as the existing road width may be inadequate and require widening. CGR Council will assess this after the application is received for the construction of the accommodation camp. Should road widenings and pavement reconstruction be required, this shall be borne by the applicant/developer.

Response

CGR Council's requests are noted. Prior to construction, the construction contractor will identify the suitability of the roads for the proposed vehicles and will be required to make improvements (including widening) where necessary to support the proposal.

Initial design assessments demonstrate no widening is required. Further detailed assessments will be undertaken by the proposed contractor undertaking the works, and proposed changes will need to meet Austroads design requirements including any widening requirements.

In accordance with a proposed new mitigation measure, ARTC is committed to seeking input from relevant stakeholders (including CGR Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

5.1.4.4 Safety and risk

Issue

CGR Council wishes to ensure that all motorists can travel to and from their destination with no increased risk to safety.

Response

ARTC understands CGR Council's concern about motorist safety. The CTTAMP required as part of the CEMP would address road safety impacts throughout construction, including that of other road users. Refer to Mitigation Measure T-6 and T-7. The CTTAMP would include safety assessments as necessary.

5.2 Junee Shire Council

5.2.1 Construction

5.2.1.1 Biosecurity

Issue

The development of the CEMP should include consultation with Junee Shire Council in relation to biosecurity. The measures proposed to manage the spread of weeds should include vehicle washdowns at each property boundary and prior to the entry or exit from the road corridor.

Response

In accordance with mitigation measures BD-7 and LP-10, the Biodiversity Management Plan, which would be implemented during construction as part of the CEMP, would include measures to manage biosecurity risks in accordance with the *Biosecurity Act 2015* (Cth), including vehicle washdown, regular inspection of weeds being spread, weed removal and prompt revegetation in bare areas. The CEMP would be prepared in consultation with Junee Shire Council.

A CEMP framework was provided as Appendix E of the EIS. This provides the requirements for the management plans and measures to be implemented during construction, including soil erosion and biosecurity measures.

5.2.1.2 Construction schedule and staging

Issue

The EIS should be updated to include a staging schematic for the proposed realignment of Ironbong Road.

Response

The EIS was informed by preliminary high-level construction planning and phasing. Consequently, an accurate understanding of construction staging to the detail required for a schematic was not available at this early stage in the construction planning. The staging of Ironbong Road construction works will be developed during the detailed design phase by the construction contractor.

In accordance with mitigation measure T-5, a Construction Traffic, Transport and Access Management Plan (CTTAMP) would be prepared and implemented as part of the CEMP by the design and construction contractor. The plan would include measures, processes and responsibilities to minimise the potential for impacts on the community and the operation of the surrounding road and transport environment during construction. The plan would be developed in consultation with local councils, Transport for NSW, emergency services and public transport/bus operators and will include a *Traffic Management Plan* and staging plans of the proposed works.

In addition, a new mitigation measure T-4 is proposed, ARTC is committed to seeking input from relevant stakeholders (including Junee Shire Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

5.2.1.3 Council approvals

Issue

Junee Shire Council has indicated the EIS should be amended so that Junee Shire Council can approve the designs for the road and drainage interfaces before being finalised. Junee Shire Council also mentioned this section should detail an agreed quality assurance process for handover of assets back to Junee Shire Council.

Response

ARTC is committed to open and ongoing engagement with Junee Shire Council during detailed design and construction. The proposal would be designed, constructed and operated in accordance with the conditions of approval, and all relevant road and drainage design standards. In accordance with a proposed new mitigation measure T-4, ARTC is committed to seeking input from relevant stakeholders (including Junee Shire Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

ARTC has negotiated agreements with each council which incorporate issues such as the issue above.

Issue

Prior to undertaking clearing or trimming within road corridors and public spaces outside of the rail corridor, Junee Shire Council is to be advised of these works.

Response

ARTC is committed to implementing a range of measures to mitigate the potential impacts to vegetation identified during construction. These measures include:

- LV-1—Detailed design and construction planning would seek to minimise the construction and operation footprints and avoid impacts on mature native vegetation as far as reasonably practicable.
- The CEMP and relation subplan will be prepared in consultation with relevant agencies, which includes Junee Shire Council. This will include a provision for Junee Shire Council to be advised in advance of clearing activities.

5.2.1.4 Detours

Issue

Junee Shire Council has recommended that the EIS should include an assessment of the potential impact to harvest traffic of the construction phase of the development and traffic counts should take into consideration the worst-case scenario.

Response

ARTC acknowledges that impact on seasonal traffic has not been directly assessed; however, potential traffic delays due to construction work has been assessed in section 5.4.8 of Technical Report 3: Traffic, Transport and Access. Table 5-1 provides an excerpt of the planned management approach to the road works. It should be noted that since EIS exhibition the last row, referencing Burley Griffin Way, has been removed as a diversion route (shown as struck out text).

TABLE 5-1 LOCATION OF ROAD WORKS AND PLANNED MANAGEMENT APPROACH

Chainage	Road	Planned duration of works	Planned management approach
5,588	Old Sydney Road	20 days	1 lane alternative flow
8,152	Ironbong Road	48 days	Various stages of side-tracking arrangements in place throughout with short stoppages expected (<15 mins)
18,470	Dirnaseer Road	4 days	Two land access maintained apart from during new bridge landing, which will require 1–2 hour closure and 1 lane alternate flow for the remainder of the day
28,263	Old Cootamundra Road	6 days	Two land access maintained apart from during Super T landing which will require 1–2 hour closure and 1 lane alternate flow for the remainder of the day
~~37,539~~	~~Burley Griffin Way~~	~~15 days~~	~~Diversion in place for 15 days. Short stoppages (<15 mins) to open diversions and connections onto the realigned road~~ ~~1 lane alternative flow arrangement to construct tie-in at western end of diversion~~

ARTC will continue to work collaboratively with stakeholders during detailed design. In accordance with mitigation T-6, input would be sought from relevant stakeholders (including local councils and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

Issue

Junee Shire Council has noted the diversion proposed along Eulomo Settlement Road includes several low-level water crossings that may not be passable during wet weather and will not likely withstand construction traffic. The council has requested that the EIS should include a more thorough, onsite assessment for planned local road diversions and their suitability.

Response

The Eulomo Settlement Road diversion route has been proposed to support the Ironbong road as detailed in Section 5.4.8.2 of Technical Paper 3: Traffic, Transport and Access Impact Assessment.

ARTC is committed to open and ongoing engagement with Junee Shire Council during detailed design and construction. In line with mitigation measure T-5, a traffic, transport, and access management plan would be prepared as part of the CEMP. As part of this, the suitability of all roads considered for diversion will be assessed by the contractor.

5.2.1.5 Fire risk mitigation

Issue

Junee Shire Council has requested the EIS be amended to include appropriate mitigation measures for bushfire prevention, including rescheduling of hot works on days where ‘Stop Harvest’ or similar notices are issued by RFS. Where works cannot be rescheduled, alternative fire protection measures should be proposed in consultation with the RFS.

Response

A *Flood and Emergency Response Plan* would be prepared and implemented as part of the CEMP (mitigation measure HS-4), in consultation with relevant state and regional emergency service providers including the NSW RFS (Ch 25.6.1.1). The plan would include measures, processes and responsibilities to minimise the potential impacts of construction activities on flood behaviour and bushfire risk as far as practicable. It would also outline measures to manage emergency responses during construction.

ARTC acknowledges Junee Shire Council's concern regarding bushfire prevention. Mitigation measure HS-6 proposes that the construction contractor develop procedures to manage hot work/high fire-risk activities, including observation of local fire authorities and emergency services directives.

Agency and Junee Shire Council roles in the review and provision of feedback on the management plans will be determined by DPE in the conditions of approval for the proposal.

5.2.1.6 Transport, access and haulage arrangements

Issue

To ensure the impacted rural local roads will be able to support the proposed construction traffic, Junee Shire Council has noted the capacity and integrity (strength and geometry) of the subject roads should be assessed as part of the proposal planning phase. Any required upgrades should be undertaken as early works prior to the commencement of construction. It is not appropriate for a reactive approach to be applied to the management of local roads with repairs being undertaken when the road fails and becomes hazardous.

Junee Shire Council has requested an update to the EIS (Ch 11.3.1.2, Table 11.1 Local Roads) to include Junee Shire Council as a road authority for Old Cootamundra Road.

Response

Prior to construction, the construction contractor will identify the suitability of the road for the proposed vehicles and will be required to make improvements where necessary to support the proposal. ARTC acknowledges that the best time to undertake these improvements will be as 'early works' prior to construction.

Old Cootamundra Road is identified in Figure 11.4 of the EIS Chapter 11 as a construction access/haulage route and is included in the construction traffic/haulage impact assessment in section 11.4. It is acknowledged that Old Cootamundra Road falls under the authority of Junee Shire Council and Cootamundra-Gundagai Regional Council.

The proposal would be designed, constructed and operated in accordance with the conditions of approval, and all relevant road and drainage design standards. In accordance with a proposed new mitigation measure T-4 ARTC is committed to seeking input from relevant stakeholders (including Junee Shire Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

5.2.1.7 Water supply

Issue

Junee Shire Council has requested additional clarification that the proposed supply of water for construction purposes will not significantly impact existing residential usage.

Response

Water would be required for a number of construction activities, including rail and road formation works, dust control, spoil compaction and reinstatement works. Preliminary estimates of water requirements for the proposal indicate that a total of 675 megalitres (ML) of water would be required.

Chapter 18 of the EIS (Land Use and Property) makes mention of the fact that agricultural production is influenced by surface and groundwater resources. For the rural land surrounding the proposal, surface water supply predominantly comes from rainfall collected via rainwater tanks, farm dams and from the reticulated water network operated by GWCC. GWCC operate a reticulated network across the study area that services many of the farms with both stock and domestic supply.

Consultation with GWCC has identified that the rate of consumption of construction water exceeds the available rate of supply from GWCC. Consequently, to ensure that other GWCC users are not impacted by this water demand, accumulation of construction water prior to construction commencement would be required. This would include provision of water storage tanks adjacent to the alignment, and a water tanker road haulage program to transport the reticulated supply availability at Cootamundra and Stockinbingal. A simple water supply model (no storage losses or rainfall gains considered) has been used to estimate the length of the pre-construction water accumulation period and the capacity of required water storages. Water tanks would be placed within construction compounds. ARTC is continuing to consult with GWCC in relation to construction water supply.

As outlined in mitigation measure HF-2, construction water supply options would continue to be explored during detailed design.

5.2.1.8 Economic impact - local business and industry

Issue

Junee Shire Council has requested that in addition to the ARTC negotiating with individual landowners for on-farm private crossings and stock underpasses, ARTC should also undertake analysis on the cumulative economic impacts of the I2S proposal on the agriculture sector, including economic impacts of reduced accessibility of or to agricultural land.

Response

In all cases, the proposal has tried to minimise the impact to the land and farm operations. Wherever possible, the proposal will ensure access and/or connectivity to severed parcels of land. This connectivity will be provided via either public/crown roads, private level crossings, stock underpasses or a combination thereof. Details of this connectivity will be discussed with each affected landowner and compensation for any impact from severance will be assessed under the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

See section 7.3.8.5 for a more detailed response on severance and acquisition.

5.2.2 Flooding impacts—operation

Issue

Junee Shire Council has suggested the EIS should undertake more robust investigations to determine the level of impact resulting from the disturbance to overland flow paths.

Response

Junee Shire Council's concerns raised relating to overland flow paths are acknowledged. LiDAR data has been used to identify overland flow paths and culverts placed at all locations. LiDAR data has 0.2 m resolution covering approximately a 10 km wide strip along the proposal corridor, with an accuracy of 0.15 m vertical and <0.5 m horizontal (23378A_AAM_LiDAR_Readme.pdf). This data has been used to identify all overland flow paths intersected by the proposal.

Section 4.4.2. of the Updated Hydrology and Flooding Impact Assessment Report outlines the approach to cross-drainage design as follows.

The design process included detailed flood modelling to identify the necessary locations for cross-drainage structures, scour protection, longitudinal drainage and land take to meet the adopted QDLs as outlined in Chapter 5 of the Updated Hydrology and Flooding Impact Assessment Report.

A technical peer review of the flood models, including the hydrologic and hydraulic models has been completed in 2019 and 2021. The review included an in-depth review of all hydrologic and hydraulic model inputs, outputs and assumptions. The independent peer review was completed by WMAwater (a specialist water engineering consultancy) and found that generally the hydrological and hydraulic modelling undertaken for the proposal is consistent with the relevant guidelines and is appropriate for the reference design phase of the proposal.

The design approach to sizing the structures was as follows:

- Identify key waterway features and drainage paths where cross drainage structures are likely to be required. Each structure was then optimised by varying the size/number of cells and culvert floor level until the following two criteria were met:
  - the required minimum formation flood immunity was achieved
  - afflux satisfied the QDL and were reasonably balanced upstream and downstream of the corridor and across the range of events.
- Once the afflux was balanced, the velocity was then checked upstream, through the structure and downstream. If the structure was found to generate velocities that exceeded the QDL over land downstream of the corridor then additional cells were added to increase the waterway area and reduce the velocity and scour protection within the corridor was included to prevent against scouring. Site-specific erosion threshold values (ETVs) were not available so a default ETV of 0.5 m/s has been adopted for unprotected surfaces. Refer to section 5.3 of the Updated Hydrology and Flooding Impact Assessment Report.
- The flood duration impacts were then checked and impacts across all parameters were checked for the full suite of design events (0.2EY, 10%, 5%, 2% and 1% AEP events) and the design was re-balanced where necessary to address any localised areas of non-compliance with QDLs.

The detailed approach to the design was deemed sufficiently robust to be able to accurately identify and characterise impacts to overland flow paths intersecting the proposal.

In accordance with mitigation measure HF-1, the flood modelling would be further refined during the detailed design process. This includes detailed survey both within the proposal corridor, and of landowner levees, to inform the detailed design. There will however be some concentration of overland flows into channels and culverts within the proposal boundary. This can result in an increase in the velocity and the design will be refined to ensure the QDLs are met and limit the increase in velocity to prevent the risk of scouring. ARTC will work with landowners to identify and maintain flow paths to farm dams. The additional flood modelling, and any mitigation identified as an outcome of modelling, would be undertaken in consultation with impacted landowners.

5.2.3 Transport and traffic

5.2.3.1 Integration with strategic documents

Issue

ARTC should address the *Future Transport Strategy 2056* with a more integrated approach with other modes, considering the broader aspects of this strategy.

Response

The EIS addresses the Future Transport Strategy to a level of detail that is considered to be appropriate and relevant to the proposal. The Future Transport Strategy identifies Inland Rail as an opportunity to improve movement of freight to ports and north-south connections between Melbourne and Brisbane through regional NSW.

5.2.3.2 Road performance impacts—operation

Issue

Junee Shire Council recommends that if the design parameters for a 100 km/h rural road on Ironbong Road cannot be met, the posted speed limit should be reduced to an appropriate speed for that portion of road adjoining the proposed level crossing.

Response

ARTC notes Junee Shire Council's recommendation. The concept design for Ironbong Road has proposed a warning sign speed of 75 km/h for the reduced sight distance, which is in accordance with Austroads and has been agreed with Junee Shire Council.

The proposal would be designed, constructed and operated in accordance with the conditions of approval, and all relevant road and drainage design standards. New mitigation measure T-4 commits ARTC to seeking input from relevant stakeholders (including Junee Shire Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

5.2.3.3 Mitigation and management impacts

Issue

Junee Shire Council suggested that more traffic assessment should be undertaken, including a more rigorous approach to assessing traffic impacts along Ironbong Road and Old Sydney Road, rather than making assumptions via a desktop analysis.

Response

Traffic surveys were undertaken by ARTC on key roads adjacent to the proposal, including Burley Griffin Way, Hibernia Street, Dudauman Road, Corbys Lane, Old Cootamundra Road, Dirnaseer Road, Ironbong Road, Old Sydney Road and Olympic Highway. These were used to inform the background traffic volumes for the SIDRA modelling assessment of the construction of the proposal.

A proposed new mitigation measure commits ARTC to seeking input from relevant stakeholders (including Junee Shire Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

Issue

Junee Shire Council has asserted that the assumptions used to inform the EIS should be updated to include more accurate traffic growth statistics. The EIS should also acknowledge the change in Suburbs and Localities that contributes to the apparent significant decline in overall population of Bethungra.

Response

ARTC acknowledges Junee Shire Council's request for updated growth statistics and change in Suburbs and Localities. In Section 4.10.5.3 of this Response to Submissions Report outlines the annual population growth rate change between 2016 and 2021 based on the Australian Bureau of Statistics Census data. This demonstrates that the assumed 0.5 per cent growth rate is still conservative based on recent trends. This is considered appropriate for this stage of the assessment.

ARTC will continue to work collaboratively with stakeholders during detailed design. In accordance with a proposed new mitigation measure, input would be sought from relevant stakeholders (including Junee Shire Council and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

5.2.3.4 Public transport impacts—operation

Issue

Junee Shire Council has suggested the EIS should identify and adequately assess the impacts to local school bus routes as a result of the proposal.

Response

The EIS has recognised that there is a school bus service operating on Olympic Highway, as noted in section 4.4.1 of Technical Paper 3: Traffic, Transport and Access Assessment. ARTC has committed under mitigation measure T-6 to preparing and implementing a CTTAMP as part of the CEMP. The plan would include measures, processes, and responsibilities to minimise the potential for impacts on the community and the operation of the surrounding road and transport environment during construction. The plan would be developed in consultation with Junee Shire Council and public transport/bus operators.

5.2.4 Waste and resource management—construction

Issue

Junee Shire Council has requested the proponent undertakes waste disposal activities in consultation with Junee Shire Council, noting that Junee Shire Council will preference preserving landfill airspace for the local community. Junee Shire Council may be able to accept reasonable quantities of waste at the Junee Landfill from proposal work occurring within the Junee LGA boundary. It will not be accepting waste material generated from outside the LGA boundary. Further consultation with Junee Shire Council is recommended once more accurate quantities of waste are known to determine whether these amounts can be accommodated at the Junee Landfill.

Response

ARTC acknowledges Junee Shire Council's concerns around waste disposal and impacts on Junee landfill. Chapter 21.3.1.5 of the EIS notes arrangements would be made with suitable waste management facilities to ensure that the waste types and quantities from the proposal can be accepted.

Issue

Junee Shire Council has suggested further analysis should be provided to identify the suitability of the identified construction compounds for the proposed quantities of stockpiled material.

Response

The locations of the construction compounds and stockpiles in the EIS are based on preliminary construction planning. The details of construction planning will be confirmed once a construction contractor is engaged. The CEMP will be prepared in consultation with Junee Shire Council and will include the final construction compound locations and further details on stockpiling activities.

Section 8.3 of the EIS identifies criteria that any additional or relocated construction compounds would need to be consistent with, to minimise impacts, which includes being located on land with sufficient size to accommodate the activities on that site.

Estimation of the materials or volumes at the present time would not provide sufficient detail to support additional waste management planning. The exact location and volumes of waste stockpiles would be confirmed by the construction contractor during detailed design.

5.2.5 Level crossing treatments

Issue

Junee Shire Council advocates for the installation of a Type F active crossing and bitumen seal for 150 m either side of the crossing in this location to preserve the safety of road users on Old Sydney Road.

Response

ARTC undertook a risk assessment to confirm all level crossing interface treatments using the Australian Level Crossing Assessment Model (ALCAM) that is endorsed by the rail regulator ONRSR. The results show, based on a number of variables including traffic volumes, sight distances etc., that a passive control at this crossing location is suitable.

ARTC acknowledges Junee Shire Council's concerns regarding sighting issues caused by unsealed road and proposed approach grades. ARTC propose to change the sealing of the approach to the crossing for 150 m on either side, in addition to the signages as per Austroads standards.

5.3 Goldenfields Water County Council

5.3.1 Construction water demand

Issue

The EIS mentions that up to 450 people will be accommodated in the workforce accommodation camp. No consultation has been made with Goldenfields Water County Council (GWCC) regarding the provision of water supply for this accommodation camp prior to the EIS being available. The nearest potable water main is located 500 m away from the camp location. This proposed camp is more than double the size of the existing population of the township and may not be capable of catering for this demand without significant water supply upgrades at significant cost and time.

Response

Since EIS exhibition, ARTC met with GWCC on 23 November 2022, where it was identified that there are potential viable options for supplying the required water to the proposed accommodation camp, such as via the nearby 150 mm diameter pipe or from the 375 mm trunk main into a storage tank on site. A further meeting was held with GWCC in February 2023 to provide a project update, update on the construction tender and meet the shortlisted contractor events and provide an update on status on responding to GWCC submission on the EIS.

Detailed assessment of water supply will be undertaken as the proposal progresses into the next design phase, in consultation with GWCC.

5.3.2 Impacts to Stockinbingal Reservoir

Issue

The EIS does not adequately address any potential construction issues to the Stockinbingal Reservoir. GWCC are concerned that any vibration or blasting may affect the structural integrity of the Stockinbingal reservoir and NBN tower. GWCC believes that the proposed design and construction methodology will significantly impact this critical asset and water supply for the township of Stockinbingal and an alternative measure needs to be accommodated prior to any construction phase. This could require the relocation and an augmented water supply network. GWCC request that dilapidation reports be carried out to ensure an alternative measure can be developed prior to the finalisation of any design phase, should it be found to be necessary.

Response

ARTC has confirmed with GWCC on 23 November 2022 that the NBN tower, located adjacent to the reservoir, will not be relocated and will remain in situ. ARTC also confirmed that a detailed dilapidation survey will be undertaken prior to construction and that the contractor would need to ensure that any excavation and vibration related work would not compromise the tower or Stockinbingal Reservoir. This would be monitored throughout construction and confirmed via a second dilapidation survey at completion (at the acceptance of GWCC). Mitigation measures NV-1, NV-2, NV-4 and NV-5 will be implemented to ensure the vibration of works will not compromise the structural integrity of the Stockinbingal reservoir and NBN tower.

Issue

It has been raised in previous consultation that access to the Stockinbingal Reservoir will be significantly impacted by the proposed design. Alternative access to this site imposes significant risks to council to accommodate the proposal, which would include but is not limited to potential land acquisition negotiations, extra travel time for staff, and increased maintenance costs. GWCC would like these issues addressed and compensated for before any construction phase.

Response

ARTC confirms that an alternate access road to the tower via Grogan Road is proposed to ensure suitable access is provided. ARTC will consult further with GWCC to provide details of this access prior to construction.

6. Organisation submissions

6.1 NSW Farmers

6.1.1 The proposal—detailed design and operation

Issue

The proposal has been assessed on the basis of a concept design with the view to being further refined to minimise impacts. This absence of the details makes it difficult for landowners to understand the detail of how they may be affected by the proposal.

Response

The preparation of the EIS and reference design involved an iterative process of impact assessment and design refinement, development of mitigation measures and consultation with the community, stakeholders and government agencies.

The reference design has evolved over a period of about two years. Over this time, the reference design evolved and involved many iterations and refinements, incorporating a range of considerations at each stage. Key environmental issues were examined throughout the design development process. Consultation has been carried out with affected stakeholders (including landowners) to identify key potential impacts at an early stage.

The detailed design phase for the proposal would be undertaken in accordance with the mitigation measures (provided in Appendix B of this report) the conditions of approval, and in consultation with individual landowners. If there is any change to the proposal made during detailed design that has potential to change impacts, the potential additional impacts would be discussed with landowners and mitigated as appropriate. This is consistent with current practice for major projects in NSW.

The reference design for the proposal for which planning approval is being sought was presented in chapters 7 and 8 of the EIS.

6.1.2 Traffic and transport

Issue

The impact of the level crossings on farming operations is unacceptable with concerns about safety and unreasonable delays. Particular concerns were raised regarding the proposed design for a number of intersections along the alignment. The estimates around the anticipated delays at level crossings used as part of the EIS need to be reassessed having regard to the actual train speeds and recorded delays provided by the Wagga Wagga City Council as part of its assessment into the impact of the Inland Rail program through the town in the context of the Albury to Illabo section of the program.

Response

The assessment of potential delays to road traffic at level crossings contained within EIS Technical Report 3: Traffic and Transport Assessment have regard to expected conditions in the proposal area. It is expected that trains will travel between 80 and 115 km/hr depending on axle loads. NSW Farmers concerns regarding safety of level crossings are noted. Inland Rail undertook a risk assessment to confirm level crossing interface treatments using the Australian Level Crossing Assessment Model (ALCAM) that is endorsed by ONRSR (the rail regulator). The results show, based on a number of variables, i.e. traffic volumes, sight distances, etc. that the passive controls included within the concept design at crossings are suitable.

All active level crossings will have boom gates and lighting in accordance with ARTC standard.

The proposed Illabo to Stockinbingal section of Inland Rail is a new greenfield section, whereas the track that travels through Wagga Wagga as part of the Albury to Illabo section is a brownfield section. These projects are not comparable.

6.1.3 Noise and vibration

Issue

NSW Farmers has identified a number of noise and vibration concerns, including:

- the noise criteria used
- managing construction noise during ‘out-of-hours’ work
- the impacts of blasting

- sleep disturbance
- the lack of detail concerning acoustic treatments for properties.

Response

Noise criteria

The operational rail noise assessment described in Technical Report 9: Noise and Vibration Assessment—Operational Noise, was undertaken in accordance with the SEARs and relevant guidelines, including the *Rail Infrastructure Noise Guideline* (NSW EPA, 2013). SEARs item 15 (Noise and Vibration—Amenity) defines the requirements to be addressed and relevant guidelines to consider.

The noise triggers from the Rail Infrastructure Noise Guideline were adopted to assess potential railway noise impacts for the proposal.

ARTC acknowledges that railway operations would occur in areas where the existing ambient noise levels may be relatively low. Railway noise triggers are established based on whether:

- the railway alignment is a new corridor and hence is a new source of noise to the environment requiring the lower trigger
- redevelopment of an existing rail line where the community would be expected to be familiar with exposure to rail noise and a higher trigger can be applied.

Out-of-hours construction

As noted in section 8.2.16 of the EIS, a small increase in working hours above the *Interim Construction Noise Guideline* recommended standard hours is proposed to shorten the length of construction by 28 per cent (Table 6-1), as far as practicable, and minimise associated disruptions to the community. Earlier completion would bring considerable benefits to the community (in terms of reducing the construction period) and would reduce the duration of construction related disruption. The CNVMP will include consultation with affected receivers to determine respite or additional mitigation measures. The extended working hours will be utilised to undertake low noise-generating tasks only. These may include activities such as refuelling activities, toolbox talks and planning prior to the commencement of standard construction activities.

TABLE 6-1 PROPOSED HOURS TIME SAVING

Time period	Standard hours (60 hours per week).	Proposed hours (84 hours per week)	Decrease in construction period
Month	33.6	24	9.6 months—28.6%

The proposed increase in the working hours was described in section 8.2.16.5 of the EIS together with the justification for this increase. The extended construction working hours are proposed to reduce the overall construction program of this proposal, minimising the impact to the community and making efficient use of a highly specialised and in-demand workforce. Earlier completion would bring considerable benefits to the community (in terms of reducing the construction period) and would reduce the duration of construction-related disruption.

In accordance with mitigation measure NV-6, a CNVMP would be prepared and implemented as part of the CEMP, in accordance with the *Inland Rail NSW Construction Noise and Vibration Management Framework* and *Interim Construction Noise Guideline*. The plan would include measures, processes and responsibilities to manage and monitor noise and vibration and minimise the potential for impacts during construction.

Consideration of restricting low-impact noise activities during the weekday morning shoulder periods would be undertaken as part of more detailed construction planning as part of the CNVMP prepared by the contractor.

An out-of-hours work (OOHW) protocol would also be developed to define the process for considering, approving and managing OOHW, including implementation of feasible and reasonable measures and communication requirements for works that routinely occur within the construction hours generally proposed for the proposal but outside Interim Construction Noise Guideline standard hours; and for works (such as evening and night works during rail possessions) that would occur outside the construction hours proposed for the proposal. Measures would be aimed at pro-active communication and engagement with potentially affected receivers, provision of respite periods and/or alternative accommodation for defined exceedance levels.

All work outside the proposal construction hours would be undertaken in accordance with the Inland Rail NSW Construction Noise and Vibration Management Framework and in accordance with the OOHW protocol. The protocol would provide guidance for the preparation of OOHW plans for each construction work location and for key works, and guidance around mitigating impacts to receivers at Stockinbingal. OOHW plans would be prepared in consultation with key stakeholders (including the NSW Environment Protection Authority) and the community, and incorporated into the construction noise and vibration management plan (mitigation measure NV-6).

Blasting

Potential blasting impacts will be assessed against the relevant guidelines and licences. High-level impacts will be considered during CNVMP preparation and individual blast management plans will be prepared before each proposed blast. Where impacts cannot be appropriately managed, alternative methods will be investigated.

A preliminary assessment of blasting was undertaken in Technical Paper 8: Construction Noise and Vibration Impact Assessment. Airblast overpressure resulting from blasting was calculated according to the method in Australian Standard 2187 to determine the likely levels of ground-borne vibration and airblast overpressures from the proposed blasting. Based on preliminary cut location information, maximum charge sizes were outlined in the preliminary assessment for each proposed cut. The calculations are considered conservative, with the use of typical blasting factors and do not account for any topographical shielding or other blast controls.

As per mitigation measure NV-3 a blast management strategy would be prepared based on the detailed design, and in accordance with relevant guidelines and in consultation with the NSW EPA. The strategy would form part of the construction noise and vibration management plan and include:

- sequencing and review of trial blasting to inform:
  - regularity of blasting
  - intensity of blasting and limits of licence issued by the EPA
- periods of relief
- blasting program
- blasting would be undertaken during the recommended standard hours for blasting
- management measures defined by the blasting management strategy would be implemented.

More details on how blasting impacts will be managed throughout the construction period are detailed in sections 4.9.4.1, 4.9.4.2, 4.10.8.1 of this report.

Sleep disturbance

As described in section 11.4 of Technical Report 9, the LAmax (maximum) rail noise management criteria from the RING were adopted to assess potential sleep disturbance impacts (in line with Appendix 5 of RING), such as awakening, disrupted sleep, or a general reduction to the quality of sleep over time. Night-time and maximum noise trigger levels were included in the assessment to protect the community during the more sensitive time periods.

The assessment found that the LAmax criteria would be exceeded at 35 sensitive receivers, by up to 11dBA during the night-time period; however, the assessment found that the criteria would generally be achieved where receivers are located further than 400 m from the rail corridor.

As noted in section 11.4 of Technical Report 9, however, railway noise has the potential to be audible at sensitive land uses, both externally and internally, even where the noise management criteria are achieved. Therefore, the assessment referenced guidance on sleep disturbance from the World Health Organization, to further evaluate the potential for noise-related impacts.

Guidance from the World Health Organization suggests that sleep quality can be preserved where maximum outside noise levels is 49 dBA. Noise levels above 49 dBA could occur within 1 km of the rail corridor; however, the distance is only a guide to where night-time noise levels may have the potential to result in sleep disturbance, as individuals respond to noise differently.

Acoustic treatments for properties

In accordance with mitigation measures NV-12 and NV-13, an operational noise and vibration review would be undertaken, based on the final proposal design, to review potential operational impacts and guide the application of feasible and reasonable mitigation measures. While the rail alignment is unlikely to materially change, detailed design and construction planning provides the opportunity to refine proposal construction and operation. As part of this process, further work would be undertaken to investigate noise mitigation options for individual potentially affected sensitive receivers. The specific noise mitigation for each sensitive receiver would be determined on a case-by-case basis considering a range of environmental, engineering and site-specific factors. Landowner preferences would also be considered.

At this stage of the design process, features such as building construction (e.g. form and function) and the acoustic performance of existing individual at-property elements (e.g. facades and windows) cannot be quantified. Possible at-property treatments include upgraded acoustic glazing, acoustic window and door seals, acoustic insulation for the roof, fresh air ventilation (acoustic ducting) or air-conditioning, and ‘acoustic’ fences. These matters would be addressed during detailed design.

6.1.4 Hydrology, flooding and water quality

6.1.4.1 Impact on groundwater sources and access to potable water

Issue

NSW Farmers raises concern that there is no coherent plan in the EIS as to how construction water will be obtained and, in particular, the likelihood of water extraction from Goldenfields Water supplies is questioned.

Response

Water would be required for a number of construction activities, including rail and road formation works, dust control, spoil compaction and reinstatement works. Preliminary estimates of water requirements for the proposal indicate that a total of 675 megalitres (ML) of water would be required.

Chapter 18 of the EIS (Land Use and Property) makes mention of the fact that agricultural production is influenced by surface and groundwater resources. For the rural land surrounding the proposal, surface water supply predominantly comes from rainfall collected via rainwater tanks, farm dams and from the reticulated water network operated by GWCC. GWCC operates a reticulated network across the study area that services many of the farms with both stock and domestic supply.

Consultation with GWCC has identified that the rate of consumption of construction water exceeds the available rate of supply from GWCC. Consequently, to ensure that other GWCC users are not impacted by this water demand, accumulation of construction water prior to construction commencement would be required. This would include provision of water storage tanks adjacent to the alignment, and a water tanker road haulage program to transport the reticulated supply availability at Cootamundra and Stockinbingal. A simple water supply model (no storage losses or rainfall gains considered) has been used to estimate the length of the pre-construction water accumulation period and the capacity of required water storages. Water tanks would be placed within construction compounds. ARTC is continuing to consult with GWCC in relation to construction water supply.

As outlined in mitigation measure HF-2, construction water supply options would continue to be explored during detailed design including ongoing consultation with Goldenfields Water (or an equivalent commercial water supply operator) to access the local reticulated network.

6.1.4.2 Mitigation and management

Issue

Given the relationship between the I2S proposal and significant existing rivers, watercourses and other tributaries, it is clear that flooding and hydrology impacts will need to be carefully considered and appropriately managed if the proposal (and in fact, the Inland Rail program as a whole) is to succeed. This is because not only do flooding and hydrology impacts have the potential to adversely affect landowners in the region, it also poses significant and costly risks to the rail infrastructure itself if the assessment and modelling has not been undertaken with the appropriate degree of care, skill and diligence.

Response

NSW Farmers concerns on the flooding and hydrology assessment for parts of the alignment are noted. The flood models have undergone internal review at each design submission and a peer review by an independent flooding specialist has been completed.

DPE was consulted to develop proposal-appropriate and consistent QDLs. The QDLs, include a range of flood parameters to ensure that all aspects of flood risk are assessed. Refer to Section 5 of the Updated Hydrology and Flooding Impact Assessment Report, which details this consultation and the considerable assessment of hydrology matters across the Inland Rail program. The QDLs are the same as the recently agreed limits for the Inland Rail Narromine to Narrabri project. Subject to ongoing consultation with DPE and other stakeholders, it is envisaged that the QDLs would form part of the Conditions of Approval and be used during detailed design of the proposal.

The peer review was completed on two occasions and the flood models deemed suitable for use for the stage of the proposal, noting two items should be reviewed and addressed before the next stage of the proposal. These two items have subsequently been addressed. The flood models have been prepared in accordance with industry-standard practice, listed as follows and identified in section 2.4 of the Updated Hydrology and Flooding Impact Assessment Report:

- *Australian Rainfall and Runoff Guidelines* 2019 (ARR 2019) (Ball et al, 2019)
- AS/NZS 3100:2009 *Risk Management – Principles and Guidelines*
- Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia, Handbook 7 (Australian Institute for Disaster Resilience (AIDR), 2017)
- *Climate Change Impacts and Risk Management – A Guide for Business and Government* (Department of Environment and Heritage, 2006)

- *Floodplain Development Manual* (Department of Infrastructure, Planning and Natural Resources (DIPNR), 2005)
- *Floodplain Risk Management Guide, Incorporating 2016 Australian Rainfall and Runoff in Studies* (NSW Office of Environment and Heritage (NSW OEH), 2019)
- *Floodplain Risk Management Guideline on the Practical Considerations of Climate Change* (NSW OEH, 2007)
- *Australian Rainfall and Runoff Revision Project 15: Two dimensional Modelling in Urban and Rural Floodplains* (Engineers Australia, 2012)
- *Australian Rainfall and Runoff Revision Project 5: Regional Flood Methods, Stage 3 Report* (Engineers Australia, 2015).

6.1.4.3 Flooding impacts

Issue

The EIS states that at Powder Horn Creek overtopping of the rail occurs for about 230 m on the eastern side of the main channel with overtopping depths in the order of a maximum 0.1 m. It further states that the proposal is a barrier to flood flow, with water levels up to 2 m higher upstream of the proposal and that the nearest residential house will not be impacted. While there may not be an impact on the house immediately downstream, if this barrier, being the railway line, gave way as a result of flooding then the residence would certainly be impacted.

Response

The 2 m metre drop in flood water across the rail occurs in the Probable Maximum Flood (PMF) event. The rail is not overtopped in the 1% AEP flood event and the water level difference is 0.1 m between the upstream depths and downstream depths at Powder Horn Creek. Flood modelling for the proposal has been carried out in accordance with Australian Rainfall and Runoff (Ball et al., 2019) and has been independently reviewed. Bridges have been provided at major waterway crossings, and culverts have been included at minor watercourses and within floodplains. The rail embankment has been designed to minimise overtopping in floods up to and including the 1% AEP event. An assessment of overtopping for a range of events is provided in section 7.2.8. of the Updated Hydrology and Flooding Impact Assessment Report. For Powder Horn Creek the nearest residential house is 700 m downstream of the proposal and is not predicted to be inundated for events up to and including the PMF. While the risk of washout is confined to a small number of locations, the risk will need to be further investigated at the detailed design stage to determine the likelihood of embankment failure based on the geotechnical design and hydraulic parameters such as velocity and duration of overtopping.

Geotechnical investigation of new and existing structures, including on the floodplain at Stockinbingal, will be completed to inform the design and minimise the risk of rail formation failure. This will occur during the detailed design phase and be presented in the Flood Design Verification Report, and is outlined in new mitigation measure HF-4.

Issue

It is noted in the flooding and hydrology technical paper that Old Sydney Road will have no changes to flood immunity for the full range of flood events. However, road users travelling from the east to the west via the proposed level crossing will need to be warned of potential flood waters on the western site of the level crossing as there is unlikely to be visibility of flood waters on the road until the vehicle is crossing the top of the rail. This is a serious safety concern which demonstrates that impacts that the I2S proposal will have if there continues to be serious flooding events. Is ARTC satisfied that the impacts of the I2S proposal on flooding and hydrology are acceptable?

Response

NSW Farmers concerns regarding the flooding and hydrology assessment for parts of the alignment are noted. Old Sydney Road is currently subject to inundation at several locations between Warrens Lane and Ironbong Road for events as regular as a 10% AEP flood event, and flood depth markers are installed at several of these locations to provide guidance on flood depths across the road surface.

The proposal will not result in a change to this existing flood behaviour or existing flood risk for Old Sydney Road. The Old Sydney Road level crossings would be designed in accordance with relevant guidelines and standards, including AS 1742.7:2016 *Manual of uniform traffic control devices, Part 7: Railway crossings* (Standards Australia, 2016), *Guide to Road Design Part 4: Intersections and Crossings* (Austroads, 2021), *Guideline: Lighting for railway crossings* (Roads and Maritime Services, 2013b) and ARTC standards, including provision of warning signage, flood depth markers and mirrors, line marking and other relevant controls. This would ensure that crossings are safe for long-term use.

A proposed new mitigation measure T-4, ARTC is committed to seeking input from relevant stakeholders (including Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders. This would include confirming ongoing operation and maintenance arrangements for those assets under the control of other stakeholders.

Issue

While the concerns about hydrology and flooding in this section of the alignment are potentially not as significant as the other Greenfield sections of the alignment, NSW Farmers have raised concerns about the design of the alignment on that section of the track that runs roughly parallel to Dudauman Road through to the Stockinbingal township.

Response

The section of the proposal that runs parallel to Dudauman Road is not affected by Powder Horn Creek but is subject to inundation from local catchments and overflows from farm dams. The design has considered these local overland flow paths and has incorporated longitudinal drainage channels and cross drainage culverts at topographical low points to ensure surface flows are maintained on both sides of the proposal corridor.

As indicated in section 6.1.4.2 a peer review of the flood model was completed on two occasions and the flood models deemed suitable for use for the stage of the proposal.

6.1.5 Consultation

Issue

NSW Farmers asserts the community engagement through the Community Consultative Committee has been frustrating and non-transparent and cannot be considered to represent community or local landowners' views.

Response

ARTC acknowledges NSW Farmers frustration with the community engagement process. The design and EIS development process for a major transport infrastructure project such as the proposal is a complex task. Under the guidance of an independent chair, the Community Consultative Committee for the proposal provides community representatives and interested parties an opportunity to understand and engage with the ARTC team in accordance with the *Community Consultative Committee Guideline—State Significant Projects* (DPE, 2019).

Community Consultative Committees are facilitated by an independent chairperson appointed by DPE's Planning Secretary. They are not run by ARTC and therefore ARTC cannot address concerns about the Community Consultative Committee process or outcomes.

Non-committee members, including members of the public, can attend Community Consultative Committees following an invitation from the independent chairperson. In line with the Community Consultative Committee Guideline, non-committee members cannot participate in the business of the meeting unless they are invited to do so by the independent chairperson.

The I2S CCC was established in February 2019. Subsequent CCC meetings were also held on 28 November 2019, 28 May 2020 (online due to ongoing COVID-19 restrictions), and 27 August 2020. Since then, in-person meetings were held in Cootamundra (November 2020, June 2021, February 2022) and Junee (February, December 2021). Due to Covid-19 restrictions meetings returned online for September 2021. For each meeting, minutes were provided on the Inland Rail website to further enhance transparency between the project team and community stakeholders.

ARTC believes that the Community Consultative Committees serves as a critical forum to deliver key proposal developments, seek direct feedback from community representatives and connect the community with the technical disciplines working on the proposal. For example, the February 2021 meeting was held in Junee and included a presentation from Inland Rail's Engineering Team about the 70% interim reference design and a presentation from a principal water resource engineer about Stage 2 hydrology and flooding. Meetings frequently covered updates on topics of concern to residents such as traffic and transport issues, hydrology and flooding and the land acquisition process. Further details on what was discussed at each meeting are provided in section C.5.1.4 of Appendix C of the EIS, Engagement Report.

6.1.6 Land use and property

6.1.6.1 Fragmentation and severance

Issue

NSW Farmers asserts that the proponent has still not made any real commitments in relation to how access, fragmentation and severance issues are to be resolved. This is raised by numerous by landowners relating to property impacts, including:

- fragmentation and access:
  - concerns raised by the landowners about the fragmentation and severance caused by the alignment at particular chainages along the alignment

- how properties, or parts of properties, are to be accessed where they become landlocked as a result of the proposal to maintain viability of farm operations.
- how and where the level crossings are proposed to be constructed and what are the proposed design parameters (will they accommodate the transport of machinery as well as livestock)
- the extent to which any proposed access points will be serviceable during flood or heavy rainfall events
- NSW Farmers emphasises that they consider the verbal assurances to landowners that access issues will be resolved during detailed design to be inadequate.

- compensation and acquisition:
  - NSW Farmers asserts the I2S SSI reflects a misguided understanding of the NSW compulsory acquisition legislation
  - NSW Farmers asserts that the proposal should be refused until such time that detailed analysis regarding fragmentation and severance issues is undertaken, along with further consultation with landowners regarding mitigation of the impacts of fragmentation and further commitments made with regard to compensating affected landowners.

Response

Fragmentation and access

ARTC acknowledges this issue, the selection of the alignment of I2S has been developed through extensive consultation with farmers together with the constraints of the natural environment. Severing of farms is unavoidable and every attempt has been made at minimising this impact (where feasible) through the introduction of level crossings, stock underpasses and through property/compensation negotiations.

The EIS acknowledges that some severed portions may become unviable due to the size of the remaining area, configuration or access. These impacts would differ for each property, potentially affecting properties that operate as a single management unit, changing property configurations, with the potential for severance of parts of properties and isolation of key agricultural infrastructure.

Further details as to how severance of land and access will be managed through the detailed design phase of the proposal is provided in section 4.10.11 of this document.

Compensation and acquisition

It is acknowledged that the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) only applies to properties that are subject to acquisition. In accordance with the requirements for State significant infrastructure under Division 5.2 of the EP&A Act, ARTC is required to prepare an EIS to consider any potential impacts of the proposal and work with the relevant regulators to ensure they are satisfied the impacts are reasonably mitigated or alternative solutions were implemented. Compensation for land to be acquired permanently will be assessed under the Land Acquisition Act. Temporary land use would be managed through temporary lease agreements with the relevant landowner. This assessment will include consideration of any impact of the proposal on land value for the residual land.

Overall, ARTC aims to mitigate impacts on farming practices as much as possible. Engagement with landowners will continue throughout the detailed design process to further mitigate impacts, and ARTC will seek to compensate landowners for any impacts in line with the Land Acquisition Act.

6.1.6.2 Fencing standards

Issue

NSW Farmers highlights the provision of adequate fencing between the rail corridor and farmland is a central concern for many, if not all, landowners whose properties will be impacted by the I2S alignment.

Response

ARTC has an Inland Rail program-wide fencing strategy that would guide the detailed design of fencing for the proposal. This strategy assists with consistency of fencing across the Inland Rail program. Fencing requirements would be confirmed during the detailed design phase, in consultation with adjacent landowners, the relevant council, and other infrastructure owners. The fencing strategy was developed in consultation with NSW Farmers

All new Inland Rail corridors will be fenced so that it is safe for people, property, domestic animals, wild fauna and agricultural needs. Where new fencing is required, ARTC will consult with adjacent landowners during the detailed design phase to confirm fencing requirements.

ARTC's fencing standards aim to align with general fencing standards in each district, unless there are specific circumstances that require alternate solutions. The default standard for rural fencing along the alignment will be 8/90/30. The default standard for urban fencing will be a standard chain link boundary fence. In certain circumstances, the default standard of fencing described above may be enhanced to ensure a fit-for-purpose solution but only where agreed by ARTC. This may include recognition of different topography and aligning fencing with land use.

In accordance with mitigation measure LP-8, livestock fencing would be provided in agricultural areas (as required) to minimise the risk of livestock–train collisions.

ARTC will be responsible for ongoing maintenance of rail corridor fencing once each section of Inland Rail is operational. If shared rail corridor fencing is damaged by a landowner, the landowner will be responsible for any repairs. ARTC has comprehensive insurance coverage in relation to any potential public liability in the event of an incident in the rail corridor.

For properties affected by acquisition, fencing requirements and commitments would be defined by the property adjustment plans prepared during acquisition.

For further details on fencing refer to ARTC Managing Rail Corridor Fencing.

6.1.7 Proposal development/route selection

6.1.7.1 Transparency about route selection

Issue

NSW Farmers have outlined a small number of landowners' concerns about the route selection of the current alignment. NSW Farmers maintains that other alternatives including the more westerly alignment through Narrandera should were considered. The difficulty remains that the current choice of the alignment is driven largely by a multi-criteria analysis that prioritised transit time above other factors leading to the situation where invariably the shortest most direct route is the preferred alignment.

That approach combined with a failure to conduct a rigorous cost-benefit analysis meant that the impacts of the proposed alignment (both positive and negative) were never well understood before any decision was made to select the current concept alignment.

Response

ARTC acknowledges the concerns of landowners. A route through Narrandera was one of two options for the Southern Section (Melbourne to Parkes) of Inland Rail as detailed in section 6.21.2 of the EIS and in more detail in the *Melbourne–Brisbane Inland Rail Alignment Study* (ARTC, 2010). This study assessed and evaluated options in detail against environmental and land issues; railway operations considerations; engineering assessments and capital cost estimates. The route through Albury (incorporating the Illabo to Stockinbingal greenfield section) was chosen as it offered superior outcomes for the key criteria of capital costs and transit time. An alternative route via Shepperton (incorporating an alignment west of Narrandera) was also considered. Though the fastest Shepparton route offered a better transit time, this route attracted a significant extra capital cost. The Shepparton route was also limited by the potential to capture only a very small amount of regional freight.

It is the case that the multi-criteria analysis did prioritise transit time as a key determinant, as the decision to whether industry would use Inland Rail and furthermore switch from road-based transit to freight rail transit rested on the time it would take to send or receive goods. If this criterion was not met, then no route would be used, placing the entire concept at risk.

The Inland Rail business case was prepared to consider whether there is justification for undertaking Inland Rail as a whole. It evaluated the benefit, cost and risk of alternative options, and provided a rationale for the preferred solution. A cost-benefit assessment is not usually part of the assessment requirements for proposal approval in accordance with the EP&A Act. A proposal-specific cost-benefit assessment would not capture the full impact that is expected to be delivered upon completion of Inland Rail. While there are benefits that are only attributable to the completion of the overarching program, the approach adopted does assess both incremental user and non-user benefits as well as impacts on the broader economy.

6.1.7.2 Benefits of the Inland Rail program

Issue

The area around the current alignment is generally used for mixed farming, including a combination of dryland cereal production and relatively high stocking rates for cattle and sheep. Given the type of agricultural production in the region and the service offering of the Inland Rail program as a whole, NSW Farmers asserts there can be very few (if any) benefits of the current alignment for the landowners in the district.

Response

Inland Rail will connect key production areas in Queensland, NSW and Victoria with export ports in Brisbane and Melbourne, and provide linkages between Melbourne, Brisbane, Sydney, Adelaide and Perth. It will reduce freight transit times, reduce congestion on rail and road networks, and enable the movement of larger freight volumes via rail, by making the movement of longer and double-stacked trains possible. ARTC would continue to work with NSW Farmers, and other local and regional service providers, to maximise the potential local and regional benefits of the proposal.

6.2 East Australian Pipeline (APA)

6.2.1 Utilities—construction

Issue

APA has statutory obligations to ensure our pipelines are maintained and operated in accordance with Australian Standard 2885. The proposal is located approximately 12 km east from the Young to Wagga Wagga Pipeline at the closest point. Therefore, APA has no concerns regarding any direct impact on the pipeline, as a result of the development and construction activity. In addition, the proposal development layout is outside the pipeline measure length (area of consequence).

Response

ARTC notes APA's comments.

7. Public submissions

7.1 Response to community submissions—the proposal

7.1.1 Overview

This chapter provides responses to issues raised by the community, including members of the public and property owners. Sections 7.1.2 to 7.1.5 below respond to issues raised regarding the proposal's design features and how it would be constructed and operated.

Responses to issues raised regarding the assessment and approval process, adequacy of assessments and stakeholder engagement are provided in section 7.2. Responses to issues raised regarding the impacts of the proposal on the environment and community are provided in Section 7.3. Responses to issues related to proposal evaluation, such as proposal need and justification, benefits, costs and funding, are provided in section 7.4.

7.1.2 Design features

7.1.2.1 Fencing

Issue

A submitter has requested confirmation that the corridor will be fenced at Freemans Lane level crossing in a similar manner to Corbys Lane to reduce safety risk and allow the orderly movement of livestock across the rail to continue, under the increased use of the rail.

Submission numbers

SE-49608986

Response

The Freemans Lane level crossing is not within the I2S proposal scope of works; therefore, the installation of fencing is not proposed at this location as part of this proposal.

Issue

Submitters are concerned the EIS does not adequately outline fencing structure, standards and maintenance to account for farming operations, livestock movement and pest proofing. Submitters have requested further information regarding fencing, including addressing fencing standards and maintenance.

Submission numbers

SE-49756969, SE-49726209, SE-49378958, SE-49680962, SE-49753959

Response

ARTC has an Inland Rail program-wide fencing strategy that would guide the detailed design of fencing for the proposal. This strategy assists with consistency of fencing across the Inland Rail program. Fencing requirements would be confirmed during the detailed design phase, in consultation with adjacent landowners, the relevant council, and other infrastructure owners. Fencing standards and maintenance are addressed further is section 6.1.6.2 of this report.

Additional information on ARTC Inland Rail fencing can be found within this **ARTC fencing fact sheet**.

7.1.2.2 Bridges

Issue

Missing elements of the EIS were noted. These include:

- size of bridges along main roads
- reference to access ways or bridges on each part of the route.

Submission numbers

SE-49753959

Response

ARTC acknowledges that detailed information is not yet available; however, it should be noted that the EIS was prepared based on a reference design. The EIS and supporting technical reports were prepared in accordance with the requirements of the EP&A Act, Schedule 2 of the EP&A Regulation and the SEARs. The further development of measures and design responses is a matter for detailed design and construction planning. This is consistent with current practice for major project assessments in NSW.

However, some of the details requested by the submitter are available at this phase, and were included as part of the EIS:

- Section 7.2.5 of the EIS outlines the location and size of new bridges as part of the proposal. The proposal includes 11 new bridges ranging in length from approximately 20 to 95 m, which includes eight watercourse crossings, two over crossings and one underbridge.
- Section 7.2.7.1 of the EIS outlines that the proposal would cross public roads at nine locations, these locations are identified in Table 7-3.

Section 7.2.7.2 of the EIS outlines that the proposal would interface with 75 private roads including six primary access tracks and 58 existing farm tracks. Should the proposal be approved, it would be designed, constructed and operated in accordance with the conditions of approval and all other relevant legislative requirements and approvals.

7.1.2.3 Level crossings and stock underpasses

Issue

Concerns were raised and requests were made in relation to the provision of private dedicated crossings within properties to enable property owners to move stock and machinery across the rail corridor. These included queries about what would be provided, how crossings would be designed, and whether properties would be provided with private level crossings or stock underpasses. Issues raised included:

- lack of property adjustment plans indicating how crossings will be provided, stating that waiting until the detailed design stage is too late
- local knowledge is not being taken into consideration with regards to the design and assessment of level crossing risks
- concerns regarding the quality and design of crossings and underpasses, and that the provision of stock underpasses is inadequate
- all the occupational private crossings should be designed with a width of 8 m and a flat approach to allow for large machinery and hoofed livestock to use the crossings, to assist with minimising the impact on current farming practices
- the logistics and financial burden of the crossing and access points made available to farmers after construction when having to move machinery or livestock
- suggestion the gated crossings be replaced with cattle grids
- concerns regarding the work, health and safety conditions for vehicle movements over designated crossings.
- a submitter is concerned about the use of Train Order Working (TOW) for operational train management, noting that ARTC's Advanced Train Management System (ATMS) will be implemented at a later date. They note that this may cause safety issues.
- no reference to what access ways or crossings will look like on maps supplied to the submitter.

Submission numbers

- SE-49748224, SE-49500958, SE-49756969, SE-49726209, SE-49753959

Response

Allocation of crossings

Mitigation measure LP-6 requires that where the creation of the rail corridor would sever a lot that currently has legal access to a public road, access would continue to be provided to both parts of the lot from a public road (or roads). Access across the rail corridor to the severed part of a lot can be provided by a level crossing. However, minimising the number of new level crossings provided as part of the proposal is desirable for safety reasons and is aligned with TfNSW and ONRSR level crossing policies. Access would continue to be maintained, and/or potential impacts managed, by:

- providing alternative access from a public road, where available
- considering acquiring severed land (if rendered unusable)

- providing common access points to serve multiple lots or properties (i.e. consolidation)
- providing a stock underpass under the rail corridor.

The provision and design of all private level crossings will be in accordance with relevant design requirements, including ARTC and Australian Standards, and in consultation with landowners. All crossings will be subject to assessment using the Australian Level Crossing Assessment Model (ALCAM) to manage safety. In some instances, there may be areas of land that are deemed unsuitable for level crossings to ensure safety standards are met.

ARTC has developed indicative layouts for private level crossings and stock underpasses, these are presented in Figure 7-1 to Figure 7-3. The safe movement of stock and farm machinery across the rail line at private crossings would be considered when developing these typical level crossing layouts. Engagement and discussion with landowners included a review of stock and plant movements.

ARTC will work with landowners to develop measures to minimise the impacts of the new rail corridor on internal property access arrangements, as far as practicable. In accordance with amended mitigation measure LP7, where the proposal affects internal property access arrangements, input would be sought from relevant landowners prior to finalising the detailed design. Where changes to internal property access arrangements are required, ARTC would consult with relevant property owners/occupants regarding alternative access arrangements, and identify feasible and reasonable measures to minimise impacts on existing operational arrangements/properties.

Where crossing of the rail line cannot be provided and severance of properties occurs, appropriate compensation would be offered in accordance with section 4.7.1.3 and detailed further in section 7.3.8.5 of this report.

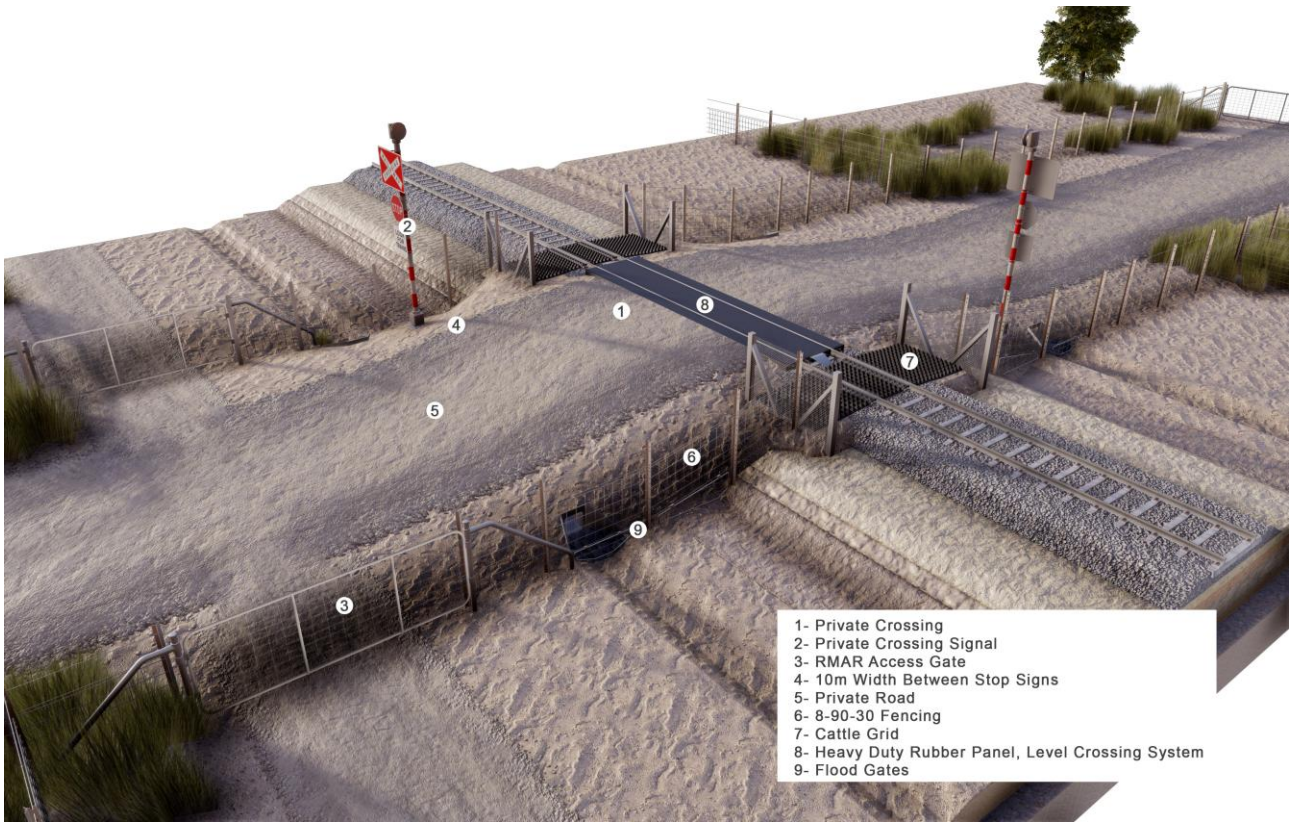

FIGURE 7-1 INDICATIVE LAYOUT OF A PRIVATE STOCK CROSSING (SUBJECT TO DETAILED DESIGN)

FIGURE 7-2 INDICATIVE LAYOUT OF A PRIVATE STOCK CROSSING STOCK HOLDING PEN (SUBJECT TO DETAILED DESIGN)

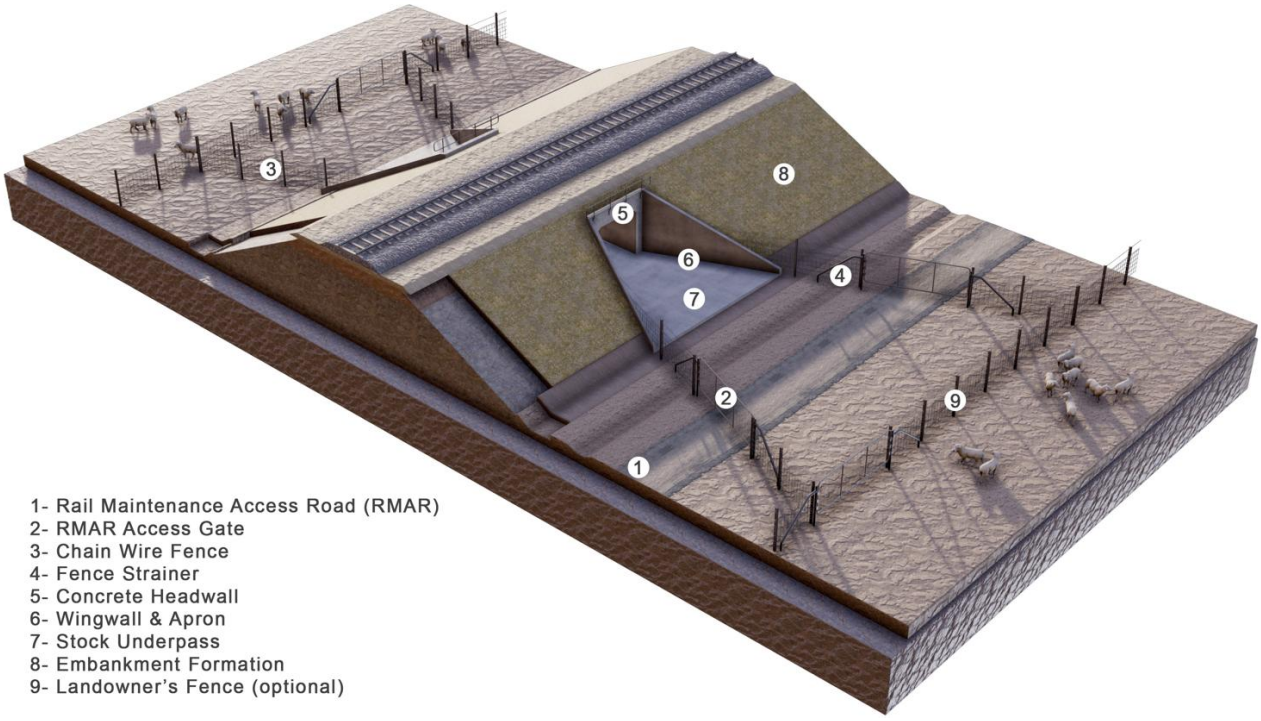

FIGURE 7-3 INDICATIVE LAYOUT OF A STOCK UNDERPASS (SUBJECT TO DETAILED DESIGN)

Design

The issues raised regarding access within individual properties are acknowledged. The proposal described in the EIS is a reference design, which would be further refined during detailed design. The detailed design will be finalised with input from the design contractor, once engaged. Sufficient flexibility has been provided to allow for the design to be refined during the detailed design stage, such as the design of the stock underpasses, to improve the performance, minimise impacts on the community and the environment, and in response to input from landowners in the next design development phase. In addition, mitigation measure LP-3 ensures landowners can participate in the design process and create parameters for design during the discussion that inform private property plans.

The EIS does not set out detailed and specific provisions in terms of rail corridor crossings (including stock crossings) within private properties, as these need to be determined in consultation with individual affected property owners/operators. Issues and potential impacts in relation to property severance, operations and access to and within properties are considered in Chapter 18 of the EIS, with further detail provided in Technical Report 11: Social Assessment.

ARTC has undertaken extensive consultation with landowners in order to understand their requirements. ARTC understands that the ability to move livestock and farm machinery across level crossings or through underpasses is a key requirement for landowners. This will be factored into the detailed design in a number of ways, including:

- All road crossings and road approaches will be designed to Austroads standards. The Austroads *Guide to Road Design* covers grading and clearance requirements and includes checks for vehicles with low clearances.
- The design allows for the offsetting of the stop signs to enable wider agricultural machinery to traverse through the level crossing.
- Stock underpasses would be designed in accordance with ARTC standards. Agreement plans in accordance with mitigation measure LP-3 will specify the solution for stock movements across the rail-corridor and the design parameters.

Seeking input from landowners would be ongoing as part of the property acquisition process and would continue during the detailed design and construction planning phase. Mitigation measure SE-2 has been updated—this measure requires ARTC to manage and deliver program-wide community and stakeholder engagement for Inland Rail and a proposal-specific communication management plan. This will include a protocol for taking onboard community feedback, providing response and definition of a complaints management system.

Mitigation measure SE-2 now also includes the requirement for a procedure and mechanism in place to resolve and mediate disputes in relation to construction and impact to property infrastructure.

Impact on livestock access

Livestock movement across the rail corridor is provided through level crossings, and where topography permits, stock underpasses and under bridges. Arrangements for stock crossings would be discussed with landowners through the construction planning, individual property plans and adjustments set out in mitigation measures LP-1, LP-3, LP-4 and LP-5. Planned stock crossings arrangements, prepared through consultation and design completed to date, are shown in the updated figure 18.4 from the EIS, presented in Appendix K. Indicative layouts of a private level crossing and a private stock crossing with holding pen are shown as Figure 7-1 and Figure 7-2 respectively. An indicative layout of a stock underpass is shown in Figure 7-3.

Where provided, landowners should use underpasses to move stock instead of level crossings for safety reasons and where feasible from a topography perspective. Where private level crossings are provided, an interface agreement will be established to assist in safe operation and use, including for livestock and non-standard machinery movements (refer to LP-14). The movement of agricultural machinery across the proposal at level crossings would need to comply with NSW road rules where relevant. A ‘Call Train Control’ communication protocol will be prepared between ARTC and landowners to support safe crossing of the corridor, in line with mitigation measure LP-15.

Safety

The NSW and national rail safety guidelines and policies would be used in the design, and layout of private crossings will be based on:

- feedback from consultation with landowners on specific property requirements
- safety standard (criteria for minimum sight distances for trains and vehicles)
- alternative access arrangements
- rail design and landform
- stock movements
- vehicle access requirements (e.g. farm machinery, frequency of use).

Train Order Working (TOW) is a system by which trains are moved safely by train orders issued by railway operators. TOW will not be used for the operation of the I2S line, instead the Rail Vehicle Detection (RVD) system will be used. The RVD system can detect the presence of rail traffic in a section of track and prevent any following rail traffic entering occupied blocks. The use of RVD will increase the safety at private crossings and will not preclude the ability to integrate ATMS system (a digital train management system with real-time train monitoring) in the future.

Old Sydney Road

Issue

A concern has been raised that the EIS has not adequately assessed risk, the probability of collision or modelled the effect of treatments to address the Old Sydney Road passive crossing.

Submission numbers

SE- 49756969

Response

Inland Rail undertook a risk assessment to confirm level crossing interface treatments using the Australian Level Crossing Assessment Model (ALCAM) that is endorsed by ONRSR (rail regulator). The results show, based on a number of variables i.e., traffic volumes, sight distances etc., that the passive controls included within the concept design at crossings are suitable. Additionally, the design will now include an extension of the asphalt seal on Old Sydney Road to minimise dust and improve visibility of the proposed passive level crossing. The length of the seal is likely to be around 150 m either side; however, this will be determined at detailed design.

7.1.2.4 Rail Maintenance Access Road

Issue

Regarding the relocation of the crossing loop and associated rail maintenance access road, a submitter questions the statement ‘that the rail maintenance access road improves emergency services access to the Bethungra Range’.

Submission numbers

SE-49756969

Response

The Rail Maintenance Access Road was changed from the west side of the alignment to the east at request of the Rural Fire Service (RFS) and Junee Shire Council. All parties agreed that this would improve emergency access to and egress from the Bethungra ranges in the event of a fire.

7.1.3 Key construction infrastructure

7.1.3.1 Construction compounds and laydown areas

Issue

Objections were raised on the locations of compounds (16, 17 and 29) due to their impact on residential properties. Concern has also been raised with regards to the compounds being located within proximity to a watercourse and on sloping land.

Submission numbers

SE-49608986, SE-49756969

Response

The locations of compounds outlined in the EIS were developed based on preliminary construction planning and methods. At this stage of construction planning, compounds are typically located where there is road access to allow people, materials and plant to get to these areas. The following measures were considered when locating compounds:

- maximise separation distances between construction worksites and residential receivers, especially where noisy activities are proposed
- minimise impacts to local roads, particularly at Stockinbingal due to the high volume of traffic using Burley Griffin Way.

The environmental sensitivities of each location are considered in the siting such as being located away from (or able to be managed in such a way so as to not significantly impact on heritage items, native vegetation,

watercourses, and areas prone to flooding (e.g. at least 50 m from watercourses and outside the 5% AEP flood zone) where little or no clearing would be required, and not within areas identified as threatened communities or species habitat; however, there are some locations, such as compounds 16 and 17, where there remain impacts. At these sites there is a potential for:

- a change in direction of overland flows on the western side of the proposal (site 16) that will impact flows into a farm dam on the eastern side near site 17
- an increase in runoff volumes and sediment loads due to additional hard impervious surfaces.

ARTC and its construction contractor(s) would undertake further consultation with landowners during detailed design and construction planning to confirm and agree the location of, and arrangements for, the construction infrastructure. This would consider potential impacts on agricultural operations.

Since public exhibition of the EIS, ARTC has been working to further refine the construction footprint and space requirements. This refinement has enabled ARTC to confirm that construction compound 29 is no longer required for the proposal.

Should there be a need for the relocation of construction compounds, or the addition of any, their location must adhere to the relevant criteria outlined in section 8.3 of the EIS. ARTC will undertake appropriate assessment of relocated compounds in line with the EP&A Act. The criteria includes requirements to ensure there are no significant impacts on sensitive areas such as heritage assets, native vegetation, watercourses and areas prone to flooding.

As described in section B12.3.1 of the EIS, land required during construction only would be via a lease with the relevant landowner. Landowners would be consulted during the process. Lease values would be determined in accordance with established guidelines and statutory requirements. Any land used for compound areas on private property would be restored in accordance with the lease agreement with the owner.

ARTC is committed to implementing a range of measures to mitigate the potential impacts identified during construction. These mitigation measures include:

- LV-1—Detailed design and construction planning would seek to minimise the construction and operation footprints and avoid impacts on mature native vegetation, as far as reasonably practicable.
- LV-4—Construction compounds would be located, as far as practicable, within cleared areas and away from sensitive receivers. Compounds would be designed and orientated to minimise visual impacts. This would include locating areas of low visual amenity away from sensitive receivers, and erecting boundary screening around compounds, where appropriate.
- LV-5—The rehabilitation of disturbed areas would be undertaken progressively in accordance with the rehabilitation strategy to be undertaken during detailed design and individual property plans (where relevant).
- LV-6—Lighting of work areas, compounds, and work sites would be designed and sited in accordance with mitigation measure LV4, and oriented to minimise glare and light spill impact on adjacent receivers.
- HF-5—The layout of construction work sites and compounds would consider overland flow paths and flood risk, avoiding flood-liable land and flood events, where practicable.

7.1.3.2 Use of farmland for construction purposes

Issue

A submitter has noted that there will be construction impacts on their property and farming practices, especially from vibration, dust, noise, and inhibited access. They note that noise and vibration can impact lambing ewes, and request that notification and communication is provided throughout the proposal.

Submission number

SE-49748224

Response

In accordance with LP-3, individual property plans would be developed in consultation with landowners/occupants, with respect to the management of construction on or immediately adjacent to private properties, where appropriate. These would detail any required adjustments to fencing, access, farm infrastructure, and relocation of any impacted structures as required. The agreements may include:

- measures to minimise property impacts, including impacts on agricultural operations (mitigation measure LP-5)
- specific requirements to ensure that operations, including the movement of livestock and farm machinery, are able to be maintained as efficiently as possible (mitigation measure LP-7)
- measures to manage severance impacts as they relate to each property, where practicable, including appropriate movement arrangements (mitigation measure LP-6) such as new or adjusted accesses to the public road network or internal access networks, divestment or amalgamation opportunities

- required adjustments to and/or replacement of affected structures, such as livestock handling yards, fencing, silos, holding pens, barns, etc
- rehabilitation of disturbed areas, in accordance with the rehabilitation strategy (mitigation measures LV-5 and BD-8)
- where land is acquired, compensation would be assessed in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) and the NSW Property Acquisition Process—**nsw.gov.au/housing-and-construction/property-acquisition**.
- depending on the individual circumstances of each land/business owner, and the proposed impacts on the land and to operations, compensation may take the form of money or land/works—as agreed by the parties.

Construction noise has been assessed in accordance with the relevant guidelines, and considers existing background noise levels. Where impacts were predicted to occur, appropriate mitigation measures will be developed in the Construction Noise and Vibration Management Plan (CNVMP), in accordance with mitigation measure NV-6. The plan will include measures, processes and responsibilities to monitor and manage noise and vibration while minimising impacts during construction.

Compliance with human impact noise criteria would usually indicate minimal impacts to domestic and wild fauna.

7.1.4 Operational arrangements

Engagement with landowners during operational phase

Issue

Respondents requested clarification on how communication will work between the operator of the line and the users of the surrounding land. Respondents noted that this interaction should be considered as part of the assessment of the proposal.

Submission numbers

SE-49748224

Response

ARTC will be the railway manager for Inland Rail, with the line to be operated as an 'open access railway'. Freight rail operators that are suitably licensed in NSW would be able to reserve track time from ARTC to use the line.

ARTC will seek to enter Rail Safety National Law (RSNL) interface agreements with all private landowners that have a level crossing connecting their land. This is a written agreement for managing the risks to safety at interfaces. The interface agreement will nominate key ARTC contacts for the road manager should they need to communicate with ARTC on any matters with ARTC once the rail line is operational. As outlined in mitigation measure LP-11, interface agreements would be required for all private crossings on Inland Rail and would be put in place to assist in the safe movement of stock and non-standard machinery across the rail corridor.

ARTC also publishes telephone numbers/email contacts on their website, which members of the public can use to contact ARTC, including Enviroline for community-related enquires, a general enquiries number and network control contacts in case of an emergency.

7.1.5 Route selection process

Issue

Some submitters requested information about how the preferred route was selected. Concerns were raised that routes were inadequately assessed and the process did not incorporate local preferences or knowledge. Respondents expressed concerns that not all route options received full consideration. Comments made included:

- route selection needs to be addressed more objectively and comprehensively in the EIS
- the EIS provides broad statements around the meaning of 'cadastral' and 'road' and the selection of the Illabo to Stockinbingal (option A) route option in the 2010 Inland Rail Alignment Study should be considered as this option follows cadastral boundaries and road reserves
- location of properties were not considered in the identification of the alignment, particularly by the greenfield alignment
- location of the crossing/passing loop, maintenance track and construction compounds were not considered
- the route chosen will impact the submitter's high productivity land, where there are less productive lands that the rail could pass through

- revising the design further towards the east as originally proposed would be a natural inherent risk limiting strategy to nearby residents being exposed to unforeseen adverse impacts and modelling uncertainties. This methodology would also reduce the likelihood (and extra costs) of extensive noise mitigation measures being required after the fact, not to mention the excessive and extended discomfort predicted during the construction phase.

Some respondents suggested that the route selection be reassessed, with the final selection chosen to balance being cost effective, environmentally conscious, community preferences and working with farming operations. Comments included:

- the proposal brief has focused on meeting 24-hour end destination arrivals, without further consideration of how the proposal could benefit and service other areas of NSW, including agricultural and rural communities across Australia
- the railway line should be on a Melbourne-Shepparton-Narrandera alignment where it is already a gazetted line and the saving on acquisition would be enormous to the bottom line of the budget as well as minimal environmental impact.

Submission numbers

SE-49748974, SE-49756969, SE-49726209, SE-49378958, SE-49753959, SE-49748224, SE-49562736

Response

Alignment selection methodology

Chapter 6 of the EIS outlines alternatives and proposal options. These included the strategic alternatives to Inland Rail as a whole (including road upgrades, upgrading the east coast railway, and greater use of maritime and air freight), and alternative route locations. A summary of the main options that were considered during the concept design process is also outlined in Chapter 6 of the EIS.

Section 6.3.1 of the EIS addresses how decisions made during the 2010 Inland Rail Alignment Study were made. Three options were considered:

- a greenfield route directly from Junee to Stockinbingal (Option A)
- utilisation of existing rail from Junee to Illabo and a greenfield route from Illabo to Stockinbingal (Option B)
- utilisation of the existing rail corridor from Junee to Stockinbingal (via Cootamundra), including upgrade of the existing rail to achieve Inland Rail standards (Option C).

Option C was determined to be the poorest performing option as it shared many of the disadvantages of the base case. Options A and B were determined to have comparable outcomes, including capital costs and similar transit times; however, greenfield development was considered more likely to impact on a broader range of environmental factors (e.g. biodiversity, heritage and hydrology) and to a greater degree than brownfield development. Therefore, Option B was favoured because it reduced the extent of greenfield development and associated environmental and property impacts relative to Option A.

In 2016–2018, further technical investigations were undertaken on the chosen alignment (Option B), along with community consultation, which fed into further options analysis and refinement. For assessment purposes, the route was divided into three sections, comprising a southern, central and northern section.

A multi-criteria analysis process was undertaken to identify a preferred alignment to be progressed for further design development. The multi-criteria analysis provided a process for documenting and justifying which alignment best addressed the competing technical, social, economic and environmental proposal objectives.

The multi-criteria analysis process included a preliminary review of a range of potential environmental constraints in addition to technical engineering and constructability criteria. The criteria used to complete the assessment is presented in table 6-1 of the EIS and details the following (the relevant weighting for each criteria is included in brackets):

- technical viability: considers the alignment, impact on public utilities, geotechnical conditions, impacts on existing road and rail networks, flood immunity and hydrology and future proofing (17%)
- environmental impacts: considers the ecological impacts (flora, fauna and habitats), visual impacts, noise and vibration impacts, flooding and waterway impacts, and the effect on air quality and greenhouse gas emissions. (12.5%)
- safety assessment: considers construction safety, operational safety, public safety, road safety interfaces and emergency response (16.5%)
- community and property impacts: considers property impacts, Indigenous and non-Indigenous heritage, impact on community, community response, current and future land use and links to economic impacts (12.5%)
- operational approach: considers the impact on travel time, reliability and availability, and network interoperability and connectivity including interfaces with rail terminals and network (16.5%)

- approvals and stakeholder engagement: considers planning and approval requirements, state and federal agency buy-in, local government buy-in, other statutory and regulatory approvals and service authorities, such as utilities etc (12.5%)
- constructability and schedule: considers construction duration, access and complexity, resources, interface with operational railway and staging opportunities (12.5%).

Each option was assessed against the 2016 alignment option and the results are outlined in Chapter 6 of the EIS. Tables 6-3, 6-5 and 6-7 detail the benefits of the preferred alignments for the southern, central and northern sections, respectively. The preferred alignment was selected based on the outcomes of the multi-criteria analysis. Stakeholder feedback was used to score options based on the community and property impacts weightings. The assessment resulted in a preferred alignment of Option F in the southern section, Option C in the central section and Option F in the northern section.

The northern section alignment was later refined. The original alignment F incorporated an at-grade crossing of the Lake Cargelligo railway line, and removal of the Burley Griffin Way level crossing to the west of Stockinbingal, improving the road safety interfaces; however, south of Stockinbingal the original alignment deviated from Dudauman Road, resulting in the severance of a number of properties. Ultimately a hybrid solution was formed, which combined the benefits of the at-grade solution (preferred option) and the preferred route option. The hybrid option also included widening the diameter of the curve of the Lake Cargelligo connection to reduce potential wheel squeal for the nearby residents and moving the alignment further to the west of Stockinbingal.

Engagement during the route design process

Community feedback and local knowledge, as well as information concerning potential impacts of the operational railway line on the local community, was incorporated into the decision making process of the alignment, as part of the multi-criteria analysis. Property boundaries were also considered in this assessment, however it is recognised that cadastral boundaries could not always be followed, in the need to consider other assessment criteria.

Engagement with community and key stakeholder was carried out as part of the following key periods:

- Inland Rail announcement and preliminary consultation: 2015 to end 2017
- route option assessment: 2016 to 2017
- preliminary design development and environmental assessment: early 2018 to December 2021.
- this consultation included mediums such as:
  - printed information
  - fact sheets
  - proposal information packs
  - mail outs
  - proposal maps.

The consultation undertaken to date has utilised a range of engagement mechanisms and materials; feedback has contributed to the project team's understanding of the study area, route selection and refinement and the identification of potential impacts. Stakeholder feedback has enabled the design to respond to and minimise potential impacts, where practicable. Impacts were avoided or appropriate mitigation measures developed in response to this input, where practicable.

It also allowed for engagement with the community, including landowners and other stakeholders who may be directly impacted by the proposal. In regard to route selection, stakeholder feedback was used to score options based on the community and property impact weightings (in addition to other considerations).

Route selection process

Chapter 6 of the EIS outlines the route selection process undertaken for the proposal. The assessment of route alignment has occurred over the past 10 years. Potential options were identified within a 'north–south rail corridor', defined by the standard-gauge rail line along the NSW coast, and a broad arc west of Shepparton, Jerilderie, Coonamble, Burren Junction, Goondiwindi and Toowoomba. Within this corridor, four sub-corridors were identified for comparative analysis, each of which could be combined with alternative routes between Melbourne and Junee, via Shepparton or via Albury.

The route selection process concluded that the route along the Melbourne to Parkes section, including the route through Albury, was chosen over the route via Shepparton as it offered superior outcomes for the key criteria of capital costs and transit time. Though the fastest Shepparton route offered a better transit time, this route attracted a significant extra capital cost. The Shepparton route was also limited by the potential to capture only a very small amount of regional freight.

Location of ancillary infrastructure

The crossing loop is located within the central section. The central section design comprises grade-separated road crossings at Dirnaseer Road and Old Cootamundra Road, a crossing loop of 2,200 m in length, and a 250 m maintenance siding. During the design optimisation phase, the crossing loop was moved as the original location was in an area of steep topography and required a crossing of Run Boundary Creek. It is recognised that this change resulted in a marginal change in proximity to sensitive receivers; however, the change was considered small compared to the original location.

Ancillary facilities, including compounds, were not considered at the time of the multi-criteria assessment to determine a preferred alignment. Once a preferred alignment had been selected, the proposed locations of ancillary facilities within this alignment were selected taking into consideration environmental constraints. This is further detailed in section 6.4.2.2 of the EIS.

The proposed locations for temporary facilities, such as compounds and stockpiles, were selected to minimise environmental and community impacts while meeting the requirements for safe construction of the proposal. The location of the construction compounds is based on preliminary construction planning and once a construction contractor is engaged, details of the construction planning will be confirmed and outlined in the CEMP.

Section 8.3 of the EIS identifies criteria that any additional or relocated construction compounds would need to be consistent with to minimise impacts, which includes being located on land with sufficient size to accommodate the activities on that site.

7.2 Response to community submissions—procedural matters

7.2.1 Assessment and approval

Adequacy of detail provided in the EIS

Issue

Submitters are concerned that the approach and methodology of the assessment does not focus enough on the social environment or the economic impact, especially for landowners. Issues raised include that the:

- EIS does not adequately cover the social environment
- effect on the environmental impact on farming is scantly covered
- EIS does not adequately cover the potential impacts and risks of the proposal
- EIS appears to suggest the proposal has an overall positive impact; however, the respondent suggests this is not the case.

Submission numbers

SE-49756969, SE-49378958

Response

EIS adequacy

The EIS, and supporting technical reports, were prepared in accordance with the requirements of the *Environmental Planning and Assessment Act 1999* (EP&A Act), the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation 2021) and the SEARs, as well as relevant issue-specific assessment guidelines and policies.

Details of how these requirements were met are provided in appendices A and B of the EIS.

The EIS and technical reports were reviewed by the Department of Planning and Environment (DPE), and other relevant NSW Government agencies, to undertake a basic adequacy check against the SEARs issued by DPE, and assess if information requested has been addressed/included in the draft EIS prior to being finalised and placed on public exhibition. NSW Government agencies were also invited to provide advice during the public exhibition period. Responses to the issues raised in this advice are provided in section 4 of this report.

Social environment

The technical reports present assessments in accordance with the SEARs and other relevant policies and guidelines. These guidelines provide a framework for assessing social and economic impacts to ensure assessments are carried out consistently, to a high standard, and are properly integrated with other environmental assessments, design development and management processes.

The EIS addresses social and economic impacts in Chapter 17, supported by the inclusion of Technical Paper 11: Social Impact Assessment (SIA), and Technical Paper 12: Economic Impact Assessment. Additional consideration of these matters has been given through the preparation of this Response to Submissions Report.

The SIA considered a number of risks associated with the potential negative social and economic impacts, which are detailed in section 17.3.5 of Chapter 17. These included issues such as constraints in local short- and long-term accommodation markets; changes in rural amenity and character, which may affect people's sense of place; adverse mental health impacts predominantly for directly affected landowners; and an altered sense of enjoyment of the rural landscapes from changes to the existing visual amenity.

The proposal has sought to avoid or minimise potential social and economic impacts by undertaking extensive consultation with local landowners, community stakeholders and other relevant stakeholders to assist with the route option selection and design process; where possible, designing the alignment to minimise impacts on local amenity.

The SIA analysed the potential proposal effects in line with the *Social Impact Assessment Guideline for State Significant Projects* (DPE, 2021). This analysis identified and considered potential effects and provides detailed management strategies for how the proposal will continue to mitigate social impacts throughout the pre-construction, construction and operation phases. The key social impact mitigation and enhancement measures align to the ARTC Inland Rail program Social Impact Management Plan (SIMP) Framework (the Framework) in order to minimise negative social impacts and maximise positive social impacts for communities within the local and regional study areas. Technical Paper 11 includes a framework SIMP, which presents recommended mitigation measures and enhancements according to the following topics:

- Workforce management: The proposal would provide up to 64 direct local jobs and up to 361 direct regional jobs during the construction period, while the SIMP would include measures to manage potential impacts of the non-resident construction workforce on local and regional communities.
- Industry participation: ARTC has prepared an Inland Rail Australian Industry Participation Plan (AIPP) under the *Australian Jobs Act 2013* (Cth), which outlines program-wide approaches to ensuring Australian-based and local business participation in the Inland Rail program.
- Housing and accommodation: The project proposed the construction of a 450-bed temporary workforce accommodation camp to reduce the impact on the limited short-term accommodation in the area.
- Community health and wellbeing: The principal contractor would prepare a community wellbeing plan through consultation with key stakeholders, including local councils and relevant community service providers.
- Community and stakeholder engagement: ARTC would continue to manage and deliver program-wide community and stakeholder engagement for Inland Rail in accordance with the Inland Rail Communications and Engagement Strategy.
- Mitigation measures SE-1 to SE-2 commit ARTC and the construction contractor to the preparation of a detailed SIMP to manage implementation of the mitigation measures identified in the SIA and framework SIMP, and to detail specific actions and targets that would be developed in response to these measures. These actions would complement associated mitigation measures proposed in response to other issues, such as land use and property, traffic management, and noise and vibration management. Accordingly, implementation of the SIMP will act as a component of a broader integrated management system for managing potential impacts from the proposal.

The EIS has addressed the SEARs, the abovementioned statutory requirements and relevant guidelines. In doing so, it has addressed a wide range of technical assessment requirements, while also providing information to explain the proposal, its potential impacts, and management of these impacts to the community and other stakeholders. To make this information more accessible to the general public, chapters in the main EIS provide a summary of the main findings of the technical assessments. It is not the purpose of these chapters to fully replicate the detailed information in the reports. The technical reports that support the EIS provide the detailed results of the assessments undertaken.

Language used within the EIS

Issue

In Chapter 11 of the EIS, table 11-11 only seems to recognise the words Likely, Possible and Almost Certain, which are all 'maybe' words instead of using the word 'Certain' which will happen in any construction?

Submission numbers

SE-49756969

Response

The terminology used in this instance is dictated by industry standards for determining risk assessments. The risk matrix used for the environmental assessments followed the approach outline in the *AS/NZS ISO 31000:2018 Risk Management—Guidelines* (Standards Australia, 2018).

The risk criteria for the risk assessment, including how likelihood and consequences (both positive and negative) were defined and measured, and how the level of risk was determined, has been based on the ARTC Inland Rail Environmental Assessment Procedure. The likelihood definitions are provided in Table G.1 of EIS Appendix G.

‘Certain’ is not a likelihood recognised in this assessment; however, ‘almost certain’ is described as ‘expected to occur in most circumstances’ with a >90% percentile.

7.2.2 Adequacy of the content of the specialist assessments

7.2.2.1 Air quality

Issue

A submitter raised concerns that the air quality assessment is qualitative in nature, and it is not clear how and at what magnitude the air quality might be impacted on their property. A passing loop is located within 200 metres from the property, and the submitter would like to know if the air quality on their property will be affected by trains that are parked on the passing loop throughout the day and night, and if so, how will this be mitigated.

Submission numbers

SE-49748974

Response

Air quality assessment

Chapter 24 in the EIS outlines the qualitative operational air quality assessment for locomotives idling at crossing loops. The air quality assessment included consideration of key pollutants relevant to train emissions, such as nitrogen dioxide, sulfur dioxide, carbon monoxide, PM_{10}, $PM_{2.5}$ and benzene, in accor*dance with the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (*NSW EPA, 2016) (the Approved Methods). These criteria are provided for the protection of human health and the environment.

While air dispersion modelling was not undertaken for the proposal, other Inland Rail projects where modelling of idling trains was undertaken, were referenced. The Inland Rail North Star to NSW/Queensland Border Project conducted dispersion modelling, taking into consideration emissions from idling trains at the one crossing loop. The outputs of the dispersion modelling indicated higher levels of particulate matter (PM10, PM2.5) and Nitrogen Dioxide (NO_2) close to the source (within 20 m) and decreasing rapidly from the source. The Inland Rail Narromine to Narrabri Project modelled emission NO_2 from two idling locomotives idling at each crossing loop. The predicted results indicated the maximum 1-hour NO_2 concentration occurred closest to the source (locomotives) and reduced back to near background levels at 200 m distance.

Impact of property

There are expected to be around four trains idling over a 24-hour period. In practice, trains are generally at the crossing loop for 10 to 15 minutes; however, for the purpose of the air quality assessment a more conservative time of 1 hour was assumed. As demonstrated in the comparison projects, air dispersion modelling of air emissions from idling locomotives is highest at the source and decreases to background levels beyond 200 m from the locomotives. Furthermore, the low number of trains expected to be idling at the crossing loop, together with the low idling duration, means a property 200 m away from the loop would not be adversely impacted by idling emissions from locomotives.

7.2.2.2 Land use

Issue

Questions were raised regarding how the land use patterns of where the proposal traverses were identified and defined in the EIS.

Submission numbers

SE-49756969

Response

Chapter 18: Land use and property of EIS details the methodology of the agriculture and land use assessment. Section 18.2.2.2 states the various methods used to review, identify and map the existing land uses within the site and immediate surrounds based on a desktop review of geographical information systems (GIS) spatial data and aerial photography, including:

- Land use Mapping for NSW 2017, prepared by DPE to be incorporated in the National Catchment scale land use—Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
- zoning maps that form part of the relevant LEPs for Cootamundra and Junee councils
- NSW Government’s *Strategic Regional Land Use Policy* (DPE, 2013) and biophysical strategic agricultural land mapping

- significant properties and/or landholdings
- agricultural uses, including any areas of regionally significant farmland; areas used for cropping, grazing and horticulture; travelling stock reserves (TSRs); and agricultural infrastructure
- field assessments to verify the identified land uses
- the potential for impacts on agricultural land uses during construction and operation, in accordance with the *Agricultural impact statement technical notes* (DPI, 2013b)
- the potential for non-agricultural land use impacts, including impacts on mining
- the *Land Use Conflict Risk Assessment Guide* (DPI, 2011)
- consultation with relevant state agencies including Riverina Local Land Services (LLS) and DPI providing measures to mitigate and manage the impacts identified.

ARTC has engaged in extensive consultation with landowners impacted by the proposal since 2018 and have conducted property inspections to understand the potential impacts to each farm along the proposal site. This consultation is ongoing and will continue throughout each phase of the design and construction of the proposal.

Technical Paper 12: Economic Impact Assessment addresses the specific economic requirements of Section 10 of the SEARs, which includes an assessment of the agricultural land use impacts. Land uses are used to inform the value of the land, which is required to assess the proposal's socio-economic, land use and property impacts.

7.2.2.3 Landscape and visual

Issue

A resident believes the operational visual impact assessment is insufficient for their location and that the proposed mitigation is inadequate. They seek a commitment to ongoing consultation on proposed landscaping and tree planting.

Submission number

SE-49748974

Response

ARTC has prepared an additional photomontage for this location—this is included as viewpoint 11 in Appendix I. The pre-mitigated visual impact at this location is anticipated to be low. With the implementation of mitigation measures, the visual impact at this location is considered to be negligible.

Mitigation measure LV-2 proposes that an urban design and landscape plan would be prepared to provide a consistent guide to landscaping. The landscape plan would include vegetation planting in strategic locations to visually mitigate new structures and rail operations, including at locations where the proposal would be visible from sensitive receivers, where the presence of vegetation does not impact safe rail operations.

Issue

A submitter has requested the EIS should provide more receptor montages and viewpoint information to outline visual and noise impacts, and that the EIS does not provide sufficient information to predict the visual impact of the rail embankments and the noise emanating from the trains at the embankment height.

Submission number

SE-49378958

Response

The landscape and visual impact assessment has been undertaken in accordance with the DPE SEARs and *Environmental Impact Assessment Practice Note: Guideline for Landscape Character and Visual Impact Assessment (NSW Roads and Maritime Services (RMS), 2013a*). The assessment methodology is summarised in Chapter 19 of the EIS and is described in more detail in Technical Report 13—Landscape and visual assessment. The assessment considers potential impacts on sensitive viewpoints and provides a more general assessment on sensitive receivers.

A supplementary Landscape Character and Visual Impact Assessment has been prepared as part of this Response to Submissions Report (included as Appendix I). This supplementary assessment was prepared in response to submissions received on the EIS. A summary of supplementary report is discussed in Section 3.3.5.

Although viewpoint photos were not taken from private properties, photos were taken adjacent to private properties, where properties would have views towards the proposal, on publicly accessible land, and are representative of views from these properties. The assessment was undertaken in accordance with *Environmental Impact Assessment Practice Note—Guideline for landscape character and visual impact assessment* (Roads and Maritime

Services, 2013a), which notes that representative viewpoints can be used as part of the assessment when a viewpoint cannot be physically accessed (on private property).

The operational rail noise assessment described in Technical Report 10: Noise and Vibration Assessment—Operational Noise, was undertaken in accordance with the SEARs and relevant guidelines, including the *Rail Infrastructure Noise Guideline* (NSW EPA, 2013). SEARs item 15 (Noise and Vibration—Amenity) defines the requirements to be addressed and relevant guidelines to consider.

7.2.2.4 Noise and Vibration

Adequacy of the noise assessment

Issue

A submitter has raised concerns with the validity of the noise assessment citing that:

- noise modelling has been presented as viable based on limited case validation
- noise measurements are taken over a brief period. Given the agricultural bias of rail (and road) movements, discomfort levels tend to be seasonally correlated. Measurements during these periods should be made
- no direct vibration measurements were taken near proximate 'sensitive receivers'
- decisions made on meeting relevant noise (and vibration) standards within the EIS are quite often based on, at best, marginal differences.

Submission number

SE- 49562736

Response

The operational rail noise assessment described in Technical Report 10: Noise and Vibration Assessment—Operational Noise, was undertaken in accordance with the SEARs and relevant guidelines, including the *Rail Infrastructure Noise Guideline* (NSW EPA, 2013) (RING). SEARs item 15 (Noise and Vibration—Amenity) defines the requirements to be addressed and relevant guidelines to consider.

A baseline environmental noise survey was undertaken in February 2019, to quantify and characterise the existing noise environment. The existing environmental noise levels were monitored at six locations surrounding the proposal. The existing background noise levels were considered characteristic of rural environments where the main sources of noise are local road traffic, residential activities and natural sources, such as windblown vegetation and birdsong. The noise levels highlight the potential sensitivity of the environment to the introduction of additional sources of noise and this was considered by ARTC when proposing the noise management criteria for the proposal.

Technical Paper 10 identified that the proposal has been assessed as a new rail line development for the purpose of managing railway noise under the RING. Given this, ARTC acknowledges that the RING noise trigger levels require the noise assessment to assess whether the operational noise from trains exceed an absolute level. Should the noise levels be exceeded, the need to examine mitigation options for affected receivers is triggered.

ARTC will monitor the noise and vibration impacts of the railway once operational, and develop reasonable and feasible mitigation measures should the levels be higher than predicted. Mitigation measures were proposed to minimise the impact of noise and vibration once the proposal is operational, these include:

- NV-12—The proposal would be operated with the aim of achieving the operational noise and vibration criteria identified by the operational noise and vibration review, the requirements of the conditions of approval, and the environment protection licence for Inland Rail.
- NV-13—Operational noise and vibration compliance monitoring would be undertaken, once Inland Rail has commenced operation, at representative locations to compare actual noise performance against that predicted by the operational noise and vibration review. Compliance monitoring requirements would be defined by the operational noise and vibration review. The results of monitoring would be included in an operational noise and vibration compliance report, prepared in accordance with the conditions of approval. The need for any additional feasible and reasonable mitigation measures would be identified as an outcome of the monitoring.

Impact on livestock

Issue

Submitters have requested additional information be provided regarding noise and vibration impacts on livestock during construction and operation of the proposal.

Submission number

SE-49378958, SE-49748974

Response

The approach to predicting rail noise is dictated by the NSW EPA's Rail Infrastructure Noise Guideline (RING). The EIS presents a worst-case assessment based on the reference design and further noise modelling and assessment will be undertaken during detailed design. In addition, ARTC will undertake compliance monitoring following commencement of operations to ensure the modelling predictions were accurate and mitigation is operating as intended. Where exceedances of the RING trigger levels are identified, additional mitigation will be provided.

In response to feedback received during CCC, ARTC commissioned University of New England (UNE) to assess the impact of rail noise, vibration and visual impact on sheep production. The report reviewed the potential impact of rail operations on livestock production systems and the welfare of livestock located in the vicinity of rail corridors, and the report findings were presented at the I2S CCC on 24 February 2022. The report is available in Appendix H.

Key findings of the report were that after an initial phase of high novelty, sheep habituate to new rail infrastructure. Initially, sheep should be allowed to respond to new situation, such as by moving away from new rail line, to minimise impact on productivity; however, sheep adapt relatively quickly to rail traffic as it is highly predictable; reducing production impact.

Recommendations for landowners included in the report are:

- place yards and areas with high stocking density away from rail to reduce startled responses
- house ewes and newborn lambs away from rail until bonding is well established to mitigate impact of noise on bonding
- buffer zones and trees between rail and paddocks to reduce the impact of noise, vibration, air movement and provide a visual barrier
- awareness of the potential impact of rail noise on sheep to stockpersons and farm managers
- genetic selection of flock for calm temperament is a long-term strategy to reduce impacts and improve productivity in general.

Operational vibration impacts

Issue

A submitter is concerned on the impact of vibration to the foundation of their homestead (built in 1892). The submitter is also concerned the railway will impact the tranquillity of their property, including surrounding garden and outdoor areas.

Submission number

SE-49726209

Response

ARTC acknowledges the concern regarding vibration impacts affecting the tranquillity of their property.

Potential vibration impacts during operation are described in Technical Report 9 and summarised in Chapter 16 of the EIS. The assessment notes that the vibration criteria applied to manage potential impacts to human comfort at residences are usually the most stringent and it is generally not necessary to set separate criteria for vibration effects on typical building contents and structures. For intermittent events such as train pass by events, the vibration dose value (VDV) is applied to assess potential impacts to human comfort from vibration. The assessment confirmed that beyond 13 m from the rail line, the vibration levels would be low.

It is understood that the homestead in question is approximately 125 m away from the alignment. As the vibration criteria for managing disturbance would be met, consequently the less stringent vibration criteria for managing risk of cosmetic damage to buildings would also be achieved.

Ground-borne noise levels were also considered. It was determined that at 50 m away from the outer rail area, ground-borne noise levels were less than or equal to the relevant noise assessment criteria.

7.2.2.5 Transport

Ironbong Road realignment

Issue

A submitter has stated that Ironbong Road is currently in a state of disrepair and is concerned about an increase in the use of this road during construction and a lack of planned upgrades.

Submission number

SE-49748974

Response

In accordance with mitigation measure T-5, a CTTAMP would be prepared and implemented as part of the CEMP by the design and construction contractor. The CTTAMP would include measures, processes and responsibilities to minimise the potential for impacts on the community, and the operation of the surrounding road and transport environment during construction. The CTTAMP would be developed in consultation with local councils, TfNSW, emergency services and public transport/bus operators, and will include staging plans of the proposed works.

Chapter 7 of the EIS outlines the proposed design, with section 7.2.8.2 stating that Ironbong Road will be improved as part of the overall scheme, proposing a realignment of the road to provide a safe crossing for vehicles. This would result in a reduced design speed of 90 km/h from the default rural road speed of 100 km/h. Advisory speed signage, in conjunction with the curve warning sign, has been proposed to reduce vehicle approach speeds. In addition, chevron alignment marker signage and guideposts would be provided for improved delineation.

The staging of Ironbong Road construction works will be developed during the detailed design phase by the construction contractor.

To address the condition of roads potentially impacted by the proposal construction, a dilapidation survey would be undertaken of the public roads within the proposed haulage routes prior to the commencement of construction, in accordance with mitigation measure T-8. The survey would be provided to the relevant road authority. Upgrades to pavements on construction routes would be undertaken prior to construction, as required.

Dilapidation surveys would also be undertaken for any roads used as diversion routes during construction and provided to the relevant road authority.

Pavement monitoring would be carried out during works. Rectification measures would be implemented as needed during and/or following completion of construction to address any damage caused by construction.

Impact on intersections

Issue

A submitter would like to raise concern that the below access routes and intersections are unsuitable due to poor sight distance, type of road surface, light pavement structure and narrow width:

- Junee Reefs Road Retreat Road and Dirnaseer Road
- Goldenfields Way and Junee Reefs Road intersection
- Blackgate Road.

Submission numbers

SE-49756969

Response

Chapter 11 of the EIS outlines the assessment undertaken to ensure all construction traffic impacts were captured and, where necessary, mitigated. EIS Section 11.4.1.3 states that all intersections on the construction routes were compared and those found to have higher volumes of traffic based on the connecting link road results were further assessed in traffic modelling. The methodology is outlined in section 11.2.3.2, with detail provided in section 5.4.1 of Technical Paper 3.

Treatments for intersection used throughout the construction period would be considered in the Traffic, Transport and Access Management Plan, which would be prepared as part of the CEMP (mitigation measure T-5). ARTC would obtain all required approvals and permits to undertake the proposal, as described in chapter 3 of the EIS, and in accordance with the conditions of approval. Any vehicle access points would be designed to meet the relevant Australian, ARTC and road authority standards.

Use of local roads

Issue

A submitter has noted that the transport assessment does not include a number of roads that are used by locals to move livestock between properties, and notes that use of these roads is likely to increase once the proposal is complete, due to property severance.

Submission numbers

SE-49756969

Response

Suitable infrastructure, such as private stock underpasses and private level crossings, were incorporated into the design to ensure property owners can move stock with minimal use of public roads.

No formal travelling stock reserve will be impacted as part of this proposal.

Use of ABS data

Issue

A query has been raised asking why the latest ABS figures from 2021 were not used in this report. Also the area of Bethungra, used to gain this historic data for 2011 and 2016, changed between the two studies.

Submission numbers

SE-49756969

Response

ARTC has investigated using the latest 2021 ABS figures and has concluded that a 0.5 per cent growth rate in traffic is still appropriate for the assessment.

School bus routes

Issue

A query has been raised asking why the assessment did not include the local School Bus Routes that service the local farming community and the local council areas.

Submission numbers

SE-49756969

Response

The EIS has recognised that there is a school bus service operating on Olympic Highway, as noted in section 4.4.1 of Technical Paper 3: Traffic, Transport and Access Assessment. ARTC has committed under mitigation measure T-5 to preparing and implementing a CTTAMP as part of the CEMP. The plan would include measures, processes, and responsibilities to minimise the potential for impacts on the community, and the operation of the surrounding road and transport environment during construction. The plan would be developed in consultation with Junee Shire Council and public transport/bus operators.

Construction routes

Issue

Concern has been raised regarding the impact of construction traffic on the road network, stating that impacts will be considerable and cause damage to the existing roads.

Submission numbers

SE-49756969

Response

It should be noted that the construction vehicle volumes used in the assessment are an estimated 'worst case' during peak of construction. This has been done to provide a robust traffic impact assessment.

In accordance with mitigation measure T-8, a dilapidation survey would be undertaken of the public roads within the proposed haulage routes prior to construction and provided to the relevant road authority. Upgrades to pavements on haulage routes would be undertaken prior to use, as required. Pavement monitoring would be carried out during works. Rectification measures would be implemented as needed during and/or following completion of construction to address any damage caused by construction.

Issue

The EIS mentions ‘the construction routes would extend from surrounding population centres, including Temora, Cootamundra and Wagga Wagga’. A submitter has asked why Junee was not mentioned.

Submission numbers

SE-49756969

Response

ARTC acknowledges the comment and confirms that construction traffic will also travel to Junee. Figure 5.3 in Technical Paper 3 identifies construction routes and Junee is included in the route (yellow) from Wagga Wagga.

Old Junee Road

Issue

Figure 11.4 of the EIS states that access routes between Wagga-Junee-Illabo would be via the Olympic Highway, whereas any trucking company would know that there is a Heavy Vehicle by-pass of Junee via Old Junee.

Submission numbers

SE-49756969

Response

The construction routes identified in the EIS are preliminary and it is understood that the Heavy Vehicle by-pass of Junee via Old Junee is also a viable alternative that would be used for construction traffic; in particular, material haulage. The successful contractor would be responsible for determining the most suitable route and be required to prepare a traffic transport and access management plan that includes these details. The plan would include measures, processes and responsibilities to minimise the potential for impacts on the community, and the operation of the surrounding road and transport environment during construction.

The plan would be developed in consultation with local councils, TfNSW, emergency services and public transport/bus operators.

Cumulative effects of construction traffic

Issue

A submitter is concerned that the Albury to Illabo section of the proposal has not been taken account of, and that when the Kemp Street Bridge in Junee will be replaced, construction traffic from both projects will need to use the central railway crossing in Junee.

Submission numbers

SE-49756969

Response

Chapter 26 of the EIS considers the cumulative impacts resulting from the interaction of the proposal with other projects, and this includes the Albury to Illabo (A2I) project.

Given the relatively low level of construction traffic expected on the A2I project in this location, any impacts from traffic volume are expected to be minor in nature. As outlined in mitigation measure T-6, construction traffic management planning will form part of the detailed construction planning prior to the commencement of work. The management plan will need to assess the likelihood for conflict and or constraints along the traffic route. It will consider the A2I traffic should the timing of material haulage occur at the same time. Where necessary, alternative routes that are suitable for heavy vehicles, would be included in the traffic planning. This may include the Heavy Vehicle by-pass of Junee via Old Junee, as noted above, as an alternative to using the Olympic Highway through Junee.

7.2.3 Stakeholder engagement

7.2.3.1 Adequacy of the consultation process

Issue

Concerns that the consultation and engagement between community and ARTC in relation to the proposal has been unsatisfactory. Comments received suggest that:

- communication with the people that will be impacted should the proposed route be selected has not been adequate
- design changes, such as the moving of the passing loop, were made without consultation
- there is concern that key decisions were made without community consideration or consultation.

Submission numbers

SE-49753959, SE-49748974, SE-49748224, SE-49756969

Response

Consultation with the community and key stakeholders commenced in 2015. The purpose of consultation was to raise awareness about Inland Rail and the proposal, understand community and stakeholder issues, and obtain important feedback to help shape the proposal's route, design and environmental assessment. Engagement with community and key stakeholders was carried out as part of the following key periods:

- Inland Rail announcement and preliminary consultation: 2015 to end 2017
- route option assessment: 2016 to 2017
- preliminary design development and environmental assessment: early 2018 to December 2021.

The purpose of consultation has shifted across these periods and so the communication and engagement activities have likewise been tailored to each phase.

Further details of the consultation undertaken up to EIS exhibition is provided in Table 3-3 of this report and in Appendix C of the EIS. Since November 2018, ARTC's engagement has been guided by the requirements of the SEARs. ARTC's aim is to engage in an open and ongoing manner with interested community members, industry groups and affected landowners.

The consultation contributed to the project team's understanding of the potential impacts, and has enabled the design to respond to, and minimise, potential impacts as far as practicable. Measures to minimise and manage impacts that cannot be avoided were developed as an outcome of the environmental assessment process. These are addressed through mitigation measures outlined in Appendix B of this report. Impacts would continue to be minimised through the detailed design and construction planning phases, taking into account the input of stakeholders and the local community, and in accordance with the mitigation measures and conditions of approval (if approved).

Proposal decisions were made by ARTC in order to progress with the preparation of the reference design, with community considerations as identified through the consultation and feedback systems balanced against engineering and feasibility aspects. Over this time, the reference design evolved and involved many iterations and refinements, incorporating a range of considerations at each stage. Key environmental issues were examined throughout the design development process. Consultation has been carried out with affected stakeholders (including landowners) to identify key potential impacts at an early stage. Where practicable, impacts were avoided or appropriate mitigation measures developed in response to this input. This has resulted in a number of design changes that have mitigated some of the potentially significant impacts.

While ARTC endeavours to regularly review practices, ARTC acknowledges that there may be instances where consultation may not have met the expectations of some stakeholders. On these occasions, ARTC seeks to rectify any issues as promptly as possible, ensuring that consultation practices adhere to values of building trust, credibility and visibility.

ARTC acknowledges the need for ongoing consultation. Mitigation measure SE-2 commits ARTC to providing stakeholders (including landowners and community members) with opportunities for input to design and construction planning, where appropriate, in accordance with the communication management plan for the proposal.

As noted above, in accordance with mitigation measure SE-2, ARTC would continue to manage and deliver program-wide community and stakeholder engagement for Inland Rail in accordance with the Inland Rail Communications and Engagement Strategy.

7.3 Response to community submissions—impacts of the proposal

7.3.1 Biodiversity

Fauna and connectivity

Issue

A submitter has requested a more comprehensive assessment of tree removal along fauna connectivity corridors, as tree removal can have a negative impact on bird flight paths and impacts to watercourses which provide shelter and drinking water for fauna, including threatened species (Pink-tailed Worm Lizard and Superb Parrot).

Submission number

SE-49378958

Response

ARTC recognises that trees provide important habitat and connectivity for fauna. A comprehensive assessment of the impacts of vegetation and tree clearing, including scattered trees, was undertaken following the Biodiversity Assessment Method as required under the *Biodiversity Conservation Act 2016* (NSW). The Biodiversity

Development Assessment Report (BDAR) was updated based on advice received from BCD following EIS exhibition. The updated BDAR is provided in Appendix D of this report, and includes an updated and expanded assessment of impacts on fauna connectivity (provided in section 10.3 and table 10.7).

A preliminary fauna connectivity strategy has been provided as part of the revised BDAR (Appendix L of the revised BDAR). The implemented connectivity strategy would include monitoring and reporting requirements in relation to the operational performance of the final measures. If required, the strategy will be updated to ensure optimal usage from the surrounding fauna.

Where possible, the proposal has minimised impact to habitat fragmentation by:

- utilising areas of existing disturbance (i.e. within agricultural lands or cropping areas) and areas of lower vegetation condition
- avoiding areas that provide connectivity as far as practicable. Where the alignment cannot avoid impact to areas of connectivity such as along Old Sydney Road, the width of the proposal footprint would be minimised as far as possible and the appropriateness of connectivity mitigation measures considered (i.e. rope bridges, culverts etc.).
- assessing a 250 m corridor was used to map the presence and condition of threatened ecological communities and guide the design. This aimed to minimise direct impact to scattered trees and woodland areas, where feasible. The chosen route has also been located to avoid high-quality habitat areas and minimise impacts to connectivity along old Sydney Road and Billabong Creek, Bethungra and Boundary Creek, as well as large river red gums and hollow bearing trees at Ironbong Road and Ulandra Creek.
- small sections of mapped water bodies or streams will be crossed by the proposal. The areas of likely impact are small in extent and impacts assessed to be negligible, given the implementation of environmental safeguards.

As a result of construction activities (such as earthworks and removal of vegetation), habitat loss and habitat fragmentation will occur. Habitat fragmentation as a result of the proposal would be largely localised, resulting in minor increases in fragmentation of the vegetation patches. With the correct implementation of mitigation measures the impacts of habitat fragmentation is considered to be low. The following mitigation measures aim to minimise habitat fragmentation:

- BD-4 Managing the potential for biodiversity impacts during construction; Clearing extents/site boundary/limit of works would be consistent with proposal extents defined in a condition of approval.
- BD-5 Managing the potential for biodiversity impacts during construction; The clearing extents/site boundary/limit of works would be clearly defined with flagging or marking tape, signage or other suitable means to delineate no-go areas. This delineation and marking process would align with the proposal flagging/marking tape process and specifications.
- BD-7 Managing the potential for biodiversity impacts during construction; A biodiversity management plan would be prepared prior to construction and implemented as part of the Construction Environmental Management Plan (CEMP). The plan would include measures to manage biodiversity and minimise the potential for impacts during construction.
- BD-8 Rehabilitation of vegetation and habitats subject to temporary disturbance; A rehabilitation strategy would be prepared to guide rehabilitation planning, implementation, monitoring and maintenance of disturbed areas once construction is complete. The strategy would include clear objectives for rehabilitation of native vegetation in temporary disturbances areas and in riparian areas.
- BD-12 Fauna connectivity; The operational performance of fauna connectivity measures (including impacts on fauna as a result of train operations) would be monitored in accordance with the fauna connectivity strategy (Appendix L). This would include recording of wildlife collisions with trains, and monitoring of use of crossing structures by target species (including the Squirrel Glider) and feral predators. The need for additional measures or modifications to existing measures would be identified to respond to any issues identified.

The Pink-tailed Worm Lizard has a patchy distribution along south western slopes, with a recent record (November 2022) in rocky area of Ulandra Nature Reserve (approximately 10 km). This species occurs in rocky areas and prefers habitats with dominant groundcover of native grasses (particularly areas dominated by Kangaroo Grass (*Themeda triandra*); sparse or no tree cover and scattered small rocks embedded in the soil surface. These important habitat features were limited within the subject land. The potential habitat within the subject land is considered marginal due to disturbance and limited extent of preferred habitat features. Targeted surveys were undertaken for Pink-tailed Worm Lizard, which failed to detect this species.

Appendix L of the BDAR has identified 29 threatened bird species with potential habitat within the subject land. These birds are identified in table L.1. The 29 bird species have been grouped into subgroups with similar habitat requirements for assessment:

- small woodland birds
- parrots and cockatoos
- raptors.

It was assessed that highly mobile fauna such as birds are less likely to be impacted by habitat fragmentation. No population-wide impacts are expected for birds within the area. Broad mitigation measures listed above to reduce impacts to vegetation, rehabilitate cleared areas and provide connectivity structures that will mitigate impacts to highly mobile fauna.

Superb Parrots were recorded across both the corridor and region during field survey, see figure 6.2 of the BDAR, Technical Paper 1. Impacts to this species were minimised as far as practical, mitigation measures developed and residual impacts to be offset following the Biodiversity Assessment Methodology. This includes 6.8 ha of riparian vegetation. Additional discussion has been provided in the revised BDAR in response to submissions in the fauna connectivity strategy (Appendix L) and the assessment of impacts to connectivity provided in Table 10.7. Specific mitigation measures for Superb Parrot include pre-clearing surveys searching for nest trees, limiting clearing and access to construction footprint and clearing protocols that will be outlined in the CEMP. A full list of mitigation measures is provided in Table 11.1 of the revised BDAR.

Long-term environmental impacts

Issue

Submitters have raised concern regarding the long-term environmental impacts of the proposal, noting that the environmental impacts of the construction period may not be reversible in our lifetime, and that operational activities will continue to impact flora and fauna.

Submission numbers

SE-49726209 SE-49378958

Response

ARTC acknowledges that the environmental impacts of the proposal are not restricted to the construction phase and include operational impacts. Table 27.2 addresses the potential impacts of the operational period, noting issues such as the potential for fauna injury due to trains and impacts on fauna connectivity. The identified impacts would be mitigated by implementing the environmental management procedures and plans described in section 27.2 of the EIS and the updated mitigation measures provided in Appendix B of this report. The following mitigation measures would be implemented to minimise impacts on biodiversity in the operational phase:

BD-8—Rehabilitation of vegetation and habitats subject to temporary disturbance: A rehabilitation strategy would be prepared to guide rehabilitation planning, implementation, monitoring and maintenance of disturbed areas once construction is complete. The strategy would include clear objectives for rehabilitation of native vegetation in temporary disturbances areas and in riparian areas.

BD-12—Fauna connectivity: The operational performance of fauna connectivity measures (including impacts on fauna as a result of train operations) would be monitored in accordance with the fauna connectivity strategy (Appendix L). This would include recording of wildlife collisions with trains and monitoring of use of crossing structures by target species (including the Squirrel Glider) and feral predators. The need for additional measures or changes to existing measures would be identified to respond to any issues identified.

7.3.2 Water resources

Use of GWCC water

Issue

Submitters have raised concerns that the proposal will be using large amounts of Goldenfields Water County Council's (GWCC) water, impacting other GWCC user's supply.

Submission numbers

SE-49378958, SE-49726209, SE-49748224, SE-49756969

Response

Water would be required for a number of construction activities, including rail and road formation works, dust control, spoil compaction and reinstatement works. Preliminary estimates of water requirements for the proposal indicate that a total of 675 megalitres (ML) of water would be required.

Chapter 18 of the EIS (Land use and property) makes mention of the fact that agricultural production is influenced by surface and groundwater resources. For the rural land surrounding the proposal, surface water supply predominantly comes from rainfall collected via rainwater tanks, farm dams and from the reticulated water network operated by GWCC. GWCC operates a reticulated network across the study area that services many of the farms with both stock and domestic supply.

Consultation with GWCC has identified that the rate of consumption of construction water exceeds the available rate of supply from GWCC. Consequently, to ensure that other GWCC users are not impacted by this water demand,

accumulation of construction water prior to construction commencement would be required. This would include provision of water storage tanks adjacent to the alignment, and a water tanker road haulage program to transport the reticulated supply availability at Cootamundra and Stockinbingal. A simple water supply model (no storage losses or rainfall gains considered) has been used to estimate the length of the pre-construction water accumulation period and the capacity of required water storages. Water tanks would be placed within construction compounds. ARTC is continuing to consult with GWCC in relation to construction water supply.

Impact on farm dams

Issue

Submissions have been made regarding the impact of the proposal on farm dams. Concerns raised include:

- The EIS mentions 14 dams located within the corridor. However, it does not mention the number of dams adjacent, downhill side, of the railway line that could be impacted by changes in water flow as a result of drainage designs including culverts
- Of the 137 dams identified how many are located within 1 kilometre downhill of the proposed line?

Response

Investigations undertaken as part of EIS Technical Paper 11: Social Impact Assessment indicated that landowners considered preservation of flows paths to farm dams to be important. These farm dams are predominantly located on overland flow paths to opportunistically capture surface flows. Engagement with landowners was undertaken to identify contour banks across the proposal to be included in the flood assessment.

Section 12.3.6 of the EIS notes that a total of 137 farm dams were identified within the catchments both upstream and downstream of the proposal. There are 64 dams within 1 km downstream of the proposal site; the size and use of these dams is not known at this stage. The location and size of the cross-drainage infrastructure was positioned to ensure surface flows that intersected the proposal site continued to flow downhill and therefore continue to provide surface flows into downstream dams.

The study area for the hydrology and flooding assessment includes surface water catchments impacted by the proposal site, which is defined as the area of drainage by a stream or body of water, or the area of land from which water is collected and includes areas upstream and downstream of the proposal.

Potential impacts to flood conditions during operation of the proposal (i.e. as a result of the permanent proposal infrastructure) were modelled by assessing changes in the behaviour of existing flooding conditions as a result of the proposal. Further details as to how flooding impacts, including the impacts by changes in water flow due to changes in drainage, are addressed in section 7.2.5 and Chapter 8 of The Updated Hydrology and Flooding Impact Assessment Report.

Although it is assumed within the report that most dams are utilised for livestock, it was not assumed that this is the only potential uses.

Further investigation will be carried out during detailed design and, where possible, flow distribution will be generally maintained. As required by mitigation measure LP-12, where potential adverse impacts to water supply for farm operations are identified, ARTC will consult with the affected landowner on the management measures that will be implemented to mitigate the impacts.

Measures could include replacement or reinstatement of farm water pipelines, dams and drainage channels, to ensure continuity of stock and domestic water supplies, prior to removal of existing impacted infrastructure.

Surface water impacts

Issue

The EIS states that ‘Water supply for the crops does not involve permanent irrigation infrastructure but is reliant on rainfall and supply from nearby above ground storages’. There are no above ground storages to supplement any form of irrigation.

Submission numbers

SE-49756969

Response

Section 12.3.5 of the EIS outlined the existing surface water supply along the proposal corridor and not at the individual farm level. For the rural land surrounding the proposal, surface water supply predominantly comes from rainfall collected via rainwater tanks, farm dams and from the reticulated water network operated by GWCC. GWCC operates a reticulated network across the study area that services many of the farms with both stock and domestic supply. In the vicinity of the proposal, the network extends along Burley Griffin Way, Old Cootamundra Road,

Dirnaseer Road, Ironbong Road, Eulomo Settlement Road and Old Sydney Road. There are no permanent flowing watercourses near the proposal, so no water is extracted from surface watercourses.

Impacts to water supply of adjoining landowners has been assessed in Chapter 12 of the Updated Hydrology and Flooding Impact Assessment Report and included in mitigation measures HF-2 and HF-3, which consider the ongoing investigation into water supply options.

Issue

The proponent indicates that stormwater is non-existent due to it being agricultural land. In fact, stormwater exists on all lands. Stormwater follows drainage lines across paddocks be it in defined channels or in this case open paddocks. These drainage lines help to fill farm dams which have been setup along these drainage lines that will be affected by the proposed railway line.

Before Chainage 13400 there is a concern that the overland water flow will be channelled into the Crown land road reserve which will be needed as a road reserve as an access from the corridor to Ironbong Road. As per Table 12-9, the information indicates that all, as a direct result of the proposed railway line, drainage locations will have an increase in flow which will have a direct, negative, impact on agricultural production.

Submission numbers

SE-49756969

Response

Stormwater is described as overland flows within Chapter 12 of the EIS (Hydrology and flooding) and the flood models have been developed to identify all overland flow paths that intersect the proposal. Section 12.3.7 of the EIS states that there is limited stormwater infrastructure within the proposal, and the proposal would maintain existing surface water flows and not result in any impacts to the conveyance capacity of existing stormwater systems.

The overland flow paths (drainage lines) have been defined based on the topographic information, which identifies the location of drainage lines as low topographic points. The farm dams upstream and downstream of the proposal have also been identified in the flood model through a review of the topographic information and through landowner discussions during consultation. The cross-drainage infrastructure has then been located to maintain the connection of the overland flow path across the proposal and to minimise impacts to water flows into farm dams downstream of the proposal.

As best as possible the design has attempted to minimise changes to overland flows across agricultural land, through the design of channels within the rail corridor and drainage pipes beneath level crossings, to ensure a continuation of flow. The design will be informed through the hydrology design process, including the consultation with landowners on cross-drainage performance, mitigation measures and the acceptability of change.

7.3.3 Hydrology, flooding and water quality

Flooding impacts—operation

Issue

A submitter has raised concerns that the placement of the corridor will impact water movements and flood risks on their property.

Submission numbers

SE-49378958

Response

A detailed flooding assessment was undertaken for the EIS, which involved identifying existing catchments within the study area, and drainage structures present, to establish the existing flooding conditions. Flood modelling was undertaken to assess existing flooding behaviour within the study area, including impact to the existing rail corridors from flooding. The location of existing drainage infrastructure was considered in the flood modelling of the existing flooding conditions.

A technical peer review of the flood models, including the hydrologic and hydraulic models was completed. The independent review included an in-depth review of hydrologic and hydraulic model inputs, outputs and assumptions. The findings were that generally the hydrological and hydraulic modelling undertaken for the proposal is consistent with the relevant guidelines and is appropriate for the reference design phase of the proposal.

ARTC has undertaken and will continue to undertake consultation with affected landowners and other stakeholders. The proposal seeks to minimise the existing hydrological regime by including bridges and culverts in the railway embankment and associated works to manage discharge into neighbouring land.

Quantitative design limits (QDLs) have been set in consultation between ARTC and the NSW Department of Planning and Environment (DPE) as a basis for assessing potential changes from flooding. The QDLs nominate limits for acceptable differences between existing modelled flood conditions and predicted changes after development. They cover:

- Afflux: The change in water level between existing and developed conditions
- Velocity: The change in velocity, and potential for erosion and scour
- Hazard: The change in hazard, measured as the depth of flow multiplied by the velocity
- Duration: The change in flood duration

The reference design was developed to limit impacts from flooding and to minimise changes from existing conditions. Where practical, the design has complied with the QDL limits.

In accordance with mitigation measure HF-1, the design would continue to be refined during the detailed design process, to either eliminate or reduce impacts. This process would involve collecting more detailed ground survey, consultation with affected landowners and design development, such as changing culvert sizes and spacings, specifying erosion mitigation works, etc. ARTC is committed to consulting with landowners during the detailed design process, with the intention of reaching agreement on the final arrangements where practicable.

Issue

The submitter is requesting information on how flood water impacts to their property will be managed.

Submission numbers

SE-49726209

Response

In accordance with mitigation measure HF-1, the design would continue to be refined during the detailed design process, to either eliminate or reduce impacts. This process would involve collecting more detailed ground survey, consultation with affected landowners and design development, such as changing culvert sizes and spacings, and specifying erosion mitigation works. This process would aim to provide an indication of minimal change to flows to retained farm dams and associated minimal changes to the catchment yield of the dams. ARTC is committed to consulting with landowners during the detailed design process, with the intention of reaching agreement on the final arrangements where practicable.

Issue

A submitter has raised concern regarding the potential impacts during extreme flood events. There may not be an impact on the house immediately downstream however if the railway line, gave way as a result to flooding then the residence would certainly be in danger.

Submission numbers

SE-49756969

Response

Section 4.4.2 of this report outlines a similar issue to this, which was raised by the Department of Planning and Environment.

As described in section 7.2.9 of The Updated Hydrology and Flooding Impact Assessment Report, an embankment failure assessment was completed. The results indicate that up to 11 properties in Stockinbingal will experience an increase in hydraulic hazard category as a result of a washout of the formation. Table 7.7 of The Updated Hydrology and Flooding Impact Assessment Report, presents the existing and worst breach case results for the velocity depth product, which informs the hydraulic hazard classification. It is noted that the estimated velocities following the breach are largely less than 1.0 m/s. The increase is hydraulic hazard category is relatively small for most of the locations with only one location experiencing an increase of 22 per cent, resulting in a hydraulic hazard category change to H3, which is considered unsafe for vehicles, children and the elderly. The four houses with an increase above 14 per cent are located in the vicinity of Cambria Street. The increased risk to the community resulting from a washout is low but will be addressed through a geotechnical investigation prior to detailed design.

A new mitigation measure (HF-4) has been included that requires a geotechnical investigation of new and existing structures, including on the floodplain at Stockinbingal, to be completed to inform the design and minimise the risk of rail formation failure. This will occur during the detailed design phase and be presented in the Flood Design Verification Report.

Risks to watercourse and riverbank stability and potential geomorphological change will be assessed and managed during detailed design within the proposal site. Adaptive management techniques to maintain riverbank stability will be adopted to address this potential risk during construction.

Issue

The proposal is not anticipated to result in significant social and economic impacts from flooding. Where exceedances of QDLs are predicted, these generally occur within the rail corridor, or as minor impacts in the surrounding area. These so-called minor impacts will result in changes to agricultural production with increased wet areas resulting in loss of production and lower than normal dam levels due to changes in water flows across paddocks.

The next paragraph “Existing farm contour banks have been identified and the assessment indicates that only one contour bank would be impacted by the proposal. The proposal has been designed to maintain all but one overland flow path, which will therefore minimise the impact to farm dam flows’ is very misleading as it indicates that only one dam will be impacted whereas in reality many will.

Submission numbers

SE-49756969

Response

The overland flow paths (drainage lines) that supply surface water to farm dams have been defined based on the topographic information, which identifies the location of drainage lines as low topographic points. The farm dams upstream and downstream of the proposal have also been identified in the flood model through a review of the topographic information and through landowner discussions during consultation. The cross-drainage infrastructure has then been located to maintain the connection of the overland flow path across the proposal and to minimise impacts to water flows into farm dams downstream of the proposal.

As best as possible, the design has attempted to minimise changes to overland flows across agricultural land through the design of channels within the rail corridor, drainage pipes beneath level crossings and culverts, and bridges under the rail formation to ensure a continuation of flow. The design will be informed through the hydrology design process, including the consultation with landowners on cross-drainage performance, mitigation measures and the acceptability of change.

ARTC is committed to consulting with landowners during the detailed design process, with the intention of reaching agreement on the final arrangements where practicable. Alterations to flows due to the proposal would be managed in consultation with landowners. As noted, ARTC would seek to minimise flow changes and impacts as far as practicable.

Issue

Enquiry regarding the applicable Flood Management Objectives (FMOs) or Quantitative Design Limits (QDL) to their residential dwelling and access to their property on West Street considering other FMOs used in their area appear to fail on afflux, velocity and duration with no solution provided. The new culvert under the realigned Burley Griffin Way directs an increased water flow across the eastern portion of our property. What works are proposed to manage the increased water from the new Burley Griffin Way culvert, across and under their driveway access from West Street to the Stockinbingal levee channel.

Request that ARTC identify the area "deemed unsafe for small vehicles" as there is concern around access during a rain event and potential damage to driveway.

Submission numbers

SE-49099735

Response

Based on the available LiDAR and flood modelling it is estimated that there is potential change in flood behaviour in the vicinity of the proposal (as described in section 7.2.2.1 of the Updated Hydrology and Flooding Impact Assessment Report but not within the main Dudauman Creek channel. Potential changes are expected across the eastern floodplain between the existing Burley Griffin Way and Lake Cargelligo Line. The flood modelling indicates that this area is subject to overland flows from the local catchment and breakout flows from Dudauman Creek for events larger than the 10% AEP event.

There is no additional water being directed under the new Burley Griffin Way. The proposed works include a detention basin to the south, which will retain flood flows and then the release of floodwaters will be controlled through the culverts that direct water into the channel adjacent to West Street.

Please refer to the flood maps for a visual presentation of the existing and design conditions with a summary included below. The existing flood affectation for the property is presented in the Cootamundra Gundagai Regional Council Local Environment Plan map for flood affectation (see Figure 7-4).

As described below, the proposal will not result in changes to the flood affectation of the driveway except for an increase in duration of inundation in the 1% AEP flood event. The flood assessment has also determined no change in flood affectation to the dwelling on the property for all events up to and including the PMF.

FIGURE 7-4 FLOOD PLANNING MAP

For existing conditions, the driveway is subject to the following:

- 10% AEP flood depths—35 m of driveway will be subject to depths up to 450 mm and 100 m will be subject to depths up to 170 mm. Durations range from a few hours for the shallow section of driveway to up to a day for the deeper section. 20 m of driveway is subject to velocities between 0.4 and 0.6 m/s and the remainder is predicted to experience velocities less than 0.15 m/s.
- 1% AEP flood depths—220 m of driveway will be subject to depths up to 800 mm. Durations range from six hours for the shallow section of driveway to up to a day for the deeper section. 70 m of driveway is subject to velocities between 0.5 and 0.7 m/s and the remainder is predicted to experience velocities less than 0.4 m/s.

QDLs have been set in consultation between ARTC and the NSW Department of Planning and Environment (DPE) as a basis for assessing potential changes from flooding. The QDLs nominate limits for acceptable differences between existing modelled flood conditions and predicted changes after development. They cover:

- afflux - the change in water level between existing and developed conditions
- velocity - the change in velocity, and potential for erosion and scour
- hazard - the change in hazard, measured as the depth of flow multiplied by the velocity
- duration - the change in flood duration

For design conditions the driveway is subject to the following:

- 10% AEP flood depths—35 m of driveway will be subject to depths up to 450 mm and 100 m will be subject to depths up to 150 mm and therefore no change in peak flood depths are predicted. No change to duration is predicted along the full length of the driveway. Similar to existing conditions, the same 20 m of driveway is subject to velocities between 0.4 and 0.6 m/s and the remainder is predicted to experience velocities less than 0.15 m/s.
- 1% AEP flood depths—220 m of driveway will be subject to depths up to 760 mm and therefore no exceedance of the QDL is predicted. For a length of 32 m of the driveway that experiences existing depths of 100 mm there is an increase in duration of up to four hours, which results in inundation of up to half a day; however, it is noted the depth of inundation has not increased. Similar to existing conditions, 70 m of driveway is subject to velocities between 0.5 and 0.7 m/s and the remainder is predicted to experience velocities less than 0.4 m/s

- Flood duration is dependent on the duration of rainfall and will vary for every rainfall event. The flood models have simulated a range of different duration rainfall events and the information presented here is for a critical storm duration for the Dudauman Creek catchment.

The reference design was developed to limit impacts from flooding and to minimise changes from existing conditions. Where practical, the design has complied with the QDL limits. The proposed works are conceptual and will be refined at detailed design but may include further consideration of the existing channel along West Street and culverts under the property access road, and or further works to the south of the new Burley Griffin Way.

For design conditions, the area 'deemed unsafe for small vehicles is on land away from the driveway and adjacent to the proposal where culverts are proposed to convey flows from the south into the channel along West Street. The depth of 0.5 m is not changed by the proposal and the velocity remains below 1 m/s, which results in a velocity depth product less 0.6 m^2/s for agricultural land.

ARTC would seek to minimise flow changes and impacts as far as practicable on the property and work with Cootamundra Gundagai Regional Council, with support from the DPE, to ensure the proposed works do not affect levees and road drainage features.

In accordance with mitigation measure HF-1, the design would continue to be refined during the detailed design process, to minimise impacts as far as practicable. ARTC is committed to consulting with landowners during the detailed design process, with the intention of reaching agreement on the final arrangements where practicable. Alterations to flows due to the proposal would be managed in consultation with landowners. As noted, ARTC would seek to minimise flow changes and impacts as far as practicable.

Issue

The EIS has indicated there is a culvert blockage consideration in the flood modelling, a submitter enquired whether there is a similar blockage consideration for the channel between the levee.

Submission numbers

SE-49099735

Response

The blockage was applied to new drainage structures introduced by the proposal in order to understand the potential impact of the proposal. It is appreciated that the channel may have obstructions, and this may impact flood behaviour in the vicinity of the channel and on land beyond the proposal boundary. Cootamundra Gundagai Regional Council provides flood risk information for private properties. The information can be accessed from Council via the NSW Spatial Data Website. Management of the flood risk associated with this channel would form part of the Council-led Flood Risk Management process and that query should be directed to Council.

Issue

The downstream infrastructure, including road drainage and levee system, is not fit for purpose now and certainly not with increased water directed to this area. The submitter seeks clarification on the responsibility for maintenance of this infrastructure (new culvert, downstream drainage and levee) and commitment going forward.

Submission numbers

SE-49099735

Response

Management and maintenance of the levee system and road drainage is the responsibility of Cootamundra Gundagai Regional Council with support from the Department of Planning and Environment. ARTC would seek to minimise flow changes and impacts as far as practicable on these levees and road drainage features. ARTC is committed to consulting with Council and landowners during the detailed design process, with the intention of reaching agreement on the final design of drainage where practicable. Alterations to flows due to the proposal would be managed in consultation with Council and landowners.

Issue

A submitter is concerned the current flood plan is incorrect based on recent flood events and believes this is an oversight of the EIS. The submitter has requested a hydrologist to visit and discuss the flow of water and the submitters observations to date.

Submission numbers

SE-49642958

Response

ARTC acknowledges the submitter's concerns. The flood model updates completed as part of this report indicate that water ponds in the area of the property that the landowner indicated was inundated during the flood events of 2021 and 2022. Please refer to the updated flood maps in Appendix C of the Updated Hydrology and Flooding Impact Assessment Report. The proposal does not result in any change to ponding of water across the property except as discussed in the above responses.

In accordance with mitigation measure HF-1, the design would continue to be refined during the detailed design process, to minimise impacts as far as practicable. ARTC is committed to consulting with landowners during the detailed design process, with the intention of reaching agreement on the final arrangements where practicable. Alterations to flows due to the proposal would be managed in consultation with landowners. As noted, ARTC would seek to minimise flow changes and impacts as far as practicable.

The NSW Government commissioned an independent inquiry into the 2022 flood events. A NSW Legislative Council selected a committee that undertook a separate inquiry into the 2022 flood events. The findings from these inquiries will inform policy updates for the management of flood-prone land in NSW.

Recommendation 37 by the NSW Legislative Council select committee states. '*That the NSW Government will work with relevant agencies and local landowners to find ways to improve the management of drainage channels including looking for recommendations to reduce red and green tape*'. The implementation of this recommendation will be the responsibility of the NSW Government, which may include Cootamundra Gundagai Regional Council and the Department of Planning and Environment. ARTC is committed to ongoing consultation with Council and landowners as the findings of the NSW Flood Inquiries are adopted and implemented.

Issue

It is noted that no changes to flood immunity are predicted for Old Sydney Road for the full range of flood events. However, road users travelling from the east to the west via the proposed level crossing will need to be warned of potential flood waters on the western site of the level crossing as there is unlikely to be visibility of flood waters on the road until the vehicle is crossing the top of the rail.

Submission numbers

SE-49756969

Response

The proposal does not change flood behaviour, with no changes predicted to flood immunity and flood hazard at Old Sydney Road. The proposal will result in a change to the road geometry at Old Sydney Road with the proposed level crossing. The Old Sydney Road level crossings would be designed in accordance with relevant guidelines and standards, including AS 1742.7:2016 *Manual of uniform traffic control devices, Part 7: Railway crossings* (Standards Australia, 2016), *Guide to Road Design Part 4: Intersections and Crossings* (Austroads, 2021), *Guideline: Lighting for railway crossings* (Roads and Maritime Services, 2013b), and ARTC standards.

7.3.4 Flooding impacts—construction

Issue

A flood and emergency response plan should be prepared and implemented as part of the CEMP. The plan would include measures, processes and responsibilities to minimise the potential impacts of construction activities on flood behaviour and bushfire risk as far as practicable. It would also outline measures to manage emergency responses during construction.

Submission numbers

SE-49756969

Response

As outlined in section 6.8.9 of The Updated Hydrology and Flooding Impact Assessment Report, the Cootamundra-Gundagai Shire Regional Council area is in the Murrumbidgee State Emergency Service (SES) Region and, for emergency management purposes, the Council is part of the Southern Highlands Emergency Management District. The Local Flood Plan from the (former) Cootamundra Shire Council, The *Cootamundra Local Flood Plan* (SES, 2007) governs flood emergency management arrangements for the urban areas of Stockinbingal. The plan outlines that the Rural Fire Service (RFS) is to provide personnel in rural areas and villages to inform the Cootamundra SES Local Controller about gauge heights, flood conditions and response needs in their own communities, and to disseminate flood information.

The Cootamundra Local Flood Plan indicates that ARTC is to close and re-open railway lines as necessary, and advise the Cootamundra SES Local Controller. Mitigation measure HS-4 is for the development of a site-specific

construction emergency response plan. The plan will have specific actions for the management of the flood emergency for the rail corridor and construction activities. It will be developed to complement the Cootamundra Local Flood Plan (SES, 2007). The Cootamundra Local Flood Plan (SES, 2007) should be referred to for management of the local flood emergency for the community.

7.3.5 Impacts to watercourses and water quality

Issue

A submitter has noted that there was no mention of the wetlands located at the Bethungra Dam and wetlands water that flows into the Billabong Creek.

Submission numbers

SE-49756969

Response

Bethungra Dam is upstream of the proposal corridor and is not impacted the proposal. The proposal will not impact surface water flows into Bethungra Dam or the wetlands located at Bethungra Dam. It is acknowledged that the dam is identified as a wetland as part of the NSW Government Spatial Data.

7.3.6 Mitigation and management of impacts

Issue

A submitter raised a concern that an on-property dam will be filled in and a culvert will then direct water across their paddock, resulting in large boggy areas, erosion and loss of production.

Submission numbers

SE-49728722

Response

The design seeks to minimise impacts by providing local drainage solutions and scour protection measures. These measures will be refined during detailed design, and subject to ongoing discussions and agreements with landowners. Where potential adverse impacts, resulting from the proposal, to water supply for farm operations are identified, ARTC will consult with the affected landowner on the management measures that will be implemented to mitigate the impacts. Measures could include replacement or reinstated farm water pipelines, dams and drainage channels, to ensure continuity of stock and domestic water supplies, prior to removal of existing impacted infrastructure (Mitigation measure LP-12).

Individual property plans would be prepared for affected landowners in consultation with landowners/occupants, with respect to the management of construction on or immediately adjacent to private properties. The property plans are confirmed in Mitigation Measure LP-3. Ongoing consultation with affected landowners would continue to occur during the detailed design process.

Issue

Submitters have raised concerns the rail line will impact natural water flow, redirecting water flow to either side of the rail line and/or into paddocks.

Submission numbers

SE-49728722, SE-49748224

Response

As outlined in section 3.2 of the Updated Hydrology and Flooding Impact Assessment Report, a Report Light Detection and Ranging (LiDAR) survey for the study area was completed in 2015. The data has a 0.2 m resolution covering approximately a 10 km wide strip along the proposal corridor, with an accuracy of 0.15 m vertical and <0.5 m horizontal. The LiDAR survey data has therefore been used to define all watercourses (dry and wet) and direction of flow. The banks of landowners have been included in the flood models as best as possible without survey.

The flood model was also informed by the landowner consultation process, which identified contour banks and overland flow paths. Culverts and bridges have been placed under the rail embankment at every overland flow path or watercourse to minimise impacts to the natural water flow, and the results indicate there is minimal changes to natural flows. Detailed survey of contour banks and farm dams, and local drainage features that were not detected by the LiDAR at the detailed design stage, will be able to inform the local drainage, and will therefore be included in the flood model and long drainage models to refine the design.

Issue

A submitter is concerned that flooding issues are discussed, however solutions are not adequately proposed.

Submission numbers

SE-49756969

Response

Chapter 12 of the EIS covers how impacts have been identified, and how mitigation has been embedded into the scheme design, and will continue to be mitigated throughout the design, construction and operation phases. Chapter 8 of the Updated Hydrology and Flooding Impact Assessment Report has been expanded to provide further commentary on mitigation and design options. Where possible, mitigation has been incorporated into the design of the scheme, for example proposal has been designed to minimise cut and fill and, as such, follows the existing topography as best as possible. Where impacts have not been able to be avoided through design, additional mitigation measures have been proposed in HF-1, HF-3 and HF-5—these are detailed in Appendix B.

7.3.7 Bushfire risk

Bushfire management

Issue

Sections of the alignment are prone to bushfire and have a history of large fires. Submitters have raised the following concerns regarding fire risk:

- bushfire management needs to be addressed more comprehensively in the EIS
- construction crews should and have adequate water, for firefighting and assisting the Rural Fire Services
- construction should cease during periods of high fire danger when the matrix is activated
- there is concern that design and construction planning to maintain appropriate access during construction and operation should be identified now rather than during detailed design.

Submission numbers

SE-49748224, SE-49378958, SE-49756969

Response

Construction

Construction planning and scheduling is only preliminary for the EIS. The appointed construction contractor will develop more detailed planning for construction, including the development of a bushfire safety and management plan.

In accordance with mitigation measure T-7, emergency vehicle access routes that may be impacted by the proposal would be identified, and appropriate control measures would be implemented, in consultation with the relevant emergency services providers.

Additionally, mitigation measure HS-4 requires the flood and emergency response plan include measures to minimise the potential for bushfire risks from construction activities. Measures in the plan would include that all works involving potential ignition sources be subject to a risk assessment or ban on total fire ban days.

Operation

During operation, any maintenance activities that represent a bushfire risk would be undertaken in accordance with ARTC's standard operating procedures. Potential impacts on access, including for emergency services, were assessed by Technical Report 11: Traffic and Transport Assessment and summarised in chapter 11 of the EIS. Mitigation measures were developed to address the potential impacts identified.

Typically, ARTC maintains a 5-m wide strip either side of the rail track to minimise fuel load and retain sight lines. Routine vegetation maintenance and general upkeep of railway land aims to minimise fire risk through regular track patrols of ARTCs rail freight network. Where requested by local residents, councils or fire authorities, vegetation may be cleared. ARTC engages with local authorities to collaborate on fire prevention actions including notification of a fire breaking out, the rapid development of a fire posing risk, or providing fast and safe access to the rail corridor for emergency services.

Mitigation measure HS-7 states that during operation of the proposal, local fire authorities and local emergency services would be consulted to ensure appropriate operational actions are taken, such as providing feedback on the firefighting vehicles accessibility, fire prevention plans and cooperation on burning-off activities. During detailed design ARTC would undertake further consultation with Fire and Rescue NSW, emergency service providers and other relevant stakeholders to ensure the plan provides adequate measures.

During operation, in the event of a bushfire, the following existing ARTC procedures would be implemented, as relevant:

- there would be a temporary closure of the rail line to prevent trains entering bushfire zone
- in rare circumstances where trains have already entered or are approaching a bushfire zone, trains would be:
  - moved away, where practicable, to where it can be safely managed
  - driven in a safe manner, at a reduced speed, using headlight illumination and whistles.

ARTC's Emergency Management Procedure is publicly available here: **ARTC Emergency Management Procedure**.

Residents or other stakeholders can contact ARTC regarding asset or environmental issues (including vegetation management, fuel loads or weeds) via the Enviroline service (via: Contact Us: ARTC, 1300 550 402 or enviroline@artc.com.au) is available 24 hours/7 days a week.

Rural Fire Service

Issue

No mention is made of the Rural Fire Service as an emergency service. This railway line transverses five Rural Fire Brigade areas. VRA Rescue NSW is located in regional towns as well and is also classified as an emergency service.

Submission numbers

SE-49756969

Response

ARTC agrees that the Rural Fire Service is an important emergency service. As detailed in EIS Appendix C—Engagement Report, ARTC engaged with the Rural Fire Service on a number of occasions, notably:

- between August and September 2019 meetings were held with RFS to seek input on their potential concerns around any changes for fire-fighting access
- in February 2021, ARTC met with RFS to discuss the interim reference design
- ARTC met with RFS in March of 2021 to provide an update on the 70% reference design. The purpose of the meeting was to seek input and obtain feedback. The RFS' main comment was they would like to see better access into the Bethungra Ranges
- the Rail Maintenance Access Road was changed from the west side of the alignment to the east side, at the request of the Rural Fire Service (RFS) and Junee Shire Council, to improve emergency fire access to the Bethungra ranges
- in June to July 2021, ARTC met with RFS to discuss the finalised reference design, hydrology and next steps
- in September 2021, ARTC notified Junee Shire Council about the intention to close the existing level crossing LX602, noting also that Riverina Zone NSW RFS had confirmed sufficient access to support firefighting operations and closing the level crossing would have minimal impact on RFS operations.

Mitigation measure HS-4 Flood and Emergency Response includes the development of flood and emergency plans, which are to be developed in consultation with relevant state and regional emergency service providers, including RFS.

HS-3 Bushfire stipulates that detailed design and construction planning would maintain appropriate access during construction and operation, ensuring local roads allow emergency access, first-response firefighting, access to water supply for firefighting purposes and safe evacuation routes.

Consultation with local fire authorities, such as RFS will be ongoing during the proposal operation as outlined in the mitigation measure HS-7.

7.3.8 Land use and property

7.3.8.1 Land use impacts—operation

Segregation of properties and impacts on agricultural use

Issue

Some respondents have expressed that the segregation/fragmentation of farming properties as a result of the new rail corridor would reduce the availability of land for agriculture, reduce property functionality, increase costs and impact viability and property values. Specific issues raised include:

- Submitters disagree with the statement in the EIS that the design follows cadastral boundaries. They state that numerous properties will have restricted access due to property severance, and that the EIS does not confirm details of how access will be managed.
- A submitter has raised concern their farm will not be a complete farming unit as the proposal intersects their property impacting how the farm will be operated.
- Submitters have raised concerns about the logistics and financial burden of the crossing and access points made available to farmers after construction when having to move machinery or livestock.
- The proposal will increase time and cost in moving livestock and heavy machinery from east to west, particularly in relation to the increased need and cost in labour when moving livestock across the rail line. This may result in the need to duplicate farm infrastructure and purchase further heavy machinery, and increased costs expected with the upgrading of internal roads.
- Concern that impacts on farm infrastructure and farming operations are not accurately represented in the EIS, and that farm-specific issues have not been adequately addressed. Of particular concern are the management problems and production losses due to paddock realignment, and the ongoing maintenance requirements of new fencing. It seems there is no compensation covering these issues.

Submission numbers

SE-49680962, SE-49748224, SE-49753959, SE-49756969, SE- 49726209, SE-49728722

Response

ARTC acknowledges this issue. The selection of the alignment of I2S has been developed through consultation with farmers together with the constraints of the natural environment. Severing of farms is unavoidable and every attempt has been made to minimise this impact (where feasible) through the introduction of level crossings, stock under passes and property negotiations.

With regard to the potential for stock loss, in accordance with mitigation measure LP-8, livestock fencing would be provided in agricultural areas (as required) to minimise the risk of livestock–train collisions. Fencing would be constructed along the rail corridor where it adjoins private land.

Issues and potential impacts in relation to property severance, operations, and access to and within properties are considered in Chapter 18 of the EIS, with further detail provided in Technical Report 13: Social Assessment. The EIS acknowledges that property severance could affect the configuration of a property, affecting efficiency, productivity and viability, e.g. as a result of changes to access arrangements for the movement of farm machinery or stock to different areas of a property. Other identified property impacts include impeded access, changes to internal roads and load limits, and the isolation of hubs within a farm's operational layout.

Section 17.7.7 of the EIS acknowledges that some severed portions of agricultural land may become unviable for farming business due to the size of the remaining area, configuration or access. These impacts would differ for each property, potentially affecting properties that operate as a single management unit and changing property configurations, with the potential for severance of parts of properties and isolation of key agricultural infrastructure.

ARTC has already undertaken extensive consultation with landowners and, where feasible, considered access requirements for agricultural machinery, upgraded access, or provided new access and alternative routes, noting that in some instances access has not been provided in the landowner's preferred location for reasons that include safety and design requirements. EIS Appendix C, Section C.5.3, refers to ARTC consultation with Junee Shire Council and NSW Farmers in relation to the minimum of 5.5 m clearance for agricultural machinery that will be applied to all public overbridges.

In accordance with mitigation measure LP-1, the design and construction planning would continue to be refined to minimise potential impacts on land uses and properties, as far as reasonably practicable.

ARTC commits to working with landowners to develop measures to minimise the impacts of the new rail corridor on internal property access arrangements, as far as practicable. In accordance with mitigation measure LP-7, where the proposal affects internal property access arrangements, input would be sought from relevant landowners prior to finalising the detailed design. Where changes to internal property access arrangements are required, ARTC would

consult with relevant property owners/occupants regarding alternative access arrangements, and identify feasible and reasonable measures to minimise impacts on existing operational arrangements/properties.

Other mitigation measures relevant to addressing the potential impacts of the proposal on properties and agricultural enterprises include:

- LP-3—Individual property plans would be developed in consultation with landowners/occupants, with respect to the management of construction on or immediately adjacent to private properties. These would detail any required adjustments to fencing, access, farm infrastructure, and relocation of any impacted structures as required.
- LP12—Where potential adverse impacts, resulting from the proposal, to water supply for farm operations are identified, ARTC will consult with the affected landowner on the management measures that will be implemented to mitigate the impacts. Measures could include replacement or reinstated farm water pipelines, dams and drainage channels, to ensure continuity of stock and domestic water supplies, prior to removal of existing impacted infrastructure.

Further details as to how engagement will continue with landowners to ensure impacts on farmland are mitigated where feasible is addressed in section 4.7.1.3 of this report.

A detailed response to how compensation is being managed is provided in section 7.3.8.5 of this report. Information on how level crossings and stock underpasses are being designed to reduce the impacts of severance is outlined in section 7.1.2.3.

In all cases, the proposal has tried to minimise the impact to the land and farm operations. Compensation for impacts to farming operations and/or residences will be assessed under the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

Loss of paddock shade trees

Issue

The proposal will result in the loss of paddock shade trees where land is acquired for the rail corridor. Submitters have requested that lost vegetation on properties affected by acquisition for the proposal are provided with replacement trees to provide for future shelter for livestock.

Submission numbers

SE-49748224, SE-49748225

Response

Where land has been acquired for permanent infrastructure, it is expected that paddock trees in these areas would need to be felled. The valuation process for the acquisition of properties would capture the value of trees on a paddock to a landowner and the loss they would incur by having less trees, and they would be compensated accordingly.

As part of ARTC's ongoing discussions with landowners, they were advised that land subject to temporary lease arrangements during construction could be cleared, although this would be avoided where possible. Following completion of the lease, the land would be handed back to the landowner, in accordance with the lease conditions.

In accordance with mitigation measure BD-8, the rehabilitation strategy would include measures to restore disturbed sites that do not form part of the operational footprint (such as compounds and temporary workforce accommodation), as close as practicable to the pre-construction condition or as agreed with the landowner. Rehabilitation of disturbed areas would be undertaken progressively, consistent with the rehabilitation strategy and property-level design requirements (where relevant).

7.3.8.2 Land use impacts—construction

Farm water usage

Issue

Information as to how much farm water will be used during the construction phase of the rail has been requested. Concerns were raised that the farm has limited water and may impact water being available for stock, especially in the event of a drought year.

Submission numbers

SE-49680962

Response

Chapter 18—Land use and property of the EIS notes that impacts on soil and/or surface or groundwater resources/supplies and reduction in water availability could occur as a result of the construction of the proposal; however, there is no intention to draw water from private dam supplies.

In accordance with mitigation measure LP-12, where potential adverse impacts, resulting from the proposal, to water supply for farm operations are identified, ARTC will consult with the affected landowner on the management measures that will be implemented to mitigate the impacts. Measures could include replacement or reinstated farm water pipelines, dams and drainage channels, to ensure continuity of stock and domestic water supplies, prior to removal of existing impacted infrastructure. Costs associated with reinstating infrastructure for access to water that is changed as a result of the proposal would be borne by ARTC.

7.3.8.3 Property access

Access to private properties

Issue

Concerns that a private driveway may become unsafe due to reduced sight distance with new road bridge. As the second access to the property is weather dependent, it is vital the property receive either a slip road on this entrance and /or works to make the second entrance useable when creek is running.

Submission numbers

SE-49728722

Response

ARTC acknowledges and understands that this is an issue that was not addressed in the EIS. ARTC will work with the successful contractor to develop a design solution that addresses this issue. This will be in alignment with mitigation measure LP-6, which stipulates that where any legal access to a property is permanently affected and a property has no other legal means of access, alternative access to and from a public road would be provided to an equivalent standard, where feasible and practicable. A detailed solution will not be available until such time that the contractor has been appointed.

Mitigation measure SE-2 has been revised so that Social Impact Management Plan includes the development of a procedure and mechanism to mediate disputes in relation to construction, and impacts to property and infrastructure. In addition, mitigation measure LP-3 will require the preparation of individual property plans, which will include measures to minimise property impacts and include appropriate provision of movement arrangements.

Emergency access

Issue

Submitters have raised concerns that due to property severance and reduced property access, they will be at a higher risk in cases of emergency, notably bush fires. A request has been made for a greater focus on ensuring adequate emergency routes are in place.

Submission numbers

SE-49753959, SE-49728722, SE-49748224

Response

ARTC acknowledges the issues raised regarding access within individual properties. Issues and potential impacts in relation to property severance, operations and access to and within properties are considered in chapter 18 of the EIS, with further detail provided in Technical Report 13: Social Assessment.

Mitigation measure HS-7 requires the ARTC Engineering (Track and Civil) Code of Practice—Section 17 Right of Way: Vegetation Management (ARTC, 2013) to be implemented to minimise fire risk within the rail corridor, which includes specifications for vegetation management/fire hazard reduction within the corridor.

Local fire authorities and local emergency services would be consulted to ensure appropriate operational actions are taken, such as providing feedback on the firefighting vehicles accessibility, fire prevention plans and cooperation on burning-off activities.

In addition, in accordance with mitigation measure T-7, emergency vehicle access routes that may be impacted by the proposal would be identified, and appropriate control measures would be implemented, in consultation with the relevant emergency services providers.

Emergency services (such as the RFS) would be able to access individual properties via the access to that property. Emergency service vehicles would be able to cross the rail corridor via the crossings that would be provided as part of the proposal.

7.3.8.4 Biosecurity

Issue

Community members have raised concern regarding the spread of weeds and pests during construction and operation, and the management issues associated with such an impact, including:

- there is specific concern regarding where the rail track runs through "Moonaculla" parallel to Dudauman Road, with concerns that it will harbour pests and weeds, and that sheep can't graze it
- the use of shared crossings by producers will increase the spread of weeds and disease, and the associated impacts of cost and accreditation to local farmers
- the track alignment will introduce weeds into the farm, increasing the need for weed control spraying.

Submission numbers

SE-49728722, SE-49726209, SE-49378958, SE-49680962, SE-49748224, SE-49500958, SE-49756969

Response

Construction

A detailed biosecurity assessment included in section 18.4.2.3 of the EIS, identified that the proposal would result in the increased movement of vehicles and people to, around and within the proposal site during construction. The main biosecurity risk relates to the spread of weeds, livestock diseases and/or pests that may result from the increased movement of vehicles.

In accordance with mitigation measure BD-7 and LP-10, a Biosecurity Management Plan would be developed with reference to the *Riverina Regional Strategic Weed Management Plan 2017–2022* (LLS, 2017) and in consultation with Local Land Service (LLS) and DPI. The purpose of this is to manage biosecurity risks in accordance with the *Biosecurity Act 2015* (Cth).

Additionally, the outline CEMP, included as Appendix E to the EIS, provides an indication of the proposed management measures to be implemented during construction, including biosecurity measures. These measures would establish controls for management of transport of weeds via vehicles and personnel, including:

- vehicle controls
- inspections
- training
- active weed control.

Operation

During operation, and in accordance with mitigation measure BD-11, weed inspections would be undertaken and weed management would occur in areas newly acquired by ARTC, in accordance with ARTC's standard operating procedures to meet its obligations under the *Biosecurity Act 2015* (Cth).

ARTC notes the biosecurity risks arising where multiple livestock operations use a common area. This is not dissimilar to situations where stock is moved on public roads. Impacts to properties and operations will be addressed through the property adjustment process, including consideration of engineering solutions and, where appropriate, compensation as part of the property acquisition.

7.3.8.5 Property acquisition and compensation

Compensation for operational impacts

Issue

Multiple landowners have stated that they feel the issues regarding the loss of operational farmland and financial compensation are not adequately dealt with, such concerns include:

- a number of landowners have expressed that the land take requirement for their property will make it unviable to run their current business, and that the compensation is undervalued and does not take into account loss of business. One landowner stated that the only viable option would be to purchase the entire property
- landowners should be adequately compensated for the economic, social and environmental impacts Inland Rail will have on business, staff and landowners. This should include time owed for attending meetings and preparation of documents in relation to the proposal if requested
- a landowner has expressed that the removal of a dam will have a significant financial cost to replace, further reducing the amount of productive farmland

- concerns on how the future value of their farm will be affected with the railway line dissecting their property into two if they were to sell the farm
- the delay in compensation payments of legal and valuation costs.

Submission numbers

SE-49378958, SE-49753959, SE-49756969, SE-49748224

Response

Mitigation through design

The alignment of I2S has been developed through extensive consultation with farmers together with the constraints of the natural environment. Severing of farms is unavoidable and every attempt has been made at minimising this impact (where feasible) through the introduction of level crossings, stock underpasses and through property/compensation negotiations.

In accordance with mitigation measure LP-1, the design and construction planning would continue to be refined to minimise potential impacts on land uses and properties as far as reasonably practicable. Consultation with landowners would be ongoing during detailed design, to identify feasible and reasonable measures to minimise impacts on their operations/properties.

Acquisition process

ARTC commenced initial property acquisition meetings with landowners in April 2021 to seek their participation around negotiation on compensation. Landowners affected by acquisition are encouraged to obtain their own independent valuation advice, with reasonable costs reimbursed by ARTC. Compensation relating to the loss of property is subject to ongoing discussions and negotiations with affected landowners and will be resolved through the property adjustment plan.

In accordance with mitigation measure LP-3, during the property acquisition process, ARTC would seek to secure agreement with affected landowners, to guide property-level design requirements and the management of construction on, or immediately adjacent to, private properties. Each impacted property owner would be consulted to identify and understand the operational needs of their property and the activities conducted upon it, with tailored agreements prepared to document the agreed outcomes. The agreements may include:

- measures to minimise property impacts, including on agricultural operations
- specific requirements to ensure that operations, including the movement of livestock and farm machinery, are able to be maintained as efficiently as possible
- measures to manage severance impacts as they relate to each property, where practicable, including appropriate movement arrangements (such as new or adjusted accesses to the public road network or internal access networks), divestment or amalgamation opportunities
- required adjustments to, and/or replacement of affected structures such as livestock handling yards, fencing, silos, holding pens, barns, etc
- assistance to reconfigure farming operations to accommodate the alteration in land use.

ARTC acknowledges that ongoing design changes have resulted in the acquisition process being unclear for some landowners. The level of detail available on the proposal will continue to increase as the design is developed during detailed design. Mitigation measure SE-2 requires that a communication plan would be developed to inform landowners and provide clarity on how ARTC will interact with them in relation to the detailed design process, property changes, acquisition steps and processes, with the aim of reaching agreement on these matters. Mitigation measure SE-2 has been amended to include a requirement for communications plan to outline a procedure and mechanism to mediate disputes in relation to construction and impacts to property and infrastructure.

ARTC is committed to ensuring that compensation is fair and equitable for the acquisition of land. Compensation will be assessed in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW), having regard to the following:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation.

Any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

The Centre of Property Acquisition NSW is a resource available to impacted landowners and provides information on the type of compensation payable under current legislation (see **property acquisition**). All landowners are actively encouraged to obtain their own independent assessment of compensation under the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

Once the proposal becomes operational, additional compensation and land acquisition processes would only be introduced if there are variations to the proposal that require additional statutory approval.

Feasible and reasonable mitigation

Issue

There has been a request to define 'Feasible and Reasonable' in relation to mitigation measure LP-5 which states that feasible and reasonable property-specific measures would be identified during detailed design in consultation with landowners. How this definition may be used to assess fencing and property access.

Submission numbers

SE-49756969

Response

Feasible refers to something that can realistically be designed or achieved. Reasonable refers to the practicality of achieving that design. Practicable and reasonable property-specific measures are outlined in mitigation measure LP-5. These include, as appropriate:

- arrangements in terms of works timing and practices
- any required adjustments to fencing, access, and farm infrastructure relocation of any impacted structures.

These measures would be identified, in consultation with landowners, during detailed design and will be implemented during construction, wherever construction is located on or immediately adjacent to private properties and has the potential to affect farm operational arrangements.

The agreements may include, for example:

- measures to minimise property impacts, including on agricultural operations
- specific requirements to ensure that operations, including the movement of livestock and farm machinery are able to be maintained as efficiently as possible
- measures to manage severance impacts as they relate to each property, where practicable, including appropriate movement arrangements (such as new or adjusted accesses to the public road network or internal access networks), divestment or amalgamation opportunities
- required adjustments to, and/or replacement of affected structures, such as livestock handling yards, fencing, silos, holding pens, barns, etc.
- assistance to reconfigure farming operations to accommodate the alteration in land use.

With regard specifically to fencing, ARTC has an Inland Rail program-wide fencing strategy that would guide the detailed design of fencing for the proposal. Further detail on the fencing strategy is provided in section 7.1.2.1 of this report.

With regard specifically to access, ARTC has committed to working with landowners to develop measures to minimise the impacts of the new rail corridor on internal property access arrangements as far as practicable. In accordance with amended mitigation measure LP-7, where the proposal affects internal property access arrangements, input would be sought from relevant landowners prior to finalising the detailed design. Further details on how access will be mitigated and managed is addressed in the Allocation of crossings section of this report.

Other mitigation measures relevant to addressing the potential impacts of the proposal on properties and agricultural enterprises include:

- LP-3—Individual property plans would be developed in consultation with landowners/occupants, with respect to the management of construction on or immediately adjacent to private properties, where appropriate. These would detail any required adjustments to fencing, access, farm infrastructure, and relocation of any impacted structures as required.
- LP-12—Where potential adverse impacts, resulting from the proposal, to water supply for farm operations are identified, ARTC will consult with the affected landowner on the management measures that will be implemented to mitigate the impacts. Measures could include replacement or reinstated farm water pipelines, dams and drainage channels, to ensure continuity of stock and domestic water supplies, prior to removal of existing impacted infrastructure.

Impact on farming equipment

Issue

A submitter noted concern that farming practices will be impacted by the alignment of the rail corridor, as it is not straight and the use of A-B GPS equipment will create inefficiencies.

Submission numbers

SE-49378958

Response

ARTC recognises the concerns raised regarding the impact of introducing a curved track to an environment where GPS-based equipment is relied upon. ARTC commits to working with landowners to develop measures to minimise the impacts of the new rail corridor on internal property access arrangements, as far as practicable, having introduced new mitigation measure LP-4 (see Appendix B), LP-4 proposes that ARTC commits to preparing property plans to inform landowners and provide clarity on how ARTC will interact with them in relation to the design process, property changes, acquisition steps and processes, with the aim of reaching agreement on these matters.

Furthermore, mitigation measure LP-5 ensures feasible and reasonable property-specific measures would be identified during detailed design in consultation with landowners. These measures would be implemented during construction, where construction is located on or immediately adjacent to private properties and has the potential to affect farm operational arrangements. Agreements may include (for example):

- measures to minimise property impacts, including impacts on agricultural operations
- specific requirements to ensure that operations, including the movement of livestock and farm machinery are able to be maintained as efficiently as possible
- measures to manage severance impacts as they relate to each property, where practicable, including appropriate movement arrangements (such as new or adjusted accesses to the public road network or internal access networks), divestment or amalgamation opportunities
- required adjustments to, and/or replacement of, affected structures, such as livestock handling yards, fencing, silos, holding pens, barns, etc
- assistance to reconfigure farming operations to accommodate the alteration in land use.

As part of the negotiation process, each property subject to acquisition would be assessed on an individual basis, as the potential impacts of the proposal and specific design elements localised to that property would ultimately influence how compensation is determined, and would need to account for other ancillary impacts specific to each property.

Impact on community events

Issue

Bethungra is not listed in Appendix A Events by Town. It holds a very successful ANZAC Dawn Service every year along with 3-4 community BBQs every year. In addition, Illabo stages a Campcraft in September, Melodrama and a Christmas gathering in December.

Submission numbers

SE-49756969

Response

The response and the details regarding local events are noted. Mitigation has been proposed via measure SE-1—Avoiding and minimising social and economic impacts. This mitigation measure commits ARTC and the construction contractor to collaborating on the implementation of a Social Impact Management Plan (SIMP) for the proposal during the detailed design/pre-construction phase.

During the development of the SIMP, further consultation will be undertaken with local councils to understand key events during the construction planning phase of the proposal and ensure that appropriate plans and mitigation are in place to minimise the impact on the community. Additionally, mitigation measure SE-2 has been added to confirm ARTC's commitment to providing stakeholders (including landowners and community members) with opportunities for input to design and construction planning, where appropriate, in accordance with the communication management plan for the proposal.

7.4 Response to community submissions—proposal evaluation

7.4.1 References and terminology

Issue

A submitter has highlighted that the alignment map on page 1 Chapter 1 of the EIS is missing the main Southern Line and the Stockinbingal-Parkes line, as well as the rail overbridge across Billabong Creek at Illabo.

Submission numbers

SE-49756969

Response

Figure 1-1 of Chapter 1 of the EIS depicts the overview of Inland Rail from Brisbane and Melbourne and does not show major rail lines or creeks; however, Figure 1.2 and Figure 1.3 of Chapter 1 of the EIS depicts] both major rail lines, including the Main Southern Railway and Stockinbingal-Parkes railway, and the Billabong Creek underpass (southern section of Figure 1.3).

Issue

A submitted raised that Technical Paper 11: Social Impact Assessment infers that ‘minimal residential development located within 1 km of the proposed site’. They have noted that of the nine (9) properties impacted in the Junee Shire, southern section, there are eight (8) houses within the corridor and a further five (5) houses adjacent to the corridor within the 1 km distance.

Submission numbers

SE-49756969

Response

The statement is noted. These houses were considered in the assessment provided in Technical Paper 11. The use of the phrase ‘minimal residential development’ is to qualitatively describe the area and is not intended to dismiss or ignore the potential impact on these properties.

Issue

A community member has stated that Illabo does have a commercial centre which consists of a hotel, with four (4) rooms plus a Post Office, two (2) churches, two (2) grain silo complexes along with a trucking business and a war memorial.

Submission numbers

SE-49756969

Response

The detail provided by the submitter is noted. It is stated within section 6.1.3.2 of EIS Technical Paper 11 that Illabo contains a primary retail outlet, the Illabo Hotel, which also serves as a post office, general store, restaurant and motel. While this does not equate to a commercial centre for the purpose of this assessment, the social and commercial facilities are noted and considered within the assessment. The definition of the town centre in this instance would not change the outcome of the social impact assessment.

Issue

A community member notes the EIS states a farm dam 'may' be used as water for livestock. They explain that typically, these dams are used for livestock. Farmers have no other use for dams except in conjunction for firefighting purposes and the supply of water for gardens around hoses on a property.

Submission numbers

SE-49756969

Response

The clarification on the use of farm dams is noted.

Issue

A submitter has referenced the EIS statement that 'The proposal passes through agricultural and rural properties in the Riverina region of NSW and generally follows the existing cadastral boundaries and roads between the towns of Illabo and Stockinbingal.' They note that this is a broad statement, and disagree with it, quoting the following definitions and reasons for disagreement.

- Cadastral—meaning showing the extent and ownership of land. The submitter has noted that the proposed new line does not follow any cadastral boundary and query's whether it follows a cadastral 'lot' boundary.
- Roads—meaning a wide path leading from one place to another. The submitter has noted that except for a short section of line which travels beside the Dudauman Road, it does not follow any other roads.

Submission numbers

SE-49756969

Response

ARTC acknowledges the definitions provided, and recognises the concern raised by the community member.

The preferred alignment was selected based on the outcomes of a multi-criteria analysis that included stakeholder engagement and review of topography, safety, environmental, property and constructability factors. This is addressed in greater detail in section 7.1.5 of this report.

8. Conclusion

The Inland Rail Illabo to Stockinbingal proposal is critical State significant infrastructure and is subject to assessment and approval in accordance with Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act).

This proposal is needed to support the development of Inland Rail. The I2S proposal, as part of Inland Rail, is needed to respond to the growth in demand for freight transport, and to address existing freight capacity and infrastructure issues. The proposal is a critical component of Inland Rail and is required to enable Inland Rail to operate.

Freight benefits, including freight time travel savings, operating cost savings, and improved reliability and availability represent about 94 per cent of the proposal's total economic benefits, with improved availability of freight representing the largest share of total economic benefits. Operating costs savings, as freight shifts from road to rail, would mainly be associated with lower transit times, and higher capacity freight trains and freight time savings would mainly be associated with efficiency improvements and the shift from road freight trips to rail. The modal shift from road to Inland Rail will reduce carbon emissions by 750,000 tonnes per year and support reduced road congestion on some of Australia's busiest highways.

A copy of this Response to Submissions Report will be published by DPE on the Major Projects NSW Planning Portal website (Planning Portal website) (https://pp.planningportal.nsw.gov.au/major-projects/projects/inland-rail-illabo-stockinbingal)

The I2S proposal would continue to incorporate environmental management and design features to ensure that potential impacts are managed and mitigated as far as practicable. The majority of the potential construction-related impacts would be effectively mitigated by the implementation of industry-standard construction management, including the implementation of the environmental management approaches described in Section 27.2.1 of the EIS and the revised mitigation measures provided in this report (see Appendix B). The project route has been selected and refined to minimise the impact on vulnerable ecosystems and habitats, including entities at risk of serious and irreversible impacts. The biodiversity offsets would be finalised and implemented to address the residual impacts of the proposal on biodiversity values, according to the requirements for Division 5.2 projects under the EP&A Act and the associated requirements under the EPBC Act.

Subject to approval of the proposal, the detailed design would be developed with the objective of minimising potential impacts on the environment and the community. The design and construction methodology would continue to be developed with this objective in mind, considering the input of stakeholders and the local community, and the conditions of approval. With the implementation of the proposed mitigation measures, and the approach to management described in the EIS, it is concluded that the potential environmental impacts of the proposal would be adequately managed.

9. References

Australian and New Zealand Environment and Conservation Council (ANZECC). (2000). *ANZECC & ARMCANZ (1990) guidelines*. Available at: **ANZECC & ARMCANZ (2000) guidelines (waterquality.gov.au).**

Australian Institute for Disaster Resilience (AIDR). (2017). *Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia, Handbook 7*. Available at: **knowledge.aidr.org.au/media/3521/adr-handbook-7.pdf**.

Australian Rail Track Corporation (ARTC). (2010). *Melbourne–Brisbane Inland Rail Alignment Study*. Available at: **IRAS_Final Report.pdf (artc.com.au).**

ARTC. (2013). ARTC Engineering (Track and Civil) Code of Practice—Section 17 Right of Way: Vegetation Management. Available at: **ARTC - Extranet - Engineering**.

Austroads (2021). *Guide to Road Design Part 4: Intersections and Crossings.* **Available at AGRD04-23-Ed2.2 | Austroads.**

Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors). (2019). *Australian Rainfall and Runoff: A Guide to Flood Estimation*. Commonwealth of Australia (Geoscience Australia).

Cootamundra-Gundagai Regional Council. (2002). *Stockinbingal Floodplain Risk Management Study and Plan.* Available at: **Stockinbingal Floodplain Risk Management Study - Flood Projects - NSW Flood Data Portal.**

Department of Environment and Conservation (DEC) and Andrew Long. (2005). *Aboriginal scarred trees in New South Wales: a field manual*. Available at: Aboriginal Scarred Trees in New South Wales: A field manual | NSW Environment and Heritage.

Department of Environment, Climate Change and Water. (2010). *NSW Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010.* Available at: **Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW | NSW Environment and Heritage.**

Department of Environment and Heritage (DEH). (2006). *Climate Change Impacts and Risk Management – A Guide for Business and Government*.

Department of Infrastructure, Planning and Natural Resources. (DIPNR). (2005). *Floodplain Development Manual*. Available at: **environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Water/Floodplains/floodplain-development-manual.pdf**.

Department of Planning and Environment (DPE). (2019). Community Consultative Committee Guideline—State Significant Projects. Available at **Community consultative committee guideline (nsw.gov.au)**

Department of Planning, Industry and Environment (DPIE). (2018). *Guidelines for Controlled Activities on Waterfront Lands Riparian Corridors.* Available at: **Controlled activities – Guidelines for riparian corridors on waterfront land (nsw.gov.au).**

DPIE. (2020) guidelines. *Policies and guidelines*. Available at: **Policies and guidelines | Property and Development NSW.**

DPIE. (2021a). *State significant infrastructure guidelines*. Available at: **planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/GD1160-Rapid-Assessment-Framework-SSI-final.pdf?la=en.**

DPIE. (2021b). *State significant infrastructure guidelines—preparing a submissions report: Appendix C to the State significant infrastructure guidelines*. Available at: **planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/SSI-Guidelines/SSI-Guide---preparing-a-submissions-report-App-C.pdf?la=en.**

DPIE. (2022a). *Cumulative Impact Assessment Guidelines for State Significant Projects* (CIA Guidelines). Available at: **Cumulative Impact Assessment Guidelines for State Significant Projects – October 2022 (nsw.gov.au).**

DPIE. (2022b). *State significant infrastructure guidelines—preparing a submissions report: Appendix C to the state significant infrastructure guidelines*. Available at: **State significant infrastructure guidelines – preparing a submissions report (nsw.gov.au).**

Department of Primary Industries (DPI). (2011). *Land use conflict risk assessment guide*. Available at: **dpi.nsw.gov.au/__data/assets/pdf_file/0018/412551/Land-use-conflict-risk-assessment-LUCRA-guide.pdf**.

DPI. (2013a). *Policy and Guidelines for Fish Habitat Conservation and Management*. Available at: **dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation**.

(DPI. 2013b). *Agricultural Impact Statement technical notes - A companion to the Agricultural Impact Statement guideline*. Available at: **Agricultural Impact Statement (nsw.gov.au).**

Department of Environment and Climate Change. (DECC, 2008a). *Managing Urban Stormwater: Soils and Construction Volume 2A: Installation of Services*. Available at: **Managing Urban Stormwater Soils and construction Volume 2A Installation of services | NSW Environment and Heritage.**

DECC. (2008b). *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed roads*. Available at: **Managing Urban Stormwater Soils and construction Volume 2C Unsealed roads | NSW Environment and Heritage.**

DECC. (2008c). *Managing Urban Stormwater: Soils and Construction Volume 2D: Main Road Construction*. Available at: **environment.nsw.gov.au/research-and-publications/publications-search/managing-urban-stormwater-soils-and-construction-volume-2d-main-road-construction.**

Department of Environment, Climate Change and Water NSW (DECCW). (2011). *NSW Road Noise Policy*. Available at: **NSW Road Noise Policy.**

Department of Planning and Infrastructure. (2013). *NSW Government's Strategic Regional Land Use Policy*. Available at: **Strategic Regional Land Use Plan – New England North West (nsw.gov.au).**

Department of Planning and Environment (DPE). (2021). *Social Impact Assessment Guideline for State Significant Projects*. Available at: **Social Impact Assessment Guideline (nsw.gov.au).**

Department of Planning, Industry and Environment. (2021a). *State Significant Infrastructure Guidelines*. Available at: **State significant infrastructure | Planning (nsw.gov.au).**

Engineers Australia. (2012). *Australian Rainfall and Runoff Revision Project 15: Two dimensional Modelling in Urban and Rural Floodplains*. Available at: **arr.ga.gov.au/__data/assets/pdf_file/0019/40573/ARR_Project15_TwoDimensional_Modelling_DraftReport.pdf**.

Engineers Australia. (2015). *Australian Rainfall and Runoff Revision Project 5: Regional Flood Methods, Stage 3 Report*. Available at: **arr.ga.gov.au/__data/assets/pdf_file/0004/40549/ARR_Project-5_Stage-3_report.pdf**.

Landcom. (2004). *Managing Urban Stormwater: Soils and construction – Volume 1*. Available at: **Managing Urban Stormwater soils and construction Volume 1 4th ed | NSW Environment and Heritage.**

Macquarie University. (2023). *River Styles framework*. Available at: **riverstyles.com/river-styles-framework/**.

NSW Government (EP&A Regulation 2021). *Environmental Planning and Assessment Regulation 2021*. Available at: **Environmental Planning and Assessment Regulation 2021 - NSW Legislation.**

NSW Environment Protection Authority (NSW EPA). (2009). *Interim Construction Noise Guideline*. Available at: **Construction noise (nsw.gov.au).**

NSW EPA. (2013). *Rail Infrastructure Noise Guideline*. Available at: **Rail Infrastructure Noise Guideline (nsw.gov.au).**

NSW EPA. (2014). *Waste Classification Guidelines*. Available at: **Classification guidelines (nsw.gov.au).**

NSW EPA. (2016). *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*. Available at: **Approved Method for the Modelling and Assessment of Air Pollutants in New South Wales (nsw.gov.au)**.

NSW EPA. (2017). *Noise Policy for Industry*. Available at: **Noise Policy for Industry (2017) (nsw.gov.au).**

NSW EPA. (2022). *NSW EPA Approved Method for Measurement and Analysis of Environmental Noise.* Available at: **Approved methods for the measurement and analysis of environmental noise in NSW.**

NSW Roads and Traffic Authority (RTA) (2002). **Guide to Traffic Generating Developments Version 2.2.** Available at **Guide to Traffic Generating Developments version 2.2 (nsw.gov.au).**

NSW Roads and Maritime Services (RMS). (2011). *Technical Guideline: Temporary stormwater drainage for road construction*. Available at: **Microsoft Word - RMS Technical Guideline - Temporary Stormwater Drainage for Road Construction_Final _no drawings_.doc (nsw.gov.au).**

RMS. (2013a). *Environmental Impact Assessment Practice Note: Guideline for Landscape Character and Visual Impact Assessment. Available at:* **Guideline for landscape character and visual impact assessment June 2023 (nsw.gov.au).**

RMS (2013b). *Guideline: Lighting for railway crossings*. Available at: **transport.nsw.gov.au/system/files/media/documents/2023/guideline%20lighting%20for%20railway%20crossing.pdf.**

NSW Office of Environment and Heritage (NSW OEH). (2007). *Floodplain Risk Management Guideline on the Practical Considerations of Climate Change*. Available at: **environment.nsw.gov.au/-/media/OEH/Corporate-**

Site/Documents/Water/Floodplains/practical-consideration-of-climate-change-160740.pdf?la=en&hash=BCA746C56CC6A221ECB07ABA5662508CEE397618.

NSW OEH. (2012). Erosion and sediment control on unsealed roads. Available at: **environment.nsw.gov.au/research-and-publications/publications-search/erosion-and-sediment-control-on-unsealed-roads**.

NSW OEH. (2019). *Floodplain Risk Management Guide, Incorporating 2016 Australian Rainfall and Runoff in Studies*. Available at: **environment.nsw.gov.au/research-and-publications/publications-search/floodplain-risk-management-guide.**

Standards Australia. (2009). AS/NZS 3100:2009 *Risk Management – Principles and Guidelines*.

Standards Australia. (2016). AS 1742.7:2016 *Manual of uniform traffic control devices, Part 7: Railway crossings*. Available at **AS 1742.7:2016 Manual of uniform traffic control devices, Part 7: Railway crossings | Standards Australia Store**.

South East Local Land Services (LLS). (2017). *Riverina Regional Strategic Weed Management Plan 2017-2022*. Available at: **Draft Riverina Regional Strategic Weed Management Plan 2023-2027 (amazonaws.com).**

State Emergency Service (SES). (2007). *Cootamundra Local Flood Plan.* Available at: **Microsoft Word - COOTAMUNDRA LFP June 06.doc (nsw.gov.au)**.

Transport for NSW (2020). *Future Transport Strategy 2056.* Available at: **Future Transport Strategy (nsw.gov.au)**.

Transport for NSW (2018). *Transport for NSW's Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives (2018).* Available at: **Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives Transport Economic Appraisal Guidelines (March 2016) (nsw.gov.au).**

World Health Organization (WHO). (2009). Regional Office for Europe *WHO Night Noise Guidelines for Europe*. Available at: **Night noise guidelines for Europe (who.int).**

WHO. (2018). Regional Office for Europe, *WHO Environmental Noise Guidelines for European Region (2018).* Available at: **Environmental noise guidelines for the European Region (who.int).**