

Submissions Report

Appendix A to Appendix D



North Star to NSW/Queensland Border

Environmental Impact Statement

APPENDIX

A

Register of Public Submission Items

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT

Appendix A: Register of Public Submission Items

ID	Submission	Key Issue	Submission Item	Report Section
238	12 - Alan Pearlman	Proposal design and alternatives	Traffic impacts	Section 6.2.11
239	13 - Andrew Knop	Proposal design and alternatives	Alignment, document traceability	Section 6.2.3
240	14 - Andrew Mackay	Proposal design and alternatives	Alignment, consultation	Section 6.2.3
241	14 - Andrew Mackay	Proposal design and alternatives	Agricultural land use impacts, access	Section 6.2.2
242	14 - Andrew Mackay	Proposal design and alternatives	Agricultural land use impacts, flooding	Section 6.2.2
243	14 - Andrew Mackay	Hydrology	1976 flood event, flood duration and inundation, fencing	Section 6.9.1
244	14 - Andrew Mackay	Landscape and visual	Commercial impacts	Section 6.10.1
245	14 - Andrew Mackay	Hydrology	Alignment	Section 6.9.3
246	15 - Donald Cranney	Proposal design and alternatives	Alignment, flooding	Section 6.2.3
247	16 - Ian Uebergang	project description	Construction accommodation, insurances	Section 6.4.1
248	16 - Ian Uebergang	Hydrology	1976 flood event	Section 6.9.1
249	16 - Ian Uebergang	Hydrology	Alignment, flooding	Section 6.9.3
250	16 - Ian Uebergang	Proposal design and alternatives	Crossing loop	Section 6.2.5
251	16 - Ian Uebergang	Noise and vibration—construction	EIS messaging and articulation	Section 6.11.1
252	16 - Ian Uebergang	project description	Construction accommodation	Section 6.4.1
253	16 - Ian Uebergang	Heritage	General	Section 6.8.1
254	16 - Ian Uebergang	Proposal design and alternatives	Travelling stock routes	Section 6.2.12
255	16 - Ian Uebergang	Consultation	Communication—staff changes, fencing, access	Section 6.13.1
256	16 - Ian Uebergang	Proposal design and alternatives	Fencing	Section 6.2.6
257	16 - Ian Uebergang	Operation and maintenance	Financial impacts	Section 6.6.1
258	16 - Ian Uebergang	Proposal design and alternatives	Travelling stock routes	Section 6.2.12
259	16 - Ian Uebergang	Proposal design and alternatives	Travelling stock routes	Section 6.2.12
260	16 - Ian Uebergang	Consultation	Access impacts	Section 6.13.2
261	16 - Ian Uebergang	Proposal design and alternatives	Safety	Section 6.2.10
262	16 - Ian Uebergang	Rehabilitation	Borrow pits	Section 6.12.1
263	16 - Ian Uebergang	Proposal design and alternatives	Travelling stock routes	Section 6.2.12
264	16 - Ian Uebergang	Rehabilitation	Rehabilitation	Section 6.12.2
265	16 - Ian Uebergang	Proposal design and alternatives	Access impacts	Section 6.2.1
266	16 - Ian Uebergang	Proposal design and alternatives	Access impacts	Section 6.2.1

ID	Submission	Key Issue	Submission Item	Report Section
267	16 - Ian Uebergang	Consultation	General	Section 6.2.4
268	16 - Ian Uebergang	Hydrology	1976 flood event	Section 6.9.1
269	16 - Ian Uebergang	Proposal design and alternatives	Access impacts	Section 6.2.1
270	16 - Ian Uebergang	Noise and vibration— operation	EIS messaging and articulation	Section 6.11.1
271	16 - Ian Uebergang	Proposal design and alternatives	Travelling stock routes	Section 6.2.12
272	16 - Ian Uebergang	Proposal design and alternatives	Access impacts	Section 6.2.1
273	17 - Leonard Schofield	Proposal design and alternatives	Access impacts	Section 6.2.1
274	17 - Leonard Schofield	Proposal design and alternatives	Level crossings	Section 6.2.9
275	17 - Leonard Schofield	Proposal design and alternatives	Fencing	Section 6.2.6
276	17 - Leonard Schofield	Proposal design and alternatives	Access impacts	Section 6.2.1
277	17 - Leonard Schofield	Proposal design and alternatives	Consultation	Section 6.2.4
278	17 - Leonard Schofield	Proposal design and alternatives	Consultation	Section 6.2.4
279	17 - Leonard Schofield	Heritage	Relocation of artefacts	Section 6.8.1
280	17 - Leonard Schofield	Proposal design and alternatives	Consultation	Section 6.2.4
281	17 - Leonard Schofield	Proposal design and alternatives	Utilities	Section 6.2.13
282	18 - name withheld	Proposal design and alternatives	Financial impacts	Section 6.2.7
283	19 - Richard Doyle	Hydrology	1976 flood event	Section 6.9.1
284	19 - Richard Doyle	Hydrology	1976 flood event	Section 6.9.1
285	19 - Richard Doyle	Hydrology	Flood duration and inundation	Section 6.9.4
286	19 - Richard Doyle	Hydrology	Flow paths, mitigations	Section 6.9.2
287	19 - Richard Doyle	Hydrology	Alignment	Section 6.9.3
288	19 - Richard Doyle	Hydrology	AEP, flow paths	Section 6.9.2
289	19 - Richard Doyle	Proposal design and alternatives	Alignment, flooding	Section 6.2.3
290	19 - Richard Doyle	Proposal design and alternatives	Land acquisition, access impacts	Section 6.2.8
291	19 - Richard Doyle	Economic impact	Cost benefit analysis	Section 6.7.1
292	19 - Richard Doyle	project need and justification	Approval conditions	Section 6.3.1
293	20 - Robert Mackay	Hydrology	1976 flood event	Section 6.9.1
294	20 - Robert Mackay	Hydrology	1976 flood event, flood duration and inundation, AEP, fencing	Section 6.9.1
295	20 - Robert Mackay	Proposal design and alternatives	Financial impacts	Section 6.3.1
296	20 - Robert Mackay	Proposal design and alternatives	Alignment	Section 6.2.3
297	21 - Simon Doolin	Construction	Borrow pits, consultation	Section 6.5.1

APPENDIX

B

Public Submissions Responses

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT

Appendix B: Public Submissions Responses

B.1 Submission 12: Alan Pearlman

ID	Key Issue	Submission Item	Summary of issue	Response
238	Proposal design and alternatives	Traffic impacts	<p>The submitter is concerned with reduced number of level crossings at important thoroughfares and the Option D1 alignment causing congestions and safety implications. The submitter suggests keeping the road to the east of the rail line from 'Ohmi' through to 'Wearne', as the local shire council estimated the cost of this as being \$7 million for the 14 km of new road needed in upgrading it and that an upgrade would help to alleviate several blind corners and deceptive inclines on said road.</p>	<p>The proposal uses the existing rail corridor in the area in question and includes the two stated existing level crossings. The proposal comprehensively addresses the safety implications of these two-level crossings.</p> <p>The proposal is informed by the industry recognised and approved Australian Level Crossing Assessment Model investigation process, which is used for all public level crossings part of Inland Rail, and incorporates school bus routes and traffic numbers projected to 2040. This process determines safe traffic treatment methods. These particular crossings will be improved with new road approaches, new signs and line markings, and two will be upgraded to active level crossings with lights and booms.</p> <p>The submitters idea seems simple and beneficial and was investigated by ARTC when it was first posed by the community and the local government area. This investigation identified the following additional impacts of upgrading the existing road:</p> <ul style="list-style-type: none"> ▶ Approximately 14 km of new road ▶ Two new bridges (approximately 244 m) ▶ 155 lengths of culverts (approximately 1,860 m) ▶ 11 km power and communications relocation ▶ 300,000 square metres (m²) land acquisition ▶ Demolition of existing roads, culverts and bridges. <p>The investigation also highlighted that two of the level crossings would still be required in order to service Scotts Road and Oakhurst Road, respectively. The number of private level crossings may increase to service landowners now on the other side of the rail corridor, which minimises the potential safety improvement of the submitters.</p> <p>The proposal also investigated the traffic impact of these level crossings. This included estimated train numbers in 2040 and current measured road traffic numbers, projected to 2040 with a 2 per cent per annum growth rate. The current Level of Service ranking of A is not impacted by the proposal.</p> <p>ARTC has not seen the local shire council's estimate the submitter has mentioned; however, the value given seems, in order of magnitudes, lower than what the cost of developing the infrastructure listed above would be.</p> <p>As the proposal uses the existing rail corridor and limited reduction of level crossings, it is not practical for the existing road to be upgraded by ARTC, especially when the high cost is also considered. ARTC has no control over the stated blind corners and deceptive inclines posed by the existing roads and concerns should be raised up with the relevant road authority.</p>

B.2 Submission 13: Andrew Knop

ID	Key Issue	Submission Item	Summary of issue	Response
239	Proposal design and alternatives	Alignment, document traceability	Concern with level of detail provided in the description and analysis for the selection of alternatives and options to define the corridor preference	<p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options and Proposal Options, and the EIS Summary of Findings. These include the <i>2010 Melbourne–Brisbane Inland Rail Alignment Study</i>, the <i>2015 Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case, with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has, overall, reduced impacts on ecology, flooding, air quality, soils, visual, and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs conducted during the route selection studies. This was due to stakeholder concern that Option A had not been correctly assessed during the <i>2017 Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail.</p> <p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>These are some of the key reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>

B.3 Submission 14: Andrew Mackay

ID	Key Issue	Submission Item	Summary of issue	Response
240	Proposal design and alternatives	Alignment, consultation	Concern with consideration of community opinions in the selection of the Option D1 alignment	<p>Detailed consultation has been carried out throughout the route selection and EIS process and was one of the key criteria used in the MCAs. A summary of consultation carried out is presented in Chapter 8: Consultation and EIS Appendix D: Consultation Summary Report. ARTC acknowledges that some members of the community were not supportive of the D1 alignment decision and still preferred Option A.</p> <p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options and Proposal Options, and the EIS Summary of Findings. These include the 2010 <i>Melbourne–Brisbane Inland Rail Alignment Study</i>, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case, with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has, overall, reduced impacts on ecology, flooding, air quality, soils, visual, and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection studies. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
240	Proposal design and alternatives [continued]	Alignment, consultation [continued]	Concern with consideration of community opinions in the selection of the Option D1 alignment [continued]	<p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence, the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>
241	Proposal design and alternatives	Agricultural land use impacts, access	Concern with severance of 'Merawah' and impact on farming operations due to limited access to the rail line, during construction of the proposal	<p>The proposal has consulted with this directly impacted landowner, and the bridges that transect their property will have a 2.7-m high clearance to allow their cattle and vehicles to pass under the rail alignment safely. This will be incorporated during the detailed design phase. Discussions with directly impacted landowners regarding access tracks, fencing and gates on their property will form part of the commercial agreement for reimbursement and will be discussed directly with the relevant landowners. The proposal is committed to continue to consult with this directly impacted landowner.</p>
242	Proposal design and alternatives	Agricultural land use impacts, flooding	Concern with design flood and impact on productivity of agricultural land from inundation of 'Merawah'	<p>Property value</p> <p>The owner of the land affected by acquisition is encouraged to procure 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.</p> <p>Flooding</p> <p>The project impacts have been assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE.</p>
243	Hydrology	1976 flood event, flood duration and inundation, fencing	Concern with flood design based on a 1% AEP flood rather than the 1976 flood event, which is considered the benchmark event in the valley	<p>The project impacts have been assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event, and the outcomes of this analysis is presented in the EIS and supplemented by the findings of the PIR.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
244	Landscape and visual	Commercial impacts	The submitter is concerned about the visual assessment rating (high) for of the greenfield section and the impacts to seedstock business	<p>The landscape and visual impact assessment has been conducted in line with the methodology outlined in Section 5.0 of EIS Appendix P:</p> <p>Landscape and Visual Impact Assessment Technical Report.</p> <p>With respect to the property in question, impacts have been identified in relation to key views and landscape character.</p> <p>Representative viewpoints (VP5 and VP6) are the closest available publicly accessible viewpoints and are considered representative of impacts on the property. The LVIA identifies a high magnitude of change during both construction and operation (which is the highest magnitude possible). Due to the low and moderate sensitivities of these viewpoints, respectively, the resultant impacts, as outlined in the assessment, have been reviewed and are considered appropriate. Further justification for the sensitivity rating applied to each viewpoint is provided below.</p> <p>Viewpoint 5 represents typical and accessible views of residents of local rural properties, and of visitors, tourists and workers travelling along the Bruxner Way. The sensitivity of this viewpoint is considered to be low due to the very low number of rural residential receptors and low number and sensitivity of the majority of viewers (travellers along Bruxner Way (AADT of around 279 eastbound and 297 westbound, of which up to 50 per cent are heavy vehicles) who are travelling at speed and experience transient views.</p> <p>As per the methodology, a low sensitivity to visual impacts is described as: small numbers of visitors with a passing interest in their surroundings or transient views, e.g. those travelling along principal roads; viewers whose interest is not specifically focused on the landscape, e.g. workers, commuters, truck drivers; isolated or small clusters of rural residential properties.</p> <p>In this instance, a low sensitivity is considered appropriate and consistent with the approach and methodology applied to other locations; therefore, the combination of a low sensitivity and a high magnitude of change results in a visual impact of a 'moderate' level of significance, in accordance with Table 13 of the methodology.</p> <p>Viewpoint 6 is representative of potential views of residents of local rural properties, residents of Toomelah and of visitors and workers travelling along Tucka Tucka Road. This view is considered representative of the worst-case impacts on the Toomelah community, noting that the main residential area of the community is located approximately 2.5 km to the east of this vantage point. The sensitivity of this viewpoint is considered to be moderate, due to the low number of viewers (e.g. travellers along Tucka Tucka Road) but taking into consideration that this viewpoint is being used to represent views from the Toomelah community (in a heritage area).</p> <p>As per the methodology, a moderate sensitivity to visual impacts is described as: medium numbers of residents (e.g. rural communities and townships) and moderate numbers of visitors with an interest in their environment, e.g. visitors to State forests, including bush walkers, horse riders, trail bikers; larger numbers of travellers with an interest in their surroundings, e.g. local designated scenic routes.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
244	Landscape and visual [continued]	Commercial impacts [continued]	The submitter is concerned about the visual assessment rating (high) for of the greenfield section and the impacts to seedstock business [continued]	<p>In this instance, a moderate sensitivity is considered appropriate, considered to recognise the nearby Toomelah community, and is consistent with the approach and methodology applied to other locations; therefore, the combination of a moderate sensitivity and a high magnitude of change results in a visual impact of a high level of significance, in accordance with Table 13 of the methodology.</p> <p>In regard to impacts on landscape character, the greenfield section of the alignment traverses LCT A, LCT B and LTC C in the vicinity of the property in question.</p> <p>LCT A: Vegetated Watercourses—Rivers</p> <p>The sensitivity of LCT A is considered to be moderate in recognition of the relatively intact and high quality of the landscape and its value for the local Aboriginal community, while noting that there are no formal landscape designations (and is not publicly accessible in this location).</p> <p>As per the methodology, a landscape with a moderate sensitivity is defined as: a moderately valued landscape, perhaps a regionally important landscape and/or protected by regional/State designation, or where its character, land use, pattern and scale may have some capacity to accommodate a degree of the type of change envisaged.</p> <p>In this instance, a moderate sensitivity is considered appropriate and recognises the value placed on this landscape by the local community, and is consistent with the approach and methodology applied to other locations.</p> <p>As the impact is highly localised and only impacts a small section of LCT A, and does not change the fundamental character of this LCT, the overall magnitude of change is predicted to be low; therefore, the combination of a moderate sensitivity and a low magnitude of change results in a visual impact of a 'low' level of significance, in accordance with Table 9 of the methodology.</p> <p>LCT B: Vegetated Watercourses—Creeks and Channels</p> <p>The sensitivity of LCT B is considered to be low, as there are no formal landscape designations associated with this LCT and the landscape does not appear to be used by the local community for recreation. Additionally, parts of the LCT area already affected by the presence of rail infrastructure (albeit some of which is disused) so it is considered to have capacity to accommodate further change.</p> <p>As per the methodology, a landscape with a low sensitivity is defined as: A landscape valued to a limited extent, perhaps a locally important landscape or where its character, land use, pattern and scale is likely to have the capacity to accommodate the type of change envisaged.</p> <p>In this instance, a low sensitivity is considered appropriate and is consistent with the approach and methodology applied to other locations.</p> <p>As the impact is highly localised and only impacts a small section of LCT B (B2), the overall magnitude of change is predicted to be low; therefore, the combination of a low sensitivity and a low magnitude of change results in a visual impact of a 'negligible' level of significance, in accordance with Table 9 of the methodology.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
244	Landscape and visual [continued]	Commercial impacts [continued]	The submitter is concerned about the visual assessment rating (high) for of the greenfield section and the impacts to seedstock business [continued]	<p>LCT C: Irrigated Croplands</p> <p>The sensitivity of LCT C is considered to be low (refer above), due to the extensively modified character of the landscape and local value of the landscape in terms of landscape amenity.</p> <p>In this instance, a low sensitivity is considered appropriate and is consistent with the approach and methodology applied to other locations.</p> <p>The impact on LCT C is highly localised and only impacts a small area of the alignment within private property where the alignment deviates from the existing rail corridor. Due to the extensively modified nature of this landscape it is not considered to change the fundamental character of this LCT and is noted that new earthwork infrastructure in this landscape will be consistent with the current landscape character; therefore, the overall magnitude of change is predicted to be low.</p> <p>It is also noted that the design has been developed to use the existing rail corridor to protect and minimise land severance and impacts to natural and rural landscapes to the greatest extent possible; and greenfield development has been limited as far as feasibly practical. Please refer to Section 12.2 and 12.3 of EIS Appendix P: Landscape and Visual Impact Assessment Technical Report for details on mitigation measures.</p> <p>The combination of a low sensitivity and a low magnitude of change results in a visual impact of a 'negligible' level of significance, in accordance with Table 9 of the methodology.</p> <p>Ongoing consultation with affected private landowners will be undertaken to determine appropriate opportunities for at-property mitigation measures and treatments.</p>
245	Hydrology	Alignment	Concern with route selection due to flooding from Toomelah in the east to downstream of Goondiwindi as well as lack of consultation with landowners. Requests ARTC to provide more detailed information on infrastructure (bridges, culverts, rail line, embankment and roads) proposed in EIS.	<p>The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts, using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE.</p> <p>Preliminary infrastructure design has been based upon the 1% AEP event, and the outcomes of this analysis is presented in the EIS. The findings of the PIR are supplementary to the EIS and will inform QDLs and mitigations that are still undergoing negotiation and agreement, through consultation with DPIE and affected stakeholders.</p>

B.4 Submission 15: Donald Cranney

ID	Key Issue	Submission Item	Summary of issue	Response
246	Proposal design and alternatives	Alignment, flooding	Concern with selection of the Option D1 alignment due to flooding impacts and suggestion to use the 1922–23 flood as a key reference event in development of detailed design	<p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options (including an assessment of air freight) and the EIS Summary of Findings. These include the 2010 <i>Melbourne–Brisbane Inland Rail Alignment Study</i>, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the Late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case, with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has, overall, reduced impacts on ecology, flooding, air quality, soils, visual, and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent, and directly aligns with ARTC and Australian Government objectives and policy.</p> <p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence, the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>

B.5 Submission 16: Ian Uebergang

ID	Key Issue	Submission Item	Summary of issue	Response
247	project description	Construction accommodation , insurances	The submitter has concerns regarding the location, legacy and associated arrangements of the construction accommodation	For the purpose of the EIS, it was assumed that the construction accommodation will be demobilised post completion of construction, with any use beyond this phase requiring appropriate assessment under the EP&A Act, regulations and associated State Environmental Planning Policies (SEPP). The EIS is only seeking approval for the use required for the proposal. Any other proposed use will require relevant approval consistent with its proposed use.
248	Hydrology	1976 flood event	Request for the 1976 flood event to be used as the flood design for the proposal and the basis for compensation, as it is the experienced flood of many residents in the valley.	The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE. The basis for compensation is subject to ongoing consultation and agreement with the affected stakeholders.
249	Hydrology	Alignment, flooding	The submitter is concerned with route selection due to flooding from Toomelah in the east to downstream of Goondiwindi and lack of consultation with landowners. The submitter is requesting ARTC to provide more detailed information on infrastructure (bridges, culverts, rail line, embankment and roads) proposed in the EIS.	The NS2B project alignment and infrastructure formation has been assessed as part of the EIS and the details of the assessment are contained therein. The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE.

ID	Key Issue	Submission Item	Summary of issue	Response
250	Proposal design and alternatives	Crossing loop	The submitter is concerned with the location of the crossing loop in the floodplain and has expressed their preference for it to be located south of the floodplain	<p>Crossing loops on single-line rail networks are typically located to suit the network operability as determined by detailed modelling. This modelling was undertaken in the feasibility design that incorporated all other nominated crossing loops north and south of this loop, from Melbourne to Brisbane. As this modelling is subject to a lot of variables and, therefore, change between feasibility and detailed design, a range has been proposed. The proposed range of locations for this crossing loop are detailed in Section 6.2.2.1 of Chapter 6: The Proposal, with a map on page 6-30 showing the range of potential locations.</p> <p>The feasibility design does show this crossing loop at the northern end of this range and in the floodplain. If not dictated by modelling changes, the southern end of the proposed range is preferable to ARTC for landowner impact, capex and opex.</p> <p>A crossing loop widens the embankment and, as such, will not place more obstruction in the floodplain. Proposed number of culverts and bridges will stay the same but they will be longer due to the wider embankment.</p>
251	Noise and vibration—construction	EIS messaging and articulation	The submitter is concerned with noise impacts to receptors 254050, 254042, 25404 and 254047	<p>The operational noise assessment identified up to five sensitive receptors (including 254042, 254047 and 254050) where noise levels trigger a review of mitigation. The location of the five sensitive receptors, the predicted noise levels at each receptor and the principles of ARTC's management of noise on the Inland Rail Program were reviewed to identify the appropriate noise mitigation options.</p> <p>In addition to source noise controls implemented in the design and construction of the proposal, each receiver is a single dwelling in isolation from neighbouring or nearby properties and, in line with ARTC's strategy for noise management on the proposal, were deemed eligible for the consideration of architectural acoustic treatment of the dwellings and upgrades to any existing property boundary fencing.</p> <p>At-property mitigations can include architectural treatments to control railway noise in the building and upgrades to property fencing. Whether at-property controls or other alternative mitigation options are required will ultimately be determined in the detailed design phase. This will include consultation with the property owners, further railway noise modelling, analysis of engineering and environmental constraints, and the verification of noise levels once railway operations commence on the proposal.</p> <p>The assessment of vibration from railway operations determined that predicted levels would achieve the criteria for ground-borne noise and ground-borne vibration at all but 254050. The airborne railway noise levels are expected to dominate the noise environment at the receptors. On this basis, the assessment did not identify a need for specific vibration treatments beyond the resilient matting for retention of ballast on bridge and viaduct structures.</p> <p>Where the proposal achieves the noise and vibration criteria, there can still be potential for noise and vibration from railway operations to be audible/perceptible within the environment. It is not unreasonable for outdoor noise from railway operations to be audible and perceptible at least 1 km from the proposal's alignment. The airborne noise, ground-borne noise and ground-borne vibration levels will continue to be assessed during the detailed design and construction of the proposal.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
251	Noise and vibration—construction [continued]	EIS messaging and articulation [continued]	The submitter is concerned with noise impacts to receptors 254050, 254042, 25404 and 254047 [continued]	The proposal will complete an Operational Noise and Vibration Review (ONVR), which will include an assessment of architectural at-property treatments for sensitive receivers. This will consider a range of potential noise mitigations depending on the receiver, including if this assessment deems that at-property treatments will not provide the required operational noise and vibration mitigations, then options, such as at source treatments or relocation of the house, may be considered and discussed with the property owner.
252	project description	Construction accommodation	The submitter is concerned with the impact to the mobile phone network due to the required usage for construction and operation.	Inland Rail understands this is a concern for the community. A telecommunications working group has been established to investigate options to address community network coverage. The working group consists of Inland Rail, the Department of Infrastructure and Telstra representatives.
253	Heritage	General	The submitter supports the approach to relocating heritage items to the bank of Mobinbry Creek near significant site AHIMS #2-4-0046, a scar tree	Artefacts will be salvaged and held by ARTC until a management arrangement can be agreed in consultation with the RAPs. Management arrangements could include returning the artefacts to Country as an 'on Country' keeping place or completing a care and custody agreement. Return to Country near the scar tree at Mobinbry Creek can be considered as a 'on Country', keeping place in these discussions (where appropriate).
254	Proposal design and alternatives	Travelling stock routes	Concern with impact of the proposal on the functionality of the travelling stock routes	ARTC does not agree with the submitter's suggestion that their concerns have been ignored regarding stock routes. The proposal has had meetings with Crown Lands and Local Land Services regarding the formal Travelling Stock Reserve (TSR). While the brownfield section of the rail alignment will no longer be able to be used for stock travel, sufficient width on the roads to allow stock travel has been included and suitable crossing points (level and grade separated) have been made available in the reference design; however, the rail corridor and adjacent roads are not TSRs and stock movement can occur on road by permit. Crown Lands and Local Land Services did not express opposition to our proposed approach regarding TSRs.
255	Consultation	Communication—staff changes, fencing, access	The submitter is concerned about communication, points of contact and general performance, particularly during construction	<p>Fencing</p> <p>Where fencing is required, the relevant landowner will select the type of fencing in a like-for-like fashion, from ARTC's standard fence and gate types, to suit the farm operations. Internal fencing matters will be considered, as appropriate, during in the land acquisition process.</p> <p>Crossing loop</p> <p>An indicative location of the crossing loop is included in the EIS. The location of this loop may change as the design is refined during the detailed design phase. The location may change between chainage 16.5 km and chainage 24.9 km; however, it will remain within the permanent footprint shown in Figure 6.5, Chapter 6: The Proposal.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
255	Consultation [continued]	Communication —staff changes, fencing, access [continued]	The submitter is concerned about communication, points of contact and general performance, particularly during construction [continued]	<p>Consultation</p> <p>Extensive landowner consultation has been undertaken throughout the reference design and EIS process. Please see Chapter 8: Consultation and EIS Appendix D: ARTC Consultation Summary for a summary of the stakeholder consultation that has occurred to date. In these documents there is clear acknowledgement that some members of the community were not supportive of the preferred alignment and favoured Option A. Consultation with landowners on the route alignment will continue throughout the detailed design, construction and operational phases. A communication management plan will be prepared for the construction phase, which will outline signage and contact details.</p>
256	Proposal design and alternatives	Fencing	Concern with fencing strategy for the proposal, specifically regarding fencing requirements for types of livestock and responsibility of maintenance	<p>Where fencing is deemed appropriate at a boundary with private land, ARTC will seek to engage with that landowner to agree on the type of fencing, from ARTC's standard fence and gate types, to suit their farm operations. Rural fence types include the following:</p> <ul style="list-style-type: none"> ▶ 4 strand barbed ▶ 6 strand, with top 2 barbed ▶ Wire netting, with top 2 barbed <p>These are generally 1.2m high with CHS steel strainer posts with concrete foundations at 100 m max centres and steel star posts at 5–10 m centres with droppers at 1,665 m max centres.</p> <p>The specific fencing and gate layout used will be further developed during the detailed design process in association with the landowner. Internal fencing, if impacted, will be considered, as appropriate, during in the land acquisition process.</p> <p>Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance of fences will be managed in accordance with ARTC's Assets Management System, technical standards, and procedures; however, may also be adjusted to suit other constraints such as areas around fauna crossings. General clauses included that ARTC will fix damaged fences due to action of own staff or contractors, general wear and tear, or acts of nature. ARTC will not repair damage caused by actions of others.</p>
257	Operation and maintenance	Financial impacts	The submitter is concerned about increases to their public liability insurance and access to property across the rail	When submitter or their staff, etc. are crossing the rail corridor, they are on ARTC land and, therefore, ARTC's public liability covers them.

ID	Key Issue	Submission Item	Summary of issue	Response
258	Proposal design and alternatives	Travelling stock routes	Concern with access to travelling stock routes and stock water under Back Creek, north of Boggabilla/North Star Road crossing at 'Ohmi' and south of Boggabilla/North Star crossing at Wearne	As agreed, this will be further developed during detailed design in consultation with the relevant landowner.
259	Proposal design and alternatives	Travelling stock routes	Concern with timing of train movements through properties and requirements for holding areas	Crossings will be designed in accordance with the relevant technical engineering standards. These standards do not include holding areas either side of the crossing. ARTC have consulted with Local Land Services on this matter and they had no objection.
260	Consultation	Access impacts	The submitter requests consultation regarding appropriate points of contact and access arrangements during construction of the proposal	The proposal will continue to consult with relevant councils and impacted landowners in the detailed design phase. A communications strategy will be developed for the construction phase of the proposal, which will outline how the proposal will continue to consult with the community. The communications strategy, which will be made publicly available on the Inland Rail Program website, will outline how enquiries and complaints are managed on the proposal and will include a 24-hour toll-free number for community enquires and complaints.
261	Proposal design and alternatives	Safety	The submitter is concerned with blackouts of warning lights at crossings. The submitter suggests consideration of backup power and installation of an additional set of warning lights at the Boggabilla/North Star Road crossing in 'Ohmi'.	<p>All level crossing will be designed to comply with the Australian Standard for Railway Crossings (AS1742.7 2016 <i>Manual of Uniform Traffic Control Devices, Part 7 Railway Crossings</i>). This includes a requirement that the primary control (flashing lights) at crossings must be visible to an approaching driver at the safe stopping distance.</p> <p>All active level crossings are provided with a backup battery bank to keep the level crossing operational during power outages. The batteries give a backup of 36–48 hours. If the batteries start to go flat alarms are sent to Network Control and trains are warned that the level crossing may be faulty and to follow the Network rules. In this case, the train will stop and ensure road traffic has stopped before proceeding across the level crossing.</p> <p>In determining road–rail crossing treatments, Inland Rail have conservatively used 2040 traffic forecasts. Allowances have also been incorporated into the traffic numbers for harvest in recognition of the fact that the initial counts were undertaken during a period of drought.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
262	Rehabilitation	Borrow pits	The submitter is concerned about the restoration of borrow pits and laydown areas, following construction of the proposal	<p>Borrow pit in construction and engineering simply means an area where material has been dug for use at another location. The overarching rehabilitation strategy for the borrow pits is detailed in Chapter 9: Rehabilitation Strategy. The exact strategy for each borrow pit will be detailed in the rehabilitation and reinstatement management plan and will be subject to several factors, including soil assessments and landowner discussions. ARTC has adopted an outcome-based approach and will complete what is required to ensure final landforms are safe, stable, non-polluting and self-sustaining.</p> <p>Areas outside of the proposed rail corridor are outside of the NS2B project scope. Areas and activities outside the NS2B project description will not be restored. The proposal will only do works relevant to constructing the proposal and ensuring stable infrastructure.</p>
263	Proposal design and alternatives	Travelling stock routes	The submitter seeks to understand the impact on shade trees for stock and fence relocations	<p>Prior to construction, a Biodiversity Management Sub-plan will be developed as part of the CEMP, which will outline that clearing extents are to be limited to areas of permanent and temporary works, avoiding impacts to native vegetation and habitats as far as practical. In addition, the Reinstatement and Rehabilitation Management Plan will also form part of the CEMP, which will outline the rehabilitation objectives for inside and outside the rail corridor.</p> <p>In terms of fencing, ARTC has a program-wide fencing strategy that will guide the detailed design of fencing for the NS2B alignment. This strategy assists with consistency of fencing across the whole Inland Rail Program and includes generally placing fencing along cadastral boundaries where possible. Landowners will be required to choose the types of fencing in a like-for-like fashion, from our standard fence and gate types, to suit their requirements. They cannot request special posts or alternate materials outside the standard types. The specific fencing designs used will be further developed during the detailed design process.</p>
264	Rehabilitation	Rehabilitation	The submitter is concerned with rehabilitation to the north of Back Creek, following construction of the proposal	Areas outside the proposed rail corridor are out of scope for the proposal. Scouring and gullyng within the proposed rail corridor will be remediated during construction.
265	Proposal design and alternatives	Access impacts	Concern with stock and heavy machinery crossing currently used at Mobinbry Creek bridge, which will be fenced off as a result of the proposal	The proposal is not proposing to impact the road reserve and the access currently available in the road reserve will not be impacted. Sufficient access to the road reserve during construction will be made available as required.
266	Proposal design and alternatives	Access impacts	Concern with private new farm access (Ohmi Cattle Yards and south of Wearne siding) and provision of an 8-m wide road for farming operations, during construction of the proposal.	<p>The proposal has consulted with this directly impacted landowner and a 6-m wide road has been accommodated. Clearance for heavy machinery will be considered in the design.</p> <p>The proposal will reconfirm with the property owner the reasons why an 8-m wide track is not required here, as the existing track is not 8 m wide and 8 m was not mentioned when the 80 per cent and 100 per cent design proposals were shown to the landowner. The project will reconfirm their needs, including vehicle usage, to confirm reasonable track widths and clearances.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
267	Consultation	General	The submitter has expressed that they are a co-operative community	Noted.
268	Hydrology	1976 flood event	Concern with flood design based on a 1% AEP flood rather than the 1976 flood event, which is considered the benchmark event in the valley	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
269	Proposal design and alternatives	Access impacts	Concerns with restriction of private rail line crossings and reduced access locations at 'Oakhurst'.	<p>The lost access points referred to in this comment may include unapproved level crossings of the existing non-operational brownfield rail corridor and unapproved use at old bridge or drainage structures. To assist with managing road/rail safety interfaces, ARTC is seeking to minimise the number of level crossings along the Inland Rail route, consistent with ONRSR's position to remove level crossings wherever possible and limit the creation of new level crossings unless totally avoidable. As such, it is not proposed to officially create new level crossings in these locations. ARTC has engaged with the landowner and, based on this, believed we had provided appropriate reasonable access to these farms and businesses. We also only identified a total of eight extant level crossings.</p> <p>The owner is still able to use the three public level crossings to access their farms. In addition, we are providing the landowner two new accesses off the road network, two new private level crossings, and two new grade-separated crossings.</p> <p>The following is a breakdown of the access available in the proposal at this landowner's land parcels:</p> <ul style="list-style-type: none"> ▶ 1 x unapproved agricultural crossing at Mobbindry Creek (Chainage 5,866)—a new private level crossing will not be opened at this location; however, 4-wheel-drive and stock access is being provided below the nearby bridge ▶ 2 x private accesses at existing North Star Road public level crossing (Chainage 7,058)—both accesses are being relocated further from the upgraded public level crossing for safety reasons ▶ 1 x private level crossing at Ohmi Stockyard (Chainage 9,039)—private level crossing is being relocated to Chainage 9,212 for safety reasons ▶ 1 x unapproved agricultural crossing south of Forest Ck Road (Chainage 11,375)—a new private level crossing is not being opened at this location. The landowner is able to access their property via Forest Creek Road public level crossing.

ID	Key Issue	Submission Item	Summary of issue	Response
269	Proposal design and alternatives [continued]	Access impacts [continued]	Concerns with restriction of private rail line crossings and reduced access locations at 'Oakhurst'. [continued]	<p>► 1 x unapproved agricultural crossing (Chainage 17,420)— a new private level crossing is not being opened at this location. The landowner is able to access their property via a private level crossing at Chainage 19,847 or the North Star Road public level crossing.</p> <p>2 x private level crossings (Chainage 18,810 & Chainage 19,579)—private level crossings are being consolidated to one private level crossing, which has been relocated to Chainage 19,847.</p>
270	Noise and vibration—operation	EIS messaging and articulation	The submitter is concerned with noise impacts to receptors 254050, 254042, 254041 and 254047	<p>The operational noise assessment identified up to five sensitive receptors (including 254042, 254047 and 254050) where noise levels trigger a review of mitigation. The location of the five sensitive receptors, the predicted noise levels at each receptor and the principles of ARTC's management of noise on the Inland Rail Program were reviewed to identify the appropriate noise mitigation options. In addition to source noise controls implemented in the design and construction of the proposal, each receiver is a single dwelling in isolation from neighbouring or nearby properties and, in-line with ARTC's strategy for noise management on the proposal, were deemed eligible for the consideration of architectural acoustic treatment of the dwellings and upgrades to any existing property boundary fencing.</p> <p>At-property mitigations can include such things as architectural treatments to control railway noise in the building and upgrades to property fencing. Whether at-property controls or other alternative mitigation options are required will ultimately be determined in the detailed design phase. This will include consultation with the property owners, further railway noise modelling, analysis of engineering and environmental constraints and the verification of noise levels once railway operations commence on the proposal.</p> <p>The assessment of vibration from railway operations determined that predicted levels would achieve the criteria for ground-borne noise and ground-borne vibration at all but 254050. The airborne railway noise levels are expected to pose a greater impact when compared to vibration at the receptors. On this basis, the assessment did not identify a need for specific vibration treatments beyond the resilient matting for retention of ballast on bridge and viaduct structures.</p> <p>Where the proposal achieves the noise and vibration criteria, there can still be potential for noise and vibration from railway operations to be audible/perceptible within the environment. It is not unreasonable for outdoor noise from railway operations to be audible and perceptible at least 1 km from the proposal alignment. The airborne noise, ground-borne noise and ground-borne vibration levels will continue to be assessed during the detailed design and construction of the proposal.</p> <p>The proposal will complete an Operational Noise and Vibration Review (ONVR), which will include an assessment of architectural at-property treatments for sensitive receivers. This will consider a range of potential noise mitigations depending on the receiver, including if this assessment deems that at-property treatments will not provide the required operational noise and vibration mitigations; then, options, such as at-source treatments or relocation of the house, may be considered and discussed with the property owner.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
271	Proposal design and alternatives	Travelling stock routes	Concern with narrower travelling stock routes as a result of the proposal and impacts to persons and animal safety	The project has consulted with LLS and at this stage of design, no changes are proposed to the TSRs within the brownfield section of the railway corridor. ARTC will continue to consult with LLS and Crown Lands during the detailed design phase. Any current unapproved use of the existing railway corridor by landowners for the movement of livestock will not be allowed to continue in the operational railway corridor.
272	Proposal design and alternatives	Access impacts	Concern with private farm access during construction of the proposal	ARTC will consult throughout the construction phase to provide suitable access to all local landowners in the community. This will be outlined in the communication strategy, which will require that adequate notice is given to the community.

B.6 Submission 17: Leonard Schofield

ID	Key Issue	Submission Item	Summary of issue	Response
273	Proposal design and alternatives	Access impacts	Concern with closure of northern entrance to 'Terenure' on the western boundary and disruption of access causing an additional 10 km of travel to North Star from the property	<p>As a result of engagement with the owner, the existing informal rail crossing at the northern end of 7DP756011 was relocated to the southern end of the same parcel (see ID274), at the owners request, so that it allows agricultural machinery access to a small parcel of crop land on the western side of North Star Road. The owner is not precluded from using the new level crossing location for travel from homestead to North Star.</p> <p>Difference in distance is approximately 3.8 km each way.</p> <p>The owner has been advised to mention all such impacts to the value prior to their valuation and if compensation is deemed applicable under the act it will form part of their offer.</p>
274	Proposal design and alternatives	Level crossings	The submitter requests a gate for their private crossing at chainage 15,350, and for it to be 12-m wide to allow for farm machinery as well as an electric or Bluetooth lock	<p>Clearance of 12 m for wide body machinery is noted and stock crossing is noted.</p> <p>Gate and fencing configurations will be incorporated in the detailed design based on input from the landowner. ARTC has provided the owner a fencing and gate feedback form and property plans to commence this process.</p> <p>Gates to private level crossings will be managed by the owner and locks will be at the owner's discretion.</p>
275	Proposal design and alternatives	Fencing	Concern with fencing at the underpass at chainage 16,493, so that no livestock are capable of crossing overhead	The appropriate fencing and gates will be put in place around crossings of the rail corridor in order to prevent stock entering. Gate and fencing configurations will be incorporated in the detailed design based on input from the landowner. ARTC have provided the owner a fencing and gate feedback form, and property plans to commence this process.
276	Proposal design and alternatives	Access impacts	Request for access locations at 'Terenure' to be documented in the detailed design of the proposal	As a result of engagement with the owner, ARTC understands the land on the eastern side of the existing corridor is especially important for the reasons described in the comment. As such, the design does not encroach over the existing corridor boundary on that side. A sliver of land is, however, required to widen the corridor to the west and some land is required temporarily during construction for laydown, storage, and rail and bridge construction.
277	Proposal design and alternatives	Consultation	Concern with appropriate fencing requirements and maintenance on regularly flooded lands	<p>Gate and fencing configurations will be incorporated in the detailed design based on input from the landowner. ARTC have provided the owner a fencing and gate feedback form, and property plans to commence this process.</p> <p>ARTC have multiple fencing configurations and types to suit different adjoining land uses.</p> <p>ARTC will maintain fencing due to normal wear and tear, and where damaged by ARTC works.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
278	Proposal design and alternatives	Consultation	Concern with landowner consultation for the proposed crossing loop at chainage 17,300 and requirements of land area	<p>An indicative location of the crossing loop is included in the EIS. The location of this loop may change as the design is refined during the detailed design phase. The location may change between chainage 16.5 km and chainage 24.9 km; however, it will remain within the permanent footprint shown in Figure 6.5, Chapter 6: The Proposal. ARTC is seeking to minimise crossing delays across the entire 1,700 km Inland Rail Program by optimising the number and location of crossing loops. This is an iterative process, as all 13 Inland Rail projects are at different stages of design development and construction. Projects that are in the construction phase have definitive crossing loop locations; however, opportunities exist on projects that are still in the design stage (such as NS2B) to optimise the location of crossing loops.</p> <p>Extensive landowner consultation regarding the proposed route has been undertaken in the EIS and reference design phase. Please see EIS Chapter 3: Alternatives and Proposal Options for a summary of the route selection process. Where full or partial property acquisition is required (i.e. where the proposed corridor deviates from the existing corridor), the acquisition of land will be undertaken in consultation with landowners and in accordance with the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW) acquisition and compensation process.</p>
279	Heritage	Relocation of artefacts	The submitter suggests a location for artefact relocations in the Mobinbry TSR Reserve to an Aboriginal site known as 'Scar Tree' and does not grant access outside of the corridor for searching of artefacts	<p>Artefacts will be salvaged and held by ARTC until a management arrangement can be agreed in consultation with the RAPs. Management arrangements could include returning the artefacts to Country as an 'on Country' keeping place or completing a care and custody agreement. Return to country near the scar tree at Mobinbry Creek can be considered as a 'on Country' keeping place in these discussions (where appropriate).</p>
280	Proposal design and alternatives	Consultation	Request for construction laydown area requirements to be agreed with landowners	<p>Noted. Where land is temporarily required to support construction activities (such as for laydown areas), ARTC will propose agreements with the relevant landowner for the occupancy and use of private land. This agreement will include details around compensation and how the land is to be returned to the relevant landowner. The proposal will develop a Rehabilitation and Reinstatement Management Plan, which will form part of the CEMP. The Reinstatement and Rehabilitation Management Plan will include measures to reinstate and restore disturbed sites, as much as possible, to the pre-construction condition or better, or to the satisfaction of landowners.</p>
281	Proposal design and alternatives	Utilities	The submitter has expressed their expectations regarding utilities not being interrupted and that works are undertaken in a compliant manner	<p>ARTC require the existing overhead power line to be raised at the rail crossing location. This asset is owned and managed by Essential Energy and, as such, must be constructed and operated in compliance with their standards and requirements.</p>

B.7 Submission 18: Name Withheld

ID	Key Issue	Submission Item	Summary of issue	Response
282	Proposal design and alternatives	Financial impacts	The submitter does not support the proposal, particularly the change to the Option D1 alignment, as they believe that there will not be a substantial enough economic benefit to warrant the social and environmental costs	<p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options (including an assessment of air freight) and the EIS Summary of Findings. These include the 2010 <i>Melbourne–Brisbane Inland Rail Alignment Study</i>, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the Late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has, overall, reduced impacts on ecology, flooding, air quality, soils, visual and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent, and directly aligns with ARTC and Australian Government objectives and policy.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
282	Proposal design and alternatives [continued]	Financial impacts [continued]	The submitter does not support the proposal, particularly the change to the Option D1 alignment, as they believe that there will not be a substantial enough economic benefit to warrant the social and environmental costs [continued]	The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts). It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.

B.8 Submission 19: Richard Doyle

ID	Key Issue	Submission Item	Summary of issue	Response
283	Hydrology	1976 flood event	Concern with flood design based on a 1% AEP flood rather than the 1976 flood event, which is considered the benchmark event in the valley	<p>Preliminary infrastructure design has been based upon the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The Project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
284	Hydrology	1976 flood event	Request for the 1976 flood event to be used as the flood design for the proposal and the basis for compensation, as it is the experienced flood of many residents in the valley	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. Entitlements to compensation are subject to ongoing consultation and negotiation with affected landowners.</p>
285	Hydrology	Flood duration and inundation	The submitter is concerned with route selection due to perceived risks from inundation of housing and drainage design under the embankment	<p>Preliminary infrastructure design has been based upon the 1% AEP event and the outcomes of this analysis is presented within the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
286	Hydrology	Flow paths, mitigations	The submitter is concerned with allowable velocities and approach to mitigation measures for scouring and erosion, given the high erodibility of vertosol soils found in the proposal and the potential for gullyng and blockages at culverts. Suggests crossings to be constructed as bridges or viaducts.	<p>The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion.</p> <p>The Project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. Both the PIR and EIS assessments investigate flow velocities, and conceptual mitigations have been formulated where the analysis has estimated velocities that would give rise to scour and erosion risks. These are documented in the EIS.</p>
287	Hydrology	Alignment	Concern with route selection and disagrees that removal of non-operational part of the Boggabilla line would increase peak water levels upstream; rather, believes that peak water levels will decrease as it would allow for natural drainage to occur to the south west through Maynes and Morella Lagoons	This modelled scenario includes removing the old rail alignment from the existing case from North Star to Boggabilla; hence, lowering flood levels downstream of the old rail line. In the Developed Case, the old rail line is reinstated from north of Whalan Creek to Boggabilla and this is the area in which increased levels are shown upstream of the old rail alignment. As would be expected, introducing the old rail embankment presents restrictions to flood flows until it is overtopped.
288	Hydrology	AEP, flow paths	Concern with route selection and removal of non-operational part of the Boggabilla line up to the southern side of Whalan Creek, as it will provide insufficient flood protection. Suggests removal of Whalan Bridge and the northern embankment	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The Project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
289	Proposal design and alternatives	Alignment, flooding	Concern with selection of the Option D1 alignment due to flooding impacts and support for the Option A alignment based on perceived greater flood amenity	<p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options (including an assessment of air freight) and the EIS Summary of Findings. These include the 2010 <i>Melbourne–Brisbane Inland Rail Alignment Study</i>, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the Late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has overall reduced impacts on ecology, flooding, air quality, soils, visual and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent, and directly aligns with ARTC and Australian Government objectives and policy.</p> <p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A, in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence, the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
290	Proposal design and alternatives	Land acquisition, access impacts	The submitter is concerned with acquisition of Crown land for the proposal and subsequent reduced access between Lot: 3 DP 1181234 and Lot: 4 DP 1181234	Under the current design, the permanent footprint of the proposal does not include the east-west Crown road along the southern boundary of Lot: 3 DP 1181234, introducing no impact on access to Lot: 4 DP 1181234.
291	Economic impact	Cost-benefit analysis	The submitter is concerned with the economic benefit of NS2B and Inland Rail to the region, specifically around its ability to connect regional producers to exporting ports and points to the Option A alignment being a more favourable option in benefiting the community	<p>This EIS has been developed according to the SEARs and with reference to the <i>Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment</i> (Roads and Maritime Services, 2013). Accordingly, the approach adopted for this report reflects the recognised industry approach to undertaking an EIS.</p> <p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted, which is designed to capture the Project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government. Accordingly, the Economic Assessment Technical Report has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p> <p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options (including an assessment of air freight) and the EIS Summary of Findings. These include the 2010 <i>Melbourne-Brisbane Inland Rail Alignment Study</i>, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the Late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
291	Economic impact [continued]	Cost-benefit analysis [continued]	The submitter is concerned with the economic benefit of NS2B and Inland Rail to the region, specifically around its ability to connect regional producers to exporting ports and points to the Option A alignment being a more favourable option in benefiting the community [continued]	<p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case, with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has overall reduced impacts on ecology, flooding, air quality, soils, visual and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent and directly aligns with ARTC and Australian Government objectives and policy.</p> <p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>
292	project need and justification	Approval conditions	The submitter expressed their belief that in its current form, NS2B does not adequately protect the communities it will impact nor provide the intended benefits	No response required; this has been addressed in previous comments.

B.9 Submission 20: Robert Mackay

ID	Key Issue	Submission Item	Summary of issue	Response
293	Hydrology	1976 flood event	Concern with flooding affluxes of over 0.5 m, which would significantly impact 'Budleigh' and livestock due to the 'high grounds' not being elevated enough to protect from flooding.	<p>The Project impacts have been assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
294	Hydrology	1976 flood event, flood duration and inundation, AEP, fencing	The submitter is concerned with the magnitude of the design flood used to inform the flood impact and analysis for the proposal. Consider using the 1976 flood as a key reference event in development of detailed design. The submitter is also concerned the level of flooding affluxes will inundate high ground areas with water and limit the available locations to refuge livestock during flooding events. Concern was also raised regarding the safety fencing proposed creating hazards during flood events, from being destroyed and livestock trying to seek refuge on the tracks, which could lead to impacts.	<p>Preliminary infrastructure design has been based upon the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The Project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC have consulted with affected landowners on the outcomes of the analysis.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
295	Proposal design and alternatives	Financial impacts	The submitter is concerned with the impact of property severance on business operation, property value and insurance risk rating due to increased flooding risk and inundation time. The submitter also requests consultation on possible compensation.	<p>ARTC confirms its position to be working closely with the owner and their financial institution to provide clarity on the acquisition process and timing. The property acquisition process has commenced since this submission was made and an introductory meeting was held with owners. Valuations are currently being arranged. The acquisition program is designed to ensure that the valuation and acquisition processes are fair, consistent and transparent.</p> <p>ARTC is also committed to ensuring that compensation is fair and equitable for the acquisition of land. Compensation will be assessed by independent qualified valuers pursuant to the <i>Land Acquisition (Just Terms) Compensation Act 1991</i> (NSW), having regard to the following heads of compensation:</p> <ul style="list-style-type: none"> ▶ 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. <p>Landowners affected by acquisition are encouraged to procure their own independent valuation advice, with reasonable costs being reimbursed by ARTC.</p> <p>ARTC appreciates the challenges that the affected landowners face and is grateful for the patience and support that these owners have given to the proposal and its team members.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
296	Proposal design and alternatives	Alignment	Concern with selection of the Option D1 alignment due to flooding impacts and support for further studies to be conducted on the viability of the Option A alignment	<p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options (including an assessment of air freight) and the EIS Summary of Findings. These include the 2010 <i>Melbourne–Brisbane Inland Rail Alignment Study</i>, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the Late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of 5 additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and approximately \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has overall reduced impacts on ecology, flooding, air quality, soils, visual and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent and directly aligns with ARTC and Australian Government objectives and policy.</p> <p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>

B.10 Submission 21: Simon Doolin

ID	Key Issue	Submission Item	Summary of issue	Response
297	Construction	Borrow pits, consultation	The submitter has expressed the availability of a quarry site on their property (5535 North Star Road, North Star, NSW 2408 part of Lot: 7 DP755984), suggesting that the quarry material is suitable for fill materials, ballast and capping.	Noted.

APPENDIX

C

Organisation Submissions

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT

Appendix C: Organisation Submissions

C.1 Submission 10: NSW Macintyre Floodplain Landowners Group

ID	Key issue	Submission item	Summary of issue	Response
331	Hydrology	Flooding and hydrology assessment	The submitter is concerned with the route selection across the floodplain and several waterway crossings, including Dumaresq River, Macintyre River, Barwon River, Whalan Creek, Forest Creek, Back Creek and Mobbindry Creek (Item 20).	Noted. No action proposed as already covered in EIS.
332	Hydrology	Flooding and hydrology assessment	The submitter is concerned with the flatness of the landscape combined with the highly erodible soils that may result in structures built within the floodplain having the capacity to redirect the flow of water, increase the depth of water upstream of the structures (afflux) and increase the speed of water downstream (causing scouring to the landscape). (Item 21)	<p>Noted. The EIS assessment has reviewed flow distribution, changes in levels, velocities, and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion.</p> <p>The Project impacts have been assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC has consulted with affected landowners on the outcomes of the analysis.</p> <p>Both the PIR and EIS assessments investigate velocity and afflux impacts and conceptual mitigations have been formulated where the analysis has estimated conditions that would give rise to scour and erosion risks. These are documented in the EIS.</p>
333	Hydrology	Flooding and hydrology assessment	The submitter notes that the Border Rivers Catchment has experienced numerous flood events, including significant flood events in 1956, 1976, 1996 and 2011. (Item 22)	Noted. The 1976, 1996 and the more recent 2011 events have been used in the EIS assessment. There was not sufficient data available for an assessment of the 1956 event.

ID	Key issue	Submission item	Summary of issue	Response
334	Hydrology	Flooding and hydrology assessment	The submitter notes that contextually, this EIS specifically assesses the NS2B State significant infrastructure (SSI) as a separate package of the Inland Rail Program. The submitter also notes that the Minister must be satisfied that the impacts of the proposal on flooding and hydrology are acceptable. (Item 23)	No response required.
335	Hydrology	Flooding and hydrology assessment	The submitter notes that the proposal must be undertaken in accordance with the requirements of the SEARs, specifically Item 8: <i>'The proposal minimises adverse impacts on property, public safety and the environment resulting from alteration of the water flow characteristics of watercourses and overland flow paths.'</i> (Item 24)	Chapter 13: Surface Water and Hydrology identifies how each of the SEARs have been addressed in the chapter and EIS Appendix H: Hydrology and Flooding Technical Report. In addition to the analysis undertaken in support of the EIS, the Project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.
336	Hydrology	Flooding and hydrology assessment	The submitter is not satisfied the impacts of the proposal on flooding and hydrology are adequately identified and appropriately managed. (Item 25)	In addition to the analysis undertaken in support of the EIS, the Project impacts have been assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis, ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
337	Hydrology	Flooding and hydrology assessment	The submitter has engaged a suitably qualified hydrologist (Stephen Webb) to undertake an independent review of the EIS. (Item 26)	No response required.
338	Hydrology	Flooding and hydrology assessment	In addition to the inadequate flooding and hydrology assessment of the proposal, the submitter raises more issues relating to hydrology. (Item 27)	No response required.

ID	Key issue	Submission item	Summary of issue	Response
339–346	Hydrology	AEP	<p>The submitter is concerned with the magnitude of the design flood (1% AEP) used in the flooding and hydrology assessment, for the following reasons:</p> <ul style="list-style-type: none"> ▶ Characterisation of the 1996 event as the 1-in-100 year event, when the 1976 event has been used as the planning reference point for development in the valley. The 1976 event was substantially larger than the 1996 event. ▶ Planning strictly in accordance with the 1% AEP alone, while failing to consider and assess the proposal against other known events, is short sighted and bad practice. <p>(Items 28, 29, 30, 31, 32 and 33a-b)</p>	<p>Noted. Our estimated AEP for 1996 event is between a 1-in-30 and a 1-in-50 year event. The 1996 event has not been used for impact assessment.</p> <p>The Project impacts have been assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
347	Hydrology	1976 flood event	<p>The submitter is concerned the modelling of the impacts of a 1976 event in the context of the proposal is flawed and does not account the lived experience of those on the land at the time.</p> <p>(Item 34)</p>	<p>The Project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. Execution of the analysis to support the PIR has been undertaken under the guidance of a Hydrology Working Group that includes representatives from ARTC, DPIE and independent specialists.</p> <p>Hydrological analysis and assessment conforming with current industry accepted practice has been adopted in the modelling of impacts associated with the proposal.</p>
348–359	Hydrology	1976 flood event	<p>The submitter notes that long-time resident, Edward Billing, whose property is situated upstream of the landowners at the junction of the Dumaesq River and Macintyre River, has been involved with monitoring flood events for many years and providing information to Goondiwindi Regional Council (GRC), SES and the BoM. Refer to Attachment B of the submission for Affidavit from Edward Billing (dated 1 October 2020).</p> <p>The key issues identified included:</p> <ul style="list-style-type: none"> ▶ Modelling does not reflect the nature and scale of historical flood events as they were experienced on ground 	<p>The hydrology and hydraulic modelling have been presented to the community throughout the development of the proposal. The landowners have provided input throughout this process. Over the last two years, Mr Ed Billing has been engaged with regarding existing and historical flood conditions. Mr Billing has provided key guidance to the flood modelling and impact assessment process.</p> <p>Our estimated AEP for 1996 event is between a 1-in-30 and a 1-in-50 event. The 1996 event has not been used for impact assessment.</p> <p>The 1% AEP event includes flows from Back Creek, Forest Creek, Strayleaves Creek, Mobbindry Creek and Ottleys Creek. The DPIE modelling does not include flows from these catchments (except Ottleys Creek) for the 1976 and 1996 events.</p> <p>The 2019 LIDAR has been used to represent the current topographic conditions. This is the most current available data and provides details of existing levees and other infrastructure on the floodplain.</p>

ID	Key issue	Submission item	Summary of issue	Response
348–359	Hydrology [continued]	1976 flood event [continued]	<ul style="list-style-type: none"> ▶ Characterisation of the 1996 event as the 1-in-100 year event, instead of the 1976 event ▶ Modelling does not account for water in other watercourses that contribute to flows and flood events in the region ▶ Modelling does not reflect the actual development of the land and how flows will move/be redirected in future flood events ▶ Modelling predicts little to no change in velocities as a result of construction of the proposal ▶ Planning strictly in accordance with the 1% AEP alone and not considering the 1976 event ▶ Erosion caused by construction of embankments. <p>The submitter requests that first-hand knowledge and lived experience of residents be given considerable weight when assessing the adequacy of the flooding and hydrology assessment. (Items 35, 36, 37a–g, 38 and 39)</p>	<p>The BRVFMP modelling includes all approved planned and constructed levees on the floodplain.</p> <p>The design includes a significant number of cross-drainage structures to minimise change to flow distribution and velocities across the floodplain.</p> <p>There are predicted to be minor localised changes to velocity at the outlets of some structures and it has been demonstrated that mitigation measures required to reduce these velocities to existing levels can be undertaken within the proposal footprint.</p> <p>In addition to the above, Project impacts have been assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. Execution of the analysis to support the PIR has been undertaken under the guidance of a Hydrology Working Group that includes representatives from ARTC, DPIE and independent specialists.</p> <p>Hydrological analysis and assessment conforming with current industry accepted practice has been adopted in the modelling of impacts associated with the proposal.</p>
360	Hydrology	1976 flood event	<p>The submitter requests ARTC address why discrepancies exist regarding modelled and actual flow rates. Further clarification is also sought on why desktop analysis is to be preferred over real experiences of the community. (Item 40)</p>	<p>The Project impacts have been assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event.</p> <p>Hydrological analysis and assessment conforming with current industry accepted practice has been adopted in the modelling of impacts in support of the PIR. The supplementary work undertaken to support the PIR has included the use of more precise modelling tools and a re-calibration of the models.</p> <p>The hydrology and hydraulic modelling have been presented to the community throughout the development of the proposal. The landowners have provided input throughout this process. Any information that is contradictory to the results presented can be shared with ARTC for consideration.</p>

ID	Key issue	Submission item	Summary of issue	Response
361	Hydrology	Afflux impacts	The submitter notes that Table 13.7 of the 'Flood impact objectives' has been used to quantify and compare the impact of the proposal against existing conditions. (Item 41)	No response required.
362	Hydrology	Afflux impacts	The submitter notes that the 'Flood impact objectives' have been developed to address SEARs requirements and used in the design of the proposal. (Item 42)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The Project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.
363	Hydrology	Afflux impacts	The submitter is concerned with the 'flood impact objectives'; specifically, where they have come from, what information was considered when determining the degree of acceptable impact and why the objectives should form the basis of the reference design. (Item 43)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
364	Hydrology	Afflux impacts	The submitter notes compliance with the 'Flood impact objectives' cannot be ascertained based on existing modelling. (Item 44)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
365	Hydrology	Afflux impacts	The submitter is concerned with the characterisation of the 1996 event as the 1-in-100 year event, instead of the 1976 event. (Item 45)	The 1996 event has not been characterised as the 1% AEP event and has not been considered in the analysis of impacts. The Project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event.

ID	Key issue	Submission item	Summary of issue	Response
366	Hydrology	Afflux impacts	The submitter is concerned with afflux, given existing land use of the region is predominantly grazing. The proposed embankment and associated fencing are considered to limit opportunity for movement of livestock from the south-eastern side of the track during a flood event. (Item 46)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
367	Hydrology	Afflux impacts	The submitter is concerned with the impacts on livestock from the modelled afflux of up to 2 m and potential for greater depths incurred in the event of a 1976 event. (Item 47)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
368	Hydrology	Afflux impacts	The submitter is concerned with the damage to structures and productivity of agricultural land from the modelled afflux. (Item 48)	The EIS assessment has reviewed flow distribution, changes in levels, velocities, and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.

ID	Key issue	Submission item	Summary of issue	Response
369	Hydrology	Afflux impacts	The submitter considers the proposed afflux caused by the proposal to warrant application of the precautionary principle. (Item 49)	<p>The EIS assessment has reviewed flow distribution, changes in levels, velocities, and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
370	Hydrology	Durability and safety	The submitter requests ARTC to be required to amend the proposed design to ensure that the proposal meets Item 8 of the SEARs; specifically, <i>'the proposal minimises adverse impacts on property, public safety and the environment resulting from alteration of the water flow characteristics of watercourses and overland flow paths'</i> . (Item 50a)	<p>The EIS assessment has reviewed flow distribution, changes in levels, velocities, and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
370	Hydrology	Durability and safety	The submitter requests ARTC to be required to amend the proposed design to ensure that the proposal meets Item 8 of the SEARs; specifically, <i>'the construction and operation of the proposal avoids or minimises the risk of, and adverse impacts from, infrastructure flooding, flooding hazards, geomorphological impacts or dam failure'</i> . (Item 50b)	<p>The EIS assessment has reviewed flow distribution, changes in levels, velocities, and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>

ID	Key issue	Submission item	Summary of issue	Response
371	Hydrology	Durability and safety	The submitter is concerned ARTC seek to reduce capital costs of construction of the proposal through the desire to build across the Macintyre floodplain on levies and culverts rather than bridges and viaducts. (Item 51)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR, including an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
372	Hydrology	Durability and safety	The submitter notes that ARTC policy requires the construction of the track in a location known to be subject to flooding to be determined having regard to records of actual flood events. (Item 52)	The Project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. Execution of the analysis to support the PIR has been undertaken under the guidance of a Hydrology Working Group that includes representatives from ARTC, DPIE and independent specialists. Hydrological analysis and assessment conforming with current industry accepted practice has been adopted in the modelling of impacts associated with the proposal. This includes the use of historical records of actual flood events which are used to calibrate the hydrological models.
373	Hydrology	Durability and safety	The submitter is concerned with the reference design for the proposal, as it only requires culverts to be designed to the 2% AEP (noting that the calculation of the 1% AEP is disputed). The submitter notes that these design parameters have been justified by ARTC policy, which requires clearing waterways blocked due to debris or rubbish greater than 20 per cent in area within 28 days. (Item 53)	Floodplain structures have been designed to reduce restriction of flow during a 1% AEP event. Local drainage has been designed for a 2% AEP event.

ID	Key issue	Submission item	Summary of issue	Response
374	Hydrology	Durability and safety	<p>The submitter is concerned with maintenance of the proposal and potential for derailments on the freight network:</p> <ul style="list-style-type: none"> ▶ There will be a rainfall event ▶ The culverts will block ▶ The water will scour the track stripping away the ballast and rendering the track unserviceable until repairs are carried out. <p>(Item 54)</p>	Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance culverts will be managed in accordance with ARTC's Assets Management System, technical standards and procedures.
375	Hydrology	Durability and safety	<p>The submitter is concerned with the probability of a 2% AEP flood event occurring (at least twice over the next 70 years) and impacts to the durability of the culverts in the reference design.</p> <p>(Item 55)</p>	<p>Floodplain structures have been designed to minimise restriction of flow during a 1% AEP event. Local drainage has been designed for a 2% AEP event.</p> <p>The nature of structures that support the Project is subject to further detailed design and will require consideration of aspects that are beyond the scope and reach of an EIS and its attendant reference design.</p>
376	Hydrology	Durability and safety	<p>The submitter is concerned with the construction of the proposal on the Macintyre floodplain and considers the infrastructure proposed to be likely to fail.</p> <p>(Item 56)</p>	The nature of structures that support the Project is subject to further detailed design and will require consideration of aspects that are beyond the scope and reach of an EIS and its attendant reference design.
377	Hydrology	Impacts on soils and erosion	<p>The submitter notes the soil makeup of the Macintyre floodplain is characterised by large areas of highly productive cracking clay soils, including black vertosol soils.</p> <p>(Item 57)</p>	Noted.

ID	Key issue	Submission item	Summary of issue	Response
378–380	Hydrology	Impacts on soils and erosion	The submitter is concerned the soils within the proposal are highly valuable due to their benefits for agricultural development. Similar soils are present on the Condamine river floodplain in Queensland where Dr Rob Loch, a certified professional soil scientist, identified that soils of this kind behave uniquely when wetted/dried and are highly erodible. There are concerns over consideration of the specific impact of the proposal on these soils and the long-term productivity of the land. (Items 58, 59 and 60)	The EIS assessment has reviewed flow distribution, changes in levels, velocities, and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the Project against QDLs, which includes the assessment of scour and erosion protection.
381	Hydrology	Impacts on soils and erosion	The submitter is concerned the impacts of the proposal on soils will be made worse by the current alignment and reference design, which see the track constructed in the middle of the Macintyre floodplain and is heavily relied on the use of culverts instead of bridges. (Item 61)	The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the Project against QDLs, which includes the assessment of scour and erosion protection.
382	Hydrology	Impacts on soils and erosion	The submitter is concerned the use of culverts will create what is known as 'shadowing' in small and mid-sized flood events; specifically, the gradual removal of soil and creation of deep pronounced flow lines over time that are more prone to accelerated erosion. (Item 62)	The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the project against QDLs, which includes the assessment of scour and erosion protection.
383	Hydrology	Impacts on soils and erosion	The submitter is concerned damage from scouring and gullyng caused by flow concentrations around culverts will increase as a result of the proposal. (Item 63)	The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the project against QDLs, which includes the assessment of scour and erosion protection.

ID	Key issue	Submission item	Summary of issue	Response
384	Hydrology	Impacts on soils and erosion	The submitter is not satisfied ARTC has adequately met requirement 1(f) of Item 8 of the SEARs, due to concerns with scouring and erosion impacts from the proposal. (Item 64)	The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the project against QDLs, which includes the assessment of scour and erosion protection.
385	Hydrology	Impacts on soils and erosion	The submitter is concerned the unacceptable impacts on soils from erosion and scouring caused by the proposal to warrant application of the precautionary principle. (Item 65)	The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion. In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the project against QDLs, which includes the assessment of scour and erosion protection.
386	project need and justification	Cost benefit analysis	The submitter notes Item 2 of the SEARs requires the proponent to sufficiently particularise the proposal to enable: <i>'...a clear understanding that the proposal has been developed through an iterative process of impact identification and assessment and project refinement to avoid, minimise or offset impacts so that the proposal, on balance, has the least adverse environmental, social and economic impacts, including its cumulative impacts.'</i> (Item 66)	Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the Project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government and, as such, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the Project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section. The collective benefits of the entire Inland Rail Program are not to be considered as part of this analysis as these benefits are already well understood and documented in the Inland Rail Business Case (2015). This investment case estimated the proposal to be economically viable, with a benefit cost ratio of 2.62 at a 4 per cent discount rate (1.02 at a 7 per cent discount rate). The benefits of the entire Inland Rail Program will outweigh the sum of the individual parts.

ID	Key issue	Submission item	Summary of issue	Response
387	project need and justification	Cost benefit analysis	The submitter notes compliance with Item 2 of the SEARs requires the EIS to provide an analysis of the feasible alternatives to the proposal, describe how these alternatives were analysed in the selection process, and how the proposal has been designed to avoid or minimise likely adverse impacts. (Item 67)	<p>This EIS has been developed according to the SEARs and with reference to the <i>Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment</i> (Roads and Maritime Services, 2013). Accordingly, the approach adopted for this report reflects the recognised industry approach to undertaking an EIS.</p> <p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the Project-specific impacts on a link by link basis. 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. This approach was endorsed by the NSW Government. Accordingly, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the Project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p>
388	project need and justification	Cost benefit analysis	The submitter considers the analysis provided by ARTC in Chapter 3: Alternatives and Proposal Options and EIS Appendix I: Economic Assessment Technical Report does not satisfy these requirements. (Item 68)	<p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government and, as such, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p> <p>The collective benefits of the entire Inland Rail Program are not to be considered as part of this analysis as these benefits are already well understood and documented in the Inland Rail Business Case (2015). This investment case estimated the proposal to be economically viable, with a benefit cost ratio of 2.62 at a 4 per cent discount rate (1.02 at a 7 per cent discount rate). The benefits of the entire Inland Rail Program will outweigh the sum of the individual parts.</p>

ID	Key issue	Submission item	Summary of issue	Response
389	project need and justification	Cost benefit analysis	<p>Refer to Attachment C of the submission for letter of objection and economic analysis (dated 6 October 2020). The key issues identified included:</p> <ul style="list-style-type: none"> ▶ The proposal will be marginal ▶ There is a possibility that investors will lose money ▶ The use of MCA is not appropriate ▶ The economic impact assessment that accompanied the proposal application should be withdrawn ▶ The critical difference between cost benefit analysis (CBA) and the economic benefits assessment approach ▶ Forecast jobs figures in the CGE are dubious ▶ Route A is a better route. <p>(Item 69)</p>	<p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government and, as such, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p> <p>The collective benefits of the entire Inland Rail Program are not to be considered as part of this analysis as these benefits are already well understood and documented in the Inland Rail Business Case (2015). This investment case estimated the proposal to be economically viable, with a benefit cost ratio of 2.62 at a 4 per cent discount rate (1.02 at a 7 per cent discount rate). The benefits of the entire Inland Rail Program will outweigh the sum of the individual parts.</p>
390	project need and justification	Cost benefit analysis	<p>Based on the advice, the submitter is concerned ARTC has not undertaken a proper CBA for the proposal.</p> <p>(Item 70)</p>	<p>CGE models are ideally suited to analysing the impact of an expenditure shock on the regional, state and national economy. This is because they explicitly capture:</p> <p>(a) the size and industrial structures of the regional, state and national economy; and</p> <p>(b) the inter-relationships between industries, households and governments within and between regions, including those overseas.</p> <p>The CGE model used by KPMG explicitly captures supply-chain linkages as well as other flow-on effects and feedback responses by all economic agents (e.g. impacts on jobs and incomes flowing through to household consumption, which in turn stimulates further rounds of economic activity).</p> <p>The regional impact assessment included in the EIS takes as given the direct economic impact of the rail project development. This is modelled explicitly as part of the Cost Benefit Analysis. The CGE analysis then quantifies the indirect (or flow-on) economic impacts generated by the proposal on the regional, state and national economies. Summary measures of the total economic impact (i.e. the direct and indirect impacts) are reported, including Gross Regional/State/Domestic Product, aggregate employment and industry output and employment.</p> <p>The CGE modelling is designed to complement the benefits analysis by focusing on the indirect (flow-on) economic impacts that the proposed projects will have on the regional, state and national economy.</p>

ID	Key issue	Submission item	Summary of issue	Response
390	project need and justification [continued]	Cost benefit analysis [continued]	Based on the advice, the submitter is concerned ARTC has not undertaken a proper CBA for the proposal. (Item 70) [continued]	An independent, evidence-based compliance review of the MCAs was conducted during the route selection studies. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i> . The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent and directly aligns with ARTC and Australian Government objectives and policy.
391	project need and justification	Cost benefit analysis	The submitter notes CBA is accepted as being best practice by Infrastructure Australia and NSW Treasury, with both MCA and CGE being sub optimal methodologies in comparison. (Item 71)	<p>CGE models are ideally suited to analysing the impact of an expenditure shock on the regional, state and national economy. This is because they explicitly capture:</p> <ul style="list-style-type: none"> a) the size and industrial structures of the regional, state and national economy; and b) the inter-relationships between industries, households and governments within and between regions, including those overseas. <p>The CGE model used by KPMG explicitly captures supply-chain linkages as well as other flow-on effects and feedback responses by all economic agents (e.g. impacts on jobs and incomes flowing through to household consumption, which in turn stimulates further rounds of economic activity).</p> <p>The regional impact assessment included in the EIS takes as given the direct economic impact of the rail project development. This is modelled explicitly as part of the Cost Benefit Analysis. The CGE analysis then quantifies the indirect (or flow-on) economic impacts generated by the proposal on the regional, state and national economies. Summary measures of the total economic impact (i.e. the direct and indirect impacts) are reported, including Gross Regional/State/Domestic Product, aggregate employment and industry output and employment.</p> <p>The CGE modelling is designed to complement the benefits analysis by focusing on the indirect (flow-on) economic impacts that the proposed projects will have on the regional, state and national economy.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection studies. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent and directly aligns with ARTC and Australian Government objectives and policy.</p>

ID	Key issue	Submission item	Summary of issue	Response
392	project need and justification	Cost benefit analysis	<p>The submitter is concerned with the reasoning behind why a CBA was not undertaken for the proposal.</p> <p><i>'A project-specific CBA has not been undertaken as the results will not capture the full economic impact that is expected to be delivered upon completion of the Inland Rail Program.'</i></p> <p>(Item 72)</p>	<p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government and, as such, the Economic Assessment Technical Report has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p> <p>The collective benefits of the entire Inland Rail Program are not to be considered as part of this analysis as these benefits are already well understood and documented in the Inland Rail Business Case (2015). This investment case estimated the proposal to be economically viable, with a benefit cost ratio of 2.62 at a 4 per cent discount rate (1.02 at a 7 per cent discount rate). The benefits of the entire Inland Rail Program will outweigh the sum of the individual parts.</p>
393	project need and justification	Cost benefit analysis	<p>The submitter notes the statement is reflective of a deliberate intention by ARTC to focus on the benefits of the proposal, without consideration of the specific risks and costs. Specifically, an unwillingness to acknowledge risks associated with changes in demand, which might lead to a reduction in freight flows in the Melbourne–Brisbane corridor, or increases in Project costs beyond the estimates included in the business case, which could significantly impact the final benefit cost ratio (BCR).</p> <p>(Item 73)</p>	<p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government and, as such, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p> <p>The collective benefits of the entire Inland Rail Program are not to be considered as part of this analysis as these benefits are already well understood and documented in the Inland Rail Business Case (2015). This investment case estimated the proposal to be economically viable, with a benefit cost ratio of 2.62 at a 4 per cent discount rate (1.02 at a 7 per cent discount rate). The benefits of the entire Inland Rail Program will outweigh the sum of the individual parts.</p>

ID	Key issue	Submission item	Summary of issue	Response
394	project need and justification	Cost benefit analysis	The submitter is concerned the economic justification for the Inland Rail Program is marginal, as reflected in Infrastructure Australia's project Business Case Evaluation (May 2016). (Item 74)	<p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government and, as such, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p> <p>The collective benefits of the entire Inland Rail Program are not to be considered as part of this analysis as these benefits are already well understood and documented in the Inland Rail Business Case (2015). This investment case estimated the proposal to be economically viable, with a benefit cost ratio of 2.62 at a 4 per cent discount rate (1.02 at a 7 per cent discount rate). The benefits of the entire Inland Rail Program will outweigh the sum of the individual parts.</p>
395–403	project need and justification	Cost benefit analysis	<p>Based on the advice, the submitter requests further clarification on the economic justification for the Inland Rail Program and accuracy of ARTC's claim that the proposal has a BCR of 1.02 and 1.1, including wider economic benefits (WEBS).</p> <p>Key issues identified include:</p> <ul style="list-style-type: none"> ▶ The 1.02 BCR includes the Western Line, which is not part of the scope of the proposal and is not funded ▶ ARTC has applied a 7 per cent discount rate, rather than a 10 per cent discount rate as required by NSW Treasury ▶ The exclusion of significant Project costs from the scope of the analysis ▶ A failure to carry out quantitative and Monte Carlo risk assessments ▶ A failure to include a comparison to road transport alternatives 	<p>The purpose of the economic impact analysis for the Investment Decision stage (reflected in the Inland Rail Program Business Case 2015) and the Environmental Impact Assessment stage (reflected in the current analysis) differ.</p> <p>The purpose of the Investment Case (Inland Rail Program Business Case 2015) was to inform the Commonwealth's decision on whether or not to invest in the progression of the Inland Rail Program. It evaluated the benefit, cost and risk of alternative options and provided an evidence base to inform consideration of the preferred solution. Once the financial (investment) decision had been made to proceed with the proposal, the statutory approval process commenced. Inland Rail, as a State significant project in NSW, is required to respond to the SEARs with an EIS.</p> <p>The purpose of the EIS process is to inform decision-makers and the public of the environmental consequences of implementing a proposed project. The environmental impact assessment identifies, predicts, and analyses impacts on the physical environment, as well as social, cultural, economic and health impacts. The proponent is required to produce documentation describing the proposal, the potential environmental impacts and how these impacts would be managed. The economic analysis provided in the EIS response is tailored to consider these impacts and appropriate mitigation measures.</p> <p>A sensitivity analysis using a 10 per cent discount rate has been undertaken.</p> <p>A road freight alternative is discussed in Chapter 3: Alternatives and Proposal Options. This pulls together information from the <i>Inland Rail Program Business Case</i> (ARTC, 2015a). The <i>Inland Rail Program Business Case</i> concluded that unless substantial investment is made, the road network is unlikely to meet the longer-term needs for Australia's freight task alone.</p>

ID	Key issue	Submission item	Summary of issue	Response
395–403	project need and justification [continued]	Cost benefit analysis [continued]	<ul style="list-style-type: none"> ▶ Inflated anticipated employment results, which are not tied to actual ARTC employment numbers or salaries, even though such data would be available in relation to other components of the Inland Rail Program ▶ The assumptions regarding the price of oil are unreasonable, using an assumed oil price of USD\$120 a barrel, which is far in excess of the current USD\$40 prices ▶ The criteria for the MCA are heavily weighted towards travel time, meaning that the shortest route was always going to win. (Item 75a–h)	An independent, evidence-based compliance review of the MCAs was conducted during the route selection studies. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i> . The review concluded that all reports described the options assessment and MCA procedure in detail. The review also concluded that the robust methodology applied has been consistent and transparent and directly aligns with ARTC and Australian Government objectives and policy.
404	project need and justification	Cost benefit analysis	The submitter notes that had the economic analysis captured all of these factors, the real BCR would be less than 1.00 (BCA<1.00) and the proposal would have a negative net present value (NPV) (NPV<0.00). (Item 76)	This comment relates to the investment case not the EIS.
405	project need and justification	Cost benefit analysis	The submitter considers the failure to undertake a transparent and fulsome economic analysis critical to the assessment of the NS2B State significant infrastructure (SSI) and is grounds for refusing the application. (Item 77)	<p>This EIS has been developed according to the SEARs and with reference to the <i>Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment</i> (Roads and Maritime Services, 2013). Accordingly, the approach adopted for this report reflects the recognised industry approach to undertaking an EIS.</p> <p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the Project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government. Accordingly, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the Project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p>

ID	Key issue	Submission item	Summary of issue	Response
406	project need and justification	Cost benefit analysis	<p>The submitter notes Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7, where the court refused consent to the Rocky Hill Coal project on the basis that the economic benefits of the proposal would be small, that the NPV used inflated figures that were unreliable and unproven, and that the economic cost benefit analysis was incorrect and substantially overstated.</p> <p>(Item 78)</p>	<p>This EIS has been developed according to the SEARs and with reference to the <i>Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment</i> (Roads and Maritime Services, 2013). Accordingly, the approach adopted for this report reflects the recognised industry approach to undertaking an EIS.</p> <p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government. Accordingly, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p>
407	project need and justification	Cost benefit analysis	<p>The submitter is concerned the same criticisms can be levelled at the ARTC in relation to the economic analysis used in the EIS to justify the proposal. The submitter considers this to justify the refusal of the NS2B SSI.</p> <p>(Item 79)</p>	<p>ARTC is confident that the assessment of costs and benefits set out in the EIS is accurate. Additionally, the approach adopted for this report reflects the recognised industry approach to undertaking an EIS.</p> <p>Due to the nature of the incremental assessment approach adopted for this EIS (i.e. a separate assessment for each of the links of the Inland Rail Program), ARTC determined an economic assessment methodology should be adopted that is designed to capture the Project-specific impacts on a link-by-link basis. 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. This approach was endorsed by the NSW Government. Accordingly, the <i>Economic Assessment Technical Report</i> has focused on the anticipated benefit streams attributable to this link of the Project. These incremental benefits are not additive across multiple sections and cannot be summed due to interdependencies of each section.</p>

ID	Key issue	Submission item	Summary of issue	Response
408–411	project need and justification	Cost benefit analysis	<p>The submitter notes there are options available to ARTC to generate economic benefits and increase the BCR to over 1.00, specifically re-considering a more western alignment such as Option A, which would:</p> <ul style="list-style-type: none"> ▶ See an intermodal, rail car depot, train wash, and co-located repair and storage facility constructed near Boggabilla at the RMI Cotton Gin, generating local synergies through the ability to load grain, cotton, coal and other products onto the alignment ▶ Result in greater use of the existing rail line, which will reduce proposal costs, including costs associated with the acquisition of land for the rail corridor ▶ Significantly improve flooding and hydrology impacts in the catchment. <p>(Item 80a–c)</p>	<p>The chosen alignment has been supported by several technical reports and reviews, which are detailed in Chapter 3: Alternatives and Proposal Options and the EIS Summary of Findings. These include the 2010 Melbourne-Brisbane Inland Rail Alignment Study, the 2015 <i>Alignment Development Assessment Report</i>, the early 2016 <i>Concept Assessment Study</i>, the Late 2016 <i>Continuity Alignment Study</i>, the mid-2017 <i>Preparatory Alignment Assessment Report</i>, the early 2019 MCA revalidation and the 2019/2020 Alignment D1 and Alignment A developed comparison. Community consultation was extensive throughout this process.</p> <p>The mid-2017 <i>Preparatory Alignment Assessment Report</i> consisted of an MCA for the six alignment options (2016 base case, Option A, Option D, Option E, Option E1 and Option F). The core criteria assessed were technical viability, safety, constructability, operation, environment, community and property impacts, and statutory and regulation risk. The MCA identified that Option D1 provides the best overall improvement from the 2016 base case, with all criteria scoring equal to the 2016 base case or better. Cost is also comparable to the 2016 base case. Option A provides improvements over the 2016 base case in areas relating to community (preferred alignment for landowners), property and flooding; however, Option A is a longer route and results in comparatively significant operational impacts, such as an increased runtime of five additional minutes against the base case and Option D1. The longer route would also cost an estimated additional \$45 million to construct in comparison to the base case and \$43 million compared to Option D1. Option A also requires more crossings than the 2016 base case and Option D1, including a crossing linking the cotton gin, which is expected to be highly used during harvesting. From an environmental perspective, Option D1 has, overall, reduced impacts on ecology, flooding, air quality, soils, visual and noise and vibration compared to the 2016 base case and Option A.</p> <p>An independent, evidence-based compliance review of the MCAs was conducted during the route selection studies. This was due to stakeholder concern that Option A had not been correctly assessed during the 2017 <i>Preparatory Alignment Assessment Report</i>. The review concluded that all reports described the options assessment and MCA procedure in detail.</p> <p>The 2019/2020 Alignment D1 and Alignment A developed comparison migrated the base engineering design and assumptions from Alignment D1 to Alignment A in order to understand the potential impacts of Alignment A when validated against the updated Macintyre River Flood Model. A key outcome of this activity was that by maintaining the same level of flood immunity, the direct cost differential between Alignment A and D1 increased substantially from the original 2017 cost comparison. This was due to Alignment A being 10 km longer, with more of the alignment located in the floodplain; hence, the option required a greater quantity of fill, as well as increased bridge length (644 m more bridge) and culvert infrastructure (469 additional culverts).</p> <p>It is for these reasons that ARTC has gone with Alignment D1 and not Alignment A.</p>

ID	Key issue	Submission item	Summary of issue	Response
412	project need and justification	Cost benefit analysis	The submitter requests the proposal is refused in its current formulation, with more detailed economic analysis required to be undertaken adopting a cost-benefit problem-shifting analysis approach. (Item 81)	No response required.
413	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter notes Chapter 22: Land Use and Property identifies that there are five parcels of Crown land within the study area that have been identified as being subject to an Aboriginal Land Claim under the <i>Aboriginal Land Rights Act 1983</i> (NSW) (Aboriginal Land Rights Act), including:</p> <ul style="list-style-type: none"> ▶ Lot: 1 DP 1124486 ▶ Lot: 39 DP 756010 ▶ Lot: 112 DP 756029 ▶ Lot: 7013 DP 1069656 ▶ Lot: 7314 DP 1137535. <p>(Item 82a–e)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>
414	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter notes that more information can be provided regarding Aboriginal land claims and the potential impact of a successful determination on the proposal.</p> <p>(Item 83)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>

ID	Key issue	Submission item	Summary of issue	Response
415	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter is concerned the EIS provides no further information regarding the nature or status of these claims, where the lots lie along the alignment, or critically, the impact of the determination of a successful claim on the alignment or design of the proposal.</p> <p>(Item 84)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>If it's apparent that agreement will not be reached, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken. ARTC will work to resolve any outstanding claims prior to the acquisition of land to ensure that the Project design is valid.</p>
416–417	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter notes the operation of the Aboriginal Land Rights Act is such that if land is vested in Her Majesty and, at the time that a claim is made:</p> <ul style="list-style-type: none"> ▶ Is able to be lawfully sold or leased, or is reserved or dedicated for any purpose, under the <i>Crown Lands Consolidation Act 1913</i> (NSW) or the <i>Western Lands Act 1901</i> (NSW) ▶ Is not lawfully been used or occupied ▶ Does not comprise lands which, in the opinion of a Crown Lands Minister, is needed or is likely to be needed as residential land ▶ Is not needed, nor likely to be needed, for an essential public purpose ▶ Does not comprise land that is the subject of an application for a determination of native title ▶ Does not comprise lands that is the subject of an approved determination of native title. <p>Then it will be 'claimable Crown Land' and the Crown Lands Minister must grant the claim over those parts of the land that are claimable Crown Lands.</p> <p>(Item 85a-f)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>

ID	Key issue	Submission item	Summary of issue	Response
418	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter notes lands were reserved as travelling stock routes and for the purpose of sidings, which support the existing disused rail line. Importantly, there is nothing in the Aboriginal Land Rights Act that precludes land claims from being granted over this land. (Item 86)	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>
419	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter notes a request was lodged for search of the Aboriginal Land Claims Register in an attempt to seek further information regarding the status of these claims. No information has been provided as at the date of this letter. (Item 87)	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>
420	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter notes that they are unable to determine whether the dates of lodgement of any of these claims pre-date the Inland Rail Program such that the proposal cannot be relied upon as a 'public purpose' basis for the land being found not to be claimable Crown Lands. (Item 88)	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>

ID	Key issue	Submission item	Summary of issue	Response
421– 423	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter notes the lodgement of an undetermined land claim creates an inchoate right to have the application determined. It is also NSW Government policy not to approve capital works that would:</p> <ul style="list-style-type: none"> ▶ Prevent the lands from being transferred to an Aboriginal Land Council in the event the claim is granted ▶ Impact or change the physical condition of the land pending the outcome of the determination of the claim (or the withdrawal of the claim by the relevant Land Council). <p>(Item 89)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>
424	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter is concerned there are at least three parcels of land (of the five identified by ARTC in the EIS) that may directly impact the proposal if the relevant land claim is successful.</p> <p>(Item 90)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>
425	Proposal design and alternatives	Undetermined Aboriginal land claims	<p>The submitter is concerned the current proposal would see Bridge 270-BR11 (a 1,750 m viaduct) constructed on, and sever, Lot: 7314 in half, and otherwise immediately adjoin the entire western boundary of Lot: 7013.</p> <p>(Item 91)</p>	<p>When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim.</p> <p>Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.</p>

ID	Key issue	Submission item	Summary of issue	Response
426	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter notes that if the Minister determines to approve the proposal prior to the determination of these Land Claims, and the ARTC constructs Bridge 270-BR11 as per the current alignment and reference designs, and the Crown Lands Minister subsequently grants the Claims, then any part of the rail infrastructure that is constructed on Lots 7013 and 7314 is transferred to and owned by the relevant Aboriginal Land Council. (Item 92)	When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim. Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.
427	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter notes, once the land is transferred to the Aboriginal Land Council, it cannot then be subsequently acquired through compulsory process. (Item 93)	When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim. Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.
428	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter considers the grant of land claims over these two parcels could be significant for the viability of the proposal as it currently stands. (Item 94)	When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim. Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.

ID	Key issue	Submission item	Summary of issue	Response
429	Proposal design and alternatives	Undetermined Aboriginal land claims	The submitter requests the Minister not determine the proposal until such time as all of the identified Aboriginal land claims have been determined. (Item 95)	When acquisition commences over Crown land impacted by the proposal, ARTC will submit status search applications with Crown Lands and Department of Planning, Industry and Environment. The searches will confirm the status of the land, any Aboriginal land claims over the land and whether the dates of lodgement of any of these claims pre-date the Inland Rail Program. If the proposed acquisition is over a parcel of land subject to an undetermined land claim, ARTC/TfNSW will work with the Local Aboriginal Land Council and NSW Aboriginal Land Council to reach an agreement to the extent that it affects the claim. Otherwise, an application will be made to the Crown Lands Minister for priority determination of the claim prior to acquisition being undertaken.
430	Biodiversity	Biodiversity assessment	The submitter notes that the Minister must be satisfied that the impacts of the proposal on biodiversity are adequately identified and appropriately managed, including the provision of offsets where required. (Item 96)	A comprehensive assessment for threatened flora and fauna species was completed by March 2021, which presented very favourable survey conditions. Assessment of the native grasslands, Brigalow and poplar box communities, has been considered in line with legislative requirements and has followed the precautionary principal as stated in the BDAR.
431	Biodiversity	Biodiversity assessment	The submitter notes that the Minister must refuse the NS2B SSI if they are unable, based on the information provided in the EIS, to reasonably form satisfaction that the impacts of the proposal on biodiversity are adequately identified and appropriately managed. (Item 97)	Noted.

ID	Key issue	Submission item	Summary of issue	Response
432–433	Biodiversity	Biodiversity assessment	The submitter notes that ARTC must identify and assess the impacts of the proposal on biodiversity, including MNES under the EPBC Act. (Item 98a)	<p>The assessment of MNES has been reviewed and updated, and is in line with the EPBC listing advice and MNES Guidelines. Under the Bilateral agreement for the proposal between the Commonwealth and NSW government, only the EPBC species not assessed under the BAM are required to be assessed. All information presented relates to surveys that have occurred prior to the submission of the report. MNES that are also <i>Biodiversity Conservation Act 2016</i> (NSW) (BC Act) listed, have been assessed following the BAM, and this is clarified in the report. Additional surveys for some MNES species occurred in the 2020/21 summer survey period.</p> <p>Based on advice received from Biodiversity, Conservation and Science Directorate (BCD) on 17 December 2020, the TEC Poplar Box woodland does not require assessment, as it was listed after the controlled action decision was made. PCT 35 is not considered part of PCT 52 and, therefore, this section of the report has been reviewed and re-written to improve clarity of the information presented. The conditions/assessment for PCT 35 is considered a separate TEC, as Brigalow communities are less susceptible to variation due to drought conditions, and the presence of Brigalow as either the dominant or co-dominant tree species meets the criteria for the EPBC listed community. Appendix C of the BDAR has been reviewed.</p>
434	Biodiversity	Biodiversity assessment	The submitter notes that ARTC must identify and assess the impacts of the proposal on biodiversity, including terrestrial and aquatic species. (Item 98b)	The Project has reduced the areas of potential impact associated with both laydown areas and the construction footprint. Maps and tables showing the reduction in potential impacts on native vegetation, are included in the updated report. All impact areas associated with serious and irreversible impacts (SALLs) were reviewed and footprints for access routes and borrow pits were reduced or removed. This section of the BDAR was updated to reflect the reduction in impacts and the efforts made to achieve those reductions.
435	Biodiversity	Biodiversity assessment	The submitter notes that the characterisation of the existing landscape as 'extensively modified...with the overwhelming majority cleared for grazing and/or cropping' does not highlight the ecological significance of the Macintyre floodplain. (Item 99)	The natural grasslands have been assessed as meeting EPBC condition requirements. Most other areas of the landscape have been heavily cleared for agricultural activities and are, therefore, considered 'extensively modified'. Dams have been constructed and drainage lines diverted, by both farmers and the original rail line. The existing road and disused railway may act as a barrier to small overland flow events.

ID	Key issue	Submission item	Summary of issue	Response
436	Biodiversity	Biodiversity assessment	<p>Refer to Attachment D of the submission for letter of objection from the Environmental Factor (dated 6 October 2020).</p> <p>The key issues identified included:</p> <ul style="list-style-type: none"> ▶ Hydrological impacts arising from the proposal are listed as a key threatening process for the Natural Grasslands on Basalt and Fine-textured Alluvial Plains of Northern New South Wales and Southern Queensland (critically endangered under the EPBC Act) ▶ Surveys were completed outside the optimal season, which may have negatively impacted on the results obtained. In addition, habitat assessments were not completed for borrow pit locations. ▶ The full extent of TECs occurring within the proposal has not been ascertained and warrants application of the precautionary principle. <p>(Item 100)</p>	A comprehensive assessment for threatened flora and fauna species and ecological communities was completed by March 2021, which presented very favourable survey conditions. Assessment of the native grasslands has been considered in line with legislative requirements and has followed the precautionary principal as stated in the BDAR.
437	Biodiversity	Biodiversity assessment	<p>The submitter notes that the identification and assessment of impacts of the proposal on biodiversity must consider the approach of avoid, minimise and offset as per the BC Act and EPBC Act.</p> <p>(Item 101)</p>	The areas of impact associated with both laydown areas and the construction footprint, were reduced to exclude PCT52. Maps and tables showing the reduction in impacts on native vegetation are included in the updated report. Chapter 8.6 of the BDAR includes detailed avoidance and mitigation measures.
438	Biodiversity	Biodiversity assessment	<p>The submitter notes that the 'avoid, minimise, offset' approach operates as a hierarchy.</p> <p>(Item 102)</p>	The areas of impact associated with both laydown areas and the construction footprint, were reduced to exclude PCT52. Maps and tables showing the reduction in impacts on native vegetation are included in the updated report. Chapter 8.6 of the BDAR includes detailed avoidance and mitigation measures.

ID	Key issue	Submission item	Summary of issue	Response
439	Biodiversity	Biodiversity assessment	In accordance with NSW Government policy, offsets will not be considered until all reasonable avoidance and mitigation measures are considered. (Item 103)	The areas of impact associated with both laydown areas and the construction footprint, were reduced to exclude PCT52. Maps and tables showing the reduction in impacts on native vegetation are included in the updated report. Chapter 8.6 of the BDAR includes detailed avoidance and mitigation measures.
440–444	Biodiversity	Biodiversity assessment	The submitter is concerned ARTC has adopted an approach that is inconsistent with the 'avoid, minimise, offset' hierarchy. The submitter is also concerned the current level of assessment is not adequate to justify the proposal moving to primary approval. (Items 104, 105, 106, 107 and 108)	Chapter 8.6 of the BDAR includes detailed avoidance and mitigation measures. A comprehensive assessment for threatened flora and fauna species was completed in March 2021, which presented very favourable survey conditions. Assessment of the native grasslands, brigalow and poplar box communities has been considered in line with legislative requirements and has followed the precautionary principal as stated in the BDAR.
445–446	Biodiversity	Biodiversity assessment	The submitter has obtained the following advice from a suitably qualified ecologist: <ul style="list-style-type: none"> Concern with the impact area used in the assessment, specifically consideration of impacts beyond the immediate construction footprint and potential for indirect/direct impacts. (Item 109a)	Given that the majority of the works are occurring within the existing rail line and associated easement, potential fragmentation issues are limited. Separate assessments are made for each Borrow Pit. Works over the floodplain have been considered to retain to both upstream and downstream impacts. The temporary accommodation is located within an existing polo field and golf course. The Project reduced the areas of impact associated with both laydown areas and the construction footprint on biodiversity. Maps and tables showing the reduction in impacts on native vegetation, are included in the updated report. The proposal removed all impact areas associated with SALLs and found ways to reduce those areas, including areas within borrow pits.
447	Biodiversity	Biodiversity assessment	The submitter has obtained the following advice from a suitably qualified ecologist: <ul style="list-style-type: none"> Concern with the timing of surveys undertaken, specifically during extended drought conditions. (Item 109b)	A comprehensive assessment for threatened flora and fauna species was completed by March 2021, which presented very favourable survey conditions. Assessment of the native grasslands, Brigalow and poplar box communities, has been considered in line with legislative requirements and has followed the precautionary principal, as stated in the BDAR. Chapter 8.6 of the BDAR includes detailed avoidance and mitigation measures.

ID	Key issue	Submission item	Summary of issue	Response
448	Biodiversity	Biodiversity assessment	<p>The submitter has obtained the following advice from a suitably qualified ecologist:</p> <ul style="list-style-type: none"> Concern with the timing of surveys undertaken, specifically being out of season. <p>(Item 109c)</p>	<p>The severe drought conditions present were why the precautionary approach was adopted (as per the BAM) and later additional surveys for threatened species were scheduled to more suitable conditions in 2021. An evaluation of benchmark conditions and high-quality vegetation within the Project area was undertaken and they were found to be comparable. A comprehensive assessment for threatened flora and fauna species was completed by March 2021, which presented very favourable survey conditions. Assessment of the native grasslands, Brigalow and poplar box communities, has been considered in line with legislative requirements and has followed the precautionary principal as stated in the BDAR.</p>
449	Biodiversity	Biodiversity assessment	<p>The submitter has obtained the following advice from a suitably qualified ecologist:</p> <ul style="list-style-type: none"> Concern with the classification of impacts from surface hydrology to ecology as 'indirect' and resultant limited assessment of changes to natural flows on Natural Grasslands. <p>(Item 109d)</p>	<p>A flooding section has been inserted into the Section 8 impacts section, including Table 8.2 of the BDAR.</p>
450	Biodiversity	Biodiversity assessment	<p>The submitter is not satisfied the impacts of the proposal on biodiversity are adequately identified and appropriately managed.</p> <p>(Item 110)</p>	<p>Given the majority of the works are occurring within the existing rail line and associated easement, potential fragmentation issues are limited. Separate assessments are made for each Borrow Pit. Works over the floodplain have been considered in regard to both upstream and downstream impacts. The temporary accommodation is located within an existing polo field and golf course.</p> <p>A comprehensive assessment for threatened flora and fauna species was completed by March 2021, which presented very favourable survey conditions. Based on these findings, the project reduced the areas of impact associated with both laydown areas and the construction footprint on biodiversity. Maps and tables showing the reduction in impacts on native vegetation are included in the updated report.</p> <p>The Project removed all impact areas associated SALLs and found ways to reduce those areas, including areas within borrow pits.</p>
451–452	Biodiversity	Biodiversity assessment	<p>The submitter is concerned with the number of ecological receptors impacted by the proposal, including:</p> <ul style="list-style-type: none"> Sufficient investigation of amendments to be made to the proposal to avoid or minimise impacts, including changing the proposed alignment. <p>(Item 111a)</p>	<p>The Project has reduced the areas of potential impact associated with both laydown areas and the construction footprint. Maps and tables showing the reduction in potential impacts on native vegetation are included in the updated report. All impact areas associated with SALLs were reviewed and footprints for access routes and borrow pits were reduced or removed. This section of the BDAR was updated to reflect the reduction in impacts and the efforts made to achieve those reductions.</p>

ID	Key issue	Submission item	Summary of issue	Response
453	Biodiversity	Biodiversity assessment	<p>The submitter is concerned with the number of ecological receptors impacted by the proposal, including:</p> <ul style="list-style-type: none"> ▶ Rigorous assessment for the Minister to be able to be satisfied about the scope and scale of impacts and ability to mitigate, manage and offset these impacts. <p>(Item 111b)</p>	<p>All biodiversity assessments required under the BAM and EPBC are to be completed prior to final submission of the document and an addendum.</p> <p>A comprehensive assessment for threatened flora and fauna species was completed by March 2021, which presented very favourable survey conditions.</p>
454	Biodiversity	Biodiversity assessment	<p>The submitter is concerned with the number of ecological receptors impacted by the proposal, including:</p> <ul style="list-style-type: none"> ▶ Current level of assessment is not adequate to justify the proposal moving to primary approval, based on divulging further investigations to the detailed design phase. <p>(Item 111c)</p>	<p>A comprehensive assessment for threatened flora and fauna species was completed by March 2021, which presented very favourable survey conditions. Based on these findings, the project reduced the areas of impact associated with both laydown areas and the construction footprint on biodiversity. Maps and tables showing the reduction in impacts on native vegetation are included in the updated report.</p> <p>The project removed all impact areas associated SAIIs and found ways to reduce those areas, including areas within borrow pits.</p>
455– 456	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned with the following aspects of the EIS relating to noise and vibration:</p> <ul style="list-style-type: none"> ▶ Limited analysis as to the impact of the proposal on sleep disturbance. <p>(Item 112a)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of EIS Appendix K: Operational Noise and Vibration Technical Report (herein referred to as the Operational Noise and Vibration Impact Assessment (ONVIA)).</p> <p>Night-time and maximum noise trigger levels have been included in the assessment—with the intent being to protect the community during the more sensitive time periods.</p> <p>The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
457	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned with the following aspects of the EIS relating to noise and vibration:</p> <ul style="list-style-type: none"> ▶ The report fails to identify all key sensitive receptors. <p>(Item 112b)</p>	<p>A reasonable approach to identifying potentially affected receptors has been undertaken. To determine the sensitive receptors included in the assessment, buildings over 9 m², within a 2 km radius of the Project alignment, were identified using a national geospatial dataset of buildings from 2018. A total of 85 buildings were identified within the 2 km study area. The buildings that were clearly identified as non-sensitive, such as hoppers, sheds and warehouses were retained in the assessment as they could provide screening of rail noise levels at nearby sensitive receptors. Railway noise and vibration levels were not assessed at the non-sensitive buildings.</p> <p>Where additional receptors are required to be considered, these can be included, as relevant, during detailed design works.</p>

ID	Key issue	Submission item	Summary of issue	Response
458	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned with the following aspects of the EIS relating to noise and vibration:</p> <ul style="list-style-type: none"> ▶ The NS2B SSI does not commit the ARTC to the carrying out of appropriate acoustic attenuation treatments where necessary to mitigate acoustic and vibration impacts. <p>(Item 112c)</p>	<p>To be completed during detailed design phase where required.</p> <p>At this stage of the proposal, items relating to building construction and the acoustic performance of individual at-property treatments, cannot be quantified. These matters are addressed during detailed design.</p> <p>Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
459	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned with the impact of sleep disturbance arising from construction and operation of the proposal</p> <p>(Item 113)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods.</p> <p>The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
460	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter notes that Item 14 of the SEARs requires ARTC to assess the impacts of the proposal on sensitive receivers, including consideration of sleep disturbance.</p> <p>(Item 114)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods.</p> <p>The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
461	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned the EIS and the Operational Railway Noise and Vibration Assessment fails to include detailed assessment of the potential for impacts on sleep disturbance for properties within a 1 km envelope either side of the alignment.</p> <p>(Item 115)</p>	<p>In accordance with the BAM, the survey incorporates a minimum of a 500 m buffer around the alignment and a 1,500 m buffer from each borrow pit. Surface hydrology has historically been altered by the existing rail, roads and farming/cropping infrastructure. Further consultation with hydrogeologists has resulted in additional information being available for consideration and inclusion into the BDAR.</p>

ID	Key issue	Submission item	Summary of issue	Response
462	Noise and vibration—construction and operation	Impacts on sleep disturbance	<p>Refer to Attachment E of the submission for letter of objection from Wilkinson Murray (dated 6 October 2020). The key issues identified included:</p> <ul style="list-style-type: none"> ▶ Missing receivers ▶ Construction noise ▶ Operational noise ▶ Sleep disturbance. <p>(Item 116)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods. The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
463	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned that ARTC has failed to address the discrepancy regarding the criterion identified in the <i>Rail Infrastructure Noise Guideline</i> (RING), which has been applied for the purpose of the analysis (80dBA external) and the World Health Organisation's <i>Night Noise Guidelines for Europe</i> (WHO Guideline) criterion (49dBA external, windows open). (Item 117)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods. The World Health Organisation (WHO) guidelines have not been applied as a criteria, limit, management level or noise trigger for the proposal, as this is a requirement of the SEARs.</p>
464	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter notes that exceedances of the RING criteria have been identified in the EIS consistent with the setback from the rail corridor for each receiver. <i>'Based on the noise modelling, the noise levels from rolling stock could be above LAmax 49 dBA within approximately 1 km from the rail corridor'.</i> (Item 118)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods. The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>

ID	Key issue	Submission item	Summary of issue	Response
465	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is concerned with the dismissal of the significance of the non-compliance of the RING criteria by stating: <i>‘Where sensitive residential land uses are proposed to be developed within 1 km of rail freight corridors, it would be expected that residential property, complying to Australian building codes and standards, would achieve façade noise reductions greater than the conservative 7 dBA assumption applied in this assessment’.</i></p> <p>(Item 119)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods. The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
466–467	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is unsure whether the RING criteria exceedances can be mitigated by architectural or ‘at-property’ treatments alone. The submitter notes the following concerns with the EIS:</p> <ul style="list-style-type: none"> ▶ Relies on unproven assumptions, particularly given that all of the houses in this area have been in existence for a considerable period of time and many are built of weatherboard construction. <p>(Item 120a)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods. At this stage of the proposal, items relating to building construction and the acoustic performance of individual at-property treatments, cannot be quantified. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations. ARTC also note that a total of five existing sensitive receptors are potentially triggering the requirement for noise mitigation (year 2040). All assumptions made have been stated. A conservative correction of 7 dB has been applied to account for the property in the area (the RING guideline advocates for a 10 dB correction). Surveys during the detailed design will investigate the noise attenuation performance of the existing property facades and, as required, revise the assessment of potential internal rail noise levels. Validation of these results will also take place during the operational phase. This is considerate of the range of property constructions along the proposal and the expected attenuation of noise achieved by the property structures.</p>

ID	Key issue	Submission item	Summary of issue	Response
468	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is unsure whether the RING criteria exceedances can be mitigated by architectural or 'at-property' treatments alone. The submitter notes the following concerns with the EIS:</p> <ul style="list-style-type: none"> ▶ It fails to calculate the specific anticipated internal noise levels at each of the sensitive receptors and the extent of the numerical non-compliance. <p>(Item 120b)</p>	<p>Adopted airborne noise trigger levels, for existing residential receivers, are based on external levels at façade.</p> <p>Internal noise levels and numerical quantification for sleep disturbance is not required.</p>
469	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is unsure of whether the RING criteria exceedances can be mitigated by architectural or 'at-property' treatments alone. The submitter notes the following concerns with the EIS:</p> <ul style="list-style-type: none"> ▶ It assumes that it is feasible to implement high noise attenuating controls at these properties. <p>(Item 120c)</p>	<p>The requirement for 'high noise attenuating noise controls,' is not stated within the ONVIA. All mitigation and management measures have been considered using the test of reasonableness and feasibility. This will continue throughout future stages of the proposal.</p>
470	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is unsure whether the RING criteria exceedances can be mitigated by architectural or 'at-property' treatments alone. The submitter notes the following concerns with the EIS:</p> <ul style="list-style-type: none"> ▶ It does not confirm that the implementation of high noise attenuating controls will result in compliance with the sleep disturbance criteria. <p>(Item 120d)</p>	<p>Adopted airborne noise trigger levels, for existing residential receivers, are based on external levels at façade.</p> <p>Internal noise levels and numerical quantification for sleep disturbance is not required.</p>

ID	Key issue	Submission item	Summary of issue	Response
471	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter is unsure whether the RING criteria exceedances can be mitigated by architectural or ‘at-property’ treatments alone. The submitter notes the following concerns with the EIS:</p> <ul style="list-style-type: none"> ▶ It does not commit to the moving of dwellings in the event that high noise attenuating controls cannot ensure compliance. <p>(Item 120e)</p>	<p>Refer potential noise mitigation options in Table 26 of ONVIA.</p> <p>Commitment for property relocation is not required.</p>
472	Noise and vibration—operation	Impacts on sleep disturbance	<p>The submitter suggests that in this area many (if not all) of the houses along the alignment are of older construction, dating from the 1950s and 1970s, and are typically fibro and timber construction (and not double-brick, for example, as appears to have been assumed in the EIS). Also, all houses, even new ones, in this climate tend to rely on fans, fly screens and roof-mounted evaporative cooling units for cooling during the hot summer months, rather than air conditioning, which is expensive to run. Consequently, the submitter considers that usual architectural treatments that might be employed to manage these issues in an urban context, like double glazing and reticulated air-conditioning, either won’t work or are not feasible in this environment. Further, any assumption relying on closed windows as a form of attenuation isn’t realistic.</p> <p>(Item 121)</p>	<p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment with the intent being to protect the community during the more sensitive time periods. At this stage of the proposal, items relating to building construction and the acoustic performance of individual at-property treatments, cannot be quantified. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations. Additional noise prediction modelling and surveying is to be undertaken during the detailed design phase. The surveys will investigate the noise attenuation performance of the existing property facades and, as required, revise the assessment of potential internal rail noise levels. This will inform the selection of appropriate treatments. Validation of these results will also take place during the operational phase. ARTC also not that a total of five existing sensitive receptors are potentially triggering the requirement for noise mitigation (year 2040).</p>

ID	Key issue	Submission item	Summary of issue	Response
473	Noise and vibration—operation	Impacts on sleep disturbance	The submitter notes the dwelling on the property 'Ohmi', which is located only 30 m from the proposed alignment, near a level crossing. If we take the LAMax noise level predicted in the assessment for this residence, being 95dBA, and assume that this property is subject to the best possible noise attenuation design (which we do not think is possible), then this would reduce the noise level to 65dBA. This, as an LAMax noise level, is still 23dBA above the criteria prescribed in the WHO Guideline for sleep disturbance and makes very generous (and arguably unrealistic) assumptions about the ability to change the façade and glazing at the property to achieve a 30dBA reduction. (Item 122)	Proposal response recommended. Refer direct engagement held with the five identified triggers. ARTC acknowledges the potential level of impact for the dwelling on the property 'Ohmi', which is located only 30 m from the proposed alignment. Each trigger location is considered on a case-by-case basis. Further assessment will be undertaken during detailed design.
474	Noise and vibration—operation	Impacts on sleep disturbance	The submitter is concerned analysis shows that sleep disturbance is likely at this property (based on the WHO Guideline), 8 times per night in 2027 and 10 times per night in 2040. (Item 123)	Not all the individual train pass by (up to 8 at proposal opening or up to 10 in 2040) are expected to result in a potential sleep disturbance noise impact. The WHO guidelines have not been applied as a criteria, limit, management level or noise trigger for the proposal and compliance to the WHO recommendations are not required by the proposal. Considerate of the assessment outcomes, the proposed approach to mitigation options is provided in Section 14.2 of the ONVIA, which identifies at property treatment is just one option available to control noise levels and manage potential for noise-related impacts. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.
475	Noise and vibration—operation	Impacts on sleep disturbance	The submitter considers the failure to acknowledge, investigate and mitigate impacts to sleep disturbance to warrant refusal of the proposal. (Item 124)	Noted.

ID	Key issue	Submission item	Summary of issue	Response
476	Noise and vibration—operation	Sensitive receivers	The submitter is concerned the Operational Railway Noise and Vibration Assessment has been prepared based on a desktop analysis of aerial imagery to identify sensitive receptors. (Item 125)	Refer Section 6.1 of the Technical Report. All buildings over 9 m ² , within the 2 km radius of the alignment of the proposal, were identified using a national geospatial dataset of buildings from 2018. Desktop screening of the data set was undertaken.
477–480	Noise and vibration—operation	Sensitive receivers	The submitter is concerned with the approach to the identification of sensitive receptors for the proposal and of the opinion that ARTC has failed to identify all sensitive receptors, including: <ul style="list-style-type: none"> ▶ A cottage at Mr Uebergang's property 'Bibilah' ▶ A homestead at Mr Mackay's property 'Budleigh'. (Items 126 and 127)	ARTC has followed industry best practice in identifying sensitive receptors. This included identifying buildings over 9 m ² , within a 2km radius of the Project alignment, using a national geospatial dataset of buildings from 2018. A total of 85 buildings were identified within the 2km study area. The buildings that were clearly identified as non-sensitive, such as hoppers, sheds and warehouses, were retained in the assessment as they could provide screening of rail noise levels at nearby sensitive receptors. Railway noise and vibration levels were not assessed at the non-sensitive buildings. Noted. ARTC advises that noise contour plots are included to assist with understanding potential areas where operational railway noise triggers have been predicted (daytime, night-time, proposal opening and Year 2040). This assists in the evaluation of railway noise over large rural areas and the identification of the locality where the proposal may consider reasonable and feasible mitigations for operational railway noise and vibration.
481	Noise and vibration—operation	Sensitive receivers	The submitter requests that ARTC develop a more comprehensive Operational Railway Noise and Vibration Assessment, which would include a mandatory requirement to ground truth aerial imagery to ensure that all impacts on sensitive receptors are identified, assessed and managed. (Item 128)	Noted. ARTC acknowledges that this would be a reasonable requirement for completion of an ONVIA during detailed design.

ID	Key issue	Submission item	Summary of issue	Response
482	Noise and vibration—operation	Mitigation measures	<p>The submitter notes part 14 of the Operational Railway Noise and Vibration Assessment identifies ARTC’s strategy for selecting feasible and reasonable noise mitigation, specifically:</p> <ul style="list-style-type: none"> ▶ The use of noise barriers generally where there are three or more sensitive receptors in close proximity on the same side of the track ▶ Reliance on at-property architectural treatments to a building for isolated sensitive receptors. <p>(Item 129a-b)</p>	Noted.
483	Noise and vibration—operation	Mitigation measures	<p>The submitter notes the relocation of dwellings does not appear a possible mitigation strategy.</p> <p>(Item 130)</p>	Noted.
484	Noise and vibration—operation	Mitigation measures	<p>The submitter is concerned with the number of sensitive receptors located very close to the alignment, including on Mr Uebergang’s properties ‘Ohmi’ and ‘Bibilah’, and that in many rural locations, the age and construction of residential properties can influence the practical implementation of modern architectural treatments.</p> <p>(Item 131)</p>	Noted. ARTC advises that noise contour plots are included to assist with understanding potential areas where operational railway noise triggers have been predicted (daytime, night-time, proposal opening and Year 2040). This assists in the evaluation of railway noise over large rural areas and the identification of the locality where the proposal may consider reasonable and feasible mitigations for operational railway noise and vibration.

ID	Key issue	Submission item	Summary of issue	Response
485	Noise and vibration—construction	Mitigation measures	The submitter requests ARTC implement all necessary acoustic attenuation treatments as per the TfNSW Construction Noise and Vibration Strategy (ST-157/4.1), so as to ensure that the properties comply with acceptable internal and external noise levels, including for sleep disturbance. (Item 132)	<p>A Construction Noise and Vibration Management Plan would be prepared that would include the following:</p> <ul style="list-style-type: none"> ▶ Construction noise and vibration criteria for the proposal ▶ Location of sensitive receivers in proximity to the construction area ▶ Specific standard noise and vibration management measures for activities that could exceed the construction noise and vibration criteria. This would include consideration of noise mitigation to address sleep disturbances ▶ Additional noise and vibration mitigation to address residual exceedances. These are likely to include: <ul style="list-style-type: none"> ▶ Community notifications ▶ Noise and vibration monitoring program ▶ Respite offers ▶ Alternative accommodation offers. <p>This approach is in line with the TfNSW <i>Construction Noise and Vibration Strategy</i> (ST-1514.1); however, there is no mandatory requirement for the all recommendations in the Strategy to be implemented.</p>
486	Noise and vibration—operation	Mitigation measures	If granted approval, the submitter requests the Minister to impose a condition of consent requiring the ARTC to commit to relocating the premises at Ohmi and conduct detailed sleep disturbance analysis to investigate the effectiveness of the architectural treatments and/or the need to relocate additional sensitive receptors along the alignment. (Item 133)	<p>Conditions are a matter for the Minister to decide.</p> <p>Consideration of potential sleep disturbance is provided in Section 10.4 of the ONVIA. Night-time and maximum noise trigger levels have been included in the assessment, with the intent being to protect the community during the more sensitive time periods.</p> <p>The proposed approach to mitigation options is provided in Section 14.2 of the ONVIA. Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
487	Landscape and visual	Visual impact assessment	The submitter is concerned the EIS has adopted a narrow scope of visual impact assessment, contrary to Item 18 of the SEARs. (Item 134)	Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report (Section 2.1) that outlines relevant sections of the landscape and visual impact assessment, in with the requirements of the SEARs that have been addressed.

ID	Key issue	Submission item	Summary of issue	Response
488	Landscape and visual	Visual impact assessment	The submitter is concerned with the number of viewpoints selected for the visual impact assessment over the entire alignment, number of photomontages prepared and consideration of visual impact of the proposal when viewed from private property. (Item 135)	<p>The specific viewpoints used for the assessment have been selected based on outputs from the Visibility Analysis Map study and field survey (as described in EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.3 and Section 5.4, respectively).</p> <p>Consistent with typical landscape and visual assessment practice, most viewpoints located on private properties have not been visited or assessed.</p> <p>While private properties have not been accessed, where appropriate and possible, publicly accessible locations nearby have been selected to represent private views. This is reflected in the consideration of the sensitivity of viewpoints (e.g. VP1 which includes receptors such as residents of North Star').</p>
489–490	Landscape and visual	Visual impact assessment	<p>The submitter is concerned with the viewpoints selected, specifically:</p> <ul style="list-style-type: none"> ▶ Only one shows the development with a significant embankment height (7.60 m above ground level). All other viewpoints are taken where the embankment height is 3 m or less. <p>(Item 136a)</p>	<p>To achieve flood immunity, the majority of the proposal is elevated on a fill embankment, typically with heights less than 2 m; with the exception of the lead up to the proposed Bruxner Way realignment and the Macintyre River Viaduct, where the embankment height increases to approximately 7.6 m (refer Chapter 6: The Proposal for details).</p> <p>Viewpoint 5 (Table 33), showing the Bruxner Way realignment and associated rail infrastructure, is considered to represent the 'worst case scenario' in regard to the visual impact of embankments associated with the proposed alignment.</p> <p>Viewpoint 1 (Table 29), Viewpoint 3 (Table 31), Viewpoint 4 (Table 32) and Viewpoint 6 (Table 34) also address the visual impact of embankments associated with the rail alignment, and are considered to represent a broad range of conditions, from low embankments < 1 m to high embankments around 5 m.</p>
491	Landscape and visual	Visual impact assessment	<p>The submitter is concerned with the viewpoints selected, specifically:</p> <ul style="list-style-type: none"> ▶ Half of the viewpoints show the proposal at a significant distance of between 400 m to 1.5 km from the proposed alignment. <p>(Item 136b)</p>	<p>The specific viewpoints used for the assessment have been selected based on outputs from the Visibility Analysis Map study and field survey (as described in EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.3 and Section 5.4, respectively).</p> <p>Consistent with typical landscape and visual assessment practice, a broad range of viewpoints have been selected from publicly accessible locations. These six viewpoints were selected to best demonstrate potential impacts from the proposal, and include three views in very close proximity to the proposal (35 m and 50 m, respectively), 2 views at a moderate distance to the proposal (400 m and 500 m, respectively) and one more distant view (1.5km).</p> <p>It is noted that Viewpoint 1, at 1.5 km from the proposal is representative of impacts of the proposal on the community of North Star and taken from the edge of the township at the nearest point to the proposal.</p>

ID	Key issue	Submission item	Summary of issue	Response
492	Landscape and visual	Visual impact assessment	<p>The submitter is concerned with the viewpoints selected, specifically:</p> <ul style="list-style-type: none"> ▶ No viewpoints show the proposal as viewed from private property, with viewpoint 2 showing the view from the road reserve looking towards the alignment rather than from the homestead at Ohmi. <p>(Item 136c)</p>	<p>Consistent with typical landscape and visual assessment practice, viewpoints located on private properties have not been visited or assessed.</p> <p>Where appropriate and possible, publicly accessible locations nearby have been selected to represent these private views (as is the case with Viewpoint 2, which shows the relationship of 'Ohmi' to the proposal, while also demonstrating the impact of the proposed level crossing).</p> <p>Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology.</p> <p>Also refer EIS Appendix P: Landscape and Visual Impact Assessment Technical Report (Section 12.3) for proposed mitigation measures.</p>
493	Landscape and visual	Visual impact assessment	<p>The submitter is concerned with the viewpoints selected, specifically:</p> <ul style="list-style-type: none"> ▶ Only two viewpoints include bridges, which are considered by the submitter as the most visually impactful features of the proposal. <p>(Item 136d)</p>	<p>A broad range of viewpoints has been selected to demonstrate potential impacts from the proposal. Viewpoint 3, Viewpoint 4, Viewpoint 5 and Viewpoint 6 discuss impacts associated with rail over road, river and creek bridges. Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology.</p> <p>In addition to the Visual Assessment, the impact of bridges is assessed in EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 8.1—landscape character areas (LCA) A (Table 23), LCA B (Table 24).</p> <p>Additionally, illustrative sections have been provided to indicate typical cross sections of associated components found across the proposal alignment in Section 7.3 of EIS Appendix P: Landscape and Visual Impact Assessment Technical Report.</p> <p>More details on potential impacts associated with bridges and viaducts are also discussed in Section 7.2, Table 21 and Table 22 of EIS Appendix P: Landscape and Visual Impact Assessment Technical Report.</p>
494	Landscape and visual	Visual impact assessment	<p>The submitter is concerned the viewpoints selected are not representative of viewer settings and inadequate to enable a reasonable assessment of the visual impacts of the proposal.</p> <p>(Item 137)</p>	<p>Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 2.1 that outlines relevant sections of the landscape and visual impact assessment that address the requirements of the SEARs.</p> <p>Also refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology.</p>

ID	Key issue	Submission item	Summary of issue	Response
495— 496	Landscape and visual	Visual impact assessment	The submitter does not agree with some of the conclusions drawn regarding the significance of the effect from certain viewpoints. Specifically, the impact assessment from Viewpoint 5 concludes that there is a high magnitude of change for the construction and operation of the proposal in this location but that the significance of effect is only considered to be moderate. (Items 138 and 139)	The landscape and visual impact assessment has been conducted in line with the methodology outlined in Section 5.0 of EIS Appendix P: Landscape and Visual Impact Assessment Technical Report. While Viewpoint 5 identifies a high magnitude of change (during construction and operation), the resultant impacts during construction and operation are moderate due to the low sensitivity of this viewpoint. Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology. Please refer response to (Item 139) and to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology.
497	Landscape and visual	Visual impact assessment	The submitter is not satisfied ARTC has adequately met Item 18 of the SEARs, due to impacts of the proposal on the landscape and amenity in the area. (Item 140)	Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 2.1 that outlines relevant sections of the landscape and visual impact assessment wherein the requirements of the SEARs have been addressed.
498	Landscape and visual	Visual impact assessment	The submitter requests ARTC undertake a broader analysis from more viewpoints to show the impacts of the proposal from both public and private land. (Item 141)	It is considered that the current assessment assesses a broad range of impacts, including potential impacts associated with a broad range of infrastructure components. The selection of representative viewpoints is considered to represent the 'worst case scenario'. Please refer to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology. Consistent with typical landscape and visual assessment practice, viewpoints located on private properties have not been visited or assessed. Where appropriate and possible, publicly accessible locations nearby have been selected to represent these private views.
499– 500	Proposal design and alternatives	Access impacts	The submitter is concerned with loss of access, specifically: <ul style="list-style-type: none"> ▶ How properties are to be accessed where they become landlocked as a result of the proposal. (Item 142a)	ARTC has undertaken a considerable amount of consultation with impacted landowners and, where practical, the reference design includes upgraded or new access or alternate routes. In some cases, existing unapproved crossings have been consolidated with other crossings. In some cases, safe and practical access has not been able to be provided to the optimal position of the impacted landowner; however, alternatives have been provided. ARTC reference design includes provision of legal access in all cases.

ID	Key issue	Submission item	Summary of issue	Response
501	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with loss of access, specifically:</p> <ul style="list-style-type: none"> ▶ How parts of properties are to be accessed and used where they are severed and sterilized by the proposed alignment. <p>(Item 142b)</p>	<p>ARTC has undertaken consultation with impacted landowners to incorporate inter-farm operation into the reference design, and consultation with directly impacted landowners will continue during detailed design phase. Severed and sterilised land considerations due to the proposed development will be included in the acquisition process.</p>
502	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with loss of access, specifically:</p> <ul style="list-style-type: none"> ▶ How access between paddocks and farms is to be maintained where existing access points will be impeded by the alignment (and its embankments). <p>(Item 142c)</p>	<p>ARTC has undertaken a considerable amount of consultation with impacted landowners to incorporate inter-farm operation into the reference design. This has included raising bridges to allow under-bridge movements of livestock and light vehicles, new road access and private level crossings. Further impacts not included in the reference design will either be incorporated into the detailed design following further consultation with impacted landowners or the business impact losses will be included in compensation packages, in line with legislation.</p>
503	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with loss of access, specifically:</p> <ul style="list-style-type: none"> ▶ The extent to which these access points will be serviceable during flood events. <p>(Item 142d)</p>	<p>Preliminary infrastructure design has been based upon the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The Project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
504	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with loss of access, specifically:</p> <ul style="list-style-type: none"> ▶ How access to travelling stock reserves will be impacted by the proposal and the consequences of this on farming operations. <p>(Item 142e)</p>	<p>The reference design has very minimal impact to the access to all designated Travelling Stock Reserves. The existing and currently unused rail corridor will no longer be able to be used for stock movements.</p> <p>The proposal has held multiple meetings with Crown Lands and Local Land Services regarding the formal TSRs. Crown Lands and Local Land Services did not express opposition to our proposed approach regarding impacts to TSRs.</p>

ID	Key issue	Submission item	Summary of issue	Response
505	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with the existing patterns of ownership and difficulty of accessing land in the black soil country after rain events.</p> <p>The submitter requests that better access arrangements are put in place to ensure that the affected owners (including those mentioned in this submission) are not worse off as a result of the proposal.</p> <p>(Item 143)</p>	The proposal has consulted with directly impacted landowners, and the bridges that transect their property will have clearance to allow their cattle and vehicles to pass under the rail alignment safely. This will be incorporated during the detailed design phase. Discussions with directly impacted landowners will continue during the detailed design phase.
506	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with the level of engagement and discussions with landowners regarding how the proposal will impede access to land and changes to the proposal that might be incorporated to minimise or mitigate these impacts.</p> <p>(Item 144)</p>	ARTC does not agree with the suggestions made in this statement. ARTC has engaged in genuine discussions with the landowner regarding changes and land access, and has incorporated feedback from these discussions in the reference design. It is agreed that further consultation is and will take place right through detailed design and construction phases to ensure detail such as fencing and gates are implemented to best suit the needs of the landowners and the proposal.
507–508	Proposal design and alternatives	Agricultural land use impacts	<p>The submitter is not satisfied the EIS is consistent with Item 16 of the SEARs, which requires ARTC to assess agricultural land use impacts, including:</p> <ul style="list-style-type: none"> ▶ Current and potential Important Agricultural Land within the proposal and surrounding locality, including land capability and agricultural productivity. <p>(Item 145a)</p>	No response required
509	Proposal design and alternatives	Agricultural land use impacts	<p>The submitter is not satisfied the EIS is consistent with Item 16 of the SEARs, which requires ARTC to assess agricultural land use impacts, including:</p> <ul style="list-style-type: none"> ▶ Division or fragmentation of property and changes to property management, which could lead to the loss of viability. <p>(Item 145b)</p>	No response required

ID	Key issue	Submission item	Summary of issue	Response
510	Proposal design and alternatives	Access impacts	The submitter is not satisfied the EIS is consistent with Item 16 of the SEARs, which requires ARTC to assess agricultural land use impacts, including: <ul style="list-style-type: none"> ▶ Property access and the efficient and safe crossing of the rail corridor by machinery and livestock. (Item 145c)	No response required
511	Proposal design and alternatives	Access impacts	The submitter is not satisfied the EIS is consistent with Item 16 of the SEARs, which requires ARTC to assess agricultural land use impacts, including: <ul style="list-style-type: none"> ▶ Connectivity of property infrastructure severed by the rail corridor. (Item 145d)	No response required
512	Proposal design and alternatives	Agricultural land use impacts	The submitter is not satisfied the EIS is consistent with Item 16 of the SEARs, which requires ARTC to assess agricultural land use impacts, including: <ul style="list-style-type: none"> ▶ Livestock exclusion/management to minimise harm and losses. (Item 145e)	No response required
513	Proposal design and alternatives	Access impacts	The submitter is concerned ARTC has failed to carry out a rigorous assessment of the access and impacts to productive use of land owned by Andrew Mackay, as shown (cross-hatched in red) on the map included in Attachment A.	No response required
514	Proposal design and alternatives	Agricultural land use impacts	The submitter is concerned with the fragmentation of Mr Mackay's land and reduced productivity as a result of the proposal.	ARTC does not agree that this landowner's land is severed by this proposal, as the proposed alignment primarily uses the existing Boggabilla–Camurra rail corridor. ARTC's proposal includes widening this existing corridor, which does require acquisition of relatively small slivers of land from this landowner. ARTC was not aware that this sterilises or significantly reduces the productive parts of this land; however, upcoming valuations will ascertain the extent of sterilisation and/or reduction in product.

ID	Key issue	Submission item	Summary of issue	Response
515	Proposal design and alternatives	Access impacts	<p>The submitter is concerned with the exacerbation of these impacts during flood events, as a result of increased afflux in the area and the fencing/rail line preventing farmers from accessing higher country as a safe area for livestock, produce storage, vehicles, machinery and people.</p> <p>(Item 148)</p>	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, Project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC have consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
516	Proposal design and alternatives	Agricultural land use impacts	<p>The submitter notes the EIS acknowledges these impacts, stating:</p> <p><i>'The proposed greenfield permanent disturbance footprint deviation may also sever or isolate parcels of agricultural land, therefore prohibiting or limiting internal movements and leading to a further reduction and loss of access to agricultural land.</i></p> <p><i>The fragmentation or alienation of properties may cause a disruption in farm operations due to impacts to essential farming infrastructure, utilities, or access routes...</i></p> <p><i>This potential fragmentation and alienation may impact on the economic viability of farming operations directly affected by the permanent disturbance footprint.'</i></p> <p>(Item 149)</p>	Noted.
517	Proposal design and alternatives	Access impacts	<p>The submitter notes the EIS states that the proposal will not inhibit existing activities on either side of the alignment because of the inclusion of bridge structures that allow for connectivity between parcels of land, including for cattle access. Note that it does not refer to specific bridges or how this access is to be provided where no bridge is currently proposed.</p> <p>(Item 150)</p>	Noted.

ID	Key issue	Submission item	Summary of issue	Response
518	Proposal design and alternatives	Access impacts	<p>The submitter notes the EIS states that it is clear that movements of large machinery and equipment across the rail corridor can be achieved but does not provide any explanation or justification for this conclusion.</p> <p>(Item 151)</p>	Noted.
519–522	Proposal design and alternatives	Agricultural land use impacts	<p>Based on impacts to access and use of agricultural land, the submitter requests the Minister must refuse the NS2B SSI until such time as the ARTC has:</p> <ul style="list-style-type: none"> ▶ Undertaken detailed analysis regarding the properties most likely to experience access issues from the construction of the rail line ▶ Consulted with relevant landowners regarding appropriate measures to mitigate access issues, where possible, including the location of easements for access, the placement of level crossings, and the location, height and width of under bridge access points. ▶ Identified those parcels that are likely to be severed, fragmented or otherwise severely impacted by the proposal and commit to appropriately compensating these landowners for not only the acquisition of that land, but the loss of value of the businesses that rely on that land. <p>(Item 152a-c)</p>	<p>ARTC is committed to following statutory land acquisition processes and associated protocols.</p> <p>ARTC will continue to consult with directly impacted landowners regarding access during the detailed design phase.</p>

ID	Key issue	Submission item	Summary of issue	Response
523	Proposal design and alternatives	Access impacts, fencing	Should the Minister be minded to grant consent to the NS2B SSI, the submitter requests the Minister include as part of that proposal approval a condition that would enable a mediator (nominated by the landowner, not ARTC) to be appointed to mediate any disputes between ARTC (or its contractors) and landowners relating to issues around access, the movement of stock and fencing. (Item 153)	Extensive landowner consultation has been undertaken throughout the reference design and EIS process. The proposal will continue to consult with landowners throughout the proposal. A Communications Strategy will be developed for construction, which will outline a mediation process.
524	Proposal design and alternatives	Access impacts	The submitter requests the costs of the mediator are borne by ARTC and the mediator should be working on the basis that the affected landowners are to be no worse off as a result of the proposal. (Item 154)	Extensive landowner consultation has been undertaken throughout the reference design and EIS process. The proposal will continue to consult with landowners throughout the proposal. A Communications Strategy will be developed for construction, which will outline a mediation process.
525	Proposal design and alternatives	Land acquisition, access impacts	The submitter is concerned such matters may not be capable of being adequately compensated under the relevant compulsory acquisition legislation. Unless suitable arrangements are made through the proposal conditions, landowners may be left without all-weather access to their properties. (Item 155)	Extensive landowner consultation has been undertaken throughout the reference design and EIS process. The proposal will continue to consult with landowners throughout the proposal. A Communications Strategy will be developed for construction, which will outline a mediation process.
526	Rehabilitation	Contamination and land rehabilitation	The submitter notes the disused Boggabilla rail line that used to run between Moree and Boggabilla is proposed to be remediated as part of any approval for the proposal. (Item 156)	The NS2B project description (Chapter 6: The Proposal and Chapter 7: Construction of the Proposal) only forms the track approximately 900 m north of North Star to the Queensland border (including up to the northern side of the Whalen Creek embankment). All other areas of the track are out of scope for the proposal. ARTC is not proposing to undertake any works outside of the Project description.
527	Rehabilitation	Contamination and land rehabilitation	The submitter notes the rail line was built in 1932 and was used to run goods (and the mail) three times a week. The line ceased to be used in 1987. (Item 157)	Chapter 15: Land Resources deals with contamination and ARTC's mitigation approach. ARTC is proposing to undertake works as per the project description in Chapter 6: The Proposal and Chapter 7: Construction of the Proposal.

ID	Key issue	Submission item	Summary of issue	Response
528	Rehabilitation	Contamination and land rehabilitation	The submitter is concerned the existing rail line has caused damage to adjoining farmland and that it may be contaminated by creosote (used to preserve the sleepers), asbestos (from brake lining) and other fuel and oils used to run the diesel locomotives that used to ply the rail line. (Item 158)	A preliminary contamination site investigation was carried out in conjunction with geotechnical investigations. Investigation locations were indicative of potential contamination hotspots due to their proximity to the old rail alignment. All contaminants analysed were below the adopted soil assessment criteria. In addition to this, a contaminated land investigation will be undertaken in accordance with the requirements of the National Environment Protection Measure (during the detailed design phase).
529	Rehabilitation	Contamination and land rehabilitation	The submitter is concerned there is no evidence at this stage for ARTC to remove the existing rail line beyond those parts of the rail line that form part of the proposal. This is problematic because poorly placed culverts on the existing railway line have cause a considerable amount of shadowing and gullyng of the landscape, as the water has found its way from culverts from the line to Whalan Creek. Also, parts of the existing line have been significantly blown out in places, scouring and severely eroding the land. (Item 159)	Based on flood modelling, ARTC's proposal includes removal of the existing rail embankment to existing ground levels from the proposed rail corridor to the northern side of the Whalen Creek embankment. Other than this, the remainder of the Camurra–Boggabilla line north of the proposed rail corridor is out of scope for the proposal. Scouring and gullyng within the proposed rail corridor will be remediated during construction as far as practical and consistent with the project description in Chapter 6: The Proposal and Chapter 7: Construction of the Proposal.
530	Rehabilitation	Contamination and land rehabilitation	The submitter requests ARTC is reasonably required to remove all of the existing rail line and rehabilitate the land that has been adversely impacted by that rail line. (Item 160)	ARTC proposes to undertake only the works as described in Chapter 6: The Proposal and Chapter 7: Construction of the Proposal.
531	Rehabilitation	Contamination and land rehabilitation	The submitter notes this the existence of the existing rail line will exacerbate the impacts of the new rail line. (Item 161)	Based on flood modelling, ARTC's proposal includes removal of the existing rail embankment to existing ground levels from the proposed rail corridor to the northern side of the Whalen Creek embankment. Other than this, the remainder of the Camurra–Boggabilla line north of the proposed rail corridor is out of scope for the proposal. Scouring and gullyng within the proposed rail corridor will be remediated during construction as far as practical and consistent with the project description in Chapter 6: The Proposal and Chapter 7: Construction of the Proposal.

ID	Key issue	Submission item	Summary of issue	Response
532	Rehabilitation	Contamination and land rehabilitation	The submitter considers requiring the rehabilitation of this land will result in direct benefits to the landowners and communities that are otherwise burdened by the proposal, providing a stronger economic justification for the proposal as a whole. (Item 162)	Based on flood modelling, ARTC's proposal includes removal of the existing rail embankment to existing ground levels from the proposed rail corridor to the northern side of the Whalen Creek embankment. Other than this, the remainder of the Camurra–Boggabilla line north of the proposed rail corridor is out of scope for the proposal. Scouring and gulying within the proposed rail corridor will be remediated during construction as far as practical and consistent with the project description in Chapter 6: The Proposal and Chapter 7: Construction of the Proposal.
533	Rehabilitation	Contamination and land rehabilitation	The submitter considers the rehabilitation of the existing disused rail line forms part of the proposal and conditions that require the removal and rehabilitation of the land subject to the existing disused rail line (that will not form part of Inland Rail Program) can and should be addressed through the imposition of conditions on any approval. (Item 163)	Based on flood modelling, ARTC's proposal includes removal of the existing rail embankment to existing ground levels from the proposed rail corridor to the northern side of the Whalen Creek embankment. Other than this, the remainder of the Camurra–Boggabilla line north of the proposed rail corridor is out of scope for the proposal. Scouring and gulying within the proposed rail corridor will be remediated during construction as far as practical and consistent with the project description in Chapter 6: The Proposal and Chapter 7: Construction of the Proposal.
534	project need and justification	Land acquisition	The submitter is concerned with the proposal's understanding of the NSW compulsory acquisition legislation, including the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> . (Item 164)	ARTC is committed to undertaking all necessary property acquisition in consultation with landowners and in accordance with the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW).

ID	Key issue	Submission item	Summary of issue	Response
535-541	project need and justification	Land acquisition	<p>The submitter notes the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> states compensation is only payable when land is acquired and even then, that compensation must be directly referable to one or more of the heads of compensation under s 55 of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i>, including:</p> <ul style="list-style-type: none"> ▶ The market value of the land ▶ Any special value of the land ▶ Any loss attributable to severance ▶ Any loss attributable to disturbance ▶ The disadvantage resulting from relocation; and ▶ Any increase or decrease in the value of any other land which adjoins or is severed from the acquired land by reason of the carrying out of the public purpose for which the land was acquired. <p>(Item 165a-f)</p>	ARTC is committed to undertaking all necessary property acquisition in consultation with landowners and in accordance with the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW).
542	project need and justification	Land acquisition	<p>The submitter notes under the current arrangements, not all of the landowners that will be impacted by the proposal will need to have land acquired as part of the proposal, as impacts will extend beyond the construction footprint (i.e. flooding and hydrology, ecology, noise and vibration and visual impact).</p> <p>(Item 166)</p>	ARTC is committed to undertaking all necessary property acquisition in consultation with landowners and in accordance with the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW).
543	project need and justification	Land acquisition	<p>The submitter notes absent any acquisition, it is not possible for these landowners to make a claim for compensation and, consequently, there is no capacity for redress for the impacts of the proposal on their properties.</p> <p>(Item 167)</p>	ARTC is committed to undertaking all necessary property acquisition in consultation with landowners and in accordance with the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW).

ID	Key issue	Submission item	Summary of issue	Response
544	project need and justification	Land acquisition	Due to the extent of impacts, the submitter considers the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> cannot be used as a justification to address impacts of the proposal. (Item 168)	ARTC is committed to undertaking all necessary property acquisition in consultation with landowners and in accordance with the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW). Where land acquisition is not necessary, the project's environmental management measures and conditions of approval provide a robust suite of actions to manage and treat potential project impacts during both the construction and operational phases.
545	project need and justification	Land acquisition	The submitter notes in regards to compulsory acquisition that the task of a consent authority determining an application is to balance the public interest in approving or refusing the proposal, having regard to the competing economic and other benefits, and the potential negative impacts the proposal would have if approved. (Item 169)	ARTC notes that the matters mentioned here are relevant to the approval authority's assessment responsibilities, as governed by the relevant legislation.
546	project need and justification	Land acquisition	The submitter notes as held by the Chief Judge of the Land and Environment Court in <i>Gloucester Resources Limited v Minister for Planning</i> [2019] NSWLEC 7, if the impacts of a proposed development are unacceptable and they cannot be mitigated by conditions of approval, then it follows that the proposal must not be approved. (Item 170)	Noted.
547	project need and justification	Land acquisition	The submitter is concerned the impacts arising from the proposal including additional afflux, scouring, erosion and shadowing of the landscape, productivity of the vertosol soils, loss of access to land, and delays on the movement of grains and crops to market will not of themselves give rise to a claim for compensation. (Item 171)	ARTC is committed to following statutory land acquisition processes and associated protocols. The project impacts have been assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. Entitlement to compensation is subject to further consultation with affected parties.

ID	Key issue	Submission item	Summary of issue	Response
548	project need and justification	Land acquisition	If these impacts are not acceptable (which we say that are not) and cannot be mitigated through conditions (which we say they cannot), then the submitter requests the NS2B SSI must be refused. (Item 172)	ARTC does not agree with the submission's views about the impacts and their mitigation, and also notes that the decision on ARTC's request for planning approval is a matter for the relevant approval authority.
549	project need and justification	Land acquisition	If these impacts are said to be acceptable (and we say they are not), then the submitter requests the Minister, as consent authority, to impose conditions similar to those imposed for State significant mining, petroleum and extractive industry developments, seeking to mitigate the negative impacts arising from the proposal. (Item 173)	ARTC does not agree with the submission's views about the impacts and their mitigation, and also notes that the decision on ARTC's request for planning approval is a matter for the relevant approval authority.
550	project need and justification	Land acquisition	The submitter notes such conditions have been held to be enforceable by the Court and the benefit for our clients and other landowners is that they will not be forced into an argument with the ARTC (or Transport for NSW) about whether such impacts are compensable. (Item 174)	ARTC notes that the decision on ARTC's request for planning approval is a matter for the relevant approval authority.
551	project need and justification	Land acquisition	If ARTC's position is that such impacts are compensable (as has been stated by ARTC in its communications with the landowners), then the submitter requests that they should have no objection to any conditions being imposed on the project approval that make that plain. (Item 175)	ARTC does not agree that it has made the statements attributed to it here and also notes that the decision on ARTC's request for planning approval is a matter for the relevant approval authority.
552	project need and justification	Approval conditions	The submitter requests the Minister is compelled to refuse the NS2B SSI as currently formulated, based on the information above. (Item 176)	ARTC does not agree with this submission and also notes that the decision on ARTC's request for planning approval is a matter for the relevant approval authority.

ID	Key issue	Submission item	Summary of issue	Response
553	project need and justification	Approval conditions	The submitter requests the Minister to refuse the NS2B SSI as currently formulated, due to the adverse impacts of the proposal, including in relation to hydrology, acoustics, ecology, visual impact, and on access to and use of land, far outweigh the marginal (at best) economic and other public benefits of the development. (Item 177)	No response required.
554	project need and justification	Approval conditions	The submitter has expressed their view that the proposal should be refused based on the precautionary principle. (Item 178)	<p>ARTC is committed to applying the principles of ecologically sustainable development in assessing the proposal, including the precautionary principle, as per appropriate NSW and Federal legislative and policy requirements as they relate to the assessment of the proposal. ARTC notes the commentary in the submission but does not agree with the assertions it has made in its analysis of the precautionary principle in this submission.</p> <p>The EIS contains extensive assessment of all key environmental risks and impacts associated with the proposal (including engagement with many members of the local community and other stakeholders) and incorporates consideration of the principles of ecologically sustainable development (including the precautionary principle).</p> <p>As part of this assessment, the EIS contains extensive measures that are designed to avoid, mitigate, offset or manage the environmental impact or harm that may otherwise be caused by the proposal. ARTC is not proposing to postpone any measures, in light of any uncertainty about the assessment or the risks or impacts being assessed, and instead has proposed clear mitigation measures where these impacts cannot be avoided. Accordingly, ARTC believes that the EIS will allow the Minister to apply the precautionary principle in determining the proposal.</p> <p>Although ARTC believes that the assessment in the EIS indicates that there is no threat of serious or irreversible environmental damage from the proposal. ARTC notes the fundamentals of the precautionary principle, which requires an appropriate risk-weighted approach to assess the merits of projects and appropriately avoid, manage and mitigate any impacts outlined in the EIS. The EIS and the Planning Approval process is a mechanism to allow the Minister to assess whether this has been appropriately applied.</p>

ID	Key issue	Submission item	Summary of issue	Response
555	project need and justification	Approval conditions	The submitter notes that if the Minister proceeds with approving the NS2B SSI in its current form, and the impacts identified in this submission come to fruition (which we say is likely), then the NSW Government opens itself to a potential claim for negligence on the basis that the harm suffered by the landowners was reasonably foreseeable at the time the approval was issued. (Item 179)	While ARTC does not agree with this submission, the comments in the submission are matters for the relevant approval authority.
556–557	project need and justification	Approval conditions	The submitter notes that the Minister may request further detailed consideration is paid to the following: <ul style="list-style-type: none"> ▶ A thorough and transparent assessment of the viability of the proposal following an Option A alignment or similar, including on the basis of a properly formulated cost benefit analysis. (Item 180a)	Noted. The individual concerns about the CBA (ID387-412) and the route selection (e.g. ID583) are addressed in the submitter's earlier comments.
558	project need and justification	Approval conditions	The submitter notes that the Minister may request further detailed consideration is paid to the following: <ul style="list-style-type: none"> ▶ A significant increase in the number and length of bridges across the floodplain to ensure that, wherever possible, the proposal does not disrupt the natural flows of water across the floodplain, thereby reducing potential for unacceptable afflux, erosion, scouring and flooding risks at Goondiwindi. (Item 180b)	Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS. The project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. The outcome of this process will be incorporated into detailed design activities.

ID	Key issue	Submission item	Summary of issue	Response
559	Hydrology	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> ▶ A reduction in the reliance on culverts on the Macintyre floodplain and particularly in areas of highly erodible vertosol soils. <p>(Item 180c)</p>	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. The outcome of this process will be incorporated into detailed design activities.</p>
560	Noise and vibration—operation	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> ▶ Amending the noise and vibration assessment to include an assessment of sleep disturbance impacts, ground-truthing aerial imagery to pick up additional sensitive receptors and investigating the viability of acoustic attenuation treatments. <p>(Item 180d)</p>	<p>Amendment of the technical report is not considered necessary.</p> <p>Section 14.4 and Section 14.5 of the ONVIA provide detail on further works during both detailed design and validation of received noise levels during operations.</p>
561	Biodiversity	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> ▶ Expanding biodiversity impact assessment, including to improve site surveys to better understand existing ecology and to consider the impact of surface hydrology on relevant species. <p>(Item 180e)</p>	<p>In accordance with the BAM, the survey incorporates a minimum of 500 m buffer around the alignment and 1,500 m buffer from each borrow pit. Surface hydrology has been altered historically by the existing rail, road and farming/cropping infrastructure. Further consultation with hydrogeologists has resulted in additional information being available for consideration and inclusion into the BDAR.</p>

ID	Key issue	Submission item	Summary of issue	Response
562	project need and justification	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> ▶ Review the minimum standards for access to ensure that no landowners are worse off as a result of the proposal and are able to effectively and safely access higher ground during flood events. <p>(Item 180f)</p>	While ARTC does not agree with this submission, the comments in the submission are matters for the relevant approval authority. The proposal maintains or improves existing road networks and minimises any impacts on a landowner's ability to safely access higher ground during flood events.
563	Proposal design and alternatives	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> ▶ Review the impact of the proposed alignment in the creation of land locked sites and consult with landowners regarding the best options of maintaining access given the use of the land. <p>(Item 180g)</p>	<p>ARTC confirms the proposal provides legal access to all properties where land is to be permanently acquired for the project. ARTC defines a property as comprising one or more lots on a deposited plan. Access may be to a legal road or an interdependent access to be created (e.g. right of carriageway easement) over the landowners' own lots to provide a legal access.</p> <p>ARTC also commits to continuing consultation with impacted landowners to provide them with the most practicable access to suit the land use that is able to be provided, which ensures landowner, road user and rail operator safety so far as is reasonably practicable.</p>
564	Landscape and visual	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> ▶ Undertake a more thorough visual impact assessment, selecting a broader range of viewpoints and incorporating viewpoints on both private and public land. <p>(Item 180h)</p>	Please refer response to (Item 141) and to EIS Appendix P: Landscape and Visual Impact Assessment Technical Report—Section 5.9 for further details on the Visual Assessment Methodology.

ID	Key issue	Submission item	Summary of issue	Response
565	Rehabilitation	Approval conditions	<p>The submitter notes that the Minister may request further detailed consideration is paid to the following:</p> <ul style="list-style-type: none"> Investigate the minimum requirements to rehabilitate the land following the decommissioning of the existing rail line, including to address contamination issues and scouring/gullyng of the landscape from breakouts and erosion around bridges and culverts. <p>(Item 180i)</p>	<p>A preliminary contamination site investigation was carried out in conjunction with geotechnical investigations. Investigation locations were indicative of potential contamination hotspots due to their proximity to the old rail alignment. All contaminants analysed were below the adopted soil assessment criteria. In addition to this, a contaminated land investigation will be undertaken in accordance with the requirements of the National Environment Protection Measure (during the detailed design phase).</p> <p>Scouring and gullyng within the proposed rail corridor will be remediated during construction. Any areas outside of the proposed rail corridor are out of scope.</p> <p>The flood management objectives are intended to ensure that the velocities caused by the proposal will not create instability in the landscape.</p>
566	Consultation	Approval conditions	<p>The submitter acknowledges thanks to the Minister for consideration of this submission to the proposal.</p> <p>(Item 181)</p>	Noted.
566	Consultation	Approval conditions	<p>The submitter is concerned with the adequacy of the EIS, given the nature of the development being within a floodplain.</p> <p>(Item 182)</p>	Noted.
566	Consultation	Approval conditions	<p>The submitter requests the Minister meet with the landowners and visit Boggabilla to travel along the proposed alignment to gain a clearer understanding of the key concerns.</p> <p>(Item 183)</p>	Noted.

C.2 Submission 11 Toomelah Aboriginal Land Council

ID	Key Issue	Submission Item	Summary of issue	Response
230	Heritage	Consultation	The submitter requests ongoing consultation with TALC to ensure misinformation surrounding the work is limited.	Noted. It is the intention of the proposal that TALC (Toomelah Aboriginal Land Council) continue to play a significant role in all future works relating to cultural heritage as per NSW and Commonwealth guidelines on Aboriginal consultation with respect to cultural heritage. The proposal will continue to communicate with the TALC and that ongoing communication with the TALC will be included in the Communications Strategy for the proposal.
231	Heritage	Consultation	The submitter requests ongoing consultation regarding training and employment opportunities for the local residents in Toomelah and Boggabilla.	<p>ARTC also recognises the continued importance of ongoing dialogue with the TALC regarding employment and training opportunities.</p> <p>Our commitments around supporting Indigenous Participation across the Inland Rail alignment are reflected in the Inland Rail Indigenous Participation Plan. These commitments are supported by a dedicated Indigenous Participation Advisor who is working with both the TALC and other stakeholders, e.g. Dept. Training and Registered Training Organisations, to identify employment and training opportunities for the Toomelah and Boggabilla community. This will continue in the lead up to construction.</p> <p>Additionally, ARTC will require the primary contractor to implement programs and initiatives that maximise Indigenous employment outcomes on the proposal. The Indigenous Participation Advisor will support the contractor to work with the TALC in achieving these outcomes.</p>
232	Heritage	Consultation	The submitter requests ongoing consultation regarding economic opportunities available to the land council to benefit the Mission and wider Aboriginal community.	As with employment, ARTC commitments around supporting Indigenous Business Participation across the Inland Rail alignment are reflected in the Inland Rail Indigenous Participation Plan. These commitments are also supported by a dedicated Indigenous Participation Advisor who is working with both the TALC and other stakeholders, e.g. Many Rivers, to identify business opportunities for the Toomelah and Boggabilla community. This will continue in the lead up to construction. As with employment, ARTC will require the primary contractor to implement programs and initiatives that maximise Indigenous business outcomes on the proposal. The Indigenous Participation Advisor will support the contractor to work with the TALC in achieving these outcomes.
233	Secondary approvals	Consultation	The submitter notes that the Land Council must continue to be involved in future clearance works.	Noted. The proposal will continue to consult with the TALC throughout the proposal. All Aboriginal heritage sites will be managed under an Aboriginal Heritage Management Plan framework to be developed in consultation with registered Aboriginal Parties. All directly impacted tangible sites will be salvaged in partnership with registered Aboriginal Parties.

ID	Key Issue	Submission Item	Summary of issue	Response
234	Heritage	Consultation	The submitter requests quarterly funding for community wellbeing initiatives to alleviate negative perceptions and assist in the community wellbeing.	<p>The Inland Rail Sponsorship and Donation Program has been established to distribute funds to a range of impacted communities along the alignment in a fair and considered manner. The governance process around distribution of funds is robust and has been approved by Inland Rail federal government shareholders. As such, any distribution of sponsorship funds will continue to go through this approved process.</p> <p>Additionally, ARTC Inland Rail remain open to continuing dialogue and working with the TALC on programs that either address the impacts of the proposal or enhance the benefits of the proposal. This is currently reflected through support of the various local initiatives already being implemented in the community, including: the artwork program, the Boggabilla Men's Shed, the provision of technology for increased online communication (in response to COVID19) and the previously successful sponsorship and donation application.</p>
235	Noise and vibration—operation	Consultation	The submitter requests further community engagement and operational noise and vibration testing within the Mission. The submitter suggests testing should occur during day and night-time hours as the trains will be running over 24 hours.	<p>Additional noise assessments, including an Operational Noise and Vibration Review and Operational Noise Compliance Report will be undertaken post-approval and during operations, respectively, to further investigate potential noise impacts on sensitive receivers. These assessments will inform the operational noise and vibration mitigation measures for the proposal. The proposal will also continue to consult with the TALC regarding potential noise impacts, as well as any operational mitigation measures proposed.</p>
236	Heritage	Consultation	The submitter requests ongoing consultation regarding safety and potential access to the infrastructure, specifically regarding the bridge.	<p>Safety outcomes is a key consideration in the SIA and, as such, ARTC has committed to the following items in the NS2B Social Impact Management Plan relating to safety:</p> <ul style="list-style-type: none"> ▶ Proposed grade separation over Tucka Tucka Road and proposed fencing designed to reduce the potential for people to access the rail corridor are maintained during detailed design ▶ Develop tailored and targeted rail and road safety programs for delivery to local schools, local young people and nearby communities ▶ Work closely with the Toomelah and Boggabilla communities to build awareness about the construction process and rail operations, and discuss how the rail safety program can be tailored for Toomelah and Boggabilla ▶ Consult with the TrackSafe Association to identify best practice management strategies ▶ Monitor the outcomes of the Victoria METRO's 'Dumb Ways to Die' campaign and adapt successful strategies for culturally appropriate use in the Moree Plains, Goondiwindi and Gwydir local government areas ▶ Delivery of the program-wide mental health service partnership.

ID	Key Issue	Submission Item	Summary of issue	Response
236	Heritage [continued]	Consultation [continued]	The submitter requests ongoing consultation regarding safety and potential access to the infrastructure, specifically regarding the bridge. [continued]	Safety of the communities Inland Rail passes through and, in particular, Toomelah and Boggabilla, is of great concern to ARTC and we are committed to continuing dialogue with all relevant parties. The feasibility phase design has been informed by, and includes, feedback from the local community and relevant government agencies. With regard to access to the bridge, we trust that the proposed bridge abutments being located well away from the public roads and behind multiple fences will still be beneficial; in any case, ARTC will be continuing dialogue with local communities and relevant government agencies into the detailed design phase and during construction, to provide suitable solutions.
237	Heritage	Consultation	The submitter requests that consultation occurs in a committee format regarding access during construction, as the proposed route crosses the only major sealed road to the Mission.	ARTC has appointed a dedicated Indigenous Advisor who, together with the project team, have engaged with, and will continue to engage with, the Toomelah Aboriginal Land Council during each stage of the proposal. The Chief Executive Officer of the TALC is currently a member of the NS2B Community Consultative Committee and will remain part of the committee until approval of the proposal. The proposal will establish a Community Reference Group (or similar) once the contract has been awarded, ensuring there is a dedicated seat for a member of the TALC. Additionally, the proposal will advise the TALC in advance when disruption to access may occur as a result of construction. This consultation will include mitigation measures to manage any temporary impacts to access. Ongoing communications with the TALC will also be outlined in the Communications Strategy and will be a requirement in any contractual documentation for contractors engaged as part of the proposal during the construction phase.

APPENDIX

D

Public Authority Submissions

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT

Appendix D: Public Authority Submissions

D.1 Submission 22 BCS (Biodiversity Conservation Strategy) Directorate

ID	Key Issue	Submission Item	Summary of issue	Response
1	Biodiversity	BAM compliance	<p>The submitter requests that the information used to determine species credit species polygons must be clearly described and presents the following recommendations based on three example species they reviewed from the EIS to accomplish this:</p> <ul style="list-style-type: none"> ▶ Include a description of the habitat features and PCTs present in the proposal footprint used to create species polygons for each species credit species ▶ Provide further justification for the koala species polygon including information on the presence or absence of koala records and feed trees as listed in the Koala Habitat Protection SEPP in the vicinity of the proposal footprint. ▶ Review the inconsistent areas of impact attributed to the koala and confirm the correct area of impact. Provide additional justification if necessary. ▶ Confirm the area that has been assigned to the squirrel glider species polygon is correct, as the area stated in the BDAR does not conform to the spatial data. Ensure the subsequent credit obligation is also correct. If necessary, provide further explanation regarding how the species polygon was determined. ▶ Review why the area of impact for the masked owl in the BDAR does not align with the area of impact in the spatial data ▶ Review whether all vegetation zones included in the species polygon for the masked owl contain the necessary habitat elements for breeding, and revise the polygon, area of impact and credit obligation accordingly if necessary. 	<p>A new appendix (Appendix G) has been created in the final BDAR document that lists all flora and fauna species credit species and all ecosystem credit species to address these queries. Information provided includes habitat preferences; species records/extent in the study area; surveys conducted and if the species was recorded; suitability of habitat in the study area; and the basis for any exclusions. Species and habitat exclusions have been updated in the tables in the document.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
5	Biodiversity	BAM compliance	<p>The submitter requests that greater detail is provided for the assessment of SAIL and presents the following recommendations to accomplish this:</p> <ul style="list-style-type: none"> ▶ Update section 6.1.4.1 of the BDAR to ensure that all components of section 10.2.2 of the BAM are satisfactorily addressed for the Brigalow TEC ▶ Further detail is required on the avoidance measures that have been implemented and the measures proposed to contribute to the recovery of the pale imperial hairstreak (section 6.1.4.2 of the BDAR) and the braid fern (section 6.1.4.3 of the BDAR) ▶ A targeted survey should be undertaken for the pale imperial hairstreak to more accurately determine the impact of the proposal on this SAIL species ▶ Avoidance of PCT 35 and, therefore, potential pale imperial hairstreak habitat should be a key consideration in determining which borrow pits proceed ▶ Clarify why 11.24 hectares rather than 17.04 hectares of potential habitat has been identified for the braid fern when considering SAIL for this species ▶ A targeted survey should be undertaken for the braid fern to more accurately determine the impact of the proposal on this SAIL species. 	<p>As confirmed with BCD on 8 December 2020, targeted surveys for the Pale imperial hairstreak (<i>Jalmenus eubulus</i>) were planned for the survey window of January to March 2021, once sufficient rain occurred in the region. An initial survey was completed in January/February 2021. On 10 February 2021, BCS confirmed two additional follow up surveys would be required for the species based on yet to be published guidelines. Completion of the two additional surveys may result in a reduced species polygon and credit obligation in the event that the species is found in certain locations. Alternatively, the species can be removed entirely as a candidate species in the event that no butterflies are recorded. A second and third survey were completed in late February and early March (more than two weeks apart) and no Imperial hairstreak butterflies were recorded; therefore, no credit obligation would be required for the species. This finding is confirmed in the updated BDAR.</p> <p>Targeted survey for the braid fern was completed in January/February 2021, once sufficient rainfall had occurred onsite and it was removed as it was not recorded.</p> <p>A reduction in the potential impact on areas containing PCT 35 was achieved through:</p> <ul style="list-style-type: none"> ▶ The relocation and refinement of laydown areas away from areas of PCT 35 ▶ The refinement of access tracks in areas containing PCT 35 ▶ Removal and buffering of areas of PCT 35 from potential borrow pit sites to further reduce potential impact on this vegetation community. <p>The brigalow references in the report were reviewed (this community occurs on part of the alignment and borrow pits) including segmentation and rationalisation of the project boundaries, which ARTC is completing.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
6	Biodiversity	BAM compliance	<p>The submitter requests confirmation that all impacts from the proposal have been included in the footprint; specifically, confirmation on the following details:</p> <ul style="list-style-type: none"> ▶ Confirm whether all access tracks for borrow pits and the rail alignment, and all construction compounds, have been included in the footprint for the proposal and that their impact has been captured in the total area of impact and a subsequent credit obligation has been determined ▶ Confirm that the spatial data reflects the correct rail alignment width and that the rail alignment footprint incorporates the relevant buffers around culverts. 	<p>The BDAR was updated to show all access tracks to all areas, including borrow pits. This includes buffers that are required for each area (such as around culverts) and final determination of the width of the corridor. These are shown on updated figures included in the final BDAR.</p>
7	Biodiversity	BAM compliance	<p>The submitter believes that there has been inadequate justification for the presence of non-native vegetation and requests that BDAR describe how non-native vegetation has been determined in the proposal footprint</p>	<p>The BDAR was updated to include references to aerial imagery showing cropping activities in areas of non-native vegetation. Non-native vegetation was reassessed against the native vegetation regulatory map method statement to assess these areas and determine their fit as Category 1 land. This included a review of historical imagery prior to 1 January 1990 against those areas that have been historically, and are currently, cropped within and adjacent to the footprint, as described in Figure 1 of the method statement. An email was sent to DPIE to confirm this approach and advice was provided (18 December 2020) that will be incorporated in an updated document, including greater clarification of the methodology applied.</p>
8	Biodiversity	BAM compliance	<p>The submitter requests further information on the targeted threatened flora surveys be provided and presents the following recommendations to accomplish this:</p> <ul style="list-style-type: none"> ▶ Clarify what the 'TBSA Guidelines' are and confirm whether the <i>NSW Guide to Surveying Threatened Plants</i> (Office of Environment and Heritage (NSW), 2016) was used to inform threatened flora surveys ▶ Justify the use of meandering transects as the preferred threatened flora survey methodology and provide spatial data of the meandering transect locations to ensure adequate coverage of the proposal footprint occurred. 	<p>Team members completing transect surveys recorded their locations with geo-referenced tracking devices and this will be supplied to BCD. The <i>NSW Guide to Surveying Threatened Plants</i> (OEH, 2016) was also considered when undertaking the initial 2018 surveys. Additional clarification is provided in Section 3.4 of the BDAR. Meandering transects were only applied in 2018 in response to the drought conditions, to aid better species detection, with parallel transects used in 2019 and after, when drought conditions broke. The <i>Commonwealth Threatened Biodiversity Survey and Assessment Guidelines</i> was used to assist in survey planning. Further details of survey efforts are provided in Section 3.6 of the BDAR.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
9	Biodiversity	BAM compliance	The submitter requests that further information be provided regarding the proposed segmentation (staging) of the proposal. The submitter suggests that the impact occurring in each segment of the staged construction of the proposal is clearly articulated and should include the name and location of each segment; area of impact; each PCT impacted, its area and ecosystem credit obligation; and species credit species, their area of impact and credit obligation.	<p>Further segmentation of the report into greenfield, brownfield, laydown and borrow pits was completed and further efforts were made by the project to refine and clarify these areas prior to realignment of the reporting template.</p> <p>The updated BDAR now includes tables broken down by segment, the area of potential impact, including impact on native vegetation, each PCT that is impacted (including the area of native vegetation) and associated ecosystem and species credit species liabilities.</p>
10	Biodiversity	BAM compliance	The submitter believes that the demonstration of measures taken to avoid impacts to biodiversity is inadequate and suggests a more detailed discussion be presented in Section 5.3 of the BAM to describe the actions that have been undertaken to avoid impacts to biodiversity in both the planning and construction phases of the proposal. The submitter further suggests that Chapter 8 of the BAM and Chapter 1 of the BAM Operational Manual Stage 2 be used as guidance.	<p>The project reduced the areas of impact associated with both laydown areas and the construction footprint on biodiversity. Maps and tables showing the reduction in impacts on native vegetation are included in the updated report.</p> <p>The project removed all impact areas associated with SALLs and found ways to reduce those areas—this includes areas within borrow pits. The following changes to the design footprint were implemented to reduce potential impacts on SALLs:</p> <ul style="list-style-type: none"> ▶ The Borrow Pit 2 footprint was modified to exclude PCT35 with a 40m buffer from the edge of the mapped PCT35. This buffer will be ground-truthed by a biodiversity specialist at the time of establishment ▶ Borrow Pit 5 was reviewed and retained as it does not contain PCT35 ▶ Borrow Pit 7 has had the southern section removed, protecting PCT 35 and PCT 56. The northern section of BP7 is located on managed land which contains 5 scattered trees. ▶ Borrow Pit 9 has had the footprint modified to exclude PCT35 and is now limited to the southern quarter of the site, with a 40m buffer applied between the borrow pit footprint and the mapped PCT35 boundary. This buffer will be ground-truthed by a biodiversity specialist at the time of establishment. ▶ Borrow Pit 11 has been removed from the project as it was all PCT35 ▶ Borrow Pit 25 has had the footprint modified to exclude PCT35 in the east of the area, with a 40m buffer between the borrow pit footprint and PCT35. This footprint will be ground-truthed by a biodiversity specialist at the time of establishment. ▶ Borrow Pit 26 has been removed from the project as it was all PCT35.

ID	Key Issue	Submission Item	Summary of issue	Response
11	Biodiversity	BAM compliance	The submitter requests that the certification of the BDAR be clarified and that the information relating to the certification of the BDAR as being BAM compliant should be consolidated in one place in the BDAR.	The report is reformatted and contains one page dedicated to the certification of the BDAR. It is at the front of the document and includes all relevant information.
12	Biodiversity	BAM compliance	The submitter suggests that, if applicable, the BDAR should describe the circumstances in which variation rules will be applied to meet the biodiversity credit obligation, including evidence of the reasonable steps that have been taken to obtain like-for-like credits.	<p>The following statement has been included in the report: <i>'ARTC commits to the retirement of biodiversity credits in accordance with the Biodiversity Offsets Scheme. ARTC will apply the like-for-like or variation rules under the BC Act to meet the relevant biodiversity credit obligations. Variations rules would not apply to any Matters of National Environmental Significance (MNES) listed under the EPBC Act'</i>.</p> <p>This statement has been added to Section 12—'Biodiversity offsets' of the BDAR.</p>
13	Biodiversity	BAM compliance	The submitter requests that separate tables be included in the BDAR to clearly summarise the ecosystem and species credits for the entire proposal, rather than delineating the impacts into Interim Biogeographic Regionalisation for Australia subregions or individual borrow pits.	The relevant tables in the BDAR have been reorganised to meet the request of DPIE, as per the suggestion and comment provided. Two new tables have now been added to 'Section 12—'Biodiversity offsets', identifying ecosystem credits for PCTs and species, respectively.
14	Biodiversity	BAM compliance	<p>The submitter has suggested the following edits be made to the BDAR:</p> <ul style="list-style-type: none"> ▶ The area of impact in Table 3 for borrow pit 9 should be 54.8 hectares (ha) (not 554.8 ha), and the total impact area for the proposal should be 768.65 ha (not 1268.65 ha) ▶ Table 2.1 (page 13) states that there is no Category 1-exempt land in the subject land as defined by <i>the Local Land Services Act 2013</i> (NSW). The BDAR should clarify that a categorisation process was not conducted to determine if there is Category 1-exempt land present. ▶ The biodiversity offset requirements for the Inland Rail Narrabri to North Star project listed in Table 3.6 are incorrect and should be updated 	<p>The BDAR was subject to structural and methodological changes. An additional detailed review of the report was completed to correct all errors and omissions and provide greater clarification, where needed, prior to its re-submission. Each of the points raised by BCS has been addressed in the updated BDAR.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
14	Biodiversity [continued]	BAM compliance [continued]	<ul style="list-style-type: none"> ▶ Section 3.4.3.2 of the BDAR states that separate vegetation zones were required for vegetation that had vegetation integrity (VI) score of <15 for critically endangered ecological communities; <17 for PCTs that provide habitat for threatened species or a vulnerable ecological community; or <20 for a PCT that is not a TEC or associated with threatened species habitat. When reviewing the VI scores and vegetation zones in Table 6.1 the zoning does not strictly adhere to this delineation. Either the zones need to be amended or Section 3.4.3.2 of the BDAR should state that the VI score thresholds were considered when determining vegetation zones. ▶ Inconsistencies exist with the dates that the BAM plot surveys were undertaken. Section 3.4.1 of the BDAR states 18–24 June 2019, and Section 3.4.4 of the BDAR states 20–21 June 2019. ▶ Section 4.2.2 of the BDAR states that Table 4.5 lists 14 PCTs across 27 vegetation types. Table 4.5 lists 30 distinct vegetation zones. ▶ In Table 6.2, borrow pits 1 and 2 have species credits listed for Belson's panic, but there is no area of impact listed. 	
15	Biodiversity	BAM compliance	<p>The submitter requests that the removal of ecosystem credit species from the predicted list be consistent with the assessment requirements of the BAM and presents the following recommendations:</p> <ul style="list-style-type: none"> ▶ If species have been removed based on the absence of listed habitat constraints the assessor should: <ul style="list-style-type: none"> a) Update the BDAR to adequately demonstrate that the habitat constraints are not present onsite b) Tick the habitat constraint box in the calculator on the habitat suitability tab for that species. ▶ If species have been removed based on the absence of habitat constraints not listed in the TBDC, the assessor should provide adequate justification in the BDAR. The justification should include: <ul style="list-style-type: none"> a) The specific habitat constraint(s) or microhabitat missing on the subject land 	<p>The biodiversity report was updated to provide greater clarity about the methodology used, to exclude any ecosystem credit species. This was done in line with the information provided in the Threatened Biodiversity Data Collection (TBDC). The BAM-C will be updated as per the BCS comments.</p> <p>A new appendix (Appendix G) in the BDAR has been created listing all ecosystem and species credit species, to address these concerns. It is noted that ecosystem credit species do not include 'habitat constraints' in the TBDC. Habitat constraints and species removals are now all included in the relevant constraints tables in the document.</p> <p>Information provided includes habitat preferences, species records/extent in the study area, surveys conducted and, if the species was recorded, suitability of habitat in the study area and the basis for any exclusions. Reference to Appendix G in the BDAR is included in the relevant sections.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
15	Biodiversity [continued]	BAM compliance [continued]	<p>b) A description of the field technique used to assess the presence of the constraint or microhabitat (e.g. the survey effort and technique used to assess hollow-bearing trees) and any other data or information used to make the decision.</p> <p>► If species have been removed because the site is outside of listed geographic limitations, the assessor should:</p> <p>a) Update the BDAR to adequately demonstrate that the site is outside of the listed geographic limitations</p> <p>b) Tick the geographic limitations box in the calculator on the habitat suitability tab for that species.</p> <p>► If species have been removed because they are considered to be vagrant, the BDAR should adequately demonstrate why the species has been determined to be vagrant</p> <p>Where species did not appear on the predicted list but have been added to the Biodiversity Assessment Method Calculator (BAM-C), an explanation as to why the species have been added should be included in the BDAR.</p>	<p>Freckled duck and grey falcon species have both been added to the tables in the BDAR. Freckled duck has been removed and called 'vagrant' in the study area given the required habitat value (large permanent waterbodies) do not occur.</p> <p>Text was added to Section 6.1.2 of the BDAR regarding northern free-tailed bat inclusion in the BAM-C.</p>
16	Biodiversity	BAM compliance	<p>The submitter requests that the removal of species credit species from the candidate list should be consistent with the assessment requirements of the BAM and presents the following recommendations:</p> <p>► Any species that does not have habitat constraints listed in the TBDC should be retained in the BAM-C as a species for further assessment</p> <p>► If species have been removed based on the absence of listed habitat constraints the assessor should:</p> <p>a) Update the BDAR to adequately demonstrate that the habitat constraints are not present onsite</p> <p>b) Tick the habitat constraint box in the calculator on the habitat suitability tab for that species</p> <p>► If species have been removed based on the absence of habitat constraints not listed in the TBDC, the assessor should provide adequate justification in the BDAR. The justification should include:</p>	<p>Further detail is provided with regard to the removal of structure condition scores from predicted habitats. This includes statements in relation to habitat requirements, geographic restrictions, expert comments and survey effort. Any removal will be consistent with the provisions of the BAM.</p> <p>A new appendix (Appendix G) has been created in the BDAR listing all species credit species and some ecosystem credit species to address these concerns. Information provided includes habitat preferences; species records/extent in the study area; surveys conducted and if the species was recorded; suitability of habitat in the study area; and the basis for any exclusions.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
16	Biodiversity [continued]	BAM compliance [continued]	<p>The specific habitat constraint(s) or microhabitat missing on the subject land</p> <p>b) A description of the field technique used to assess the presence of the constraint or microhabitat (e.g. the survey effort and technique used to assess hollow-bearing trees) and any other data or information used to make the decision.</p> <p>► If species have been removed because the site is outside of listed geographic limitations the assessor should:</p> <p>a) Update the BDAR to adequately demonstrate that the site is outside of the listed geographic limitations</p> <p>b) Tick the geographic limitations box in the BAM-C on the habitat suitability tab for that species</p> <p>► If species have been removed because the habitat constraints listed in the TBDC, or known microhabitats that the species requires to persist are degraded to the point where the species will no longer be present, the assessor should:</p> <p>a) Update the BDAR to adequately demonstrate that the habitat constraints, or known microhabitats, are degraded to the point that the species would no longer be present on the subject site</p> <p>b) Tick the habitat degraded box in the BAM-C on the habitat suitability tab for that species.</p>	
17	Biodiversity	BAM compliance	<p>The submitter believes there are inconsistencies between the BOAMs plot data (excel spreadsheet), the field data sheets and data in the BAM-C. The submitter requests that this is reviewed, and the correct data set is entered in the BAM-C, and that it reflects the field data sheets and data provided in the BDAR.</p>	<p>The data sheets and field sheets were reviewed prior to re-entry into BAM-C. Any inconsistencies were addressed and rectified. Once completed, the BAM-C and BDAR will then be updated to reflect these corrections.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
611	Biodiversity	BAM compliance	The submitter requests that the vegetation plots that have been completed in the BOAMs (excel spreadsheet), and the field data sheets that have not been included in the BAM-C, be included or provide justification to the BDAR as to why they have not been included.	Generally, the BAM-C sets the number of plots required and, if additional plots are to be added, then the impact area needs to be adjusted with the BAM-C, to allow for this and then adjusted back, to reflect the true amount of impact. The plots used were chosen due to their proximity to the subject land. Those plots will be included in the BAM-C where they provide useful information for assessment purposes. If they are not included, reasons for their exclusion will be included in the BDAR.
18	Biodiversity	BAM compliance	The submitter believes there are inconsistencies in the approach to recording the presence of hollow bearing trees. The submitter requests that where no numbers of hollow bearing trees have been recorded in the field data sheet, clarification be provided on where the number in the BAM-C has come from.	This information was reviewed in light of additional habitat surveys and inconsistencies addressed within the report, following the precautionary principle. Early stage BAM training only advised assessors to record a yes/no answer to the hollow tree question. The field survey method has since been updated. BAM uses only the presence of hollow bearing trees to determine habitat value, not the number of hollow bearing trees present, as per Section 5.3.4.30 of the Biodiversity Assessment Method found in the BDAR. Any deviation in data collected during the initial field assessment and reported in the BAM-C, will be documented and discussed in Section 4.1 of the BDAR.
19	Biodiversity	BAM compliance	The submitter believes that the litter scores have been incorrectly calculated and requests that all litter function scores be reviewed to ensure they have been calculated correctly	As confirmed with BCD in the BAM-C, PCT 52 and PCT 247 do not allow for a litter score to be entered as they do not contain trees. All data in the BAM-C was reviewed and all errors rectified (including duplicates).
20	Biodiversity	BAM compliance	The submitter has identified that some plots have no function condition score data entered in the BAM-C apart from the High Threat Exotic (HTE) values. The submitter believes that as these plots have been identified in the spreadsheet provided to the proponent and the accredited assessors on 13 September 2020 BCS, the function condition score data should be entered in the BAM-C.	All data entered into the BAM-C has been checked and any inconsistencies (including this query regarding function condition score data) were addressed and rectified in the BAM-C. PCT 52 does not have an option to record function scores and text has been added to provide greater clarification. Structural attributes of the PCT are not present.
21	Biodiversity	BAM compliance	The submitter has identified that there are three plots (plot IDs CB628LS2, CB628LS3 and CB628LS4) that have been entered in the BAM-C for two vegetation zones across two different PCTs. The submitter believes that the same plots cannot be used for two different vegetation zones and across two PCTs. The submitter requests confirmation be provided on which vegetation zone these plots are consistent with and the minimum number of plots for the other vegetation zone are appropriately met.	All data entered into the BAM-C, including confirmation of this vegetation zone query, was addressed and rectified in the BAM-C and, if required, discussed within the BDAR. If sufficient plots were not completed, benchmark data was used and this is referenced in the BDAR.

ID	Key Issue	Submission Item	Summary of issue	Response
22	Biodiversity	BAM compliance	The submitter requests justification as to why plots have been duplicated, including why those plots were chosen for duplication and why duplication was used rather than benchmark. The submitter suggests that Tables 4.6 and 4.7 could be updated to state which vegetation zones required duplicated plots.	This plot labelling query was reviewed and updated as this should not have occurred and may have been a translation error from one assessor to another. All plot data was reviewed and both sets of information cross-checked to show up all inconsistencies (allowing them to be removed from the BAM-C and the BDAR). If sufficient plots were not completed, benchmark data was used and this is referenced in the BDAR.
23	Biodiversity	BAM compliance	The submitter has identified that plot names have been duplicated but the data for them is different, such as for Plot IDs CB244LS1, CB244MS1, CB244MS2 and CB56LS3. The submitter requests an explanation as to why there are multiple sets of data for the same Plot ID.	This plot labelling query was reviewed and updated as this should not have occurred and may have been a translation error from one assessor to another. All plot data was reviewed and all inconsistencies were removed from the BAM-C and the BDAR.
24	Biodiversity	BAM compliance	The submitter believes that the placement and shape of transects are not consistent with the BAM and requests that the location of all plots should be reviewed to ensure that they conform to BAM. The submitter also requests for justification to be included, where relevant, in the BDAR to explain the selection of transect locations.	The original plot location data appears to have been corrupted for a few individual plots. Some plots within PCT 36 were not straight as they followed the creek line vegetation which was not broad enough to allow for straight transects. The BAM does not stipulate 100 per cent strictly straight lines, rather there is a requirement to follow and report on the vegetation community present. All plots were still either 50 m by 20 m or 100 m by 10 m as per the BAM.
25	Biodiversity	BAM compliance	The submitter believes that inappropriate alignment of field data information with the BAM-C may be affecting VI scores and requests that information entered in the BAM for plots Z5P1 and Z5P2, and the validity of using plot BP1LowP1 be reviewed	All data entered into the BAM-C was reviewed and any inconsistencies addressed and rectified. This was also rectified in the updated report. Borrow pit 1 has a number of shrub species but no tree species present. The location chosen was representative of the vegetation condition. Note that this PCT has now been removed from the subject land.
26	Biodiversity	BAM compliance	The submitter believes that vegetation mapping is inconsistent with PCT identification in plots and requests that it is reviewed to ensure it reflects the plot data collected	All mapping has undergone a detailed review and updated to remain consistent. In some areas, the PCT type was changed following field data collection due to underlying soil types, position in the landscape or understory species presence or absence. Any significant changes are discussed in the BDAR. Field work combined with a review of soil and contour mapping, plus aerial imagery, provided validation that these PCTs were not as initially mapped.

ID	Key Issue	Submission Item	Summary of issue	Response
27	Biodiversity	BAM compliance	The submitter believes the delineation of vegetation zones in the mapping does not align with aerial imagery and requests that BCS be provided the aerial imagery to undertake a review of the vegetation mapping and allocation of vegetation zones	<p>The project will allow BCD access to the most recent imagery they have available. Some clearing has occurred recently and this is discussed in the BDAR. In general, the PCT mapping had been reviewed and updated to remove inconsistencies. Delineation between PCT 35 and PCT 56 occurred in some areas by walking the ecotone and in other areas, by using aerial imagery to determine the ecotone between the two communities. Given that PCT 35 may contain poplar box and PCT 56 may contain small patches of brigalow, this boundary may be open to some level of interpretation; however, both communities are listed at a Federal level, so increasing or decreasing the area of one over the other is not considered advantageous to the project.</p> <p>Vegetation mapping has been further reviewed and refined using soils and contour (1 m) layers.</p>
28	Biodiversity	BAM compliance	The submitter states that inclusion of discarded railway sleepers as fallen logs in Plot CB244LS1 is at the accredited assessor's discretion, and should reflect whether the timber is providing habitat, but it is not mandatory	Discarded railway timber was included as it provides habitat value, and its removal would reduce the habitat value of the site, and, thus, not be an accurate assessment of true habitat value present at the site.
29	Biodiversity	BAM compliance	<p>The submitter believes that the assessment of Matters of National Environmental Significance (MNES) is complex and the outcomes are unclear. The submitter recommends that BCS and Department of Agriculture, Water and the Environment meet with the proponent to discuss the assessment that was undertaken for MNES, how this relates to BAM, whether the outcomes are acceptable and how residual impacts should be offset. Matters that need to be addressed in future discussions include (but are not limited to):</p> <ul style="list-style-type: none"> ► Explanation of what PCTs and vegetation zones constitute each TEC and what the total area is ► Confirmation on whether MNES not listed under the BC Act have been the subject of targeted surveys and, if so, what the outcome is ► Explanation of how the 'total unmitigated potential disturbance area' of 700 ha was calculated in Table 7.13 ► Confirmation of which MNES are considered to be significantly impacted by the proposal 	<p>Following discussions with ARTC and the regulators, the use of the adverse impact assessment methodology (AIAMs) has now been removed. While the habitat modelling method (SIAM) has been retained only for those species not assessed under the BAM. Under the bilateral agreement, the assessment of threatened species listed only under the EPBC Act and the BAM is considered as acceptable to DAWE. MNES that are also BC Act listed, have been, or will be, assessed following the BAM, and this approach has been clarified in the report. As such, only those EPBC Act species not listed under the BC Act and not assessed under the BAM, have been addressed for significant residual impacts using the DAWE MNES guidelines. It originally covered four fauna species. Additional surveys for some MNES species occurred in the 2020/2021 summer survey period, where Dunmall's snake were removed. Curlew sandpiper and Red goshawk were also removed following further consideration, with only the Murray cod remaining.</p> <p>It is also noted that relevant species information, including habitat requirements, relevant survey effort for the proposal, and species occurrence in the local region, is now located in Appendix G of the BDAR. This includes all BAM species also listed under the EPBC Act.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
29	Biodiversity [continued]	BAM compliance [continued]	<ul style="list-style-type: none"> Describe how the implementation of additional mitigation measures can reduce the area of impact to MNES, as applied in the Significant Impact Assessment Methodology Discuss the differences in impact areas calculated through the BAM and the AIAM <p>Describe which MNES require offsetting, what the proposed offset strategy is and the timing of protection.</p>	All information presented will relate to surveys that have occurred prior to the submission of the report. Based on advice received from BCD on 17 December 2020, the TEC Poplar Box woodland does not require assessment as it was listed after the controlled action decision was made. PCT 35 is not considered part of PCT 52 and this section of the report will be reviewed and re-written to provide greater clarification. The conditions/assessment for PCT 35 is considered a separate TEC, as Brigalow communities are less susceptible to variation due to drought conditions, and the presence of Brigalow as either the dominant or co-dominant tree species meets the criteria for the EPBC listed community. Appendix C of the BDAR has been reviewed.
30	Hydrology	1976 flood event	The submitter is concerned with the magnitude of the design flood used to inform the flood impact and analysis for the proposal. The 1% AEP design flows are considered inadequate as they are significantly different and lower than the 1976 flood (approx. 0.5% AEP). The submitter requests that further analysis or justification be undertaken to ratify the 1% design flood magnitude, especially in relation to the current design flood of 1976. This should include a revision of the Flood Frequency Analysis, including the assumptions and data used to undertake this analysis. The findings of this study differ compared to previous studies and this should be fully understood. The sensitivity analysis of the 1976 flood should include the impact on velocities and flow distribution.	<p>The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS and supplemented by the findings of the PIR.</p>
31	Hydrology	Flood impact objectives	The submitter requests further justification for the development and selection of flood impact objectives for the proposal (Table 13.7)	<p>The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE.</p>
32	Biodiversity	Biodiversity assessment, flooding	The submitter requests further assessment of wetlands and flood-dependent ecosystems identified in the BRFP (e.g. Management Zone D) across a range of flood events	A flooding section has been inserted into the impacts section in Section 8 in the BDAR, which includes Table 8.2.

ID	Key Issue	Submission Item	Summary of issue	Response
33	Hydrology	Consultation	The submitter believed that the significance of increased time of submergence on local roads is unclear and requests that the SES be approached to determine which roads in the impact area are critical for access and if additional submergence times identified in the EIS will compound issues on already flooded roads	<p>The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS and supplemented by the findings of the PIR.</p>
34	Hydrology	Afflux impacts	The submitter believes that the impact of flooding afflux on the North Star Sporting Club is unclear and requests further explanation on the matter in Section 13.8.3.2 of Chapter 13: Surface Water and Hydrology.	<p>The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Throughout the analysis ARTC has consulted with affected landowners on the outcomes of the analysis. Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE.</p>
35	Hydrology	Comparison of floodplain scenarios	The submitter requests that modelling should compare undeveloped, existing and developed floodplain condition scenarios so cumulative impacts can be better understood	The analysis supporting the EIS and the PIR considers the developed and undeveloped cases. The difference between the scenarios is described in terms of changes in afflux, time of inundation and changes in velocity in both the EIS and the PIR.
36	Hydrology	Mitigation measures	<p>The submitter is concerned with allowable velocities exceeding the safe limits for erosion and approach to mitigation measures. The submitter presents the following recommendations:</p> <ul style="list-style-type: none"> ▶ Additional discussions and evidence regarding erosive velocities should be used to justify the adopted approach. If there are signs of current erosion in areas identified as exceeding the threshold then accepting no increase in existing velocities may not be acceptable and an alternative approach proposed. ▶ An alternate approach to mitigation measures for high velocities should be proposed if engineering solutions or landowner agreement is not feasible. 	<p>The EIS assessment has reviewed flow distribution, changes in levels, velocities and inundation durations, to determine the potential impact and mitigation measures required to minimise scour and erosion.</p> <p>In accordance with the 10 December direction from DPIE, the analysis supporting the PIR has assessed the impacts of the project against QDLs, which includes the assessment of scour and erosion and the mitigations required.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
37	Hydrology	Flooding and hydrology assessment	<p>The submitter has presented the following general comments:</p> <ul style="list-style-type: none"> ▶ Confirm whether the original DEM was 10 m x 10 m or 5 m x 5 m (Section 13.4.3.3 of Chapter 13: Surface Water and Hydrology) ▶ Confirm correlation of the Flood Frequency Analysis curve with stream gauging results (Section 8.1.8 of EIS Appendix H: Hydrology and Flooding Technical Report) ▶ Justification for the Tuflow factored flows and disparity with the Flood Frequency Analysis (Table 8.9 of EIS Appendix H: Hydrology and Flooding Technical Report) ▶ Justification for the design flood immunity for 1% AEP and worst-case scenario ▶ Confirm whether a reduction in flood levels will occur downstream of the removed railway line (Figure A22) 	<p>The project impacts have been assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event.</p> <p>The updated analysis has included a recalibration of the model against available gauging data.</p> <p>The outcomes and mitigations arising from the production of the PIR hydrology report are subject to ongoing consultation and agreement with DPIE and affected stakeholders.</p>

D.2 Submission 23: Crown Lands

ID	Key Issue	Submission Item	Summary of issue	Response
38	Management plans	Environmental management plans	<p>The submitter requests management plans for review once available. These include:</p> <ul style="list-style-type: none"> ▶ Construction Environmental Management Plan ▶ Biodiversity Management Sub-Plan ▶ Biosecurity Management Sub-Plan ▶ Erosion & Sediment Control Plan ▶ Flora & Fauna Sub-Plan ▶ Reinstatement & Rehabilitation Plan ▶ Rehabilitation & Landscaping Management Sub-Plan ▶ Soil Management Sub-Plan ▶ Stormwater Management Sub-Plan 	<p>The CEMP and sub-plans will be prepared (including consultation requirements with relevant government agencies) in accordance with the <i>Guideline for the Preparation of Environmental Management Plans</i> (Department of Infrastructure, Planning and Natural Resources, 2004), conditions of approval and other legal requirements.</p>
39	Operation and maintenance	Level crossings	<p>The submitter requests a proposal outlining details and future maintenance of level crossings to be sent to them for assessment and consent</p>	<p>Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance of level crossings will be managed in accordance with ARTC's Assets Management System, technical standards and procedures.</p> <p>ARTC will enter level crossing agreements with relevant road authorities and will continue to consult with them regarding level crossings on the NS2B alignment.</p>
40	Consultation	Travelling stock routes	<p>The submitter requests ongoing consultation regarding potential impacts to TSR interfaces</p>	<p>Noted. The proposed NS2B alignment intersects four existing Travelling Stock Reserves (TSRs). ARTC will consult with Crown Lands and LLS where the proposed rail alignment intersects with existing TSRs.</p>
41	Secondary approvals	Travelling stock routes	<p>The submitter requests consultation with themselves and with Local Land Services regarding the proposed rail maintenance access roads required through Crown land and TSRs. The submitter also notes that a licence for earthworks will be required prior to works commencing.</p>	<p>Noted. Consultation and licence application will be made where required.</p>
42	Secondary approvals	Legislative requirements	<p>The submitter requests a licence application for occupation, storage and access of the proposed laydown areas and sewage treatment plants located on Crown land and TSRs</p>	<p>Noted. Consultation and licence application will be made where required.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
43	Secondary approvals	Detailed design	The submitter requests that a detailed design for works on waterways (bridges and viaducts), including the location of fencing and signage, is made available to the department for comment	ARTC has a program-wide fencing strategy that will guide the detailed design of fencing for the NS2B alignment. This strategy assists with consistency of fencing across the whole Inland Rail Program. This includes generally placing fencing along cadastral boundaries where possible. Additionally, all signage installed will be consistent with Australia Standard AS1742.3 (<i>Manual of Uniform Traffic Control Devices</i>) (Standards Australia, 2016), which is a national standard and will be consistently applied across the Inland Rail Program. The proposal will continue to consult with Crown Lands throughout the proposal, where relevant.
44	Consultation	Travelling stock routes	The submitter requests consultation with Local Land Services regarding land acquisition over TSRs and that an acquisition application is lodged with the Department	Noted. Consultation and acquisition application will be made for proposed acquisitions over TSRs.
45	Consultation	Rehabilitation	The submitter requests consultation with the Department and Local Land Services regarding rehabilitation planning prior to works commencing	Noted. A Reinstatement and Rehabilitation Management Plan will be prepared prior to the completion of construction activities. Any land leased from adjacent private landowners during the construction phase will be rehabilitated in agreement with the relevant landowner.
46	Consultation	Fauna passage, fencing	The submitter requests details and designs regarding fauna passage and fencing located within Crown land and TSRs	Noted. Fauna movement opportunities identified will be developed and refined during the detailed design process. Opportunities for fauna passage and fauna fencing identified during the detailed design phase will be outlined in the CEMP and relevant associated sub-plan.
47	Secondary approvals	Detailed design	The submitter requests that the detailed design of infrastructure that impacts aquatic fauna (i.e. bridges and viaducts) is made available to the department for comment	Noted. Detailed design will be undertaken to ensure fish passage is maintained. Any watercourse crossing structures will be designed in accordance with <i>Why do fish need to cross the road? Fish passage requirements for waterway crossings</i> (Department of Primary Industries (NSW), 2003).
48	Management plans	Mitigation measures	The submitter has recommended that re-used disturbed soil is appropriately treated for weeds	A Biosecurity Management Sub-Plan will be developed as a component of the CEMP in accordance with the <i>Biosecurity Act 2015</i> (NSW), which will include soil hygiene measures. Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance of the corridor, including management of weeds, will be managed in accordance with ARTC's Assets Management System, technical standards and procedures. Weed and pest management protocols for the operational rail corridor and other ARTC facilities will be in accordance with the <i>Biosecurity Act 2015</i> (NSW).

ID	Key Issue	Submission Item	Summary of issue	Response
49	Secondary approvals	Unexpected finds	The submitter makes note that the Department must be notified as soon as practicable should any heritage site/item be identified on Crown land and TSRs	Noted. If heritage items or sites are identified on Crown Lands, ARTC will notify the Department.
50	Consultation	Borrow pits, access impacts	<p>The submitter requests consultation regarding proposed works and ongoing maintenance requiring access to borrow pits located on Crown lands and TSRs, and notes that any form of work requires written approval. The submitter specifically notes the following sites that may need approval:</p> <ul style="list-style-type: none"> ▶ 'Site 5' may require ongoing access via TSR Lot: 16 DP 756015 managed by Local Land Services ▶ 'Site 7' and 'Site 9' may require ongoing access via Crown roads under the Department's management and subject to current Enclosure Permits ▶ 'Site 13' may require ongoing access via TSR Lot: 7304 DP 1158724 and Lot: 7003 DP 1059798 managed by Local Land Services and the Department, respectively. 	The points raised in relation to borrow sites 5, 7, 9 and 13 by the department are noted and understood. Use of borrow pits and access to them will be at our contractor's discretion. ARTC will make the contractor aware of these requirements when they are engaged and, if use of Crown Lands or TSR's is required, consultation and written approval from the Department and Local Land Services will be sought.

D.3 Submission 24: DNRME (Queensland)

ID	Key Issue	Submission Item	Summary of issue	Response
51	Consultation	For consideration	The submitter requests that the 7-km section of NS2B in Queensland adheres to relevant approval conditions that will be placed on the NSW/Queensland Border to Gowrie Inland Rail project (B2G) and requests consultation to ensure DNRME interests are appropriately integrated and addressed. The submitter notes that appropriate authorisations will need to be secured in accordance with the <i>Water Act 2000</i> (Qld) prior to accessing water for the proposal. Additionally, a Riverine Protection Permit will need to be obtained for excavation and fill in the bed and banks of the Macintyre River if the <i>Riverine Protection Permit Exemption requirements</i> (WSS/2013/726 Version 2.01 13/11/2019) are unable to be met. The submitter suggests consultation with DNRME to discuss requirements under the <i>Water Act 2000</i> (Qld).	<p>The proposal is fully contained in NSW and is being assessed in accordance with NSW environment and planning laws and the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).</p> <p>It is noted and acknowledged that although the proposal is located in NSW, with the boundary of the proposal at the NSW/Queensland state border, there is potential for interactions with Inland Rail projects assessed in Queensland; however, as the relevant planning approval processes are under the jurisdiction of the state, the projects will be primarily regulated under the relevant state's legislative framework.</p> <p>To actively manage potential inconsistencies across the state border, Inland Rail has been actively engaging with the relevant Queensland and NSW departments to keep all parties informed and consistent in their approaches. This is being actively managed to provide harmonisation across the state regulatory requirements where possible. The applicable state agencies also have their own routine interfaces to achieve this outcome.</p> <p>Inland Rail is ensuring harmonisation and consistency in presentation of impacts between the NS2B (NSW) and the B2G project (Queensland) EIS's and, therefore, subsequent approvals.</p>
52	Consultation	For consideration	The submitter requests consultation regarding design, construction and operation impacts of the proposal on Queensland's stock route network; in particular, where it relates to the Kildonan Road crossing, and the stock watering facility located on Lot: 37 MH878.	<p>The proposal is fully contained in NSW and is being assessed in accordance with NSW environment and planning laws and the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) (EPBC Act).</p> <p>Queensland's stock route, and the associated proposal at Kildonan Road, will be assessed in the B2G EIS.</p>
53	Consultation	For consideration	The submitter requests consultation regarding design, construction and operation impacts to State land	<p>The proposal is fully contained within NSW and is being assessed in accordance with NSW environment and planning laws and the EPBC Act.</p> <p>Queensland's State land and the associated proposal at Kildonan Road will be assessed within the B2G EIS.</p> <p>It is noted and acknowledged that although the proposal is located within NSW, with boundary of the project at the NSW/Queensland state border, there is potential for interactions with Inland Rail projects assessed in Qld. However, as the relevant planning and approval processes are under jurisdiction of the state, the projects will be primarily regulated under the relevant state's legislative framework.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
54	Consultation	For consideration	The submitter requests consultation regarding design, construction and operation impacts to MSES	<p>The proposal is fully contained in NSW and is being assessed in accordance with NSW environment and planning laws and the EPBC Act.</p> <p>As the proposal is fully contained in NSW, no MSES will be directly impacted by the proposal. Biodiversity values for the proposal are being assessed in accordance with the BC Act and EPBC Act.</p> <p>It is noted and acknowledged that although the proposal is located in NSW, with the boundary of the proposal at the NSW/Queensland state border, there is potential for interactions with Inland Rail projects assessed in Queensland; however, as the relevant planning approval processes are under the jurisdiction of the state, the projects will be primarily regulated under the relevant state's legislative framework.</p> <p>Inland Rail is ensuring harmonisation and consistency in presentation of impacts between the NS2B (NSW) and the B2G projects (Queensland) EIS's and, therefore, subsequent approvals.</p>
55	Consultation	For consideration	The submitter requests consultation regarding design, construction and operation impacts to KRA	<p>The proposal is fully contained in NSW and is being assessed under bilateral agreement with the Commonwealth by the NSW government.</p> <p>It is noted and acknowledged that although the proposal is located in NSW, with the boundary of the proposal at the NSW/Queensland state border, there is potential for interactions with Inland Rail projects assessed in Queensland; however, as the relevant planning approval processes are under the jurisdiction of the state, the proposal will be primarily regulated under the relevant state's legislative framework.</p> <p>To actively manage potential inconsistencies across the state border, Inland Rail has been actively engaging with the relevant Queensland and NSW departments to keep all parties informed and consistent in their approaches, including the cross-border commissioner. This is being actively managed to provide harmonisation across the state regulatory requirements where possible. The applicable state agencies also have their own routine interfaces to achieve this outcome.</p> <p>Inland Rail is ensuring harmonisation and consistency in presentation of impacts between the NS2B (NSW) and the B2G projects (Queensland) EIS's and, therefore, subsequent approvals.</p>

D.4 Submission 25: Transport for NSW (TfNSW)

ID	Key Issue	Submission Item	Summary of issue	Response
112	Proposal design and alternatives	Bruxner Way Rail Overpass	<p>The submitter does not support the current design of the Bruxner Way rail overpass; specifically, the following aspects:</p> <ul style="list-style-type: none"> ▶ The proposed bridge will have a clearance of 5.4 m over Bruxner Way. 5.4 m clearance is insufficient to allow over-size/over-mass loads that use this road, including agricultural machinery/implements. In addition, 5.4 m clearance places restrictions on the road authority to raise the road to improve road flood immunity or basic re-sheeting projects. The submitter requests the rail overpass to achieve 6.5 m clearance over Bruxner Way. ▶ The proposed rail alignment will move the existing road alignment, which introduces three curves in a 100 km/h speed environment. The submitter requests that the rail alignment be adjusted to reduce the impact on the current Bruxner Way alignment. 	<p>ARTC has based the minimum clearance for Bruxner Way in accordance with Table 8.1 of <i>Austrroads Guide to Road Design Part 3</i> (Austrroads, 2021), which states a minimum clearance for 'main and arterial roads' to be 5.4 m. This table also gives 'very high clearance routes' (with no alternative) a minimum clearance of 6.5 m. To verify, this section of Bruxner Way is not a 'very high clearance route'. ARTC checked the following:</p> <ul style="list-style-type: none"> ▶ Roads and Maritime Services (RMS) map showing oversize and/or overmass routes: <ul style="list-style-type: none"> ▶ rms.nsw.gov.au/business-industry/heavy-vehicles/maps/nsw-load-carrying-network/map/index.html ▶ National Heavy Vehicle Regulator Route planner tool: <ul style="list-style-type: none"> ▶ service.nhvr.gov.au/#page=information Hub/routePlannerTool <p>Both of these sources indicated that Bruxner Way is not a 'very high clearance route' or oversize and/or overmass route. They also indicated that there are much better alternatives available to travel between major centres.</p> <p>ARTC also checked RMS road designations and identified that Bruxner Way is only permitted up to 4.6-m high vehicles:</p> <ul style="list-style-type: none"> ▶ rms.nsw.gov.au/documents/business-industry/heavy-vehicles/permit-notice-4-6-metre-high-vehicle-routes-appendix-1.pdf ▶ rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html. <p>ARTC's reference design has allowed a 100–200 mm buffer in addition to the minimum 5.4 m clearance.</p> <p>The request for 6.5 m clearance is inconsistent with the designation of Bruxner Way. Better alternative very high clearance routes are available in the north west region.</p> <p>Should specific large agricultural plant be identified by TfNSW, which falls outside of the current dimensional allowances, ARTC can work collaboratively with TfNSW to achieve a road design that accommodates agreed vehicle dimensions, where practical.</p> <p>Bruxner Way runs beside the Dumaresq River for approximately 75 km and through the Macintyre floodplain for approximately 20 km in NSW. While there are alternate routes already designed for flood immunity (primarily the Newell Highway), ARTC does not see flood proofing of Bruxner Way being a priority for a very long time. Bitumen re-sheeting is very likely; however, will not materially change the RL of the road or impact significantly on the clearance buffer applied above the minimum.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
112	Proposal design and alternatives [continued]	Bruxner Way Rail Overpass [continued]	[continued]	<p>The proposal minimises farmland land acquisition from the adjacent landowners and, as such, ARTC disagrees with the opinion that the location has been designed in the best interests of the rail and with very little consideration of the road impacts. Traffic counts were taken to inform our design of the operational speed of traffic on Bruxner Way and the realigned Bruxner Way has been designed using this data to comply with the relevant design standards, including <i>Austroads Part 3 – Geometry</i> (Austroads, 2021). The three large radius curves are spread over 1,806 m, with lengths of straight between them, and are therefore not defined as reverse curves. ARTC are not proposing to change the speed environment as it is considered the revised design does not materially change the safety rating of the road.</p> <p>ARTC will commit to continue working with the road manager, Moree Plains Shire Council and TfNSW to make design improvements which improve the trafficability and safety of roads, where practical.</p>
113	Construction	Construction impacts	The submitter is concerned that proposed works within the Boggabilla non-operational rail track will comply with the <i>Transport Administration Act 1988</i> (NSW) and requests confirmation	Noted. The request is confirmed.
114	Traffic and transport	Project description	The submitter has identified an inconsistency between Chapter 20: Traffic and Transport, which states the design and construction of approximately 25 km of new dual-gauge track within the existing non-operational Boggabilla rail corridor, and EIS Appendix M: Traffic Impact Assessment, which states approximately 25 km of new standard-gauge track. The submitter requests clarification on this matter.	<p>The proposed rail line is standard-gauge track.</p> <p>The proposal consists of:</p> <ul style="list-style-type: none"> ▶ Approximately 25 km of new, single-line, standard-gauge track within the existing non-operational Boggabilla rail corridor, between North Star (chainage 0.9 km) and the greenfield deviation (chainage 25.7 km) ▶ Approximately 5 km of new, single-line, standard-gauge track within a greenfield rail corridor, between the greenfield deviation (chainage 25.7 km) and the NSW/Queensland border (chainage 30.6 km).
115	Consultation	Consultation	The submitter requests their inclusion as a stakeholder	Noted. TfNSW to be included as a stakeholder.

ID	Key Issue	Submission Item	Summary of issue	Response
116	Traffic and transport	Project description	The submitter requests confirmation on the location of the crossing loop included in the proposal.	<p>Details on the location and design of the proposed crossing loop can be found in EIS Chapter 6: The Proposal. The crossing loop in the reference design is located at chainage 22.7 km–24.9 km (approximately 2.2 km section of single-line, standard-gauge track, running roughly parallel to the main track).</p> <p>The location of this loop may change as the design is refined during the detailed design phase, as it is reliant on rail traffic modelling of the rail network. The location may change between chainage 16.5 km and chainage 24.9 km; however, it will remain within the permanent footprint shown in Figure 6.5, EIS Chapter 6: The Proposal. If supported by modelling, ARTC will seek to move to between CH17.5 and CH19.5.</p>
117	Consultation	Consultation	The submitter requests consultation regarding the potential future operation of 3,600 m trains	Noted. Any expansion to 3,600 m trains would be subject to consultation and approval at the time it was proposed.
118	Traffic and transport	Consultation	The submitter requests further information on the proposed short stacking locations and mitigation measures to be employed to remove short stacking. The submitter also requests confirmation that the application will not be determined until such a time as TfNSW has had an opportunity to comprehensively assess the application, following provision of information addressing the submitted comments.	Section 20.7.3.1 of EIS Chapter 20: Traffic and Transport details the road–rail crossings located along the alignment that may have short-stacking issues. These are explored quantitatively in Table 20.27. The longest vehicle type to use the roads in proximity to the alignment of the proposal is a 36.5 m, Type 1 road train. The design vehicle adopted for the road–rail interfaces throughout NSW was at minimum a Type 1 road train 36.5 m.

D.5 Submission 27: Department of Primary Industries (NSW) (DPI) Agriculture

ID	Key Issue	Submission Item	Summary of issue	Response
56	Management plans	Biosecurity	<p>The submitter has presented the following recommendations for the Biosecurity Risk Management Plan:</p> <ul style="list-style-type: none"> ▶ Include more comprehensive biosecurity risks from terrestrial invasive vertebrate and invertebrate pest, as well as weeds. In considering terrestrial invasive species, the Plan should include mitigation measures for the potential introduction of new species to the area, not just species that are currently present. For example, the movement of prohibited matter species <i>Parthenium</i> weed, and red imported fire ants, and other pest species, such as <i>Harrisia</i> cactus and Tiger pear. ▶ Include a comprehensive washdown and decontamination procedure for machinery before they commence works. If machinery is coming from another jurisdiction, this should be done in that jurisdiction. ▶ Include other mitigation measures for the movement of invasive species during the construction and improvement phases as a result of equipment, freight and earthworks. It should also consider the risks of movement of invasive species once the rail is operational. ▶ Account for any legislative requirements under the <i>Biosecurity Act 2015</i> (NSW), such as notification and movement restrictions. For example, notification requirements for prohibited matter or notifiable matter, and movement restrictions for tramp ants as set out in the Biosecurity Order (Permitted Activities) 2019. 	<p>A Biosecurity Management Sub-Plan will be developed as a component of the CEMP in accordance with the <i>Biosecurity Act 2015</i> (NSW). As part of this, vehicle, machinery and imported fill hygiene protocols will be implemented to minimise the risk of importing weed and pest species from other jurisdictions. Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance of the corridor, including management of weeds, will be managed in accordance with ARTC's Assets Management System, technical standards and procedures. Weed and pest management protocols for the operational rail corridor and other ARTC facilities will be in accordance with the <i>Biosecurity Act 2015</i> (NSW).</p>
57	Management plans	Biosecurity	<p>The submitter recommends that for the biosecurity risk management plan, biosecurity risks from aquatic pests, and mitigation actions in accordance with the NSW DPI Aquatic Fieldwork procedure are included (see dpi.nsw.gov.au/__data/assets/pdf_file/0009/722844/Aquatic-fieldwork-hygiene.pdf)</p>	<p>The risk of invasion of aquatic weed and pest species was acknowledged in the EIS and will be dealt with under the Biosecurity Management Sub-Plan in the CEMP. The plans will be in accordance with the NSW DPI Aquatic Fieldwork procedure.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
58	Management plans	Biosecurity	The submitter recommends that for the Biosecurity Risk Management Plan, address the biosecurity risks associated with the movement of plant material and soil between properties during construction. For example, the risks from the movement of major economic pests of cotton, such as fusarium wilt, to properties previously free of the disease. All plant material and soil moved in this proposal should be kept, where possible, in the local area, and cleanliness of machinery and equipment moving onto and from individual properties should be considered.	A Biosecurity Management Sub-Plan will be developed as a component of the CEMP in accordance with the <i>Biosecurity Act 2015</i> (NSW). As part of this, vehicle, machinery and imported fill hygiene protocols will be implemented to minimise the risk of importing weed and pest species from other jurisdictions. Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance of the corridor, including management of weeds, will be managed in accordance with ARTC's Assets Management System, technical standards and procedures. Weed and pest management protocols for the operational rail corridor and other ARTC facilities will be in accordance with the <i>Biosecurity Act 2015</i> (NSW).
59	Management plans	Biosecurity	The submitter recommends that for the Biosecurity Risk Management Plan, include mitigation measures relating to the potential for spread of pests, diseases or weeds, to discharge the general biosecurity duty under the <i>Biosecurity Act 2015</i> (NSW). In NSW, the <i>Biosecurity Act 2015</i> (NSW) is the primary piece of legislation that provides a framework for the prevention, elimination and minimisation of biosecurity risks and should not be confused with the <i>Biosecurity Act 2015</i> (Cth).	Noted that the EIS makes reference to the Commonwealth Act and not the NSW Act. A Biosecurity Management Sub-Plan will be developed as a component of the CEMP in accordance with the <i>Biosecurity Act 2015</i> (NSW). Weed and pest management protocols for the operational rail corridor and other ARTC facilities will be in accordance with the <i>Biosecurity Act 2015</i> (NSW). Once construction of the NS2B line is complete, operation of the rail line will be incorporated into ARTC's existing Interstate Network. Ongoing maintenance of the corridor, including management of weeds, will be managed in accordance with ARTC's Assets Management System, technical standards and procedures.
60	Management plans	Biosecurity	The submitter has recommended that NSW DPI be consulted in the development of the Biosecurity Risk Management Plan, to provide specific technical advice regarding weeds, terrestrial pests and/or aquatic pests. The submitter further suggests that key industry bodies (such as Cotton Research and Development Corporation), other organisations (such as Local Lands Services, local government) and key documents (such as the <i>North West Regional Strategic Weed Management Plan</i>) are consulted during the development and implementation of the Plan.	Noted. ARTC will engage in consultation with DPI regarding the development of the Biosecurity Risk Management Plan.

D.6 Submission 28: DPI Fisheries

ID	Key Issue	Submission Item	Summary of issue	Response
61	Biodiversity	Aquatic ecology offsets	The submitter notes that while the extent of an Aquatic Biodiversity Offset Strategy required will be dependent on refinement of the detailed design of the construction footprint, It remains unclear to DPI Fisheries of the methodology used to calculate the initial Figure of 14.60 ha offset requirements that has been included in table 11.20 of Chapter 11: Biodiversity for TYPE 1 and 3 Key Fish Habitats (and Table 7.1 of EIS Appendix S: Aquatic Biodiversity Technical Report). Should the current Figure of 14.60 ha significant residual adversely impacted habitat disturbance remain after refinement of the detailed design, this will require 29.2 ha of offsets or a combination of the 29.2 ha offsets and/or supplementary measures payable to the Fisheries Conservation Trust Fund currently calculated at \$113.50 per m ² . Any Aquatic Biodiversity Offset Strategy will therefore require negotiation with DPI Fisheries through the use of aquatic biodiversity offsets, and/or supplementary measures, to ensure a minimum 2:1 offset for impacts on Type 1 highly sensitive Key Fish Habitat and Type 3 minimally sensitive Key Fish Habitat.	<p>Predicative habitat modelling applied to the EIS for the North Star to Border and Border to Gowrie project areas, was completed using the AIAMs. AIAMs was applied as an initial predictive habitat model and is highly conservative in application and based on an unmitigated disturbance scenario. As a result, the initial offset obligations attributed to the project are also conservative and intended as a first pass assessment. As identified in the Aquatic Report, ARTC proposes to provide its offset obligations post EIS, following detailed design and before construction. This will enable greater certainty in establishing these if any offset obligations exist.</p> <p>The 14.60 ha identified as an initial impact area of Type 1 fish habitat were calculated using the AIAMs predictive modelling methodology, which is based on a 100m buffer of the McIntyre River. The actual potential disturbance footprint is relatively small (approx. 0.5 ha) when considered within the 14.60 ha 'initial impact area' calculated for initial aquatic offset. The Macintyre River crossing corridor footprint is approximately 30 m wide; however, the final bridge width is less than 5 m. The offsetting of this actual footprint on PCT 36 is already accounted for under the requirements BC Act. As such, it is confirmed that the proposed crossing of the Macintyre River does not require any additional offsets under the <i>Fisheries Management Act (1994)</i> (NSW).</p>
62	Biodiversity	Fish passage	The submitter notes that while the design of bridge, culverts, and waterways crossings should be in accordance with the document <i>Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings</i> (Department of Primary Industries, 2003), consideration should also be given to the detailed design of scour protection below bridge and culvert structures, to ensure that fish passage is not impeded.	Waterways and drainage lines within the proposal study area were assessed in relation to the potential requirement for fish passage. A number of bridges, culverts and other structures were also identified as requiring a fish passage. Initial proposal drawings include scour protection measures on bridge embankments, culverts and structures based on consideration of potential water velocity, surrounding soil landscapes and fish habitat classification. Additional measures, such as the placement of dead snags within drainage lines, will be assessed in consultation with DPI Fisheries for implementation.

D.7 Submission 29: Environment Protection Authority (EPA)

ID	Key Issue	Submission Item	Summary of issue	Response
71	Noise and vibration—construction	Sensitive receivers	The submitter is requesting clarification on the location (i.e. address) and type (i.e. land use) of noise sensitive receivers assessed, provided as a table (Section 3.2 of EIS Appendix J: Construction Noise and Vibration Technical Report)	A table has been added to Appendix E.1 (Updated sensitive receiver numbers), which includes the location and types of receivers close to the main alignment, borrow pits and haul roads. ARTC can provide property related information to the EPA to assist in their assessment.
72	Noise and vibration—construction	Noise catchment areas	The submitter is requesting identification of the noise sensitive receivers in the vicinity of borrow sites and haul roads, within or external to the defined Noise Catchment Areas	Refer to Appendix E.1 (Updated sensitive receiver numbers), which includes the location and types of receivers close to the main alignment, borrow pits and haul roads. ARTC can provide property related information to the EPA to assist in their assessment.
73	Noise and vibration—construction	Noise catchment areas	The submitter is requesting clarification on potential impacts from noise generated in NSW and Queensland and how this may be addressed by the proposal	It is noted that there are no noise sensitive receivers in Queensland within 4 km of the border; therefore, no receivers in Queensland would be affected.
74	Noise and vibration—construction	Impact assessment area	The submitter requests justification for the 2 km limit for noise impacts from the proposal and why there are listed impacted receivers beyond this limit	The construction noise contours are presented down to 35 dBA (i.e. where the night-time noise management level is complied with) Typically, this contour is within 2 km; however, there are some instances where this is around 2.2 km. From the contours in Appendix C of the CNVIA, it can be seen that there are no noise sensitive receivers affected that are beyond 2 km from the works.
75	Noise and vibration—construction	Sensitive receivers	The submitter is requesting clarification on the height of noise sensitive receivers (2.4 m) and consistency of assumptions between the Operational Noise and Vibration Assessment and Construction Noise and Vibration Assessment.	The receiver height used in the CNVIA is 1.5 m above ground level, in accordance with the Interim Construction Noise Guideline (ICNG). It is noted that the ONVIA used a height of 2.4 m for single-storey residential buildings—this provided a conservative approach to the operational noise modelling, allowing for a direct line of sight between the rails and receiver facades.
76	Noise and vibration—construction	Figure consistency	The submitter is requesting clarification on the noise sensitive receiver labelling between the Operational Noise and Vibration Assessment and Construction Noise and Vibration Assessment.	Refer to Appendix E.1 (Updated sensitive receiver numbers), which includes the location and types of receivers close to the main alignment, borrow pits and haul roads. This table includes receiver IDs for each property for the construction assessment and the operational assessment. The first column presents the original CNVIA receiver number. The second column presents the ONVIA receiver number for that receiver. If a particular receiver was considered in the construction noise assessment only then the receiver number in both columns is the same. This is the case where a receiver is close to a construction worksite that is removed from the rail alignment, such as a borrow pit.

ID	Key Issue	Submission Item	Summary of issue	Response
77	Noise and vibration—construction	Figure consistency	The submitter is requesting clarification on the noise sensitive receiver labelling between the Operational Noise and Vibration Assessment and Construction Noise and Vibration Assessment	A table has been added to Appendix E.1 (Updated sensitive receiver numbers), which includes the location and types of receivers close to the main alignment, borrow pits and haul roads. This table includes receiver IDs for each property for the construction assessment and the operational assessment. The first column presents the original CNVIA receiver number. The second column presents the ONVIA receiver number for that receiver. If a particular receiver was considered in the construction noise assessment only then the receiver number in both columns is the same. This is the case where a receiver is close to a construction worksite that is removed from the rail alignment, such as a borrow pit.
78	Noise and vibration—construction	Noise management levels	<p>The submitter requests justification for the noise management levels for the proposal. This request includes why in the measured noise levels in EIS Appendix B, only three days were considered valid in the monitoring and other days that had similar noise levels were excluded. In addition, the submitter notes the following regarding rating background level (RBL):</p> <ul style="list-style-type: none"> ▶ The measured RBL for the day period at location 4 was 32 dBA. The day period RBL was then set to 35 as this is the <i>Noise Policy for Industry</i> (NSW EPA, 2017) (NPfI) minimum for that period. The evening period RBL for location 4 was measured at 46 dBA, but was then set at 35 dBA, using the justification that evening period RBL should not be set higher than the day period, despite the fact that the measured RBL at location 4 during the day is 32 dBA. Noting the data gap for noise measurement during the evening period at location 4, the EPA considers that setting the evening level to the NPfI minimum for evening (30 dBA) is appropriate. 	Data was excluded on 8, 9, 14 and 15 October from around 8 pm for 2–4 hours. This is due to an obvious rise in LA90 noise levels from around 8pm. This rise and plateauing does not occur to the same extent on the days where the data at this time of the evening/night-time was included. It is noted that the minimum background noise level for the night-time period of 30 dBA was used for this period in any case. As recommended by EPA, the evening RBL could be set to 30dBA—this would result in the construction noise management levels presented in the table that has been added to Appendix E.1 (Updated sensitive receiver numbers).
79	Noise and vibration—construction	Background vibration measurement	The submitter is requesting clarification on the background noise measurements in the Construction Noise and Vibration Assessment; particularly, justification for higher levels due to vehicle movements, wind gusts and nearby fauna.	These background noise and vibration measurements were undertaken with the intent of providing additional background information; however, ultimately, they were not used in the construction noise and vibration impact assessment. It is noted that some of these measurements may have been affected by an equipment error.

ID	Key Issue	Submission Item	Summary of issue	Response
80	Noise and vibration—construction	Construction working hours	<p>The submitter notes Section 4.1.1 of the CNVIA states that noise-generating works would be completed on a 7-day schedule from 6.30 am to 6 pm. Some of these hours are outside of the recommended standard working hours set out in the <i>Interim Construction Noise Guideline</i> (Department of Environment and Climate Change, 2009) (ICNG). There is a statement: <i>'negotiation with the Environment Protection Authority to undertake these works which have been agreed upon'</i>. The EPA has a consistent position that works outside of standard hours may only be undertaken where there is a clear justification in accordance with section 2.3 of the ICNG, where works would not impact receivers above the noise management levels (NML), or where there is a community agreement in place. Section 4.1.1 of the CNVIA also states that community consultation has been undertaken to determine if the extended construction hours are acceptable to the community; however, the outcome of this consultation is not provided or referenced in the CNVIA. The EPA requests the proponent to demonstrate that appropriate justification is provided for out of standard hours work.</p>	<p>Although the project is proposing a 7-day work schedule, due to the linear nature of the project, noise impacts to individual sensitive receivers will not be continuous, as work progresses along the alignment. Consultation that has been undertaken in the community supports a 7-day work week, as community sentiment generally favoured a shorter construction timeframe over a 5-day construction week. Inland Rail will continue to consult with the EPA in relation to a 7-day construction week, particularly regarding respite periods, which will be used when appropriate and agreed upon, and when proposed OOHW are available after detailed design.</p> <p>ARTC has proposed a 7-day work roster to reduce the length of the construction period and impacts on the local community, while also de-risking skilled labour shortages for construction work. As noted in EIS Appendix O: Social Impact Assessment Technical Report:</p> <ul style="list-style-type: none"> ▶ ARTC consulted with the North Star community on the issue of construction noise. Community members who participated were generally supportive of the proposed construction roster but some had concerns about construction noise or dust and the lack of respite from noise. ▶ If residents identify noise that is causing stress or sleep disturbance, ARTC will modify construction activities to reduce noise exposure, e.g. provide respite periods. <p>The Construction Noise Policy remains the governing regulation for construction, and impacts will continue to be monitored and mitigated throughout construction. If complaints occur, respite periods will be implemented to provide relief from construction noise. In addition to standard measures, EIS Appendix J: Construction Noise and Vibration Technical Report recommended management and mitigation measures that will be considered in the contractor's Construction Noise and Vibration Management Plan (CNVMP). They include:</p> <ul style="list-style-type: none"> ▶ Confirming the proximity of sensitive receivers to finalised locations for construction activities, laydown areas and other construction-phase facilities ▶ Continued consultation with potentially affected stakeholders to communicate the anticipated scheduling of construction works and the activities that may occur in proximity to each receiver ▶ A notification process (including who to contact in the event of a complaint) to advise of significant works with potential for noise nuisance or vibration at sensitive receivers and surrounding residences/premises ▶ Noise management measures, including controlling noise and vibration at the source, controlling noise and vibration on the source to receiver transmission path, and controlling noise and vibration at the receiver wherever feasible and reasonable ▶ Noise and vibration monitoring to verify compliance with construction phase criteria at locations and at times nominated in the Noise and Vibration Management Sub-plan

ID	Key Issue	Submission Item	Summary of issue	Response
80	Noise and vibration—construction [continued]	Construction working hours [continued]	[continued]	<p>► Requirements for training, inspections, corrective actions, monitoring, notification and classification of environmental incidents/complaints, and keeping records of complaints.</p> <p>ARTC will mitigate impacts of the 7-day work week by having a complaints management process and, where regular complaints from the same receiver occur, respite periods will be further investigated for implementation. Construction rosters are discussed in detail in EIS Chapter 8: Consultation.</p>
81	Noise and vibration—construction	Construction working hours	The submitter is requesting the removal of the following statement in Section 4.1.1 of the Construction Noise and Vibration Assessment— <i>'construction noise levels are unlikely to be very intrusive'</i> —as this statement is inconsistent with noise levels in Section 5 of the CNVIA, which are predicted to be significantly above the NMLs and sleep disturbance criteria	<p>During review of Table 5.4 in the CNVIA, a minor error was noted—this has been rectified and an updated table has been added to Appendix E.1 (Updated sensitive receiver numbers).</p> <p>Only the bridge and road works are proposed to be undertaken during the night-time. During these works, only one property is likely to experience 'highly intrusive' noise levels, i.e. noise levels that are >25 dBA over the NML. Another two properties are likely to experience 'clearly audible' noise levels, i.e. 5–15 dBA over the NML during night-time works. With regard to sleep disturbance, four properties may experience sleep disturbance reactions, including one property, which may experience sleep awakening reactions. Accordingly, the statement is accurate and should not be removed.</p> <p>A schedule for proposed OOHw is not available at this time, as it will be informed by completion of the detailed design and the preparation of the construction plan, and the associated CEMP and sub-plans, including the CVNMP. The schedule of works along with these plans and documents will be prepared by the selected construction contractors, once engaged, in conjunction with ARTC. As stated in the EIS and Response to Submission Report, ARTC proposes a 12-hour (6am–6pm), 7-day work roster on a general basis, with the CNVMP to provide more detailed protocols to manage the aspects of this period that constitute works outside the ICNG standard construction hours. Along the NS2B corridor there are a limited number of sensitive receptors and, accordingly, work at such times is anticipated to have a smaller impact in comparison to work in more highly populated areas. ARTC is proposing these construction hours in order to minimise the length of the construction period and impacts on the local community, while managing the skilled labour force requirements across the Inland Rail projects and construction work.</p> <p>On this basis, activities anticipated to occur outside the ICNG standard construction hours include:</p> <p>► Standard railway construction activities, including earthworks, machinery movements and rail installation—the scope of these works will be guided by the noise management protocols in the CNVMP, with the objective of limiting noise emitting activities during these times in work areas near to sensitive receptors, unless agreements have been made through landowner consultation</p>

ID	Key Issue	Submission Item	Summary of issue	Response
81	Noise and vibration—construction [continued]	Construction working hours [continued]	[continued]	<ul style="list-style-type: none"> ▶ Deliveries scheduled to avoid busier road traffic periods, for safety reasons, as required by police or road network managers ▶ Emergency works to avoid or environmental or personal harm. <p>To facilitate this outcome and establish adequate controls over construction hours, to avoid amenity impacts to sensitive receivers, ARTC will include a submittable range of noise management conditions in our proposed conditions of approval package to be issued under separate cover.</p>
82	Noise and vibration—construction	Consultation	The submitter notes the CNVIA proposes air-blast over-pressure and ground vibration objectives that are higher than levels recommended in the <i>Australian and New Zealand Environment Council Guidelines</i> (referenced in SEARs) for human comfort and amenity for blasting activities and, as such, requires community negotiated agreements. The submitter requests further information on community engagement undertaken in relation to blasting impacts.	<p>ARTC will demonstrate community engagement on potential blasting impacts.</p> <p>If community engagement does not result in an agreement for the relaxed objectives, then smaller charges or delayed charges would be used to comply with the <i>Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration</i> (Australian and New Zealand Environment Council, 1990).</p>
83	Noise and vibration—construction	Borrow pits	The submitter is concerned with the assessment of borrow sites using the ICNG or the Noise Policy for Industry (EPA, 2017) and requests further clarification of the location, or other information, regarding sensitive noise receivers potentially affected by the borrow sites, the layout and location of the borrow sites, access and internal haul routes, or proposed mitigation for borrow sites.	<p>The distance from the proposed borrow pits to the main alignment range from directly adjacent to the construction area to 15.5 km. Three tables of receivers potentially impacted by operation of the proposed borrow pits have been added to Appendix E.1 (Updated sensitive receiver numbers). The borrow pits are likely to be used for a period of around 18 months in total during the earthworks and track works stages. The location of internal haul routes would be determined during the detailed design stage and are not yet available. Access routes have been assessed in Section 5.6 of the CNVIA.</p> <p>Borrow pits activities would be directly related to construction activities associated with the proposal. The works would be temporary and would take place over a defined term (rather than indefinitely). On this basis the Interim Construction Noise Guideline (ICNG) is considered the appropriate policy under which to assess the noise impacts of the proposed borrow pits. During standard hours, exceedances of the construction noise management levels have been calculated to be up to 10 dBA. After final selection of borrow pits, suitable, reasonable and feasible noise mitigation measures would be implemented to minimise these exceedances. This may include the installation of borrow pit site boundary noise walls, temporary local barriers around fixed plant and selection of smaller/quieter equipment. In addition, it is noted that five receivers that may be affected by construction noise are also eligible for operational at-receiver mitigation measures, which will also reduce construction noise impacts.</p> <p>It is noted that the borrow pit activities associated with the ILR—Narromine to Narrabri were assessed using the ICNG.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
84	Noise and vibration—construction	Duration of impacts from construction scenarios	The submitter believes Section 5 of the CNVIA presents predicted noise levels at receivers using conservative assumptions and requests clarification on the expected duration of impacts from construction scenarios	<p>A table presenting the indicative construction program has been added to Appendix E.1 (Updated sensitive receiver numbers).</p> <p>It is noted that this indicative program is subject to change during the detailed design and construction phases as a result of:</p> <ul style="list-style-type: none"> ▶ Weather conditions ▶ Changes to construction methods and materials ▶ Unexpected find, such as threatened biodiversity species or cultural heritage values ▶ Community interest in the proposal or issues that need to be addressed. <p>Generally, receivers may be affected by construction to varying degrees when works are located within 2 km of their property. At this stage of the proposal, it is not possible to determine how long each construction scenario would be within 2 km of a property.</p> <p>Landowner consultation will be undertaken to assist in the identification of appropriate noise mitigation and management measures.</p>
85	Noise and vibration—construction	Sound power level	The submitter notes that the safe working load (SWL) used for trucks, in Table 5.2 and elsewhere in the report, appears low, and significantly lower than SWLs for trucks in Australian Standard (AS) 2436. The submitter requests clarification on the SWL used for trucks in the Construction Noise and Vibration Assessment.	The SWL shown for the truck includes a correction for 50 per cent 'on-time'. The truck SWL has been increased to 107 dBA (mid-range level for 20 tonne truck in AS2436) from 103 dBA. This has not increased the overall sound power level assumed for the construction scenarios, which include trucks and, therefore, the predicted construction noise levels at receivers have not increased.
86	Noise and vibration—construction	Adding of 5 dB penalty	The submitter requests that the 5 dB correction for equipment listed in the ICNG as particularly annoying be clarified and amended, as required, in Table 5.2 of the CNVIA.	Table 5.2 from the CNVIA has been updated to clarify where corrections have been included.

ID	Key Issue	Submission Item	Summary of issue	Response
87	Noise and vibration—construction	Mitigation measures	The submitter is requesting clarification on the proposed mitigation measures provided for NMLs above the Highly Noise Affected management level	<p>Table 7.1 of the CNVIA presented the proposed standard noise mitigation measures to be implemented where noise exceedances of the construction noise management levels occurred. In addition, where receivers are considered to be 'highly noise affected' consideration should be given to respite periods, by restriction of the hours that very noisy activities can occur, taking into account:</p> <ul style="list-style-type: none"> ▶ Times identified by the community when they are less sensitive to noise ▶ If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times. <p>Addresses of the receivers that may be highly affected are as follows:</p> <ul style="list-style-type: none"> ▶ 7114 North Start Road, North Star ▶ 21930 Bruxner Way, Boggabilla. <p>Where respite is provided as a mitigation measure, this will not reduce the construction noise levels, but it would assist in managing the impact on these receivers. It is noted that if not all equipment was operating concurrently the overall noise level at these receivers would likely reduce to below 75 dBA.</p>
88	Noise and vibration—construction	Cumulative impacts	The submitter requests that the consecutive works from the proposal be considered in the cumulative construction noise impact assessment	<p>Section 5.9 of the CNVIA has considered the impact of simultaneous works of sections B2G or N2NS. Similarly, if receivers were affected by support works occurring simultaneously there would be the potential for noise levels to increase at nearby sensitive receivers. Noise levels as a result of the cumulative impacts could increase by as much as 3 dBA higher than the maximum noise level of either construction works. Although 3 dBA is generally considered just discernible, the cumulative impact of noise would be managed as far as possible by the contractors to ensure that the potential for adverse impacts at sensitive receivers is minimised. In addition, any overlap of construction works is likely to be for a limited period.</p> <p>Where works are planned to occur consecutively there is a potential for construction fatigue of nearby noise sensitive receivers. Where these receivers have been identified to receive offers of at-receiver noise mitigation measures, consideration would be given to the installations of these mitigation measures as early as possible in the construction program to minimise construction fatigue. Where consecutive works include night-time works contractors would consider suitable respite periods between works.</p>
89	Noise and vibration—construction	Construction accommodation	The submitter requests that additional noise sources are used for representative frequency information from mechanical plant associated with the Construction accommodation [Table 6.1]	Table 6.1 of the CNVIA has been updated to include frequency information.

ID	Key Issue	Submission Item	Summary of issue	Response
90	Noise and vibration—construction	Construction accommodation	The submitter notes Table 6.5 has identified three receivers where the predicted noise level exceeds the project Noise Trigger Level by 1 dB. Residual impacts may only be assessed according to Section 4 of the NPfl after the application of all reasonable and feasible mitigation; however, the report states in several locations that no mitigation is applicable to the camp. This is inconsistent with the NPfl. The submitter requests that all reasonable and feasible noise mitigation measures are applied to the construction accommodation prior to the assessment of residual impacts.	It is noted from the construction noise assessment that the 1 dBA exceedance of the project Noise Trigger Level is caused by the operation of the proposed generating set, whose contribution is approximately 13 dBA higher than the next loudest piece of modelled equipment at the worst-affected receiver. It should be noted that the selection of an appropriate generating set is indicative only at this time and would be chosen at the detailed design phase. The selection of a generating set with a Sound Power Level of less than 101 dBA would result in no exceedances of the project Noise Trigger Level at any sensitive receiver.
91	Noise and vibration—construction	Construction accommodation	The submitter requests that the assessment of the construction accommodation include modifying factors according to Fact Sheet C of the NPfl.	In accordance with the NPfl, noise levels from the construction accommodation were predicted at nearby noise sensitive receivers. The predicted noise levels were reviewed to determine if they included any tonal noise or low frequency noise, or would operate intermittently (resulting in a change in noise level of ≥ 5 dB). Given the frequency characteristics of the noise sources, the noise levels were not found to comprise tonal or low frequency characteristics at receivers. In addition, the noise sources are not likely to operate in a fashion that results in a noise level variation of 5 dB; therefore, no modifying factors were applied.
92	Noise and vibration—construction	Construction accommodation	The submitter notes that Table 6.6 presents predicted maximum noise levels (L _{max}) from the construction accommodation but that the reported L _{max} noise levels are below the LA _{eq,15 min} noise levels and does not believe this to be a reasonable result. The submitter requests that the assessment of the construction accommodation included predicted maximum noise levels (L _{max}) as per EPA requirements.	As suggested in the comment, isolated instantaneous L _{max} events were considered in the CNVIA maximum noise assessment; however, due to the number of plant items operating simultaneously, it is likely that L _{max} noise levels would be equal to the overall LA _{eq} noise levels. These levels would comply with the NPfl screening levels presented in CNVIA Table 6.6.

ID	Key Issue	Submission Item	Summary of issue	Response
93	Noise and vibration—construction	Mitigation measures	The submitter requests justification for how the Construction Noise and Vibration Assessment has satisfied Key Issue 3 of the SEARs	<p>The conditions of approval, Environmental Protection Licence (EPL) and Construction Noise and Vibration Plan (CNVP) will establish a protocol to guide and control hours of construction and related impacts. This will be informed by TfNSW's Construction Noise and Vibration Strategy, which provides practical guidance on how to minimise, to the fullest extent practicable, the impacts on the community from airborne noise, ground-borne noise and vibration generated during construction of TfNSW projects. This is managed through the application of all feasible and reasonable mitigation measures. These mitigation measures and their effectiveness has been presented in Table E.10 in Appendix E.1 (Updated sensitive receiver numbers).</p> <p>However, even after application of all standard noise-reducing mitigation measures, some exceedances may still occur; these exceedances represent residual noise impacts.</p> <p>The <i>Construction Noise and Vibration Strategy</i> recommends the implementation of additional mitigation measures where there are predicted exceedances resulting in residual noise impacts. These additional mitigation measures are presented in Table E.11 in Appendix E.1 (Updated sensitive receiver numbers).</p> <p>The provision of additional mitigation measure/s is based on the degree of a predicted exceedance above the RBL, and when the exceedance is predicted to occur, which is related to a receiver's perception of the noise. From Table E.11 in Appendix E.1 (Updated sensitive receiver numbers) it can be seen that the consideration of a receiver's perception of construction noise ranges from 'noticeable' to 'highly intrusive'.</p> <p>Table E.12 in Appendix E.1 (Updated sensitive receiver numbers) provides an explanation of each additional mitigation measure, as outlined in the Construction Noise and Vibration Strategy.</p>
94	Noise and vibration—construction	Mitigation measures	The submitter is requesting further information on the potential noise mitigation measures available to reduce impacts at sensitive noise receivers, including administrative measures, such as respite, engineering controls and community engagement	Additional details have been provided in the mitigation measures table in Appendix E.1 (Updated sensitive receiver numbers).
95	Noise and vibration—construction	Mitigation measures	The submitter recommends considering sensitive noise receivers eligible for property treatment, as identified in the Operational Noise and Vibration Assessment for the pre-construction phase	Consideration would be given to providing at-receiver noise mitigation as early as possible to properties identified to receive offers of at-receiver operational noise mitigation measures. The at-receiver noise mitigation would also reduce construction noise impacts.

ID	Key Issue	Submission Item	Summary of issue	Response
96	Noise and vibration—operation	Daily train numbers	The submitter notes that Section 7.2 of the ONVIA states that the daily train numbers <i>'include the existing freight services'</i> but the North Star to Border line is classified as a new rail line. The submitter requests clarification for what is meant by existing freight services.	There are no existing freight services for the proposal. Future freight movements have been based on ARTC train planning. For proposal opening and Year 2040 scenarios, the Technical Report includes the existing freight services located elsewhere on the ARTC network (separate to the currently unused rail line) that will use Inland Rail on the proposed future NS2B section.
97	Noise and vibration—operation	Adjacent main line	The submitter requests the proponent state which railway line is referred to as being by the adjacent main line in Section 8.2.1 of the ONVIA	Main line refers to proposed alignment of the proposal.
98	Noise and vibration—operation	ID number	The submitter notes that Section 8.2.1 of the ONVIA states that <i>'at SLR ID 264096, the predicted noise levels are 1 dBA above the noise criterion, with the train movements on the adjacent main line the primary source of railway noise'</i> and believes that the ID contains a typo.	Receptor label is to be read as 'SLR ID 254096'.
99	Noise and vibration—operation	Noise levels	The submitter notes that receivers on the southern side of the Macintyre River to the west of the alignment—approximately 1.25 km from the alignment—do not appear to have been included in the operational rail assessment but have been included in the CNVIA. While the noise contours in the ONVIA indicate that exceedance of the trigger levels is not likely, the submitter requests that noise levels from operational rail at these receivers within the study area are included, and clarification of impacts at these receivers is provided.	Operational noise modelling considered an area encompassing the alignment +2 km (PSMA buildings data set). The ONVIA provide mapping on 1:15,000 scale and focus on target areas. Potential operational noise impacts for additional areas can be provided, where necessary, under separate cover.
100	Noise and vibration—operation	Additional information for propagation over 15 m	The submitter requests that clarification or additional information be provided in Appendix B of the ONVIA to show how the propagation for distances exceeding 15 m—and at distances representative of where trigger levels may be exceeded—was validated for the chosen modelling methodology.	Noise validation modelling was undertaken based on industry accepted methods. The key factor adopted in selecting locations was representativeness, to allow a reasonable comparison between measured levels and modelled levels. The adopted railway noise modelling methodology has been extensively used on rail freight projects in NSW and adopts train noise levels developed by TfNSW. The use of this methodology on rail freight projects has been demonstrated to provide suitable accuracy for the prediction of railway noise at the planning and EIS stages of railway infrastructure projects. For the selected locations, the modelling was shown to be slightly conservative. This is the preferred outcome. The approach adopted is considered suitable.

ID	Key Issue	Submission Item	Summary of issue	Response
101	Noise and vibration—operation	Additional information on propagation effects L _{Amax} and L _{Aeq,T}	The submitter requests clarification on the differences in propagation effects between L _{Amax} and L _{Aeq,T} levels and how they result in the contour maps provided in Appendix D of the ONVIA.	<p>Propagation of L_{Amax} and L_{Aeq,T} levels are consistent.</p> <p>The daytime and night-time L_{Aeq} contours have a separate distance of extent given the night-time L_{Aeq} noise trigger levels (55 dB) are 5 dB lower than the daytime noise trigger levels (60 dB). L_{Amax} trigger levels are the same (80 dB) during both the daytime and night-time period.</p> <p>Day time and night-time contours show a difference in L_{Aeq}, T extent based on the number of train movements. For 2040, daytime movements (over the 15-hour period) are 11 of 21. Night-time movements (over the 9-hour period) are 10 of 21. The shorter night-time period, with a consistent number of movements, results in predicted L_{Aeq} levels being proposal specific.</p> <p>The KILDE noise prediction methodology does not treat the sources of the L_{Aeq} and L_{Amax} railway noise the same, as noted in the EPA response. Variations in the predicted emission and propagation of various noise sources will result in variations to the contours of predicted noise levels.</p>
102	Noise and vibration—operation	References	<p>The submitter notes that Section 11.1 of the ONVIA states: <i>‘Previous measurement and assessment of ground-borne vibration from existing rail freight corridors indicates that potential for ground-borne vibration impacts would be limited to sensitive receptors located within 100 m of the proposed rails’</i>.</p> <p>The submitter requests that references to support this statement are provided.</p>	Refer to Section 11.2 and Figure 18 of the ONVIA Technical Report.
103	Noise and vibration—operation	Detailed design modelling	The submitter recommends that further investigation for the potential for ground-borne noise at receiver SLR ID 254050 should be done during detailed design.	Further consideration of operational rail ground borne noise at receiver SLR ID 254050 can be undertaken during future stages of the proposal.

ID	Key Issue	Submission Item	Summary of issue	Response
104	Noise and vibration—operation	Mitigation measures	<p>The submitter notes that consideration for mitigation of ground-borne noise at the one identified receiver (SLR ID 254050) should be included in Section 14 of the ONVIA as it has been identified as having the potential to exceed ground-borne noise trigger levels. Section 15 of the ONVIA states that reducing internal noise levels by 5 dB would be a perceptible improvement to building occupants; however, in areas where receivers are not subject to existing operational rail noise, and at-property treatments are applied prior to the rail line being operational, treatments are unlikely to be perceived as improvements, as there is unlikely to be a point of comparison. The submitter requests that the recommended mitigation for receivers affected by ground-borne noise is provided as part of the Response to Submissions.</p>	<p>Section 12 of the ONVIA recommended ground-borne noise be reviewed and further assessed during detailed design. For the single receptor, identified to be approximately 50 m from the outer rail, site-specific options would be considered further (where required).</p>
105	Management plans	Mitigation measures	<p>The submitter has presented the following recommendations regarding the Air Quality Technical Report Rev1:</p> <ul style="list-style-type: none"> ▶ Mitigation measures outlined in Table 9.2 of the AQTR be applied to construction of the proposal ▶ An Air Quality Management Plan is developed as part of the Construction Environmental Management Plan to manage dust emissions during construction ▶ Monitoring be undertaken at appropriate intervals during construction and operation of the proposal to include: dust deposition monitoring during construction and in response to nuisance complaints; and ambient air quality monitoring for particulates (particulate matter less than 10 microns and particulate matter less than 2.5 microns) and oxides of nitrogen utilising methodologies outlined in the appropriate Australian Standards. 	<p>Noted. An Air Quality Management Plan will be prepared as a Sub-Plan in the Construction Environment Management Plan. Mitigation measures from the Air Quality Technical Report will be included.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
106	Management plans	Environmental management plans	The submitter recommends that any water that is captured onsite will need to be treated to appropriate levels prior to discharge. The submitter has noted that a substantial length of the track passes through areas of high salinity and suggests that this would need to be considered as a factor in any discharge assessment for any EPL that applies to the works. The submitter also recommends that the soil and water management plan, and erosion and sediment control plan be included as conditions of approval, together with a water quality monitoring programme, and the mitigation measures proposed in Table 6.3 of the SWQTR are incorporated into the CEMP.	A Soil and Water Management Plan, and Erosion and Sediment Control Management Plan will be developed as part of the CEMP, which complies with the proposal's conditions of approval, relevant regulatory requirements and industry guidelines (e.g. <i>Managing Urban Stormwater Soils and Construction NSW</i> , Volume 1 (Landcom, 2004) and Volume 2 (Department of Environment and Climate Change (NSW), 2008). These will include water quality and soil/land conservation objectives for the proposal.

D.8 Submission 30: Goondiwindi Regional Council

ID	Key Issue	Submission Item	Summary of issue	Response
120	Hydrology	Detailed design modelling	The submitter has concerns with flooding in Goondiwindi Regional Council area and will be developing a specific submission dealing with the specific issues regarding flooding that will be provided upon the finalisation of modelling and other assessment.	No response required.
121	project description	project description	The submitter believes more detail should be provided regarding decommissioning and the impact to the road network during and after a major flood event.	The EIS was completed in accordance with the SEARS, which did not contemplate the decommissioning phase of the project and, by association, its impacts during this phase.
122	Traffic and transport	Traffic impacts	The submitter is concerned with the impacts on traffic on local roads from the supply of the insitu concrete from the proposed concrete batching plant.	Potential sources for construction materials, including concrete, have been assumed, along with associated delivery and haul routes to worksites in the construction area. The assessments to date provide an indication of the effect of construction traffic. The Traffic and Transport Management Sub-Plan to the CEMP will address construction traffic impacts, including travel routes and the effect on traffic.
123	Traffic and transport	Traffic impacts	The submitter requests further information is provided on traffic generation from material supply to the batching plant.	At the EIS phase, the level of detail requested is not available as procurement arrangements for materials are yet to be undertaken. The Traffic Management Plan to the CEMP will address construction traffic impacts, including the volume and route of construction material movements, plant and equipment movements and the operation of the road network. The TMP will be prepared in consultation with relevant road management agencies and public transport operators.
124	Traffic and transport	Guide to traffic impact assessment	The submitter recommends reconsidering using the GTIA (Guide to Traffic Impact Assessment) as the impact assessment method for lower order local road networks.	Pavement impact assessments were not conducted for affected lower order council roads, as the GTIA methodology applies to State-controlled roads (SCR). Alternative mitigation measures will be developed for all construction routes, such as road visual condition assessments, prior, during and post construction, and returning the road to original condition once construction is finished. Such mitigations will be developed through consultation with local governments prior to construction commencing.
125	Traffic and transport	Cumulative impacts	The submitter is concerned that the cumulative impacts from other IR packages demanding resources in the Goondiwindi region, such as for insitu concrete, may further reduce the useful lives of road links.	Other Inland Rail projects will be assessed in their respective environmental impact statements. The NS2B cumulative impact assessment has considered adjacent Inland Rail projects. Although during the construction phase, it is likely that there will be simultaneous construction, this is not considered in scope for the feasibility design phase.

ID	Key Issue	Submission Item	Summary of issue	Response
126	Project description	Project description	The submitter is concerned about water supply of Boggabilla Weir if construction occurred concurrently with a drought event.	ARTC will engage with DPI Water regarding availability of water from Boggabilla Weir. ARTC will also use existing approved water sources or engage in consultation with local councils. Other sources of recycled water, such as other industrial sources (e.g. mining), will be investigated. By diversifying the potential water sources, ARTC are alleviating reliance on any singular source. Domestic needs will be prioritised above construction water supply.
127	Waste	Consultation	The submitter notes the type of waste generated and the use of Council waste facilities will require additional consideration, as detailed within the submission.	Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal. The confirmation of waste acceptance criteria and available or permissible annual disposal rates will be undertaken in consultation with the relevant operator once the construction schedule and sequencing are confirmed.
128	Secondary approvals	Legislative requirements	The submitter is concerned with delivery of infrastructure across two states and consideration of appropriate regulatory controls.	It is noted and acknowledged that although the proposal is located in NSW, with the boundary of the proposal at the NSW/Queensland state border, there is potential for interactions with Inland Rail projects assessed in Queensland. To manage this, Inland Rail has been actively engaging across the relevant Queensland and NSW departments to keep all parties informed and consistent in their approaches, including the cross-border commissioner. This is being actively managed to provide harmonisation across the State regulatory requirements where possible. The applicable state agencies also have their own routine interfaces to achieve this outcome.
129	Heritage	Legislative requirements	The submitter is concerned with heritage impacts across two states and consideration of appropriate regulatory controls.	Noted.

ID	Key Issue	Submission Item	Summary of issue	Response
130	Secondary approvals	Conditions compliance	The submitter requests further information is provided on how local government in Queensland can address non-compliance should the delivery of conditions be contracted by the proponent to a third party.	<p>It is noted and acknowledged that although the proposal is located in NSW, with the boundary of the proposal at the NSW/Queensland state border, there is potential for interactions with Inland Rail projects assessed in Queensland; however, as the relevant planning approval processes are under the jurisdiction of the state, the projects will be primarily regulated under the relevant state's legislative framework.</p> <p>To actively manage potential inconsistencies across the state border, Inland Rail has been actively engaging with the relevant Queensland and NSW departments to keep all parties informed and consistent in their approaches, including the cross-border commissioner. This is being actively managed to provide harmonisation across the state regulatory requirements where possible. The applicable state agencies also have their own routine interfaces to achieve this outcome.</p> <p>If a local government representative would like to discuss a potential compliance issue, they would need to contact the relevant state agency, depending is the issue occurred in Queensland or NSW.</p>
131	Biodiversity	For consideration	The submitter is concerned that the proposal could potentially impact regulated native vegetation through clearing under the <i>Vegetation Management Act 1999</i> (Qld).	'Regulated Vegetation' is a legislative requirement applied in Queensland only.
132	Biodiversity	For consideration	The submitter is concerned that the proposal could potentially impact protected flora individuals and their habitat, through clearing, weed establishment and proliferation, and introduction of edge effects, under the <i>Nature Conservation Act 1992</i> (Qld), EPBC Act 1999.	NC Act is for application in Queensland only. All NSW entities are assessed as per the BC Act.
133	Biodiversity	For consideration	The submitter is concerned that the proposal could potentially impact protected fauna individuals by direct mortalities if fauna spotting/catching activities are not undertaken during construction. Threatened fauna habitat may also be impacted through clearing, weed establishment and proliferation, and introduction of edge-effects, under the <i>Nature Conservation Act 1992</i> (QLD), EPBC Act 1999.	The NC Act is Queensland legislation. NSW fauna is protected under the BC Act, which is assessed under the BAM.
134	Biodiversity	For consideration	The submitter is concerned that the proposal could potentially impact TECs through clearing, weed establishment and proliferation, and introduction of edge-effect, under the EPBC Act.	EPBC listed TECs exist within the proposal area and all communities, except for the Poplar Box grassy woodland on alluvial soil, have been assessed. As advised by DAWE, the Poplar Box TEC will not need to be assessed as it was listed after the SEARs had been issued.

ID	Key Issue	Submission Item	Summary of issue	Response
135	Biodiversity	Biosecurity	The submitter is concerned that the construction activities have the potential to cause proliferation of pest plants/weeds <i>Biosecurity Act 2015</i> (NSW), EPBC Act.	The addition of the rail line crossing is not likely to increase weed passage to Queensland as there are already several road bridges that cross the Macintyre to the west and east of the proposed crossing location. Other biosecurity vectors, such as floods, wind, fauna and non-project vehicle/plant movement, also contribute a baseline level of weed spread. The CEMP for the project will include biosecurity management measures. No weeds of national significance have been noted as occurring on only one side of the border. The BDAR was updated to further reflect this situation.
136	Biodiversity	Fish Passage	The submitter is concerned that the proposal impacts on watercourses could potentially impact fish movement if barriers are introduced. Additionally, the proposal could affect water quality through pollution, sediment discharge and potentially changing hydrology, under <i>Fisheries Act 1994</i> (NSW), <i>Water Act 2000</i> (Qld), EP Act, <i>Water Act 2007</i> (Cth). The submitter also notes that these crossings have not been evaluated against the Queensland Fisheries Act and believes the impact on fish passage is somewhat uncertain.	The biodiversity assessment relates to NS2B, which is located in NSW. Queensland legislation does not apply to the biodiversity assessment for this proposal. Waterways and drainage lines in the NS2B proposal study area were assessed in relation to the potential requirement for fish passage in accordance with NSW legislation and guidelines. A number of bridges, culverts and other structures are identified as requiring fish passage requirements. Initial project drawings include scour protection measures on bridge embankments, culverts and structures based on consideration of potential water velocity, surrounding soil landscapes and fish habitat classification. Additional measures, such as the placement of dead stags within drainage lines, will be assessed in consultation with DPI Fisheries for implementation.
137	Heritage	Unexpected finds	The submitter recommends work should be paused for unexpected heritage finds and these should be appropriately assessed prior to work recommencing.	Noted. An unexpected finds procedure or similar will be outlined in the CEMP and sub plans and will be implemented during the construction phase of the project.
138	Heritage	Impact assessment area	The submitter acknowledges that there will be no impact to historic heritage.	Noted.
139	Noise and vibration—construction	Noise management levels	The submitter is concerned that the greater production of noise and vibration has potential to impact human health and wellbeing.	Road traffic noise impacts during the construction phase have been assessed and found to comply with the Environment Protection Authority's <i>NSW Road Noise Policy</i> .

ID	Key Issue	Submission Item	Summary of issue	Response
140	Traffic and transport	Guide to traffic impact assessment	<p>The submitter presents the following comments regarding Part A of Chapter 20: Traffic and Transport:</p> <ul style="list-style-type: none"> ▶ The issue that should be clarified in the EIS process is which legal entity has the ability to enforce compliance of NSW legislative outcomes, such as EIS conditions of approval that will be implemented in Queensland ▶ The use of the <i>Guideline to Traffic Impact Assessment</i> (September 2017) focuses on the impacts of level of service in terms of the road volume capacity, rather than the structural capacity, and consumption of the useful life of pavement with increased number of Equivalent Standard Axles (ESA's). Local government impact assessment should be based on an asset management approach rather than a service volume approach. ▶ The use of Austroads <i>Guide to Traffic Management</i> is supported. 	<p>ARTC will continue to consult with councils once the conditions of approvals have been issued and compliance requirements will be confirmed with DPIE where they are unclear.</p> <p>The GTIA provides a basis for the assessment of road impacts and has been adopted for the preliminary assessment on traffic and pavement impacts by the proposal. Although the Guidelines only apply to the State controlled roads, local government may choose to adopt or use this as a reference; hence, the GTIA has been adopted for this assessment to provide an indication on the scale of impact from the proposal.</p>
141	Traffic and transport	Traffic impacts	<p>The submitter requests further information on the use of the road network during the construction and operational phases of the proposal; specifically, relating to workforce, concrete routes, quarry routes, spoil disposal and sleeper routes.</p>	<p>Shift changes from accommodation workers have been included in the assessment of accommodation trips. It has been assumed that two shifts will occur per day with 50 per cent of total staff working each shift. Staff shift changeovers have been conservatively assumed to occur simultaneously with the background traffic peak hour.</p> <p>If a concrete stressing yard is identified for use, then this will be considered in the detailed design stage.</p> <p>The proposed suppliers and resulting construction routes have been adopted for this stage of the proposal. The concrete supplier has been deemed feasible for this stage and the delivery of the proposal. This will be confirmed at the next stage by the construction contractor.</p> <p>Confirmation of waste disposal plans will be confirmed by the construction contractor. Proposals in this submission are feasible solutions but will need to be reassessed by the construction contractor.</p>
142	Traffic and transport	Guide to traffic impact assessment	<p>The submitter recommends reconsidering the GTIA as the impact assessment method for lower order local road networks.</p>	<p>Pavement impact assessments were not conducted for affected lower order council roads, as the GTIA methodology applies to SCRs. Alternative mitigation measures will be developed for all construction routes, such as road visual condition assessments, prior, during and post construction and returning the road to original condition once construction is finished. Such mitigations will be developed through consultation with local governments prior to construction commencing.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
143	Traffic and transport	Traffic impacts	The submitter requests further information on the use of the road network during the construction phase of the proposal; specifically, relating to concrete routes, as they are concerned with the impact on traffic on local roads.	<p>The construction routes proposed and assessed in the traffic impact assessment have been developed based on a number of assumptions on suppliers. The determination of the final construction and heavy vehicle routes will be subject to consultation between Roads and Maritime Services (RMS) (now part of TfNSW), Department of Transport and Main Roads (Qld) (DTMR), the local government authority and the construction contractor.</p> <p>The materials required to be supplied to the batching plant itself prior to proposal construction is not considered by the EIS and would be subject to a development approval by council in which planning considerations would be assessed.</p>
144	Traffic and transport	Mitigation measures	The submitter requests input into the traffic management plan for the proposal on an ongoing basis and notes the proponent, as the contact principal, should not transfer the local management to the contractor and believes the onus should remain with the proponent.	ARTC's construction contractor will be responsible for implementing the Traffic Management Plan; however, ARTC, as the proponent, will maintain accountability and will take part in consultation with the local councils.
145	Traffic and transport	Traffic impacts	The submitter is concerned that the life of the proposal is undefined and, therefore, there may be future impacts, such as natural disaster recovery works and major replacement works, over the life of the asset and believes the current EIS may not accurately represent the operational impact. This submitter requests this issue be reviewed.	<p>The operational stage of the proposal has been detailed within this assessment. Detailed mitigations have been provided in table 20.30 in order to mitigate these known impacts.</p> <p>Health and safety requirements would be prioritised as part of any natural disaster recovery works. Major replacement works associated with natural disasters will be undertaken in consultation with relevant state agencies and local councils.</p>
146	Traffic and transport	Cumulative impacts	The submitter is concerned with the cumulative impacts from major developments and other IR packages construction schedules on pavements useful life, which may result in premature rehabilitation.	In order to ensure construction routes are properly mitigated, ARTC have a number of options with regard to this, including interface agreements with local councils and agreement on rehabilitation measures. ARTC will be required to consult with councils to determine the appropriate mitigations for each Inland Rail project. Mitigation measures will be developed for all construction routes, such as road visual condition assessments, prior, during and post construction, and returning the road to original condition once construction is finished. Such mitigations will be developed through consultation with local governments prior to construction commencing.

ID	Key Issue	Submission Item	Summary of issue	Response
147	Traffic and transport	Mitigation measures, school bus routes	The submitter requests an additional mitigation measure in the traffic management plan—ensure contractors are made aware of the presence of school bus routes, bus stops and operational hours as part of the induction process. The submitter also requests that the school bus route along the Cunningham Highway to Goondiwindi schools is referenced in the EIS.	The proposed mitigation that the contractors will be made aware of the presence of school bus routes, bus stops and their operational hours as part of the induction process, is sufficient. Consultation with GRC will confirm any additional information to be considered in the traffic management plan.
148	Traffic and transport	Traffic growth rate	The submitter considers the traffic growth rate of 2 per cent for State-controlled roads and local roads reasonable.	The growth rate was not applied to construction traffic; rather, to the background traffic existing on the road network in order to determine the construction traffic impacts on top of this.
149	Traffic and transport	Traffic growth rate	The submitter requests further information on traffic generation to the batching plant and impacts on pavement, as the submitter believes this issue is underestimated.	<p>The determination of final construction routes will require a review of the impacts on the road network.</p> <p>The determination of 5.1 per cent for this assessment is above the deemed 5 per cent threshold and has, therefore, been included in Table 20.25. This impact will be required to be reassessed once a construction contractor confirms the transport routes and suppliers.</p> <p>The materials required to be supplied to the batching plant itself have not been considered as part of the construction activity requirements and hence not considered for the traffic impact assessment.</p>
150	Traffic and transport	Traffic impacts	The submitter requests additional mitigation measures—strategies introduced in order to ease construction-related traffic impacts at intersections. The submitter also notes that the EIS identifies the intersection of Hunt Street and the SCR (Leichardt Highway) as a joint owned road; however, under the Department of Transport and Main Roads protocol with local government, Main Roads has ownership of the asset to the tangent point of the intersection; therefore, there will be no impact to GRC Intersection infrastructure.	The second column of Table 20.26 is not referring to applicability for intersection upgrade, it is referring to the applicability of joint ownership. As Hunt Street and Boodle Street are both GRC roads, this intersection has been deemed as a GRC intersection. DTMR have been deemed as an owner of the Hunt Street/Leichardt Highway intersection; however, as Hunt Street is a GRC road, GRC has been named as a stakeholder (i.e. 'joint ownership') for this intersection.

ID	Key Issue	Submission Item	Summary of issue	Response
151	Traffic and transport	Traffic impacts	The submitter notes that the findings show that only one SCR road is likely to cross the 5 per cent SAR threshold. This analysis is based on the assumption that fully loaded vehicles in each direction is conservative to ensure no underestimation of pavement impacts. The analysis indicates that the SCR road segments located in Queensland would have a minimal pavement impact given the duration of the construction activities and pavement loading. The submitter is concerned that the findings refer only to the SCR roads and not local government roads, as they believe the Boodle Street impact has been underestimated by not taking into account the material supply to the batching plant. Due to this, the submitter requests that the 5 per cent exceedance be reviewed and receive further clarification on the assumptions used in the assessment of construction impacts on pavements.	<p>Pavement impact assessments were not conducted for affected lower order council roads, as the GTIA methodology applies to SCRs. Alternative mitigation measures will be developed for all construction routes, such as road visual condition assessments, prior, during and post construction and returning the road to original condition once construction is finished. Mitigations will be developed through consultation with local governments prior to construction commencing.</p> <p>Assumptions made in this assessment regarding suppliers will be required to be revaluated at the next stage of the proposal and associated construction routes confirmed.</p>
152	Traffic and transport	Mitigation measures	The submitter does not support the current approach to the assessment of traffic impacts as they believe the accumulated impact over the period of Inland Rail projects on streets are being underestimated. The submitter requests these additional mitigation measures: ongoing consultation with asset owners, consideration of school bus routes and ensuring the effective implementation of the traffic management plan.	<p>Ongoing consultation with the asset owner is the suggested mitigation for this stage of the proposal. Once the construction routes are confirmed, sufficient mitigations will need to be decided between the construction contractor, ARTC, road authorities and local councils. Mitigations will be managed through the Construction Environmental Management Plan (CEMP), which will include a Traffic Management Plan (TMP) that will be prepared prior to construction commencing.</p> <p>Accumulated impacts over the entire period of Inland Rail projects are not considered in scope for the assessment. Due to the nature of the proposal for this stage, adjacent projects have been separated and assessed individually.</p> <p>The SEARs for the proposal does not specify a guideline for the undertaking of the traffic, transport and access impact assessment; however, the <i>DTMR Guide to Traffic Impact Assessment 2017</i> (GTIA) has been agreed with and accepted by Roads and Maritime Services (RMS) (NSW) as the basis for this assessment.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
153	Traffic and transport	Traffic impacts	<p>The submitter requests further clarification on the assumptions used in the level of service impact assessment relating to heavy vehicle construction impacts on pavements.</p>	<p>Pavement impact assessments were not conducted for affected lower order council roads as the GTIA methodology applies to SCRs.</p> <p>Alternative mitigation measures will be developed for all construction routes, such as road visual condition assessments prior, during and post construction and returning the road to original condition once construction is finished. Such mitigations will be developed through consultation with local governments prior to construction commencing. Mitigations will be managed through the Construction Environmental Management Plan (CEMP), which will include a Traffic Management Plan (TMP) that will be prepared prior to construction commencing.</p> <p>Assumptions made in this assessment regarding suppliers will be required to be revaluated at the next stage of the proposal and associated construction routes confirmed.</p>
154	Traffic and transport	Traffic impacts	<p>The submitter does not support the current proposal due to the following reasons:</p> <ul style="list-style-type: none"> ▶ The only operational batching plant in Goondiwindi is located in Town Common Road and not Boodle Street ▶ Traffic analysis does not recognise the full impact of supply of materials to the batching plant as well as concrete supply ▶ Methodology of the Guideline to Traffic Impact Assessment (DTMR, 2018) is not a suitable approach for lower order local government roads, as the impact on these roads is related to pavement deterioration and not service volume. Low traffic numbers are reflected in pavement designs and, therefore, high numbers of introduced equivalent standard axles of construction traffic not anticipated in the design reduces useful life of the pavement. ▶ The accumulated impact of the construction traffic route for the Inland Rail Program (as a whole rather than sections) may have a more significant impact on road pavements rather than an assessment on traffic numbers for each section. 	<p>The construction routes proposed and assessed in the traffic impact assessment have been developed based on a number of assumptions on suppliers. The determination of the final construction and heavy vehicle routes will be subject to consultation between RMS (now part of TfNSW), DTMR, the local government authority and the construction contractor.</p> <p>The materials required to be supplied to the batching plant itself prior to proposal construction is not considered by the EIS and would be subject to a development approval by council in which planning considerations would be assessed.</p> <p>Pavement impact assessments were not conducted for affected lower order council roads as the GTIA methodology applies to SCRs. Alternative mitigation measures will be developed for all construction routes, such as road visual condition assessments, prior, during and post construction and returning the road to original condition once construction is finished. Mitigations will be developed through consultation with local governments prior to construction commencing.</p> <p>Assumptions made in this assessment regarding suppliers will be required to be revaluated at the next stage of the proposal and associated construction routes confirmed. The impacts from the use of these construction routes and relevant mitigations will be managed through the Construction Environmental Management Plan (CEMP), which will include a Traffic Management Plan (TMP) that will be prepared prior to construction commencing.</p> <p>Ongoing consultation with the asset owner is the suggested mitigation for this stage of the proposal. Once the construction routes are confirmed, sufficient mitigations will need to be decided between the construction contractor, ARTC, road authorities and local councils.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
154	Traffic and transport [continued]	Traffic impacts [continued]	[continued]	Accumulated impacts over the entire period of Inland Rail projects are not considered in scope for the assessment. Due to the nature of the proposal for this stage, adjacent projects have been separated and assessed individually. The SEARs for the proposal does not specify a guideline for the undertaking of the traffic, transport and access impact assessment; however, the DTMR <i>Guide to Traffic Impact Assessment 2017</i> (GTIA) has been agreed with and accepted by Roads and Maritime Services (RMS) (NSW) as the basis for this assessment.
155	Waste	Waste facilities	The submitter notes the proximity of its waste facilities to the proposal and suggests it could serve as a waste disposal solution for waste streams, including municipal solid waste, from the construction accommodation.	Noted. GRC waste management facilities are identified as a potential waste receipt location in Table 25.3 of Chapter 25: Waste Resource and Management. Any waste transported or disposed of at facilities interstate must comply with the relevant waste and resource management requirements, and legislative requirements, including all relevant matters related to cross-border transportation of waste. The fate and management of waste material generated during the proposal will be finalised and documented in the Construction Environmental Management Plan to ensure that practical and pragmatic waste management solutions are implemented for the proposal. The management measures will be developed in consideration of the waste management hierarchy and to achieve, where possible, onsite processing and reuse.
156	Waste	Waste facilities	The submitter notes the following regarding the waste facilities in Table 25.3 of Chapter 25: Waste and Resource Management: <ul style="list-style-type: none"> ▶ Goondiwindi Transfer and Landfill Facility ▶ Charges apply along with State Landfill Levy ▶ Regulated waste from interstate is not accepted for demolition work ▶ There is no facility to receive liquid waste at this site, e.g. grey water or black water ▶ There are Resource Recovery Areas for the following materials: green waste, scrap metal, concrete/brick suitable for crushing, waste oil, batteries, DrumMuster chemical containers and tip shop for second-hand goods 	Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal. The confirmation of waste acceptance criteria and available or permissible annual disposal rates will be undertaken in consultation with the relevant operator once the construction schedule and sequencing are confirmed. The volume of regulated waste generated by the proposal is not expected to be significant and will be able to be managed through the existing waste management network. As a condition of contract, the appointed contractor will be required to comply with all statutory requirements, which would include the appropriate and statutorily compliant management of waste generated by the proposal.

ID	Key Issue	Submission Item	Summary of issue	Response
156	Waste [continued]	Waste facilities [continued]	The licence capacity at Goondiwindi is 5,000–10,000 tonnes/annum and this could be a limiting factor should there be large volumes of waste proposed to be delivered as part of the Inland Rail Program. Current receivals are between 8,000– 8,500 tonnes/annum.	The assessment of wastewater from the operation of the construction accommodation during the construction phase of the proposal. The proposal seeks to manage wastewater in accordance with the principles of the waste hierarchy outlined in the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WA). A package sewage treatment system is proposed to be constructed at the western periphery of the construction accommodation to manage wastewater from the associated construction accommodation facilities. The effluent derived from the package sewage treatment system is proposed to be managed through irrigation.
157	Waste	Waste facilities	<p>The submitter has provided further detail regarding the Inglewood landfill:</p> <ul style="list-style-type: none"> ▶ This site now operates under a new Environmental Authority (EA0002129) ▶ The site has been redeveloped with a new weighbridge installed, security fencing and restricted access to the landfill component of the site for commercial, demolition and limited volumes of regulated waste being accepted on Wednesday of each week between (8 am–12 pm) with charges applying similar to Goondiwindi ▶ There is an internal transfer facility (3 x 30 cubic metres (m³) bins) in a section of the site that is open seven (7) days for delivery of domestic waste ▶ There are Resource Recovery Areas for the following materials: green waste, scrap metal, concrete/brick suitable for crushing and waste oil on a reduced scale to Goondiwindi ▶ There is no facility for receiving liquid waste at this site. 	Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal. The confirmation of waste acceptance criteria and available or permissible annual disposal rates will be undertaken in consultation with the relevant operator once the construction schedule and sequencing are confirmed.
158	Waste	Waste facilities	<p>The submitter has provided further detail regarding the Yelarbon landfill:</p> <ul style="list-style-type: none"> ▶ This landfill is now closed and has been converted to a transfer facility with (2 x 30 m³) transfer bins for domestic waste only ▶ There is no facility for receiving liquid waste at this site. 	Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal. The confirmation of waste acceptance criteria, and available or permissible annual disposal rates, will be undertaken in consultation with the relevant operator once the construction schedule and sequencing are confirmed.

ID	Key Issue	Submission Item	Summary of issue	Response
159	Waste	Mitigation measures	The submitter notes their ability to provide comment on the acceptance of the various waste streams at the current stage of the document presentation is limited by the lack of waste volumes and types. The submitter would like to receive the CEMP in order to determine waste volumes and types.	<p>Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal. The confirmation of waste acceptance criteria and available or permissible annual disposal rates will be undertaken in consultation with the relevant operator once the construction schedule and sequencing are confirmed.</p> <p>Where possible, the proposal will aim to reuse the timber sleepers, in accordance with the ARTC waste timbers order 2019. The preparation of the Construction Environmental Management Plan and associated sub-plans for waste management will be undertaken in consultation with local councils.</p> <p>The 63 t/year value in Chapter 25: Waste and Resource Management was estimated based on the total volume of material used divided by the design/service life of the infrastructure components, noting that for rail proposal's track, sleepers and ballast (which is the unlabelled general waste) are replaced much more regularly than the service life due to damage that is picked up during track inspections.</p>
160	Waste	Landfill levy and charges	The submitter notes that Goondiwindi Regional Council (GRC) is currently positioned in the area that attracts the State Landfill Levy charge on top of Council's waste charges for the manned and partly manned landfill sites.	Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal. Any waste transported or disposed of at facilities interstate must comply with the relevant waste and resource management requirements, and legislative requirements, including consultation with relevant parties (i.e. local councils).
161	Waste	Legislative requirements	The submitter notes that if the disposal is to a GRC facility then Queensland legislation, the <i>Waste Reduction and Recycling Act 2011</i> is applicable.	Noted. Section 25.5.3 of Chapter 25: Waste Resource and Management states that any waste transported or disposed of at facilities interstate must comply with the relevant waste and resource management requirements and legislative requirements.
162	Waste	Waste facilities	The submitter is concerned with the disposal volumes of ballast, old rails and sleepers, and the pressure it will place on GRC waste and landfill sites.	<p>Noted. The volume of waste generated by each of the waste streams would be further refined during detailed design to more accurately assess the receiving waste management facilities and waste disposal options for the proposal.</p> <p>ARTC will use a hierarchical approach to waste management from the most preferable (avoid or reduce, re-use, recycle, recover energy and treat) to the least preferable (disposal) and prioritise waste management strategies to avoid generation. Where waste cannot be avoided, waste materials will be segregated by type for collection and removed by licensed contractors.</p> <p>Transportation costs will be considered by the contractor during the preparation of the Construction Environmental Management Plan, when the receiving waste management facilities and waste disposal options for the proposal have been more clearly defined.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
163	project description	Construction water	The submitter is concerned about water supply of Boggabilla Weir if construction occurred concurrently with a drought event and requests that the EIS acknowledge its relevance to the Goondiwindi township and address this issue.	ARTC is to engage with DPI Water regarding availability of water from Boggabilla Weir. ARTC also to engage with local councils about obtaining recycled wastewater as well as putting out an expression of interest to existing Water Access Licence holders to purchase water under their existing provisions (some landowners have expressed interest). Other sources of recycled water, such as other industrial sources (e.g. mining), will be investigated. By diversifying the potential water sources, ARTC are alleviating reliance on any singular source. Domestic needs will be prioritised above construction water supply.
164	Traffic and transport	Cumulative impacts	The submitter requests further information on traffic generation to the batching plant and impacts on pavement, and note made of it in the EIS with mitigations proposed.	<p>The construction routes proposed and assessed in the traffic impact assessment have been developed based on a number of assumptions on suppliers. The determination of the final construction and heavy vehicle routes will be subject to consultation between RMS (now part of TfNSW), DTMR, the local government authority and the construction contractor.</p> <p>The materials required to be supplied to the batching plant itself prior to proposal construction is not considered by the EIS and would be subject to a development approval by council in which planning considerations would be assessed.</p> <p>Pavement impact assessments were not conducted for affected lower order council roads as the GTIA methodology applies to SCRs. Alternative mitigation measures will be developed for all construction routes, such as road visual condition assessments, prior, during and post construction and returning the road to original condition once construction is finished. Mitigations will be developed through consultation with local governments prior to construction commencing.</p> <p>During the next stage of the proposal and after confirmation of the associated construction routes, the assumptions regarding suppliers made in the assessment will need to be re-evaluated.</p> <p>Ongoing consultation with the asset owner is the suggested mitigation for this stage of the proposal. Once the construction routes are confirmed, sufficient mitigations will need to be decided between the construction contractor, ARTC, road authorities and local councils.</p> <p>Accumulated impacts over the entire period of Inland Rail projects are not considered in scope for the assessment. Due to the nature of the proposal for this stage, adjacent Inland Rail projects have been separated and assessed individually.</p> <p>The SEARs for the proposal does not specify a guideline for the undertaking of the traffic, transport and access impact assessment; however, the DTMR <i>Guide to Traffic Impact Assessment 2017</i> (GTIA) has been agreed with and accepted by Roads and Maritime Services (RMS) (NSW) as the basis for this assessment.</p>

D.9 Submission 31: Gwydir Shire Council

ID	Key Issue	Submission Item	Summary of issue	Response
165	Proposal design and alternatives	Alignment	<p>The submitter requests further review of the alignment of the rail line and North Star Road between North Star and the Bruxner Way. The submitter notes that by realigning approximately 13 km of road or rail in this area, four public level crossings could be eliminated. The submitter has received several representations from residents of the local government area raising concerns for the safety of road traffic and the potential traffic and freight delays, given the number of crossings within a short distance. The submitter believes the aggregation of risk from the crossings warrants further investigation into the road–rail alignment.</p>	<p>The proposal uses the existing rail corridor in the area in question and includes the two stated existing public level crossings.</p> <p>The ARTC design process comprehensively addresses the safety implications of the affected level crossings through a design process that seeks to ensure risks are minimised So Far As Is Reasonably Practical. The proposal is informed by the industry recognised and approved Australian Level Crossing Assessment Model (ALCAM) investigation process, which is used for all public level crossings that are part of Inland Rail. The process incorporates school bus routes, road traffic numbers and rail movements projected to 2040 to establish design requirements and safe treatment methods.</p> <p>Crossings along North Star Road will be improved with new road approaches, new signs and line markings; the two higher-order crossings will be upgraded to active level crossings with lights and booms.</p> <p>With regard to consideration of an alternative alignment, ARTC has considered, analysed and discounted alternative options. In response to concerns raised in consultation by community and local government, investigation identified the following additional project requirements would arise through an upgrade of the existing road:</p> <ul style="list-style-type: none"> ▶ Approximately 14 km of new road ▶ 2 new bridges (approximately 244 m) ▶ 155 lengths of culverts (approximately 1,860 m) ▶ 11 km power and comm relocation ▶ 300,000 m² land acquisition ▶ Demolition of existing roads, culverts and bridges <p>The investigation highlighted that two of the public level crossings would still be required in order to service Scotts Road and Oakhurst Road. The number of private level crossings may also increase to maintain land access to property that would become isolated by the rail corridor. Jointly, these level crossings provide no additional road safety benefit compared with the proposal and could significantly negate the potential safety improvements.</p> <p>The analysis of alternatives also investigated the traffic impact of these level crossings. This included estimated train numbers in 2040 and current measured road traffic numbers, projected to 2040, with a 2 per cent per annum growth rate. The current Level of Service ranking of A is not impacted by the proposal.</p> <p>As the proposal uses the existing rail corridor and limited reduction of level crossings, coupled with the high cost, land and engineering requirements, the road realignment is not a preferred outcome.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
166	Traffic and transport	Traffic count data	The submitter is concerned with traffic count data collected for Gwydir Shire Council roads. Results were collected during a drought period, which would have resulted in lower traffic counts.	<p>The traffic counts undertaken to inform the feasibility design unfortunately coincided with a time of drought; however, from regular discussions between ARTC and GSC, GSC were able to provide additional historical counts. Similarly, from regular discussions between ARTC and MPSC, MPSC were able to provide historical data on North Star Road, which is common to both councils. MPSC also shared counts undertaken in 2020, which can be used and or correlated for GSC.</p> <p>It is not standard practice to design based on short-term peaks such as a harvest; however, these peaks will contribute to a higher AADT. ARTC's process includes projecting traffic figures out to 2040 with a growth rate of 2.5 per cent per annum. 2.5 per cent per annum is high for rural areas and, in our opinion, would account for harvest periods.</p> <p>ARTC will further engage with GSC in the detailed design phase and incorporate the new and historic data mentioned above. If GSC have newer counts during current non-drought conditions they will be incorporated and, if not, ARTC will liaise with GSC to undertake new counts and then use all available data to calculate and agree appropriate AADT figures.</p> <p>Note: Higher traffic counts are not likely to change the Level of Service; however, it is likely to change pavement thicknesses slightly.</p>
167	Traffic and transport	Traffic count data	The submitter notes that Section 5.5.6 of EIS Appendix M: Traffic Impact Assessment states that all quarry materials will be supplied from quarries south of North Star; however, EIS Appendix E shows most quarries being north of North Star. The submitter requests confirmation on if the intention is to pull from all quarries provided and, if so, what additional impact this will have on the local roads.	<p>Quarry products used in construction include pavement gravel, capping and ballast from registered quarries; whereas, the general fill for embankments will be sourced from the borrow pits.</p> <p>The quarries presented in EIS Appendix E are potential suppliers that could be used for the proposal; however, based on the constructability assumptions, for this assessment it has been assumed that all materials will be sourced from the quarries south of North Star. If the construction contractor decides to change this assumption, then the impacts will have to be reassessed.</p>
168	Traffic and transport	Traffic count data	The submitter noted that Section 6.4.3.1, p.92 of EIS Appendix M: Traffic Impact Assessment lists the design vehicle as being a B-Double but the majority of routes being assessed are approved for Type 1 Road Trains. The submitter requests confirmation on if this changes the results of the analysis or if it affects queue times at level crossings.	The level crossings have been assessed with type 1 road trains. The level crossings analysis was undertaken by the design team, with only the delays for the general traffic vehicles assessed in this report. Queue times will not be affected by the design vehicle, as only the general traffic volumes and train wait times impact the queue lengths.

ID	Key Issue	Submission Item	Summary of issue	Response
169	Traffic and Transport	Traffic count data	The submitter believes that the queue lengths calculated in Section 6.4.3.3, p.95 of EIS Appendix M: Traffic Impact Assessment seem to not account for the high percentage of heavy vehicles and requests confirmation on if the calculations were done using type 1 road trains as the design vehicle.	Heavy vehicle percentages were included in this assessment, with the 'Volume' vehicles per hour number including both heavy vehicles and light vehicles. The SIDRA analysis results provided here take into account the percentage of heavy vehicles inputted. The design vehicle is not an input for queue length analysis; however, heavy vehicle percentages have been incorporated.
170	Economic impact	Cost benefit analysis	The submitter requests a CBA in order to better understand the impact on TSRs and informal stock routes as well as further consultation.	The proposal has consulted with Local Land Services (LLS) and at this stage of design, no changes are proposed to the TSRs in the brownfield section of the railway corridor. ARTC will continue to consult with LLS and Crown Lands during the detailed design phase. Any current informal use of the existing railway corridor by landowners for the movement of livestock will not be allowed to continue in the operational railway corridor.
171	Economic impact	Accommodation infrastructure	The submitter is concerned about the potential negative impacts of the buildings and infrastructure established for the accommodation camp. The submitter suggests support with the community should be undertaken to appropriately utilise these facilities.	Further consultation to take place during the detailed design phase about the location, design and operation of the construction workforce accommodation. For the purpose of the EIS, it is assumed that the construction workforce accommodation will be demobilised post completion of construction with any use beyond this phase requiring appropriate assessment under the EP&A Act, regulations and associated SEPPs.
172	Economic impact	Local procurement, consultation	The submitter is concerned about the lack of potential commercial opportunities for local suppliers due to tender compliance requirements excluding many of them. The submitter suggests running workshops with business owners.	ARTC Inland Rail recognises the importance of maximising opportunities for local businesses to participate in the Inland Rail supply chain. ARTC Inland Rail has developed an Australian Industry Participation Plan and will require the primary contractor to implement programs and initiatives that maximise local business outcomes on the proposal. Additionally, there will be local content requirements as part of the construction contract to ensure supply opportunities are maximised. Business Capability Workshops will be held to support local businesses to prepare for opportunities in the Inland Rail supply chain. Additionally, ARTC Inland Rail is committed to facilitating additional support for businesses in the pre-construction phase, including business briefings. In addition to initiatives to support local participation in the supply chain, ARTC Inland Rail is committed to reporting local procurement outcomes for NS2B through a quarterly social performance snapshot, which will be shared publicly with local communities.

ID	Key Issue	Submission Item	Summary of issue	Response
173	Economic impact	Consultation	The submitter suggests that the likelihood of maximising the overall benefit, particularly during the construction phase, would be greatly increased through the provision of a series of community development based workshops to ensure they understand the opportunities before them and are equipped to respond effectively to these opportunities. The submitter also noted that EIS Appendix I states that, <i>'In order to maximise the positive outcomes of the proposal, a number of strategies to avoid, reduce or mitigate the negative economic impacts, and enhance and facilitate the capture of positive impacts have been proposed by ARTC'</i> . The submitter requests confirmation on what these are.	<p>A range of economic benefits, commitments and mitigations have been outlined throughout the Social Impact Assessment and Social Impact Management Plan, e.g. Section 7.4.5 provides an overview of the project's economic benefits. The SIA also notes <i>'one of ARTC's primary aims is to maximise employment opportunities for SIA study area residents'</i> (Section 8.3) and <i>'ensuring that local and regional businesses benefit from the project'</i> (Section 8.6). Please also refer to Tables 65, 66 and 68. The Inland Rail Skills Academy will cooperate with stakeholders to develop and implement training and development partnerships that will equip local jobseekers for jobs in proposal construction. The partnerships and projects that make up the Inland Rail Skills Academy are in progress, with aims to commence some activities in late 2020 and a more comprehensive program in 2021. Such projects include:</p> <ul style="list-style-type: none"> ▶ Skills training into rail construction, operations and rail maintenance: <ul style="list-style-type: none"> ▶ Young people and other interested community members will be supported into relevant training and/or assisted to gain industry accreditation, which could lead to employment on Inland Rail. ▶ Business participation and capability building: <ul style="list-style-type: none"> ▶ Small-to-medium enterprises in the regions along the alignment will receive expert advice on integrating into major supply chains. They will also be provided with opportunities to build capacity and supply chain readiness to meet the requirements of major projects.
174	Hydrology	Afflux impacts	The submitter is concerned with flooding along North Star Road, specifically Access Road 3 (afflux increase by 302 mm) (Section 13.8.2.1 of Chapter 13: Surface Water and Hydrology) and requests confirmation on if there are any mitigation measures considered for this point.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
175	Hydrology	Submersion times	The submitter is concerned with submersion times, specifically North Star 1 and North Star 2 (Table 13.27 of Chapter 13: Surface Water and Hydrology) and N51 and N52 (Table 13.28 of Chapter 13: Surface Water and Hydrology) and requests confirmation on if mitigation measures are being considered.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
176	Hydrology	Afflux impacts	The submitter requests that the afflux of Back Creek, mentioned in Section 13.8.2.1 of Chapter 13: Surface Water and Hydrology, is included in Table 13.29.	Afflux has been reassessed and results are re-reported in the PIR.

D.10 Submission 32: Heritage NSW—Historical Heritage

ID	Key Issue	Submission Item	Summary of issue	Response
2	Heritage	Consultation	The submitter appreciated being invited to comment on the SSI proposal.	Noted.
3	Heritage	Impact assessment area	The submitter acknowledges that the proposal does not affect State Heritage Register Items.	Noted.
4	Heritage	Mitigation measures	The submitter supports the historic heritage assessment and mitigations.	Noted. The proposal will continue to consult with the relevant local council or Heritage NSW, as appropriate, regarding heritage items throughout the proposal.
110	Heritage	Consultation	The submitter supports the historical heritage mitigations and suggests seeking advice from relevant local councils for local items in the vicinity.	Noted. The relevant councils were consulted with as part of the EIS. Salvaged material from within the proposal construction footprint may be offered to local museums for their collection, should they wish. The proposal will continue to consult with the relevant local council or Heritage NSW, as appropriate, regarding heritage items throughout the proposal.

D.11 Submission 33: Heritage NSW—Aboriginal Culture Heritage

ID	Key Issue	Submission Item	Summary of issue	Response
107	Heritage	Mitigation measures	The submitter supports the Aboriginal cultural heritage assessment and mitigations.	Noted.
108	Heritage	Lithic analysis of surface finds	The submitter advises that any additional lithic analysis of subsurface finds should be included with, and measured against, completed lithic analysis of surface finds.	Noted. The Aboriginal Heritage Management Plan/Cultural Heritage Management Plan will include details on analysis of lithic material with respect to both surface finds and excavated materials (where applicable). Research questions presented in the EIS will be used as the framework for further analysis.
109	Heritage	Cumulative impacts	The submitter notes that ACH raise concerns on the effectiveness of reporting on cumulative harm incurred on Aboriginal sites by raising points from a published article that questions the value of cumulative impact assessments to cultural heritage management in Australia (Godwin, 2011 cited in ARTC 2020:139). The submitter's response to this view is that ACH assessments of cumulative harm are undertaken across the State for all Environmental Impact Assessment projects where harm to Aboriginal objects is established. The requirements of the <i>Code of archaeological practice for Aboriginal objects in NSW</i> (Department of Environment, Climate Change and Water (NSW), 2010:6-9) provide clear guidance on how cumulative harm is assessed, by applying robust research using the methods described.	Noted. We raise Godwin 2011 with respect to the fact that, unlike Sydney or the Hunter Basin, the northern Gywdir plains have not been extensively assessed for Aboriginal heritage beyond some early regional assessments; therefore, while our cumulative assessment might suggest a significant impact to the overall recorded cultural heritage of the region, this result is likely influenced by the fact that the Gywdir plains has not been extensively surveyed. It is likely that, in reality, additional surveys across the wider area would normalise this effect, giving us a greater appreciation of the true impact of the proposal and lowering the overall cumulative impact.

D.12 Submission 34: Moree Plains Shire Council

ID	Key Issue	Submission Item	Summary of issue	Response
177	Biodiversity	Offsets	Requirement to retire ecosystem credits. The submitter is concerned with the potential pressure on the limited supply of offset sites and the opportunity for ARTC to work with key landowners regarding species credits.	Noted.
178	Heritage	Consultation	The submitter notes that Aboriginal people should be appropriately consulted and engaged above the minimum statutory requirements.	Noted. Consultation with registered Aboriginal Parties, including Toomelah Aboriginal Land Council and the Gomeroi Peoples Native Title Claim, will continue throughout the proposal.
179	Hydrology	Flooding, consultation	The submitter is concerned with flooding in Moree Plains Shire Council area. The submitter is requesting ARTC to provide more specific responses to questions posed by landowners regarding flooding.	DPIE have requested the preparation of a PIR to further assess the impacts associated with the proposal, including assessment using 1976 as the reference event. The specific addressing of a number of the 52 questions are contingent on the agreement and derivation of the QDLs that are being derived as part of the PIR.
180	Hydrology	Detailed design modelling	The submitter notes that modelling is identified as having used Australian Rainfall and Runoff (AR&R) 2016. The submitter requests that future modelling as part of detailed design should consider upgrading to AR&R 2019.	The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. This assessment has been undertaken in accordance with the methods outlined in AR&R 2019.
181	Hydrology	1976 flood event	The submitter expresses that the flood impact objectives are supported, noting these should also be achieved for the 1976 reference event applied to current topography.	The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project. Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.
182	Hydrology	Flood duration and inundation	The submitter suggests duration changes in detailed design modelling; in particular, addressing existing roads, farm access roads and areas of crop sensitivity.	Preliminary design has been undertaken to inform the production of the EIS and the design has been based on the 1% AEP event. In accordance with the requirements in the request for a PIR to be prepared, additional analysis has been undertaken to inform the project and the derivation of QDLs. These QDLs include limits on inundation duration for different land uses. The QDLs are subject to agreement with DPIE and, upon finalisation, will be used to inform the mitigations to be adopted during detailed design. Consultation with affected property owners has been ongoing through the development of the PIR and the QDLs.

ID	Key Issue	Submission Item	Summary of issue	Response
183	Hydrology	Flow paths	The submitter is concerned with the assessment of flow distribution, velocities and hazard against targets identified, and verification during detailed design modelling.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
184	Hydrology	Detailed design modelling	The submitter suggests using the probable maximum flood event in detailed design modelling.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis are presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs, and the mitigations to achieve those levels, is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
185	Hydrology	Climate change	The submitter noted that an element of climate change is incorporated in AR&R 2016. Further consideration to trend analysis should be given in the detailed design modelling.	The project impacts have been further assessed in accordance with the requirements for the PIR and include an assessment of impacts using the 1976 flood event as a reference event. This assessment has been undertaken in accordance with the methods outlined in AR&R 2019.
186	Hydrology	Flooding and hydrology assessment	The submitter supports the range of design events; in particular, the inclusion of key historical events as well as the probable maximum.	Noted.
187	Hydrology	Flooding and hydrology assessment	The submitter supports updating the LIDAR to 2019, given the likelihood of anomalies between approved and constructed structures in the floodplain.	Noted.
188	Hydrology	Flooding and hydrology assessment	The submitter supports the extension of the flood model to the west of Goondiwindi. The same footprint for the sub-model should be adopted for more detailed modelling at design phase.	Noted and this model extent will be maintained for detailed design.

ID	Key Issue	Submission Item	Summary of issue	Response
189	Hydrology	Consultation	The submitter suggests considering emergency management capacity during development of detailed design, specifically the State Emergency Service (SES).	Noted. The program will consult with SES both in NSW and Queensland (as relevant).
190	Hydrology	Consultation	The submitter is requesting further consultation during development of detailed design, to 'engage' and not just 'inform'.	Noted. The program will continue consultation programs through development of the project.
191	Hydrology	Consultation	The submitter is requesting continued engagement of Goondiwindi Regional Council during development of detailed design.	Noted. The program will continue consultation programs through development of the project.
192	Hydrology	Editorial updates	The submitter requests confirmation on the Border Rivers catchment description in Pages 13 to 20.	Noted.
193	Groundwater	Moree Special Activation Precinct	The submitter requests that future groundwater considerations regard previous hydrogeological studies.	Yes, relevant reports/documents held in the public domain or made available to ARTC through data-sharing agreements will be considered for future input into refinement of the understanding of the hydrogeological regime for the proposal. A water balance for the proposal is not considered warranted as there are no significant excavation below groundwater (cuts, tunnels, etc) or other structural components that are considered to result in water take (temporary construction dewatering is not applicable for water balance) or water discharge to, the water budget.
194	Heritage	Key site of Aboriginal cultural significance	The submitter requests that Boobera Lagoon be noted as a key site of Aboriginal cultural significance.	Noted. This location is acknowledged as such in the Aboriginal Cultural Heritage Assessment Report.
195	Hydrology	Environmental management plans	The submitter is concerned with fieldwork largely being undertaken during a drought period. Consider supplementary fieldwork to inform development of CEMPs.	Noted.
196	Hydrology	Flood sensitive receptors	The submitter requests confirmation on the definition of 'flood sensitive receptors' (Figure 13.9a–c).	Flood sensitive receptors are tied to the derivation of QDLs that are being negotiated with DPIE through the Hydrology Working Group and preparation of the PIR. Upon finalisation of the QDLs and agreed mitigation measures further consultation will be undertaken with affected landowners.

ID	Key Issue	Submission Item	Summary of issue	Response
197	Hydrology	project design	The submitter is concerned with route selection—Boggabilla corridor has not been used ‘as much as possible’.	<p>The proposal uses as much of the existing non-operational Boggabilla corridor as possible, within the route selection framework. Old rail embankment all the way to the northern side of Whalan Creek will be removed to ground level based on landowner feedback and flood modelling. There were several factors considered in the route selection process, including technical viability, safety, constructability, operation, environment, community and property impacts and statutory and regulatory risk. Please see EIS Chapter 3: Alternatives and Proposal Options or the EIS summary of findings for a detailed breakdown on the route selection process.</p> <p>See other comments for standard justification of the chosen route (e.g. ID 408).</p>
198	Hydrology	Consultation	The submitter is in support of the future mitigation measures in Table 13.22 of Chapter 13: Surface Water and Hydrology and requests further consultation to ‘engage’ and not just ‘inform’.	Noted. The proposal will continue to engage with Moree Plains Shire Council during the detailed design and construction phases.
199	Hydrology	Consultation	The submitter is concerned with route selection—removal of non-operational part of the Boggabilla line and potential changes to water flow patterns. The submitter is requesting further consultation during development of detailed design.	<p>During the detailed design, any changes to flooding will be discussed in detail with landowners and a range of alternative mitigation measures will be further investigated, including refined drainage structures, property specific solutions, scour and embankment protection, etc. Where appropriate, formal third-party agreements will be negotiated with landowners that takes account of these impacts and the adopted mitigation measures.</p> <p>Landowners will also be consulted throughout the construction phases of the proposal.</p>
200	Hydrology	AEP	The submitter suggests considering improvement to variations during the 1% AEP near Whalan Creek in development of detailed design.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. Detailed design will be informed by these agreed QDLs.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
201	Hydrology	Flooding and hydrology assessment	The submitter suggests considering exceedances at chainage 6.4 km and 23.90 km in development of detailed design.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
202	Hydrology	Afflux impacts	The submitter suggests considering afflux of roads above 200 mm in development of detailed design.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
203	Hydrology	Flood duration and inundation	The submitter suggests considering duration of inundation in development of detailed design, specifically exceedances of an additional 1 hour.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
204	Hydrology	Mitigation measures	The submitter is concerned with impacts on flood-sensitive receptors during extreme events and landowners at potential disadvantage in negotiations.	<p>Extensive landowner consultation has been undertaken throughout the reference design and EIS process. The proposal will continue to consult with landowners throughout the proposal. A communications strategy will be developed for construction, which will outline a mediation process.</p> <p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. Negotiations with landowners will be informed by the outcomes of these QDLs.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
205	Hydrology	Afflux impacts	The submitter notes that, as per Figures 13.21–23, increases in afflux associated with Whalan Creek and immediately to the south continue to be of concern to landowners.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders. Negotiations with landowners will be informed by the outcomes of these QDLs.</p>
206 & 209	Hydrology	1976 flood event	The submitter is concerned with the magnitude of the design flood used to inform the flood impact and analysis for the proposal. Consider using the 1976 flood as a key reference event in development of detailed design.	<p>Preliminary infrastructure design has been based on the 1% AEP event and the outcomes of this analysis is presented in the EIS.</p> <p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p>
207	Hydrology	Detailed design modelling	The submitter is requesting confirmation as to whether recommendations provided through independent peer review (BMT and GRC) are addressed in detailed design modelling.	Detailed design will be informed from the outcomes of ongoing consultations with DPIE and affected landowners and the agreement of QDLs that have been derived from the current analysis. The development of the PIR has been overseen by DPIE representatives and independent hydrology specialists.
208	Hydrology	Consultation	The submitter requests that ARTC provide more specific responses to questions posed by landowners regarding flooding.	Noted. More specific answers have been provided within this response to submissions.
210	Groundwater	Construction water	The submitter is concerned about the impacts of using groundwater and surface water resources for construction.	<p>ARTC has prepared a Construction Water Plan for the proposal. This plan identifies potential sources of water within 25km of the alignment. The plan identifies 35 potential water sources that have allocations from 300 ML to 2,400 ML per year.</p> <p>The proposal will investigate purchasing water from existing Water Access Licences under voluntary arrangements and using mutually agreed terms. This is seen as providing an optional additional revenue stream on a voluntary basis to local landowners who are interested in availing themselves of this opportunity.</p> <p>ARTC is to engage with DPI Water regarding availability of water from Boggabilla Weir (negotiations are yet to take place).</p> <p>ARTC also to engage with local councils about obtaining recycled wastewater. By diversifying the potential water sources and entering into 'make good' arrangements, where necessary, we are alleviating the risk around security of supply.</p> <p>Other sources of recycled water, such as other industrial sources (e.g. mining), will be investigated but are noted as being subject to availability and water quality.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
211	Land resources	Mitigation measures	The submitter supports the assessment and mitigation measures in the EIS.	Noted.
212	Noise and vibration - construction	Construction hours	The submitter requests justification for out of standard hours work and opportunity for Moree Shire Council to review operational rail noise and vibration emissions during detailed design.	Noted. The proposal will continue to consult with the EPA and councils throughout the detailed design and construction phase of the proposal in relation to noise and vibration. Additionally, a CEMP and Noise and Vibration sub-plan will be developed in consultation with the EPA and approved by the DPIE prior to construction commencing onsite. The requirement for any at-property treatment mitigations for operational noise will be investigated during the detailed design stage of the proposal and implemented prior to operations commencing.
213	Noise and vibration—operation	Mitigation measures	The submitter requests that when the operational rail noise and vibration impacts presented in the EIS are reviewed during detailed design and at the proposal opening, the submitter would like the opportunity to review the findings and recommendations. The submitter is also concerned regarding architectural treatments and requests these be addressed.	Noted. The proposal will continue to consult with Council during the detailed design and construction phases.
214	Air quality	Adequacy of assessment	The submitter notes that the air quality assessment was deemed adequate.	Noted.
215	Sustainability	Adequacy of assessment	No comment.	Noted.
216	Hydrology	Climate change, AEP	The submitter notes that, in general, this area is considered to be satisfactorily addressed; however, is concerned with the impacts of increased variability and intensity of rainfall over the life of the development. The submitter notes that these trends are evident through the progressive review of AR&R over the last 30 years and suggests that trend analysis of this should be included.	Understanding the variability (both historical and projected) of rainfall, including the projection of increased intensity into the future, flood modelling and adaptation response has considered trends in both the positive and negative directions. This includes landscaping considerations to account for potential periods of lower rainfall (drought) and drainage design (bridges and culverts) to account for increased rainfall intensity. This has included a climate change assessment in line with the 2019 AR&R Guidelines for the 1% AEP event as well as sensitivity testing using the 1976 historical large flood event.

ID	Key Issue	Submission Item	Summary of issue	Response
217	Traffic and transport	Traffic impacts	The submitter is concerned with the focus of the EIS process on construction level impacts with respect to traffic and transport rather than the changes to regional flows that are likely to occur due to mode change to rail. In addition, the submitter notes that care needs to be taken that conditions around issues such as dilapidation surveys and the like provide an appropriate context for, but do not clash with, the range of matters considered in third-party agreements for impacts to local road.	Operational impacts of the proposal have been assessed to the extent possible and feasible for this stage of the proposal. Mitigation and impact assessment measures for the local road network through the construction phase will be assessed during the next stage of the proposal, such as road visual condition assessments prior, during and post construction and returning the road to original condition once construction is finished. Such mitigations will be developed through consultation with local governments prior to construction commencing.
218	Traffic and transport	Level crossings	The submitter is concerned with road–rail interfaces and safety. The submitter recommends that conditions, principles and practices adopted for level crossings in the Narrabri to North Star section be considered as generally appropriate for the North Star to Border section, with the exception of air draft associated with key roads such as Tucka Tucka Road and Bruxner Way.	The alignment of the proposal and resulting road–rail interfaces locations and treatments were developed in the reference design stage of the proposal. This assessment does not make decisions regarding the alignment of the proposal but assesses the resulting impacts to the transport network. Mitigations and avoidance measures have been suggested and implemented through this assessment in order to increase the safety of the proposal. Private interfaces have been considered at a high level and addressed through the ‘so far as is reasonably practicable’ approach to level crossings. For public crossings, ARTC would continue consultation with State authorities and local councils to identify preferred road–rail interface treatments at each location. Part of this process would be working with the relevant road manager to understand existing local environmental conditions and gather information on future development plans in the locality to inform the proposed design. The appropriate road–rail interface treatment would be assessed on a case-by-case basis for design purposes, with consideration given to current and future usage of the asset, its location relative to other crossings of the rail corridor, and the road and rail geometry at the crossing location. In the development of the proposed treatments, ARTC would take State and national guidelines and strategies into consideration. The Office of the National Railway Safety Regulator and Transport for NSW both have policies to avoid building new level crossings or minimising proposals to construct a public level crossing along a new rail link. ARTC has based the minimum clearance for all rail over road bridges in accordance with Table 8.1 of <i>Austroroads Guide to Road Design Part 3</i> , which states a minimum clearance for ‘main and arterial roads’ to be 5.4 m.

ID	Key Issue	Submission Item	Summary of issue	Response
218	Traffic and transport [continued]	Level crossings [continued]	[continued]	<p>None of the roads with proposed rail-over-road bridges are designated oversize and/or overmass routes.</p> <p>ARTC's design has allowed a 100–200 mm buffer in addition to the minimum 5.4 m clearance.</p> <p>Should agricultural plant be using this road, legality of these movements aside, ARTC can work collaboratively, where practical, and can make available a section, off the road but within the road reserve, that has clearance to suit any identified plant higher than 5.4 m.</p>
219	Traffic and transport	Dilapidation survey	The submitter requests that a full dilapidation survey should be conditioned to cover all local roads that would be affected by construction traffic.	Mitigation measures will be developed for all construction routes, including local government roads, such as road visual condition assessments prior, during and post construction and returning the road to original condition once construction is finished. Such mitigations will be developed through consultation with local governments prior to construction commencing.
220	Traffic and transport	project design	The submitter suggests considering 6.5 metres of 'air draft' is required for agricultural machinery on key roads and to provide for road upgrades through time.	<p>ARTC has based the minimum clearance for all rail over road bridges in accordance with Table 8.1 of <i>Austrorads Guide to Road Design Part 3</i>, which states a minimum clearance for 'main and arterial roads' to be 5.4 m.</p> <p>None of the roads with proposed rail-over-road bridges are designated oversize and/or overmass routes.</p> <p>ARTC's design has allowed a 100–200 mm buffer in addition to the minimum 5.4 m clearance.</p> <p>Should agricultural plant be using this road, and subject to any legal requirements that apply to ARTC, ARTC can work collaboratively, where practical, and can make available a section, off the road but within the road reserve, that has clearance to suit any identified plant higher than 5.4 m.</p>
221	Traffic and transport	Traffic impacts	The submitter suggests considering peak harvest period traffic volumes and the maximum vehicle length that is likely to use each crossing should form part of the assessment of the required treatment of the road–rail interface. The submitter also suggests potential options to re-align roads with this issue be explored in the SPIR.	An assessment of potential short-stacking issues of road–rail interfaces located in the vicinity of intersections was undertaken in section 20.7.3.1 of Chapter 20: Traffic and Transport. This includes consideration of the maximum lengths design vehicle as agreed with MPSC. The traffic counts adopted for the operational performance analysis included heavy vehicle numbers and factored in a 2.5 per cent per annum traffic increase until 2040. It is noted in section 20.4.1.2 of Chapter 20: Traffic and Transport that harvest season is likely to generate an increase in heavy vehicles and there may be a change to the Level of Service during these peak harvest periods. ARTC will ensure the detailed design will address short-stacking problems, along with the vertical geometry of level crossings and the integration of revised road surfaces into existing surface levels; however, it is not anticipated that this will require realignment of any roads.

ID	Key Issue	Submission Item	Summary of issue	Response
222	Proposal design and alternatives	Bruxner Way Rail Overpass	The submitter notes that they do not support the current design of the proposed Bruxner Way (MR462) Rail Overpass and requires the rail overpass to achieve 6.5 m clearance over Bruxner Way to allow for future raising of the road or re-sheeting.	<p>ARTC has based the minimum clearance for Bruxner Way in accordance with Table 8.1 of <i>Austrorads Guide to Road Design Part 3</i>, which states a minimum clearance for 'main and arterial roads' to be 5.4 m. This table also gives 'very high clearance routes' (with no alternative) a minimum clearance of 6.5 m. To verify this section of Bruxner Way is not a 'very high clearance route' ARTC checked the following:</p> <ul style="list-style-type: none"> ▶ RMS map showing oversize and/or overmass routes <ul style="list-style-type: none"> ▶ rms.nsw.gov.au/business-industry/heavy-vehicles/maps/nsw-load-carrying-network/map/index.html ▶ National Heavy Vehicle Regulator portal route planner tool <ul style="list-style-type: none"> ▶ service.nhvr.gov.au/#page=informationHub/routePlannerTool <p>Both of these sources indicated that Bruxner Way is not a 'very high clearance route' or oversize and/or overmass route. They also indicated that there are much better alternatives available to get between major centres.</p> <p>ARTC also checked Roads and Maritime Services road designations and identified that Bruxner Way is only permitted up to 4.6 m high vehicles:</p> <ul style="list-style-type: none"> ▶ rms.nsw.gov.au/documents/business-industry/heavy-vehicles/permit-notice-4-6-metre-high-vehicle-routes-appendix-1.pdf ▶ rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html. <p>ARTC's design has allowed a 100–200 mm buffer in addition to the minimum 5.4 m clearance.</p> <p>The request for 6.5 m clearance is inconsistent with the designation of Bruxner Way. Better alternative very high clearance routes are available in the north west region.</p> <p>Should agricultural plant be using this road, legality of these movements aside, ARTC can work collaboratively, where practical, and can make available a section, off the road but within the road reserve, that has clearance to suit any identified plant higher than 5.4 m.</p> <p>Bruxner Way runs beside the Dumaresq River for approximately 75 km and through the Macintyre floodplain for approximately 25 km. While there are alternate routes already designed for flood immunity, ARTC are not aware of any development plans for flood proofing of Bruxner Way. Bitumen resheeting is very likely but will not materially change the RL of the road or impact significantly on the clearance buffer applied above the minimum.</p>
223	Landscape and visual	Impact assessment area	The submitter notes the impact of the proposal.	Noted.

ID	Key Issue	Submission Item	Summary of issue	Response
224	Land use and property	Consultation	The submitter requests consultation during detailed design and construction regarding property and access impacts.	The proposal has consulted with LLS and, at this stage of design, no changes are proposed to the TSRs within the brownfield section of the railway corridor. ARTC will continue to consult with LLS and Crown Lands during the detailed design phase. Any current informal use of the existing railway corridor by landowners for the movement of livestock will not be allowed to continue in the operational railway corridor.
225	Proposal design and alternatives	Consultation	The submitter requests that if the western alignment is pursued, following a review of submissions, acceptable residential amenity in Boggabilla township needs to be maintained.	Noted. The proposal will continue to engage with Moree Plains Shire Council during the detailed design and construction phases.
226	Social impact	COVID-19 pandemic, accommodation and health services	The submitter requests the provision of an accommodation strategy, prior to the commencement of construction of the proposal, which addresses pandemic risk management, economic benefits to accommodation providers, avoidance of negative impacts to rental market and access to health services.	<p>ARTC will require the contractor to provide an Accommodation Camp Management Plan, which will reflect ARTC's accommodation management principles and the results of the contractor's consultation with the Goondiwindi and Moree Plains Councils, and with police, regarding accommodation management and servicing.</p> <p>The Accommodation Camp Management Plan will provide details of how the contractor will:</p> <ul style="list-style-type: none"> ▶ Deliver and manage a self-sufficient accommodation facility that avoids impacts on Councils' water, sewage and waste management systems ▶ Address the results of consultation with MPSC, GRC, and Queensland and NSW Police regarding management and servicing of the accommodation facility ▶ Monitor the number of non-local personnel who may require accommodation ▶ Minimise the use of rental housing in potentially impacted communities through the provision of a suitable, affordable accommodation ▶ Enable local businesses to benefit from the accommodation facility's supply arrangements ▶ Consult with MPSC, GSC and GRC throughout the accommodation's operational period, to provide updates on workforce numbers and accommodation management strategies, and receive feedback from councils on the effectiveness of these strategies ▶ Monitor any personnel demands on the availability and cost of rental housing, affordable accommodation provision and short-term/tourism accommodation in the SIA study area.

ID	Key Issue	Submission Item	Summary of issue	Response
226	Social impact [continued]	COVID-19 pandemic, accommodation and health services [continued]	[continued]	<p>ARTC will monitor the implementation and effectiveness of the ACMP and may require the contractor to refine their accommodation solutions if adverse impacts on housing and accommodation availability are identified.</p> <p>Significant economic benefits for accommodation providers are not expected due to the distance (1+-1.5 hr drive) between the proposal and Moree.</p> <p>Significant impacts on the health service in Moree are not anticipated due to distance from the project (and because Goondiwindi facilities are closer).</p> <p>Further detail has been provided on the Accommodation Camp Management Plan in Section 5.3 of the Submissions Report.</p>
227	Hazard and risk	COVID-19 pandemic	The submitter notes that COVID-19 needs to be incorporated into risk management generally.	<p>ARTC and Inland Rail take a risk-based approach to managing health and safety and have conducted risk activities to determine the risk of the coronavirus pandemic and its impact on the program. Inland Rail manages the risk of COVID-19 in accordance with the advice and guidelines provided by SafeWork Australia (leading health and safety body in Australia) and complies with Comcare, work health and safety regulator, requirements. All contractors engaged by ARTC and Inland Rail are expected to comply with these same regulatory obligations and must provide Inland Rail with assurances that it is actively managing its health and safety risks.</p>
228	Waste	Consultation	The submitter requests consultation with councils regarding the development of the proposal's waste management strategy.	<p>Noted. Section 25.12 of Chapter 25: Waste Resource and Management requires the preparation of a waste management strategy as a sub-plan to the Construction Environmental Management Plan and will comply with the conditions of approval and all relevant legislation, policies, standards and guidelines.</p> <p>ARTC will use a hierarchical approach to waste management from the most preferable (avoid or reduce, re-use, recycle, recover energy and treat) to the least preferable (disposal) and prioritise waste management strategies to avoid generation. Where waste cannot be avoided, waste materials will be segregated by type for collection and removal by licensed contractors.</p> <p>Where possible, the proposal will aim to reuse the timber sleepers, in accordance with the ARTC waste timbers order 2019.</p> <p>The project will continue to consult with Council during the detailed design and construction phases.</p>

D.13 Submission 36: Water NSW

ID	Key Issue	Submission Item	Summary of issue	Response
119	Groundwater	Consultation	The submitter requests consultation regarding proposed works on land adjacent or impacting Water NSW land or assets.	Noted. ARTC will continue to consult with Water NSW throughout the proposal.

D.14 Submission 37: DPI Water

ID	Key Issue	Submission Item	Summary of issue	Response
63	Hydrology	Flow paths, geomorphic impacts	The submitter notes that culvert locations have been given, and extensive flood modelling of the floodplain has been undertaken, showing some small changes to flood velocities, heights and duration expected as a result of the proposal. The submitter also notes that modelling does not identify return flow paths to rivers and waterways and, as a result, geomorphic impacts to waterways arising from the altered flows at re-entry points cannot be assessed.	Through the development of the PIR, QDLs have been proposed and are subject to ongoing consultation with relevant stakeholders. These QDLs include criteria for velocity, depth and duration of inundation. It is proposed that the project will adopt mitigations where these QDLs are exceeded once those QDLs have been agreed.
64	Proposal design and alternatives	Culvert design	The submitter requests further details on culvert designs that will allow an assessment of impacts to downstream waterways.	<p>Culvert discharge velocities will be managed through culvert aprons and scour protection measures in the rail corridor. These measures may extend beyond the corridor subject to flow and soil characteristics.</p> <p>Soil conditions in the study area will be appropriately characterised during the detailed design phase to inform these design and environmental management measures. This will include the identification of reactive soils, erosive and dispersive soils, saline soils, acidic soils and alkaline soils. Verification of soil properties through geotechnical analysis at culverts to be undertaken as part of geotechnical investigation.</p> <p>DPIE Water will continue to be consulted during the detailed design phase around culvert design and scour protection.</p> <p>The proposed alignment crosses the Macintyre River, Whalan Creek, Mobbindry Creek, Back Creek, Forest Creek and an unnamed tributary of Mobbindry Creek. All of these watercourses, with the exception of the Macintyre River (perennial) are ephemeral, and likely to be flowing only for a short duration after rainfall. Samples would be taken in these watercourses within 24 hours of rainfall events occurring when surface flow is present.</p> <p>Routine monthly sampling is proposed for the Macintyre River based on the significance assessment, which showed that the residual (i.e. with the proposed mitigation measures implemented) magnitude of any potential impacts is low with a moderate residual significance. The most likely time for impacts to occur from the construction phase will come during rainfall through the transport of sediment/contaminants in runoff. The Macintyre River will also (with the ephemeral waterbodies) be sampled during rainfall events if construction work is taking place nearby; therefore, ARTC believe that the proposed surface water sampling program will be adequate to detect an incident and enable an appropriate and timely response.</p>

ID	Key Issue	Submission Item	Summary of issue	Response
65	Land resources	Verification of soil properties	The submitter requests that site soil properties are verified prior to detailed design.	Soil conditions in the study area will be appropriately characterised during the detailed design phase to inform design and environmental management measures. This will include the identification of reactive soils, erosive and dispersive soils, saline soils, acidic soils and alkaline soils.
66	Secondary approvals	Legislative requirements	The submitter notes that approvals under the <i>Water Management Act 2000</i> (NSW) must be obtained prior to the commencement of any works that intercept/extract surface water or groundwater.	<p>A Construction Water Plan has been prepared identifying specific water supply options for the proposal. The report identifies 35 WALs within 25 km of the alignment, each with 390 ML to 2,400 ML of water available per year.</p> <p>ARTC is to engage with DPI Water regarding availability of water from Boggabilla Weir (negotiations are yet to take place).</p> <p>ARTC also to engage with local councils about obtaining recycled wastewater as well as putting out an expression of interest to existing Water Access Licence holders to purchase water under their existing provisions (some landowners have expressed interest). By diversifying the potential water sources, we are alleviating the risk around security of supply.</p> <p>Other sources of recycled water, such as other industrial sources (e.g. mining), will be investigated.</p>
67	Secondary approvals	Legislative requirements	The submitter requests further information is provided on the proposal's ability to obtain the necessary water volumes via relevant agreements and to demonstrate sufficient water entitlements can be acquired in accordance with the <i>Water Management Act 2000</i> (NSW).	<p>As a State significant infrastructure, under s5.23 of the EP&A Act, the project does not need a water use approval, water management work approval or an activity approval. Where water is unable to be sourced on-market, ARTC would seek a Water Access Licence. On-market purchases would ensure that suppliers hold a suitable Water Access Licence and approvals.</p> <p>The water supply options (as noted in response to comment 66) provide a variety of sources, to ensure there is a spread of risk to supply.</p>
68	Management plans	Mitigation measures	The submitter requests the preparation of a CEMP and operational environmental management plan prior to the commencement of activities.	Noted.
69	Secondary approvals	Legislative requirements	The submitter notes that compliance with the impact assessment criteria of the draft Border Rivers Floodplain Management Plan is required.	<p>The project impacts have been further assessed in accordance with the requirements for the PIR and includes an assessment of impacts using the 1976 flood event as a reference event. As part of this assessment, and in accordance with the requirements of the PIR, project impacts have been assessed against the QDLs from the N2NS project.</p> <p>Final agreement on QDLs and the mitigations to achieve those levels is subject to further negotiation and consultation with DPIE and affected stakeholders.</p>
70	Secondary approvals	Legislative requirements	The submitter notes that works within waterfront land must comply with the <i>Guidelines for Controlled Activities on Waterfront Land</i> (NRAR, 2018).	Noted.