



SUBMISSION TO PREFERRED INFRASTRUCTURE REPORT (SPIR)

INLAND RAIL Narrabri to North Star (Phase 1)

MOREE PLAINS SHIRE COUNCIL
28 JANUARY 2020

KEY SUBMISSION DETAILS

SUBMISSION INFORMATION	
Submission name	Melbourne to Brisbane Inland Rail Project – Narrabri to North Star – SPIR – Phase 1.
Submitted by	Moree Plains Shire Council
ABN	46 566 790 582
LEAD CONTACT	
Name	<i>Mark Connolly</i>
Position	<i>Director of Regional Activation</i>
Phone	<i>0428 602 816</i>
Email	mark.connolly@mpsc.nsw.gov.au
Fax	
Address	<i>Level 2, 30 Heber St, Moree</i>
SUBMISSION SCOPE	
	Response to exhibition of critical State Significant Infrastructure Preferred Infrastructure Report and Response to Submissions Report for the Inland Rail - Narrabri to North Star, Phase 1.
SUPPORTING INFORMATION	
Attachments and Links	<ul style="list-style-type: none"> • Cover Letter addressed to Department of Planning, Industry and Environment • Confidential Attachment A – Correspondence to ARTC from MPSC (<i>provided under separate cover</i>) • Attachment B1 – Jones Avenue Overpass Relocation Planning Report • Attachment B2 – Assessment of Impacts on Emergency Responders – Jones Avenue Overpass • Attachment B3 – East West Bypass Ecological Assessment • Attachment B4 – Moree East West Bypass – Aboriginal Heritage • Weblink – MPSC Environmental Impact Statement Submission

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Section 1 – Jones Avenue Overbridge

Summary

Moree Plains Shire Council (**Council**) does not support the continued development or implementation of the Jones Avenue Overbridge component of the proposal.

Connectivity is a critical issue for our community and for over 12 months Council has been advocating for the relocation of the Jones Avenue Overbridge planned for construction within Narrabri to North Star (**N2NS**). It is critical that this infrastructure is relocated to the south of Moree to a location that Council have referred to as the 'Moree Intermodal Overpass' (**MIO**).

The case for the overbridge relocation is two-fold:

1. The Jones Avenue option is untenable due to a number of issues that were understated or not fully appreciated in the initial investigation. These relate to; cost-benefit, safety, security, constraints on future housing as well as community and business concerns. These items are detailed via a series of attachments to this document referenced further below.
2. The MIO has been identified, developed and refined to leverage opportunities created by Inland Rail for the Moree Intermodal Park, the North South Link, and the recently announced Moree Special Activation Precinct investigation area. Importantly, this location facilitates future planning initiatives in relation to housing and a Heavy Vehicle corridor that would fundamentally enhance the safety, liveability and 'movement and place' outcomes for Moree in accordance with Transport for NSW policy.

On 19 September 2019, MPSC hosted a planning forum in Moree that focused on the risks and opportunities associated with the Jones Avenue Overbridge and MIO alternative. The forum was focused on technical issues (design and constructability) and was attended by a series of senior representatives from Transport for NSW, NSW Crown Lands, and NSW Department of Planning, Industry and Environment (**DPIE**).

Furthermore, Senior Elders from the Moree Local Aboriginal Land Council (**MLALC**) attended a series of site inspections and provided advice to the forum. Of note were the comments made at the Jones Avenue site inspection which highlighted the serious social concerns and the need for a strong analysis of the safety factors that would be part of this infrastructure. In brief, safety issues are seen as unresolvable. The MLALC therefore does not support the Jones Avenue Overbridge, a view that confirms the community consultations undertaken by Council.

At the conclusion of the forum, attendees provided overwhelming support for the MIO noting the current Jones Avenue location would not address the broader transport pressures of Moree, nor address concerns around amenity, public safety and pedestrian severance.

Please note that throughout some of the submission attachments the Jones Avenue Overbridge is also referred to as the 'Jones Avenue Overpass'.

Sections 2 and 3 of this submission include a range of detailed comments regarding aspects of the Jones Avenue Overbridge, which should be read in the context of this Section.

Primary Concerns

Council wishes to draw to DPIE's attention the key aspects relating to the proposed Jones Avenue overbridge which have occurred since the original Environmental Impact Statement (**EIS**) was published.

Key documents and submissions provided to ARTC to support Councils position are set out at **MPSC Confidential Attachment A**. Due to confidentiality, this Attachment has been provided directly to DPIE under separate cover.

Council has undertaken substantive work to review the issues with the Jones Avenue overbridge, informed, in part, by participation in a number of design development meetings with ARTC, where key issues of safety and constructability were reviewed. As a result, in Council's opinion, the Jones Avenue overbridge is now untenable. In summary, the main reasons for this view include:

- Relocation of the overbridge to the southern MIO location would better address the following key SEARS:
 - *14 - The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.*

This would be achieved by maximising the economic opportunities available to the Moree district and wider region, and avoiding the current significant impacts to property and businesses. Adverse social impacts would arise because of the Jones Avenue Overbridge.

- *17 - Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts. The safety of transport system customers is maintained. Impacts on network capacity and the level of service are effectively managed. Works are compatible with existing infrastructure and future transport corridors.*

The Jones Avenue Overbridge would slightly improve network connectivity within Moree, but at the cost of facilitating significant increases in heavy vehicle movements within the urban area, because of the practical difficulties of policing the use of the structure. However, the MIO will fully integrate with the state and regional level movement systems, and will improve network capacity and safety, while avoiding heavy vehicle movement conflicts with the rail corridor and improving urban amenity and safety. Compatibility of the MIO with both the existing and future networks has been demonstrated.

- *18 - The project minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.*

The Jones Avenue Overbridge would be a very substantial structure within an urban environment. The MIO will be in a semi-rural environment where visual impacts will be lessened, and a visual "gateway" to Moree will be created.

- Inland Rail will not alter the current legal status quo with regards to pedestrian crossing points. The issue is therefore about enhancement of connectivity and how this can best be provided, in the context of a "movement and place" analysis of the urban area of Moree. In detail:
 - Community consultation has identified effective and low-cost urban environment upgrades which would enhance and facilitate the operation of the existing legal crossing points. These, together with public transport enhancements already being trialled by Transport for NSW in conjunction with the local bus operator, would provide significantly improved social connectivity between east and south-west Moree.
 - In practice, the Overbridge would not provide effective solutions to improving community connectivity without creating significant additional problems including failure to achieve

appropriate CPTED outcomes (including risks of entrapment and provision of locations conducive to undesirable social activity) and unwanted impacts on the local road system through encouraging undesirable truck traffic.

- The overall cost of the infrastructure is disproportionate compared to the marginal benefits offered which largely relate to a minor improvement in connectivity in the local road network. Work has been undertaken to demonstrate that emergency vehicle access can be adequately addressed through the MIO facility. This includes a probability assessment which identifies risks to the community from not building Jones Avenue overbridge as extremely small.
 - The MIO would provide very high economic benefits which would be of direct benefit to the Inland Rail project through increased operational use. Substantial local and regional economic benefits would also accrue.
 - These economic benefits have been significantly strengthened by the recent decision of the NSW State Government to identify a Special Activation Precinct investigation area in Moree. This area coincides with the identified development areas in the Council Business Case for an intermodal opportunity and associated connective infrastructure just south of the Moree urban area.
 - The Jones Avenue overbridge does not provide a future-proof solution for increased freight movements through the township of Moree and will not alleviate future conflicts between road and rail operations, particularly during peak production periods. As a proposed “emergency facility” for heavy vehicle access, the bridge does not “future proof” for larger heavy vehicles which are emerging.
- The Inland Rail project will be a substantial barrier to east-west freight movements, in particular because of constrained queueing opportunities between the Newell Highway and the Inland Rail corridor restricting access to intermodal facilities that would have significantly increased volumes as a result of the shift to rail movement. Council has modelled these impacts. Therefore, Council is of the view that a freight overpass of the road/rail corridor at Moree is an important and integral part of the overall Inland Rail project.

Ongoing Engagement with ARTC

As stated in section 7.8.4 of the SPIR report, as at June 2016, the general view of Council at that time was that the proposed Jones Avenue Overbridge was an acceptable, albeit not ideal, solution to severance impacts. Critically, this view was developed PRIOR to the commencement and subsequent completion of the Shire-Wide Transport and Intermodal Study which addressed key movement and place issues for the long-term development of Moree. This study, with the subsequent development of further detailed and robust transport, traffic and economic analysis, continued community and industry engagement, and the announcement of the Moree Special Activation Precinct investigation, resulted in the MIO becoming the preferred option. **This was communicated to ARTC as early as August 2018.**

Noted in Table 1 below are some of the key timeline elements associated with Council’s consideration of the Jones Avenue overbridge and its subsequent adoption of a preferred alternative, being the Southern Overpass (MIO). This timeline demonstrates that Council has engaged frequently with ARTC and that continuation of design and development of the Jones Avenue option has been in the face of an extremely strong view by Council that this overbridge is now considered to be untenable.

Table 1: Timeline Extract (Without Prejudice)

Date	Item/Details
15/12/2017	Submission from MPSC on EIS Council considered on 14 December 2017 and lodged submission on 15 December 2017.

Date	Item/Details
	<p>Key points:</p> <ul style="list-style-type: none"> - Strong support for Inland Rail. - Supported investigations of an eastern route, but if not successful, mitigation measures needed to address severance, corridor security, emergency services access, heavy vehicle routes, acoustics, negative impacts of Jones Avenue overbridge and need to review alternatives. - EIS fails to address major freight movements. - Raised East West Connector and southern overpass option.
12/07/2018	<p>Report to Ordinary Council Meeting: Mayoral Minute Inland Rail (Res:18/07/16)</p> <p><i>That Council:</i></p> <p><i>a. Brief and make representations to the federal and state local members and agencies regarding Council's position on infrastructure associated with Inland Rail; and</i></p> <p><i>b. Delegate to the General Manager the making of any submissions or representations that may assist the case.</i></p>
06/08/2018	<p>Response by Council on N2NS submissions</p> <p>Extension of time arranged for review of response to submissions. Detailed commentary provided. Key Points:</p> <ul style="list-style-type: none"> - Assertion by Council that southern bypass and overpass is "in scope" in terms of the project. Supported southern overpass as an <u>addition</u> to Jones Avenue at that time. - Noted that Moree Transport and Intermodal Study close to completion at that time and that this informed our position on southern overpass. - First draft structure plan supplied. - Southern overpass seen as "critical". - Raised issue of avoiding heavy vehicle traffic through town. - Requested urgent discussions with ARTC on southern overpass. - Issue raised of congestion across corridor during harvests. - Issue raised that 80% of grain and cotton harvest west of the railway line and Newell Highway; therefore objective is to enhance the supply chain by providing an effective, safe and sustainable access from west to east.
25/10/2018	<p>Letter to ARTC, CEO of Inland Rail</p> <p>Letter following face to face meeting during Parkes Inland Rail Conference.</p> <p>Formal invitation to meet with Council to discuss southern overpass and the complexities of the Jones Avenue overbridge.</p>
06/11/2018	<p>Letter from ARTC, CEO of Inland Rail</p> <p>Letter indicates ARTC can see why the (southern) overpass would be necessary. Advises that ARTC N2NS project manager (PM) will attend meeting.</p> <p>Several subsequent phone conversations took place with PM. Focus was on what was needed to prove up the change in location. Key issues discussed:</p> <ul style="list-style-type: none"> - Severance (community and emergency services) - Risk of stranded asset - Likelihood of EW connector/NS link being funded
06/02/2019	<p>Email and letter to ARTC N2NS PM</p> <p>Requesting consideration of southern overpass to align with East West Connector and providing updated details in support.</p>
12/04/2019	<p>Letter to ARTC N2NS PM</p> <p>Further correspondence regarding relocation of the Jones Avenue overbridge to location south of Moree.</p>
19/09/19	<p>Transport Workshop - Representatives from Transport for NSW, NSW Crown Lands, DPIE, and Moree Aboriginal Land Council.</p> <p>MPSC hosted a planning forum in Moree that focused on the risks and opportunities associated with the Jones Avenue Overbridge and MIO alternative. The forum was focused on technical issues (design and constructability) and was attended by a series of senior representatives from Transport for NSW, NSW Crown Lands, and NSW Department of Planning, Industry and Environment (DPIE). Attendees provided overwhelming support for the MIO noting the current Jones Avenue location would not address the broader transport pressures of Moree.</p>
11/10/2019	<p>Inland Rail Industry Briefing - Brisbane</p> <p>MPSC staff attended a briefing session in Brisbane and met with senior ARTC Inland Rail representatives whom reiterated their general support for the relocation.</p>

Date	Item/Details
11/10/2019	Meeting with Inland Rail Project Team MPSC staff met with ARTC Inland Rail N2NS project team representatives to reinforce our position on the Jones Ave Overbridge. Discussed overpass relocation and ARTC representatives raised concerns with delays to the N2NS project. From that discussion it was agreed we would have a joint meeting with DPIE.
23/10/2019	Response correspondence from Senior ARTC Inland Rail staff and CEO Letter outlines general support and key steps from ARTC viewpoint to achieve the relocation of the Jones Avenue overbridge.
11/11/2019	Meeting with Inland Rail Project Team and DPIE in Sydney Discuss matters pertaining to Jones Avenue Overbridge Relocation and consider potential pathway to move forward and execute.
To date: 28/01/2020	Ongoing engagement with ARTC Inland Rail continues.

Planning Approval Process

Council's reiterates our support for the Inland Rail Project and does not desire a delay to construction commencement for N2NS. This Project is of paramount importance to our community and the wider region.

Notwithstanding, Council is of the view that as part of consideration of project approval the Jones Avenue Overbridge should not be included as an approved project element. Council's preference would be for the following planning approval process:

- Conditions of approval that require the relocation of the overbridge to the MIO location.
- Implementation of a revision of the project to incorporate the MIO through the SPIR process for Phase 2.

Utilising an existing process would minimise costs, by not requiring a further separate Modification of the studies required for the project. In addition, using the existing process would ensure transparency and probity of the process, including public exhibition.

In considering this approach, Council is of the view that sufficient work has now been conducted to demonstrate the economic benefits of, and the feasibility of the MIO. This work includes, as attached in **MPSC Attachment B**:

- An exposure draft for the Jones Avenue Relocation - Planning Report (B1)
- A critical evaluation of emergency services operations (B2)
- An environmental assessment (B3)
- A heritage assessment (B4)
- Significant design development of the MIO together with related road infrastructure (Shown in MPSC Attachment A).

In Council's view, there are no "deal breakers" that would provide any obstacle to the MIO's construction.

Council's preference is for the MIO to be addressed through conditions of approval, as this provides the most timely opportunity to address and resolve the MIO issue, and also provides complete certainty for the parties. This is essential to any outcome of the MIO relocation.

Suggested Conditions of Approval

Council has given consideration to issues surrounding conditions of approval, noting the need for conditions to be certain, and practically able to be implemented. An initial set of Draft Conditions are outlined below. These conditions incorporate issues raised by DPIE during informal consultations in May, 2019.

TERMS OF APPROVAL - PRIOR TO CONSTRUCTION

Jones Avenue Overbridge

- 1. The proponent shall relocate, at the proponents entire cost, the proposed Jones Avenue (Moree) Overbridge, to a location to the north of Hall's Creek, generally within 800m of Hall's Creek.**
- 2. The relocated overpass shall:**
 - (a) be located and designed in consultation with Transport for NSW, the Special Activation Precinct Team (Moree) and Moree Plains Shire Council;**
 - (b) shall generally meet state highway standards;**
 - (c) have a design speed of 90km/h or better**
 - (d) cater for design vehicles including;**
 - i. Austroads Class 12 vehicles**
 - ii. PBS 60m vehicles,**
 - iii. BAB-quad, tri-drive, tri-axle, tandem-dolly**
 - iv. HML quad axle B-double (super B-double).**
 - (e) include the bridge structure and embankments to grade to access the bridge with connections from the bridge embankments to the road network being the responsibility of others; and**
 - (f) provide for the alignment of the North-South Link (Old Narrabri Road).**
- 3. The amended location shall be proposed and assessed as part of the Submissions Preferred Infrastructure Response (SPIR) to Phase 2 of the Narrabri to North Star component of Inland Rail.**
- 4. Adjustments to existing studies and/or additional studies associated with the relocated overbridge shall be carried out by, and at the cost of the proponent.**
- 5. The revisions to the overbridge location shall be exhibited as part of the exhibition of the Phase 2 SPIR and the submissions made during that exhibition shall be considered in the finalisation of the infrastructure response.**
- 6. Improvements to pedestrian access corridors to the existing legal pedestrian crossing points of the Inland Rail alignment within the Moree urban area shall be designed and constructed in consultation with Moree Plains Shire Council, the East Moree communities and the Moree Local Aboriginal Land Council.**

Consultation moving forward

In past engagements, Council has received conflicting messaging from ARTC Inland Rail in relation to the treatment of the Jones Avenue overbridge and the MIO. In more recent engagements (since October 2019) this has improved markedly but this matter still needs to be formally resolved. Council requests a programmed series of meetings with ARTC be required to ensure that a clear pathway forward on the MIO is developed and implemented in a way which would not affect overall project timings. Council acknowledges that since October 2019, ARTC officers have continued engagement on this matter but this must be maintained. Early resolution of the MIO is considered the best way to minimise project risk.

Section 2 – SPIR Report Review

PART A

1. Introduction

It is noted that the proposal has now been split into two phases (SP1 and SP2). It is understood that this is because of the need for additional flooding work associated with Phase 2, across the Mehi/Gwydir floodplains. The split is supported as this would facilitate an earlier start to the Narrabri to North Star component of the Inland Rail project.

Generally, the project modifications are seen as unproblematic with the significant exception of the Jones Avenue overbridge which is more fully addressed in Section 1 of this submission. The Submissions Preferred Infrastructure Report (**SPIR**) provided a significant opportunity to address the relocation of this project element to ensure that it is in a position which supports the economic development of the region and, in particular, where it would perform a significant freight task in having heavy vehicles able to cross the road/rail corridor through a grade separated facility. Unfortunately, this opportunity was not taken up in the current SPIR.

Council has made previous submissions to the Department of Planning, Industry and Environment (**DPIE**) and the Australian Rail Track Corporation (**ARTC**) which have included substantive material demonstrating the economic superiority of a more southern location together with information that identifies significant problems and issues with the Jones Avenue alternative. Refer to Section 1 for full details.

It is noted and understood that 3.6km trains are not intended to be facilitated as part of the initial build although the intent is to future proof against this possibility.

It is noted that as part of the construction methodology trains may be suspended during periods of full track possession. Whilst it is acknowledged that this would lead to more efficient construction work, it is critical that any such suspensions be undertaken with the advice of, and in strong consultation with, rail users and their customers.

2. Overview of the exhibited proposal

It is noted that no increase in train numbers was anticipated in the exhibited proposal until all 13 sections of Inland Rail were complete. On the contrary, a significant growth in train numbers, in particular from Moree to Narrabri, is anticipated once the Narrabri to North Star section is built. Council has prepared a significant business case demonstrating a substantial shift from road to rail once the cost efficiencies of longer trains and heavy axle loads are made available. Predominantly, this would facilitate freight movements to the Port of Newcastle. The aforementioned business case can be provided on request.

A summary of key potential impacts from the original Environmental Impact Statement (**EIS**) is set out. Council made a submission on the EIS, a copy of which can be found here <https://www.planningportal.nsw.gov.au/major-projects/submission/178216>. In that submission Council identified additional impacts which had not been addressed in the EIS. In this section of the submission Council sets out its response to the SPIR, noting in particular, the way in which submissions have been addressed.

3. Environmental Impact Statement clarifications

It is noted that a refined possession strategy has been adopted. This will be addressed in the submissions review of Appendix B. In summary, the current proposal to facilitate the ongoing ability of grain shipments to access rail

during the November – April period is strongly supported. It is noted that with the increase in on-farm storage to an estimated 1.4 million tonnes, there is an increased likelihood of shipments outside the standard harvest period. This should be addressed through detailed user consultation.

A replacement bus service is seen as an adequate replacement for train services between Narrabri and Moree during the construction period.

As a general comment, Council adopts peak traffic rather than AADT numbers to assess freight movements, as the harvest peak is quite atypical. Commentary on sensitive receivers is outlined in the notes on Appendix C.

Regarding flooding, as a general principle Council supports flood behaviour maintaining the status quo, as this avoids any changes to community perceptions or historical patterns of flow. Further comment is made when reviewing Appendix E.

The addition of considerations relating to potential airspace intrusions is noted. The relevant Local Environmental Plan is Moree Plains LEP 2011, which contains an Obstacle Limitation Surface (**OLS**) map. Council advises that the OLS is currently under review, however, this review is not expected to result in a more restrictive OLS than that existing. Council confirms that cranes are the only likely intrusions that may occur, and that detailed consultation with Council by the relevant contractors should take place as part of project construction methodology planning. Council considers that penetration of the OLS is relatively unlikely in practice.

4. Consultations

Overall, Council views positively the community and stakeholder consultations that have taken place, while noting that mixed messages have been received from ARTC regarding the proposed relocation of the Jones Avenue overbridge. Council supports detailed and active consultation during the project planning and build processes and considers the proposed framework to be generally satisfactory, noting the recommendation in Section 1 for specific consultations over the Jones Avenue overbridge and Moree Intermodal Overpass.

There will be a need for supplementary communications on an issue-by-issue basis, if other Council or community concerns emerge. Council has already identified causeways and rail crossings as areas where community has indicated the need for further consultation.

The Complaints Management process is considered industry typical and acceptable.

PART B – SUBMISSIONS

Overview of submissions

The overall approach to assessment of submissions is considered satisfactory, and in accordance with industry standards.

5. Response to community submissions

6.1 Proposal Need

With respect for the need for Inland Rail, Council confirms its very strong support for the project in particular its benefit to regional communities along the overall route in addition to the business case for a Melbourne to Brisbane heavy duty standard gauge railway line. The overall investment is considered relatively modest when compared with other significant infrastructure projects.

Options Considered

In terms of a preferred overbridge location it is acknowledged that Council's views have shifted through time. While Council was initially more concerned about severance effects on the township itself, this was prior to the completion of the Moree Plains Shire – Wide Transport and Intermodal Study. This Study clearly identified the significant benefits of an overbridge south of Moree which would cater specifically for current and future heavy vehicle movements across the road/rail corridor in a way that avoided heavy vehicle impacts on the Moree urban area. Given the significance of the Inland Rail build, it is now considered essential that the southern overbridge be built and in this respect further work on the Jones Avenue option has raised additional concerns regarding its construction and operation. Detailed information is provided in Section 1.

6.2 Proposal features and design

With respect to the requested turnout, Council is of the view that it would be appropriate for ARTC to facilitate private investment, noting that the costs of additional turnouts would not appear to be part of the core project.

Council is, however, of the view that all existing siding access, whether those sidings are currently active or not, should be preserved, including to existing private sidings.

Council supports the overall approach to level crossings noting that it is necessary to address non-legal crossings. In this regard, legal alternatives should be made available.

6.3 Traffic transport and access

Operational impacts on traffic and access

With respect to Jones Avenue overbridge traffic impacts, Council is now of the view that effective restrictions on heavy vehicles would be unenforceable. This would facilitate “rat running” along major desire lines through the urban area of Moree to access both intermodal facilities and industrial development east of the road/rail corridor. In this respect Council supports this concern. The issue of emergency vehicle access is the subject of a report by Council which is appended as part of **MPSC Attachment B2** of this submission.

6.4 Noise and vibration

In terms of noise and vibration, it is noted that there is a statement that commercial land uses are not considered sensitive land uses. The question is raised as to whether motel and caravan park facilities are considered as commercial facilities or residential facilities. In this respect, Council is of the view that residential noise levels are appropriate as criteria for motels and caravan parks.

Council supports noise monitoring post-construction in order to assess the accuracy of predictions in particular as they might affect residential premises. The adoption of a hierarchical approach to mitigation is supported.

Note that Council has previously commented on at-property measures including the need to address premises with evaporative coolers. See additional notes on the appendices. No specific issues are raised with the response on vibrations which are considered to be within appropriate standards.

6.5 Land Use and Property

No issues.

6.6 Air Quality

Council concurs with the view that air quality associated with increased train movements would be below the relevant impact assessment criteria and further notes that a significant shift from road to rail would improve air quality in the vicinity of major road transport routes,.

6.7 Additional issues

In terms of other issues, Council strongly supports the ultimate implementation of a Moree east-west bypass, to avoid additional road traffic impacts on the Moree urban environment. Council continues to be of the view that the severance impacts of the Inland Rail project are a significant barrier to east-west freight movements, in particular access to intermodal facilities that would have significantly increased volumes as a result of the shift to rail movement. Therefore, Council continues to be of the view that a freight overpass of the road/rail corridor is an important and integral part of the overall Inland rail project.

6. Response to Government Agency Submissions

7.1 No comment

7.2 Department of Industry.

Council supports concerns relating to access to water, in particular given the extended nature of drought, which may continue for some time. Council does have access to some water resources and would be prepared to discuss potential access to some of these resources as part of the ARTC program-wide study.

Council notes the potentially extended timeframes around approval for additional water sources, such as bores, or variations to existing licenses, and strongly recommends that ARTC act swiftly to have in place access to the necessary water supplies. Timing around the Narrabri to North Star build strongly suggests that this should be addressed as a matter of high urgency.

With respect to the Construction Environmental Management Plan, Council should be consulted in the preparation of this plan and notes the draft framework.

Council supports the proposed approach to rehabilitation.

7.3 NSW EPA

Council supports non-standard construction hours because these provide an opportunity to minimise the time periods of rail line closure. It is noted that different hours may be appropriate when considering works in proximity to sensitive noise receivers, in particular during core night time periods. These would be outside the current proposed operating hours. The overall approach to mitigation is supported.

The approach to awakening levels and sleep disturbance is considered appropriate. Further, Council supports the proposed approach to vibration management.

With respect to dust management, Council notes the additional challenges posed by the current drought, including access to water resources.

With respect to waste disposal, Council recommends early consultation with the Waste Manager, Moree Plains Shire Council, to assess and address operational implications of any planned waste disposal.

The discussion around biodiversity credits is noted. Overall, the project will require a very substantial number of credits, including at least two which represent common impacts within the Moree district. Given the shortage of available credits in the marketplace, there is concern that the purchase of necessary credits will significantly increase the price of credits to an extent that may significantly hinder the smooth operation of the market and result in development becoming unaffordable where credits coincide with those required for the project. With the exception of the above issue, Council is generally comfortable with the approach to environmental management and mitigation.

Council supports the overall approach to culvert sizing and tail water management noting that specific comments are made regarding the degree of acceptable change of levels elsewhere in this submission.

Council appreciates the offer for ongoing consultation over the detailed design phases as flood modelling is further refined.

Council is comfortable with the responses to both Aboriginal and non-Aboriginal heritage issues and confirms the local cultural significance of Steel Bridge Camp. Although this issue would be further addressed with Phase 2, Council would also indicate its recognition of the need to replace the Mehi and Gwydir River bridges. In particular, retention of the existing bridges is not considered necessary.

With the integration of RMS with Transport for NSW, it is noted that approval of the overbridges would now be from the integrated body. Refer to additional commentary regarding the Jones Avenue overbridge in Section 1.

Council supports the overall approach to level crossings and supports the need for extensive and ongoing public education. It is agreed that there is no need to undertake a traffic delay analysis for 3,600m trains as these are not part of the committed project. Should such trains be contemplated in the future, Council would expect appropriate steps at that time to review the impacts of longer trains.

Council notes that the ARTC has committed to the funding of both design and construction works associated with the Jones Avenue overbridge. As outlined in Section 1 of the submission and elsewhere within this submission, Council is of the view that an alternate location offers significantly improved social and economic benefits and would expect that funding commitments for a relocated overbridge would be given.

Response to the submission from Moree Plains Shire Council

Consultation – Noted

Local contractor and Indigenous community involvement – Noted, and evidence of this is now current. There remains a level of ongoing community concern regarding the level of involvement of local contractors and Indigenous workers which will require further efforts from the selected Tier 1 contractor.

Proposal need – Noted, refer to other comments.

Eastern Bypass – Noted. Refer additional comment on Jones Avenue overbridge in Section 1.

Gwydir Highway Level Crossing - Noted. Council's current preferred position regarding a southern overpass would address this concern.

Level Crossings – Noted. See earlier comments.

Jones Avenue overbridge – See comments in Section 1 of this submission and elsewhere. Council appreciates the opportunity for further consultations as stated.

Southern Overpass – See comments in Section 1 of this submission and elsewhere. In particular, Council remains of the view that the increased length of trains and increased frequency would have a significant impact on rail crossing queues during harvest peaks. Council has commissioned traffic modelling to further define this, and a copy will be supplied to ARTC and DPIE once the draft report is finalised.

Other upgrades – Council remains of the view that the consequential impacts of the project are validly the subject of consideration. In particular, the likely significant shift from road to rail will result in significant changes to movement paths and volumes, which should be addressed. Council appreciates the commitment by ARTC to continue to work with Council on these issues.

Road dilapidation - Noted. Affected roads should also include quarry material transport on public roads which are serving the development construction. This is particularly necessary if any quarries would be undertaken under the Infrastructure SEPP 2007.

Disruption minimisation – Noted. See also comments elsewhere regarding rail access.

Noise and Vibration – See separate comments.

Dust – Noted.

Flooding – Noted. See specific comments elsewhere. Council appreciates the opportunity for ongoing consultations.

Culverts – Noted. As indicated elsewhere, the overall approach is now supported.

Flood impacts – Council agrees four dwellings is a significant improvement on 30 dwellings in terms of impacts in the 1% AEP. Council has no comments regarding dwellings outside the Shire. Council notes the further refinement of flooding impacts that would be undertaken and notes that floor level surveys would be utilised where appropriate. See detailed comments in Section 3 on flooding criteria.

2012 Wash-out – Noted.

Property Acquisition – Council notes several residential properties are within the zoned infrastructure corridor within Moree township, north of Alice Street, and to the east of the rail alignment. Council understands that these are now in public ownership as set out in Appendix H.

Biosecurity – Noted.

Community impacts – Noted. See comments elsewhere.

Corridor security – Council agrees that noise attenuation measures may be utilised to improve corridor security in some locations, and notes the commitment to further consultation on this issue. Council is currently investigating a number of measures to address community issues, including the continuation of the demand-responsive bus service, and enhanced bus options for high school students. Council would like to engage in a risk mitigation process with ARTC which would include bringing to the table the results of Council's most recent investigations.

Air Quality – Council still favours background monitoring to establish base-line parameters. This would ensure a context for overall dust generation, and the ability to determine whether or not dust levels are, or are not in exceedance of both average and spot readings.

Narrabri Shire Comments – Noted. Moree Plains Shire also would appreciate further discussions on worker accommodation.

PART C – PREFERRED INFRASTRUCTURE REPORT

7. Context

Council appreciates that the design process is iterative, and notes the post-EIS refinements that have occurred. Council also appreciates that further design development will be necessary as the project moves towards construction. In general, Council supports the changes made in the preferred infrastructure report, with the exception of the issues raised in the comments above and below, although Council is disappointed that the opportunity was not taken to review the Jones Avenue overbridge location as part of this process.

Refer to Section 1 for options as to how this issue could be further addressed.

8. Operational Features

Proposals for consideration

Council is aware of consideration by ARTC of a proposal to duplicate the line from Tapscott Road to Bullus Drive through connecting the existing sidings. This would allow rationalisation of turn-outs, and closure of the Burrington Road level crossing subject to construction of the proposed north-south link road, which has now been funded. Council supports this duplication and it is recommended that the SPIR address (include) this proposal in Phase 1, as it would provide for improved efficiencies, improved safety, and support increased access to Inland Rail.

Council is aware of one private siding, owned by Louis Dreyfus Company that could potentially be incorporated in the duplication noted above and understands that Louis Dreyfus Company is in discussions with ARTC regarding this.

If the “extended siding” option is not incorporated in Phase 1, which would be preferred, Council would suggest that it is incorporated within Phase 2. Deferral to Phase 2 would, however, incur additional costs due to the need to maintain all existing turnouts until rationalisation occurs.

Moree Railway Station – Changes endorsed.

Crossing Loops Changes – Changes endorsed. Council notes that the refined Tycannah Creek crossing loop is now very close to the proposed extended siding from Tapscotts Road to Bullus Drive.

Jones Avenue overbridge – See comments elsewhere. Council noted increased impacts in the revised proposal.

Drains revision – Changes endorsed.

Spoil mounds – Reduction endorsed.

Fencing – Changes endorsed in principle. See comments on the appendix.

Rail maintenance access road provision – Endorsed.

Increased working hours – Changes endorsed, including criteria for 24 hour works.

Compounds – Concentration of these largely inside the corridor is supported.

Workforce – The minor changes (upwards) to the required workforce is noted. These numbers are well below the suggested numbers for the work camp proposal for North Star. This work camp has not been included in the SPIR. Council requests further clarification regarding worker accommodation during the N2NS build as well as the NS2B

build. This is a critical factor, as it may have significant impacts on rental availability/affordability in Moree and satellite communities.

9. Environmental Risk Screening

Risk Screening – Methodology endorsed. Noted that there have been revisions to a number of the risk elements, which appear to reflect phasing changes as well as both work conducted and submissions. Council concurs with the identified elements where additional work is required.

10. Operational Environmental Screening and Assessment

Noise – changes to mitigation strategies noted. Council prefers mitigation measures which do not depend on operational management as these are more robust. It is noted that there is a reduction in sensitive receivers. The spelling of “Burrington” needs correction in 11.1.3. Further consultations with Council are encouraged regarding the location and design detail of noise control structures, in particular noting the difficult history of these forms of noise mitigation associated with the Moree Town Centre Bypass. As a comment, Council would prefer removal of existing soil mounds (which have proved difficult to maintain, and which are easy to climb) to be replaced by appropriately sized concrete noise control barriers where these are required.

Flooding – The substantial reduction in overtopping in the 1% AEP is noted. This should reduce the risks of washout in the defined planning event. The flooding criteria in terms of increased flood levels, at 50mm for the Newell Highway and 100mm for other roads are noted. Of themselves, these levels may not be problematic, provided that they are understood within the context of existing flood levels. Although Council does not support driving through floodwaters, it is accepted that this does occur, and that community safety is paramount. Where the increased levels would not significantly affect the level of hazard, and therefore trafficability, the increases may be acceptable, however, when they would result in increased hazard levels then Council would have concerns. Similar issues arise with the periods of untrafficability. See further comments in Section 3. On balance, Council would prefer any increases to be limited to 10mm.

In terms of adjacent land impacts, similar concerns exist. In particular, any increases in velocity when existing velocities are above 1.0m/s may have a potentially significant impact on risk levels, and potentially on erosion. Council would, in practice defer to the views of affected landholders, and would encourage specific consultation with them regarding both flooding and access issues, including farm access tracks.

With respect to buildings, Council has concerns regarding the flood management objectives. Council’s current approach is to limit impacts from development to no more than 10mm. Where a building is not currently flooded, noting the need for floor level surveys, then Council’s view is that in the design event (1% AEP) post construction changes should not result in levels that exceed the current floor level.

Council prefers the usage of the NSW Floodplain Development Manual “probable maximum flood” (**PMF**) rather than “extreme flood events”. The PMF must be considered in any planning decision. Council therefore requests that the PMF be incorporated into modelling (as has been done for the township of Moree) so that these impacts can be better understood.

11. Construction Environmental Screening and Assessment

Council still has concerns regarding the number of construction exceedances within the Shire, noting that these have been reduced in some cases as compared to the EIS. Council strongly recommends consultation with affected persons to assess firstly whether the exceedances constitute a significant issue (noting that minor exceedances may be of limited significance) and whether there might be any systemic preference for a shorter construction period with longer hours.

The significant number of exceedances associated with the Jones Avenue overbridge are noted. This is another reason why its relocation should be implemented.

Vibration criteria are considered conservative. Council supports human comfort over building damage as the relevant criteria.

PART D - CONCLUSION

12. Revised mitigation measures and conclusion

Council notes that RMS is now functionally part of Transport for NSW. That being said, consultations over transport planning aspects and road functional aspects are both required.

The new mitigation measure D.2.4 is noted, however, Council requests that this be reworded as follows:

ARTC would identify the preferred arrangements to cross the rail corridor ~~within~~ **in the vicinity of** Moree in consultation with Moree Plains Shire Council, **Transport for NSW and the NSW State Government Special Activation Precinct Team (Moree)**. The crossing will have regard to community expectations for connectivity and safety **and maximizing the economic benefits of the proposed infrastructure**.

The new mitigation measure D4.4 with respect to noise walls is endorsed.

The new mitigation measure D5.2 with respect to contamination is endorsed.

The revisions to mitigation measure D6.1 with respect to flooding are endorsed, noting Council's comments elsewhere about flooding.

The new mitigation measure D6.4 relating to water usage is endorsed.

The revisions to mitigation measures and the proposed new measures associated with Aboriginal Heritage are generally endorsed. Specific consultation with the relevant Local Aboriginal Land Councils is strongly recommended prior to finalisation of these measures. Council supports recognition of sites of current cultural significance as part of any assessments.

The revisions to mitigation measures relating to non-Aboriginal heritage are endorsed.

The revisions relating to property access and impacts are endorsed.

The new mitigation measure D11.8 relating to the Obstacle Limitation Surface (**OLS**) is endorsed.

The revised mitigation measure D12.2 relating to local access to Inland Rail is requested to be amended as follows:

ARTC would continue to work with relevant stakeholders, including Moree Plains Shire Council, **Transport for NSW and the NSW State Government Special Activation Precinct Team (Moree)** to identify opportunities to facilitate local access to Inland Rail ~~via the Moree Gateway~~, and other local facilities, **and to implement these** where feasible and reasonable, **taking into account the economic costs and benefits of any proposals**.

The mitigation measure D12.3 regarding accommodation is not considered adequate, and consultations need to occur well in advance of need. A requested re-wording is:

A temporary workforce housing and accommodation plan ~~would~~ **will** be developed **prior to construction commencing** and implemented **in sufficient time to accommodate the impacts of** ~~during~~ construction. This would include a requirement for **ongoing** consultation to be undertaken with local accommodation

providers and councils regarding the availability of accommodation, and the need to maintain ~~some~~ **sufficient** availability for non-workforce accommodation, **so as to avoid any significant market distortions.**

The additional mitigation measure relating to rail traffic diversions is endorsed.

The additional mitigation measure C8.3 relating to work near or within watercourses is endorsed.

The additional mitigation measure C13.4, accommodation is noted, however, the qualification “where practical” is considered unnecessary.

The modification to mitigation measure O3.2 relating to weeds is endorsed. A further mitigation measure relating to vehicle and soil inspections and appropriate quarantine where vehicles have had weed exposure or soils are proposed for relocation is recommended.

O3.X. A regime of vehicle and plant inspections will be developed as part of the Construction Environmental Management Plan, to assist in minimising the spread of noxious weeds along the rail corridor, and between materials supply sites and the rail corridor.

The new mitigation measure O12.1 relating to bushfire is noted. It is recommended that in light of recent fire events an additional mitigation measure be considered, along the following lines:

OXX. A bushfire emergency management plan will be prepared, prior to construction commencing, and in consultation with the Rural Fire Service, and local Councils. This will be implemented during the construction period.

Other changes to mitigation measures are considered editorial and of a minor nature.

Refer to Section 3 reviewing the relevant appendixes and technical reports.

Section 3 – Technical Reports and Appendices

APPENDIX A – REGISTER OF COMMUNITY SUBMISSIONS

Noted.

APPENDIX B – PREFERRED INFRASTRUCTURE PROJECT DESCRIPTION

1. Preferred infrastructure features and operation

Facilitation of access to the Inverell Rail Line is noted as is the continuing operation of the Mungindi Line.

Maintenance of all existing siding turnouts is noted. Refer comments in Section 2 regarding inactive sidings.

Jones Avenue overbridge, please note extensive comments in Sections 1 and 2 of this submission.

Closure of Burrington Road level crossing should be specifically identified.

The role of noise control structures in providing corridor security through the urban area of Moree should be specifically identified. Correct spelling of Burrington Road.

1. Construction of the preferred infrastructure

No specific comments other than as below.

Key issue of possession has been addressed elsewhere.

Working hours have been addressed elsewhere.

Further refinement of haul roads is necessary. Third-party agreement in terms of Council assets needs completion.

APPENDIX C - NOISE AND VIBRATION TECHNICAL INFORMATION

Part 1

Noted that some receivers were reclassified and some additional modelling has occurred. See later comments regarding some dwellings not being included.

Key diagrams at the end do not show location of the individual maps.

Part 2

Moree modelling would benefit from an overview map as well as the detailed maps. Index showing how the tiling fits together would also be of assistance.

Part 3

No specific comments.

APPENDIX D – OPERATIONAL NOISE AND VIBRATION ASSESSMENT

This section of the report supplements the main report review and submission. In particular, it focuses on the technical aspects of consideration of noise impacts. Inconsistency in the use of appendix versus attachment is noted.

Executive Summary

Noted that there is a significant reduction in noise exceedances following mitigation measures using sound walls. Agreed that localised measures are the most appropriate response for isolated dwellings. Council has previously indicated that architectural measures may be of limited use where dwellings utilise evaporative coolers. These require open windows to operate (on the lee side of the dwelling depending upon wind direction). In these cases dwellings may require refrigerated cooling noting this would have higher running costs. This would need to be negotiated with individual owners. The use of specific approaches for each property is supported.

1. Project Background

Noted that separable package 3 includes the Newell Highway rail overpass and Jones Avenue grade separation. This confirms that Jones Avenue need not be constructed as an integral part of Phase 1 works, and that separating this component out would not affect timings for rail construction.

2. Sensitive Receivers

Rationale behind road noise study areas noted.

3. Project Criteria

See additional comments in Section 2 relating to motel and caravan park developments, which do not appear to have been assessed. This is a critical omission.

Provision for windows being partially open is supported noting use of evaporative coolers.

With respect to Jones Avenue, Council notes the impracticality of restricting heavy vehicle access. Although not explicitly stated it is assumed that the modelling is based on light vehicles. This is significant given the elevated exhausts of most heavy vehicles. Refer to detailed comments in Section 1.

Use of the British standard for vibration trigger levels is noted. Previous experience with hard rock quarries has utilised 2mm/s for heritage buildings and 5mm/s for more modern buildings as the trigger levels for potential cosmetic impacts. Note that the British standard is more recent than these figures.

4. Airborne Rail Noise Impacts

Meteorological conditions are not very representative with higher temperatures and lower humidity being typical.

Note as well Councils of view that overall train numbers are relatively low. This would not affect the noise or vibration generation from a single train passing a sensitive receiver but it should be noted that an increased number of trains would increase the overall impact. Council expects a fairly rapid shift to 1,200m - 1,350m trains as soon as the Moree to Narrabri section is available for traffic. A trial train 1,200m in length has already been successfully operated to Port of Newcastle from Moree. Depending upon passing loop signal alterations from Narrabri to Port of Newcastle, 1,800m trains would be expected to be operating potentially before 2030.

Horn distance at 15m away from the level crossings appears too short.

In reviewing barrier heights, it is noted that a smaller gap may be feasible for Burrington Road as per later comments. Also, as mentioned later, it may be feasible/appropriate to replace the existing wall mounds where criteria are not met for example Morton Street, Moree.

Visual treatments of the barriers requires discussion in particular the development of a mitigation measure relating to visual impact. A suggested mitigation measure is as follows:

X.XX Treatments to provide visual relief to views of noise walls from residential premises would be undertaken in consultation with affected communities.

5. Airborne Road Noise Impacts

Note comments elsewhere that in practice commercial vehicle usage is likely to occur and could well be around 12%.

6. Ground – Born Noise and Vibration Impacts

Vibration levels are all within acceptable parameters.

7. Process to Seek Feedback

See comments elsewhere regarding issues involving evaporative coolers.

8. Management of Operational Noise and Vibration Complaints

Noted. Comprehensive.

9. Conclusion

No comments.

APPENDIX D - ATTACHMENT A - MAPPING OF NOISE SENSITIVE RECEPTORS

This is of assistance in identifying sensitive receivers. The rail separation and rail phase information is not entirely clear. It is assumed that rail separation refers to the separation between the different phases however it is understood that there are only two phases associated with the N2NS section, of which the SPIR is focused on Phase 1.

It is not clear how the boundaries within which sensitive receivers are included were determined.

Caravan parks do not appear to be identified. These have both permanent and short stay components and need assessment. This is particularly the case given the lightweight nature of caravans/cabins and their subsequent higher sensitivity to noise.

There is also the question of motels, which are a significant element of Moree's economic base and which need also to be addressed.

Olive Crescent (map 17) does not include all constructed dwellings. This requires review and raises concerns as to whether this situation exists elsewhere.

APPENDIX D - ATTACHMENT B - OPERATIONAL RAIL NOISE MODELLING RESULTS

In addition, showing the quantum of residual exceedances with noise barriers would have been helpful rather than relying on calculation.

In terms of the modelling, was any consideration given to acoustic shielding associated with existing buildings?

APPENDIX D - ATTACHMENT C - OPERATIONAL RAIL NOISE MODELLING CONTOURS

Noise contours are not labelled on maps showing noise barrier locations.

Mapping of different wall heights is not clear.

Issue of Morton Street, Moree. Is there an opportunity to replace the existing mounds to improve acoustic performance on the eastern side of the railway line?

There is still some intrusion in terms of dwellings at the north end of Oak Street.

Two dwellings located within the railway land zoning just north of Alice Street (northern end Morton Street) appear significantly affected. It is understood that these dwellings have now been acquired, as previously suggested.

No mapping has been provided south of Adelaide Street, Moree.

More detailed mapping around Burrington Road/Gwydirville would be of assistance.

APPENDIX D - ATTACHMENT D - OPERATIONAL ROAD NOISE MODELLING RESULTS

Noted.

APPENDIX D - ATTACHMENT E - OPERATIONAL ROAD NOISE MODELLING CONTOURS

Road noise study area is assumed to have been selected (somewhat arbitrarily) as catchment for assessing Jones Avenue overbridge. Reasons for choice of roads within the road noise study area not clear.

Jones Avenue overbridge figures seem very low.

APPENDIX D - ATTACHMENT F - OPERATIONAL RAIL VIBRATION MODELLING CONTOURS

Some map legends appear incomplete e.g. on rail speeds.

Impacts of the 35dB(A) vibration contour difficult to interpret at the selected scale, particularly in urban areas/villages.

Why doesn't vibration contouring include the comfort level contour as well as 15mm/s and 7.5mm/s? This is very relevant to nearby residential receivers.

APPENDIX D - ATTACHMENT G - NOISE BARRIER NOISE CONTOURS

Contour mapping showing the differential between noise levels prior to and after mitigation would be of significant assistance.

It may be possible to look at a smaller gap in the noise barrier either side of Burrington Road. As currently envisaged this crossing would be closed except for emergency vehicle access and access during periods of significant flooding.

Note comments regarding levels affecting dwellings west of Morton Street north, and also east of Morton Street south of Alice Street. Consideration should be given to the potential for additional mitigation to achieve better outcomes than the existing mounds. It is suggested that an additional 2m of height be considered.

APPENDIX E - FLOOD STUDY REPORT

1. Introduction

Noted that there is no explicit mention of the Probable Maximum Flood. This is preferable than the “extreme event” terminology. See also comments in Section 2.

Noted that a key objective should be to minimise change associated with both upstream and downstream flood levels.

2. Project Description and Study Area

No comments.

3. Design criteria, assumptions and inputs

It is noted that no specific flood management objectives have yet been identified. Draft objectives are included at Table 3.1. It is further noted that draft criteria have been developed subsequent to the EIS report. Council's comments are as follows:

Afflux

Residential and commercial buildings – Further refinement of this is required. Council would generally look to a 10mm limit whether above or below floor level flooding. Council works to the 1% AEP +500mm freeboard as the design event for residential development, with a lower freeboard of 200mm for commercial development.

Cropping paddocks – This is not considered unreasonable with detention times perhaps being of more significance. Farm access tracks should be considered.

Stock paddocks – Farm access tracks should be considered.

Newell Highway – Council would defer to Transport for NSW but this does not appear unreasonable.

Other roads – Acceptance of this would depend on existing levels. While Council does not support vehicles traversing floodwaters, it does occur in practice. 100mm can have a significant effect on trafficability for light vehicles. For example, a maximum of 200mm is now recommended for light vehicles with an additional 100mm effectively rendering roads impassable except for heavy vehicles. Suitable depths are noted to be subject to appropriate velocities.

Public infrastructure – Varies depending upon its nature and degree of flood proofing, however, may not require any floor level controls. Generally considered satisfactory for non—habitable structures. Critical public infrastructure such as health services should adopt tighter criteria with the 10mm limit being recommended.

Flood Velocity

Increases of flood velocity of 20% above 1.0m/s are considered undesirable. There is potential increased risk for erosion. No change to the flood hazard regime is considered acceptable for residential and commercial buildings, though critical public health facilities should also be included in this category.

Flood Hazard

No change in flow hazard regime for people is considered acceptable for residential, commercial and critical public health facilities. Roads should not have any change in the flood hazard rating .

Flood Duration

Increases in flood duration are of less significance for shorter durations. No more than 10% increase in flood duration for floods around six hours is considered acceptable, with concern expressed over this percentage increase for significantly longer events. For example, while this would represent approximately half an hour increase in duration for a six-hour flood this would equate to nearly 5 hours for a 48-hour flood. Extended flood periods are not uncommon in Moree, in particular for the Gwydir/Mehi catchment although it is noted that consideration of this is deferred to Phase 2.

It is agreed that residential, commercial and critical public health services should not have any increase in above floor flooded duration.

Cropping paddocks and stock paddocks are seen as somewhat lesser critical and 10% may be acceptable.

Concern is expressed regarding the 10% figure for extended flooding that may affect other roads as this, together with the afflux changes, could result in significant changes to local access.

It would be preferable for the assessment to look at depth, velocity and duration criteria in an integrated manner in developing an accessibility metric for impacted roads.

Additional Criteria

In general, the RAATM is supported with a maximum 0.01m above existing levels being the preferred criterion.

Multi-criteria analysis – This is noted. An additional element should be taken into consideration. This is the flooding implications of failure of the formation. Based on the failure of the formation in the 2012 Moree flood event this is potentially quite a significant in terms of the overall design standards to which the Project is built.

1. Methodology

In general, the methodology is supported. Noted, as previously discussed, that the PMF has not been included. Under the NSW Floodplain Development Manual consideration is required to be given to the PMF. It is noted that extreme event modelling did take place with the 0.05% AEP event.

The incorporation of a climate change scenario is appropriate.

The Mannings “n” values for urbanised areas and industrial areas may need checking against field data. It is expected that a higher percentage of hard surfaces probably obtains.

2. Results

Afflux non-compliance

The question of an increase in afflux in the 1% event even when there are reductions for more frequent events needs careful consideration. In particular, the NSW Land and Environment Court has held that quite minor variations in flood depth in the 1% AEP are considered very significant to the extent that a proposed change of floor level in the order of 100-200mm has been seen to be “not substantially the same development”. This suggests that very careful attention needs to be given to impacts in the design event (1% AEP). Therefore, while there may be a potential reduction in the predicted number of overall above-floor events, there may still be some liability attaching to any increase in depth above the flood planning level.

Velocity non-compliance

The proposed approach to utilise scour protection in the instance of velocity exceedances is supported, noting that an inspection regime would be necessary post-construction. This should be included in the Operational Environmental Management Plan.

Duration non—compliance

Note comments elsewhere regarding the implications of significant increases in duration, in particular for longer duration events. It is noted that increases in duration are less significant where flood depths are low and are mainly of concern where farm access tracks or local roads are impacted. It is agreed that detailed landholder consultation is necessary where increases in duration are predicted.

Newell Highway flood hazard

Overall, the reductions in flood depths and the reduction in hazard categories are quite positive. Concern is expressed about two of the three locations where hazard is increased, as water depth would now be quite significant to the extent that heavy vehicles (including for emergency access) may be unable to traverse these areas. Discussion should have been included as to why the increase in hazard is acceptable in the circumstances of the case, and how the overall level of service in terms of access in the defined flood might be affected.

Extreme event impacts

Refer to comments elsewhere regarding the PMF. At the very least, the difference between the 0.05% AEP and the PMF should be outlined.

It is noted that the 0.05% AEP afflux would potentially result in increased depths of up to 0.2m at the village of Gwydirville. Further assessment is recommended to ascertain if these increases can be moderated, noting that the main constraining element would appear to be the culvert width at Halls Creek itself.

Other comments

No mention has been made regarding the proposed noise control barriers. It needs to be confirmed that these were included as features in the flood modelling.

3. Conclusions

Some additional work over and above that indicated is suggested as outlined in the above comments.

APPENDIX E – ATTACHMENT A - CATCHMENTS

Noted for information only.

APPENDIX E – ATTACHMENT B - EXISTING CONDITIONS FLOOD MAPS

Noted that Council has 2D modelling covering the Moree urban area which includes part of Phase 1. There is some reference to this modelling noting it does cover part of the area to the south.

APPENDIX E – ATTACHMENT C – DESIGN CONDITIONS FLOOD IMPACT MAPS

Flood afflux maps (eg 10%) show some localised depth increases in the village of Gurley. Some of these affect land for future village development as well as some larger blocks outside the village proper.

APPENDIX E - ATTACHMENT D - CROSS DRAINAGE STRUCTURE BLOCKAGE ASSESSMENT

No comments.

APPENDIX E - ATTACHMENT E - HYDROLOGICAL CALIBRATION REPORT

No comments.

APPENDIX F – ADDENDUM TO THE NARRABRI TO NORTH STAR BIODIVERSITY REPORT

Noted. No specific comments.

APPENDIX G – BIODIVERSITY BRIEFING NOTE

Noted. The overall staged approach to determining biodiversity offset requirements is supported, including further surveys at appropriate times to further refine mapping and species identification. Desmodium appears to be relatively common and Council has specific information regarding the presence of this species in the vicinity of South Moree which Council is happy to provide to DPIE and ARTC.

APPENDIX H - LAND ACQUISITION DETAILS

Noted that affected lands in Morton Street north and west of the street, are already in public ownership.

APPENDIX I – NARRABRI TO NORTH STAR OFFSET STRATEGY (PHASE 1)

The issues associated with locating appropriate offsets are noted. Comment has been made in Section 2 about the potential pressure on the overall credit market because of the demands caused by the project. Noted that this has led to an ARTC approach to work directly with landholders to identify and bring offsets to the table.

Noted that payments into an offset fund is not currently available option. This should be given consideration as it may assist to reduce impacts on the biodiversity credit market.

APPENDIX J – NSW CONSTRUCTION NOISE AND VIBRATION FRAMEWORK

Noted.

APPENDIX K – CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN OUTLINE

This document should link explicitly to identified mitigation elements.

Further development should occur in close consultation with affected councils.

Traffic, transport and access sub plan in particular should developed in close consultation with affected councils.

Performance outcomes should be clearly identified and clearly measurable.

Refer other comments regarding consultation with Councils and also additional matters to be included.

APPENDIX L - PUBLIC LEVEL CROSSING TREATMENT METHODOLOGY

No specific comments at this time. Input from Council's Engineering Department has been sought and would be made available to subsequent detailed design meetings.