SUBMISSION TO INLAND RAIL NARROMINE TO NARRABRI EIS.

Introduction

I have lived in the Central West region of NSW since 1970's. Since 1992 I have had a strong involvement in regional Landcare activities supporting many local groups as an on-ground volunteer on activities such native plant seed collection, tree planting and wetland rehabilitation projects.

For 15 years I was a Senior Catchment Management Officer with the Central West Catchment Management Authority before leaving to pursue biodiversity and cultural heritage project interests.

I object to the proponent's project proposal on the following grounds:

A4. Consultation

EIS Chapter 4 and appendix C do not represent an accurate account of the consultation process undertaken at Narromine for the Narromine to Burroway Section (N2B).

The EIS claims:

- "*ARTC is committed to delivering communications and engagement that is in line with best practice, as stipulated in the IAP2 spectrum of public participation and that reflect the IAP2 core values."*
- That the following principles have been applied to the consultation process:
  1. Timing—early and regular engagement;
  2. Inclusivity—ensuring relevant stakeholders are consulted or involved;
  3. Transparency—views and opinions captured from the public are reflected during the engagement process and are available to participants;
  4. Equitability—relevant groups are included in the conversation with recognition of those voices that are not often heard as much as some others. This includes groups like traditional owners, people with disabilities, youth and the elderly;
  5. Accessibility—different socio-economic groups can participate;
  6. Materiality—focus on identifying and addressing the issues that matter to stakeholders;
  7. Responsiveness—including communication of how the engagement process has shaped the proposal, prior to each phase of engagement and delivery.

The issues described below refute ARTC claim that the above principles and values have been applied.

Issue 1) The EIS states that the community had ready access to project information during the "*announcement and preliminary consultation—2015 to end 2017*". The reality is the proponent did not inform the community that any alternatives to the 2010 concept alignment were being considered until March 2017. Informing the community came in impersonal information packs containing a 'fact sheet' and promotional material placed in roadside mailboxes in the new 'alternative study area', not the personalized mail claimed in the EIS. The material could have easily been discarded as unsolicited 'junk' mail. This information distribution process is not in keeping with principles and values cited above.

Issue 2) The EIS claims that the community had access to project information through a 24/7 manned 1800 phone service. This was not the case in 2016/17.

As our property was located in the fact sheets alternative study area, we contacted the listed consultation information line in early March 2017. The number was not manned so we left a message, no response was received so we rang again a few days later. Still no answer so we left another message. Over a three-week period we rang several times, the line was never manned and we received no return call. We eventually called ARTCs head office in Brisbane. The administration staff said they would immediately investigate the issue. They contacted us shortly after and told us they were having trouble locating their NSW consultation teams so they escalated the issue to the project's consultation manager. It took ARTC nearly two weeks to contact their consultation team and get a response to their own inquiry (pers. comm Brisbane head office staff). Eventually a consultation meeting was organized for late April 2017.

Establishing a 1800 line but then failing to ensure it is managed fails to meet ARTC's consultation principles and IAP2 standards and it is misleading for the EIS to infer that a functioning contact point was in place in 2016/17. The N2N project was at a critical point where alternative options were being considered by the proponent and previous study findings discarded. It was therefore critical that the potentially impacted community was actively and meaningfully engage. Instead of this, ARTC provided an adhoc, poorly implemented and poorly managed process.

What Standard Operating and Quality Assurance procedures were in place to ensure the EIS consultation principles and standards were being met by ARTC and contractor staff and managers in 2016/17? These documents need to be included in EIS Sect A.4 with full disclosure of all consultation activities/processes including processes which failed to meet the SOP and QA procedures.

Issue 3) At our consultation session ARTC staff informed us that the alignment could go anywhere between Narromine and Dubbo in the alternative study area. They stated the Western concept route was currently the preferred option as it had been thoroughly researched in 2010. We provided input regarding local flooding, cultural heritage and biodiversity issues.

On December 14th 2017, we were very shocked to discover that the 2010 concept alignment had been discarded and our property was now in the middle of a new 'IR N2B study area'. This makes a mockery of every consultation principles and standard cited by the EIS. At what point did ARTC decide that misleading potentially impacted stakeholders was an appropriate consultation strategy? This has completely undermined landholder trust. The EIS consultation report states '*ARTC's overarching strategy to communication and engagement is designed to:* ***Build trust****: through quality engagement and interactions with our primary stakeholders, including landowners and communities, providing them with meaningful avenues for input and accurate honest information that allows them to get some certainty about what is happening and what they can expect so that they can make appropriate plans and decisions'.*

Issue 4) After gaining access to the N2N MCA documents in 2018 we learned:

- The December MCA 2016 flagged the east Narromine route 101 as being of significant interest.
- The 11th of May 2017 MCA workshop recommended moving the N2B alignment to the east of Narromine.

The MCA documents show ARTC were fully aware in December 2016 that the project was seriously considering discarding the 2010 IRAS alignment for another route. ARTC failed to disclose this critical information in the March 2017 N2N 'fact sheet' and in landholder consultations and communications. ARTC not only failed to disclose critical information they misinformed landholders in the 'alternative' area by stating the route would likely stay on the original concept alignment. This is potential misfeasance and if deliberately employed potentially malfeasance and needs to be investigated. I also point out that our personal consultation occurred only two weeks prior to the final May MCA workshop and staff who attended our consultation meeting are listed as attending the May 11th MCA workshop in the report. These staff did not disclose the existing MCA workshop results at our consultation or advise us that in two weeks the final workshop would conclude alignment studies.

Issue 5) The EIS states "*Landowners and landholders with properties that could be affected by the proposal*" are a "*key Stakeholder group*" and are critically important to the consultation process. Having met many other very angry landholders at the December 14th N2N project announcement we learned these landholders had the same experience with the 'manned' project phoneline. They left a message, but with no follow up from ARTC got on with day-to-day life. They volunteered that because ARTC did not respond to their message they thought there must be no issues affecting their property. This placed the community in a difficult position with many people confused and very upset. Calls for ARTC to review the decision at the meeting were met with the immediate response that it was a Ministerial decision to move the alignment and only the Minister could alter it. ARTC did not disclose that two months prior to the announcement they had lobbied the Shareholder Ministers to change the route. ARTC blaming the Minister for the controversial route change is misleading. The failure of the proponent to disclose their role in the decision process fails to provide transparency and probity.

Issue 6) In August 2017, three months after the final MCA workshop recommended changing the route to the east of Narromine, my wife attended an IR drop-in session in Narromine to see how the project was progressing. She was informed by an ARTC staff member that the alignment was definitely going west of Narromine, following the 2010 concept alignment. She was shown maps of the route and told the project was now in property negotiation phase, with many landholders signed up. To misinform or deliberately lie to the community regarding the projects intentions is unconscionable conduct on ARTCs part. ARTC is a 100% government owned corporation. The Inland Rail Project has a published 'Statement of Expectations'. This document cites the Governments expectation that the highest standards of transparency, accountability, integrity and probity be implemented by the project. ARTCs conduct needs to be investigated. Lying to the community is the exact opposite of "*Accurate, honest information, certainty about what is happening*" cited by the EIS strategy. The community's expectation is that ARTC upholds the values listed in their 'Statement of Expectations', project strategies and plans. These are foundational principles and failure to meet them places the project on very tenuous footing.

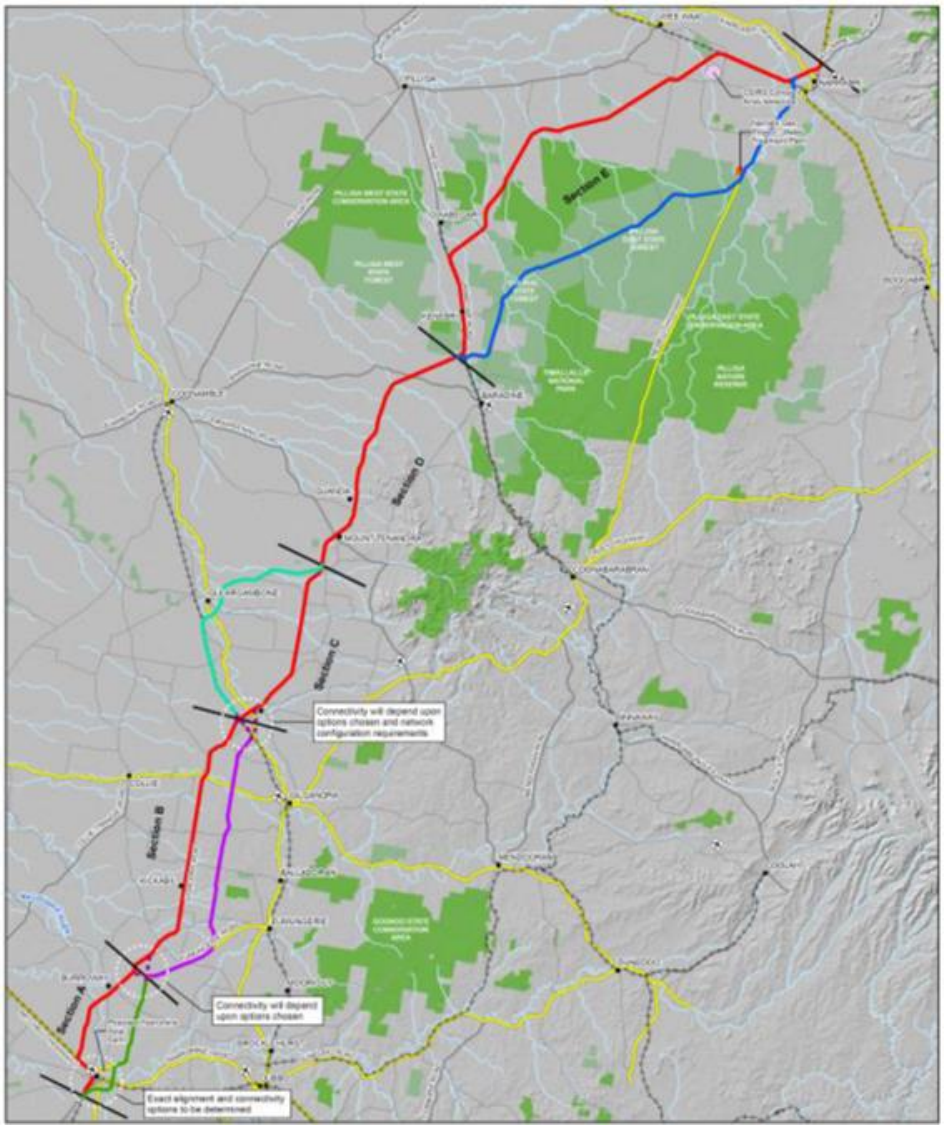
It is also important to note that all MCA Workshops were conducted internally by ARTC with only ARTC and contractor staff represented. The impacted community had no opportunity to provide any input or review any assumption statements or claims. The MCA documents were never made available to any external stakeholders until 2018, well after the decision processes were finalized. Excluding impacted stakeholders removed a significant opportunity for the consultation and project engagement process to have meaningful input. This is very concerning as ARTC ultimately discarded the IRAS 2010 alignment for the new Eumungerie Rd N2B option. ARTC should have realized that the decision would be contentious unless backed by comprehensive and meaningful community consultation and data verification.

Issue 7) Pressured to release the N2N MCA documents by NSW Farmers, ARTC placed them on the IR web site in 2018. On review of the documents, the following issues became immediately apparent:

i) ARTC had made decisions regarding the alternative alignments in Oct and December 2016, with the December MCA noting an Eastern option around Narromine as being shortlisted for further study (see Dec MCA extract below). ARTC knew in 2016 that they needed to consult the newly impacted landholders on Routes 101 and 107 but delayed informing the community of any 'alternative study area' until March 2017. The information sent in March did not disclose any of their preliminary findings and future areas of focus (Options 101 & 107). Instead, ARTC's consultation staff and supporting 'fact sheet' implied that the 'alternative study area' could range anywhere from Narromine to Dubbo (see attached appendix 1). ARTC also failed to test that the projects primary communication line was 'manned' and functioning.

December 2016 MCA Extract

Figure ES-1 Options to progress for landowner consultation



MCA issues continued.

ii) Extensive consultation with Western 'concept alignment' occurred in 2016/17 and Western landholder input was recorded in the 2016 MCA documents. The MCA flood assumption were based on Western landholder input. After consulting with Western landholders ARTC concluded that the concept alignment was impacted by 16km of flood risk and the Eastern option 1.6km, a ten to 1 difference.
I have no issue with Western landholders having their say, it was only right that they were provided fair hearing before the alignment decision was finalised. This hearing provided impacted landholder on the western alignment an opportunity to challenge the 2010 IRAS and 2015 IRIG report recommendations and ultimately have the alignment moved somewhere else. The issue is why didn't ARTC provide the same opportunity to 'alternative study area' landholders impacted by the sudden alignment move. This is strong evidence of procedural bias.

Further to this, in early 2018 my wife and others spent many days collecting signatures at Narromines' shopping centre for a petition to have the alignment change re-evaluated. Over 1,000 signatures supported the re-evaluation however the Shareholder Minister was not interested and advised the community to "take your concerns to the relevant NSW authorities in the EIS exhibition". During the time spent collecting signatures my wife met several Western concept alignment landholders who expressed their surprise at how suddenly the project was moved and volunteered that they had been in advanced negotiations and did not understand the sudden alignment change.

Concept alignment landholders clearly had early and frequent consultation opportunities throughout 2016 and early 2017 and the Eastern alignment had little to none. How is it that one group of landholders takes precedence over others? Why didn't ARTC commence 'concept alignment' and 'alternative study area' consultation concurrently to ensure the principles of Timing, Inclusivity, Transparency, Materiality or Equitability and IAP2 values were implemented.

The MCA claim of a 10 to 1 flood risk difference mentioned above stands out as glaringly irregularity, common sense dictates - 'too good to be true'. Why did no flood consultation occur with Eastern landholders? Several farming families impacted by alternative route 101 have farmed the area since the 1870's. Their families have extensive flood, soils and geotechnical knowledge covering the entire 2017 Study Area East and South of Narromine. Unlike Western landholders, their input was not sought **before** the alignment decision was made. Their properties became the centre piece of the N2B alignment however ARTC failed to provide them any opportunity to have meaningful, inclusive, equitable consultation.

iii) ARTC's MCA assessment of the new Eastern alignment was based on unsubstantiated assumptions. In reviewing the MCA documents no research references or field studies are provided or cited. The documents implies flooding and Geotech conditions to a 100m accuracy, however no reference or data source is referenced. It is impossible for any review to analyze the veracity of the assumption statements.

The final 2017 MCA document does have a very lengthy limitation statements which indemnify the authors from 'assumption errors and omissions' they may have made. It fails to build community trust when a proponent makes unsubstantiated claims and then immediately distances themselves from any 'errors or omissions' that may arise from these claims.

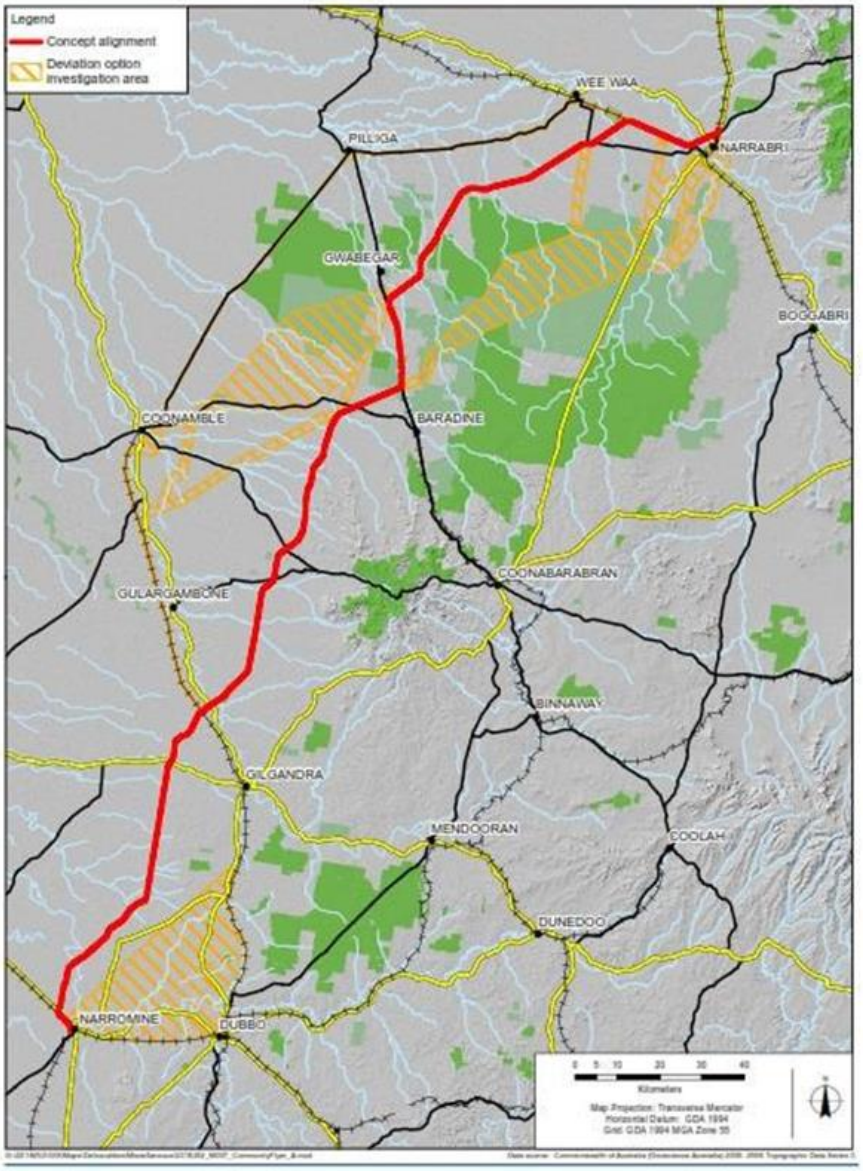
iv) As a N2N CCC member I have met many impacted landholders who found themselves in the new Dec 14th 2017 Study Area with no consultation. For these landholder ARTC's consultation process failed to provide a mechanism for 'meaningful consultation' and 'fair hearing'. ARTC's process has also created 'procedural bias' with Western concept alignment landholders having substantial opportunity to have their say and the new study areas having little to none. This consultation failure places our community and the project at considerable safety, financial and environmental risk as evidenced in the points below.

Issue 8) The following map is taken from the October MCA report. It shows the location of the concept alignment and the alternative study area targeted for consultation (labeled by the legend "deviation option investigation areas")

Extract from: October 27th 2016 MCA Report

1.5 Narromine to Narrabri corridor

The N2N corridor is shown in Figure 1-1 together with the areas where alternative options are being considered.



A major issue is apparent with this map.

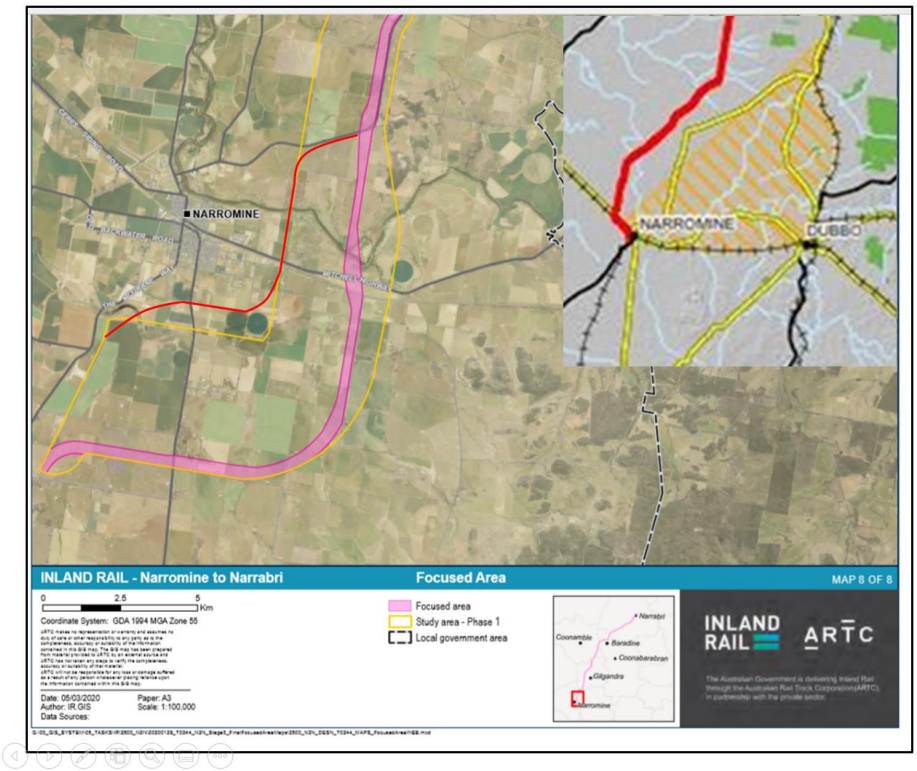
All the farms and residential estates south of the existing Dubbo to Narromine rail line are outside the 'deviation option investigation area'. There is also a large gap, over 10km wide between South Eumungerie and Gilmores Roads with no way to join the 'deviation' area with the concept alignment.

This map formed the basis of the 'fact sheet' that was put in landholder mailboxes in March 2017. Landholders South or East of Narromine who read this 'fact sheet' would never consider the Inland Rail project impacting their properties unless they were directly adjacent the Parkes to Narromine rail line.

No additional project maps were developed so why did ARTC diverge from their documented plan? Who approved it? Why was no updated map produced to ensure consultation work could meet the above principles of Inclusivity; Transparency; Equitability; Accessibility; Materiality; Responsiveness and IAP2 standards?

Compounding this issue, **no** landholders in the area South of the Dubbo - Narromine existing rail line were consulted prior to the December 14th 2017 alignment announcement. These landholders had no opportunity to provide local information for the 2016/17 MCA process.

Issue 9) The Map below is compiled by overlaying the final MCA 2017 study alignment over the 2018 approved study area and 2020 focus area an insert of the MCA deviation study area is also provided on the right.



March 2020 Focus Area

N2B South

Final MCA 2017 Study Route

Note: The final MCA study route is outside 'Deviation Options' and final 'Study Area'. It is also many kilometres from final 2020 alignment.
The route selection data is now completely wrong for the N2B section.

As can be plainly seen, the Final 2017 MCA study route is outside the Ministerially approved 'Study area phase 1'.

It is also a very long way from the Focus area where the EIS alignment is now located. Any field work or desk top evaluations undertaken for the N2B MCA are inaccurate and I submit, invalid. The MCA alignment study area is not only outside the Ministers approved study area, it is on the Northern side of the Backwater Cowal on a completely different landform. This impacts all MCA scores – cost, flood exposure, Geotech/constructability, biodiversity, cultural heritage assessments. Note how far outside the 'Deviation option investigation area' the Focused area is, approximately 10km further South. Impacts on the MCA score include:

- track length and transit time - 8km and 5 minutes extra required and not budgeted for;
- exposure to 1 in 100 flooding – substantially increased with additional risk of frequent fast-moving flood waters;
- Geotech and constructability - now substantially worse with massive volumes of fill required for 15 km of embankment located in a landscape which floods regularly (7 times in over the last year) and can remain continually submerged for weeks to many months on end (2010, 2011, 2012, 2016, 2020) and even years, such as the prolonged wet period in the 1970's.
- Substantial impact on NSW and Commonwealth endangered ecological communities.
- Cultural heritage – straight through the middle of Webbs Reserve which is rated as very high cultural significance.
- Cost – the Eastern alignment is referenced in the MCA as costing $37 million extra. With all the extra embankment fill, culverts and bridging required (due to the flawed MCA assumption statements not being tested) it will easily require an extra $200 mil.

If ARTC had consulted with local landholders in the expanded study area they would have affirmed the 2010 IRAS Eastern alignment study findings – '*less favourable from a land-use and flooding perspective'*. ARTC did not consult and there is no evidence they undertook any form of, let alone 'rigorous', desk top analysis or field studies. The project and community now face escalating financial, environmental and safety risks because of ARTC's negligence.

N2N CCC issues

I am a member of the Narromine subgroup of the N2N CCC and have attended every meeting. I raise the following issues regarding the proponent's management of the CCC process:

1. The CCC has been in place since 22 January 2019. The CCC guidelines cite requirement for an annual report to be submitted to department and published on the DPIE website. No reports on Inland Rail N2N are listed on the relevant DPIE CCC pages.

   The DPIE CCC web page highlights that completion of annual reports provides CCC's with:

   - *provide easily* ***accessible information on the status of projects***
   - *detail how the proponent* ***has considered and acted on community feedback***
   - *inform the community of the* ***emerging issues the committee will focus on over the coming year***
   - *provide an* ***extra opportunity for all community members to provide suggestions to the committee***

   The above reporting requirements have never been raised and as such our CCC and community have been **denied these opportunities** for two years. As is clearly evident from the issues raised above and below, past consultation failings by the proponent have caused great anxiety for the impacted community. The failure of the proponent to follow CCC reporting requirements is further evidence that ARTC continue to fail in provide 'meaningful' and 'effective' consultation opportunity for our community.

2 In my opinion the CCC meetings have failed to capture (as minutes) and resolve (through disclosure, discussion and resolution) any real issues raised by the community. In the second CCC meeting I raised a very significant issue on behalf of local landholders. This issue related to access and fencing of new alignment. Who was responsible for the maintenance? What procedures were in place should the fence require repair? What procedures would be initiated if stock found a way onto the alignment? Who was responsible if an accident involving stock occurs? ARTC said they would find answers and develop the process two years ago. Nothing has happened and landholders are more anxious than ever. The N2N has several hundred kilometers of fencing exposed to very significant flood risk. In one storm event ARTC could have dozens of kilometers of fencing lying flat on the ground and stock wandering the alignment corridor. This corridor is rated for 115kph operational speeds and as such is a very dangerous environment for animals and people. We are now at the EIS exhibition phase with landholders and NSW Farmers still trying to get answers for basic operational issues such as these.

   In our 1st CCC meeting I raised the issue of procedural fairness and bias in the alignment change and consultation process. ARTC's response was to state, 'they take the issues on notice'. In subsequent meetings they shut down questions deemed 'phase 1, historical in nature and not relevant to the EIS in the current development phase'. Shutting down question does not empower the community or lead to active participation. At times, the shutting down of questions has been blunt and not respectful of community members time, commitment and the energy they have volunteered to the project. I have seen a noticeable decline in community participation since our full community panel meeting 21st May 2019. Most members have not attended in the last year (including frequent absence of council representation). Meaningful consultation is not occurring. We have entered the EIS exhibition phase with a long list of questions and issues unresolved dating back 2 years. CCC member emails sent prior to our last CCC meeting reflect this frustration. These emails are recorded in the Dec 2020 meeting minutes and are provided in Appendix 2 Item 7.2 Correspondence.
3. Our CCC is split into three subgroups. In over two years our subgroups have never met, we have never had any opportunity to discuss common project issues or workshop potential solutions. There is a complete lack of interest by the proponent to explore the potential strengths that a well-structured, engaged and coordinated CCC can provide. We are fragmented and kept fragmented for reasons undisclosed.
4. The CCC presentation process leaves little time for robust discussion and issue resolution, we are treated like a captive audience. ARTC take the lion's share of the meeting time to present long and largely light weight power point presentations. Pressure is always exerted to get through a packed agenda of presentations with question time often inadequate to achieve resolution of issues raised. ARTC staff frequently do not have information at hand and have no time for detailed issues. I requested our CCC be provided with the SOP for various project activities – Undertaking consultations, QA of infrastructure installations, maintenance

response SOPs for infrastructure damage (such as the fencing issue above). The request was acknowledged yet no response has been provided other than ARTC stating they have databases to record project issues. The onus is always put back on the members to push again and again to get resolution with no administrative assistance provided to ensure issues have been resolved adequately.

5. The guidance on 'pecuniary and non-pecuniary interest' has been inconsistent. The pecuniary interest issues were clearly identified prior to and at our first meeting. Members with interest in contracts or work etc must disclose a pecuniary interest. Members in the study area, a non-pecuniary declaration must be lodged with comment made that if the member found themselves at the focus area stage to have property directly impacted by the alignment that a new pecuniary declaration should be made. Two years on this process has not be consistently implemented. Focus area landholders are still classed as non-pecuniary despite being in direct negotiations with ARTC on significant matters with financial, business and personal implications. Opportunity for consultancy survey work and borrow pit supply have come and gone with members potentially lodging expressions of interest with no pecuniary interest being raised. I am concerned that this important issue has not been consistently addressed over the two years as it impacts the transparency and integrity of the process.
6. Attendance and engagement with meeting observers is not encouraged. The protocols involved with allowing an observer to ask a question took so long to resolve observer questions were only available for 2 of our meetings. Meeting protocols are so strict observers must know what they want to ask and register the question before the meeting.
   During the entire two-year process only one community observer has asked a question and this was at our last December meeting. A landholder with over 4km of N2B alignment on their property wanted to know if the flawed assumptions in the 2016/17 MCA process were going to be disclosed and reviewed by the EIS given new information and the on-ground reality of the flooding risks, soil conditions, extra track length and cost of the project as it stands in 2020. He was told "no" and if you had issues, put in an EIS submission stating your concerns. This landholder has over 8,000 acres of land materially impacted by the alignment change – 4,000 acres directly and the rest with severance and access issues. Their family farming business was not consulted prior to the Dec 2017 alignment change announcement.
   Their families experience is a fitting summary of the Narromine N2N CCC and the final sentiment on which our December 2020 CCC meeting ended. An impacted community member finds their family farm front and center of Australia's largest infrastructure project with no meaningful consultation opportunity provided. The property is well outside the documented project study area. This 130 year old family business has a long list of unanswered question regarding the veracity of the MCA assumptions which dumped the alignment on their doorstep. They asked a fundamental question at a CCC meeting hoping for a just answer and are told by the proponent to take the issue up with the relevant authorities. I hope their family and other impacted landholder do not continue to be disappointed by the processes underpinning this significant project and their search for answers is heard.

Solution.

The entire N2B consultation process is procedurally compromised and untenable. The project must return to the route selection and option analysis phase, with comparisons of the Concept Alignment and other 'alternative study areas' undertaken using transparent and rigorous and documented methodologies. The consultation and data analysis process must meet the projects stated consultation principles and IAP2 standards as listed in the EIS.

A6. Alternatives and options

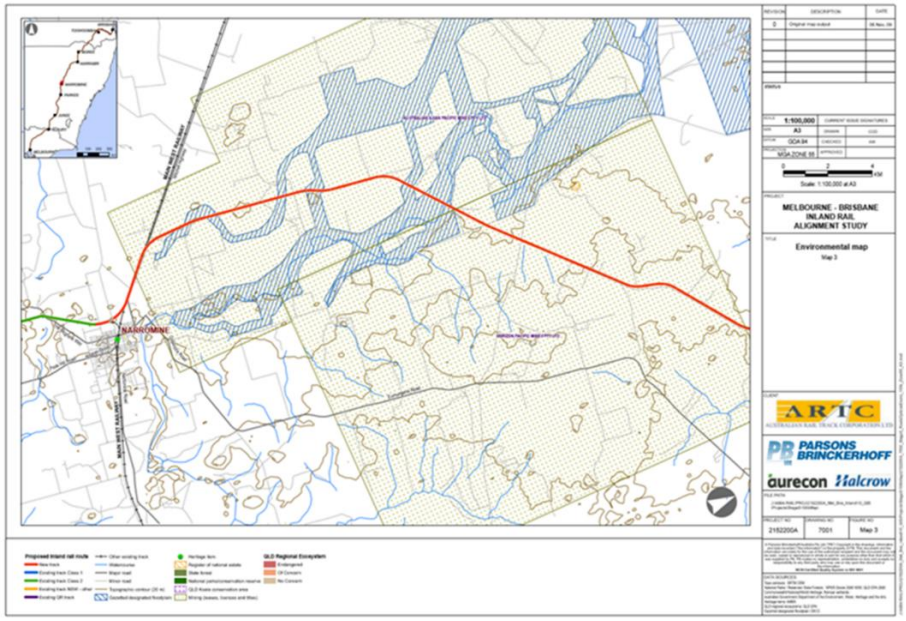
EIS Section 6. does not represent an accurate account of the Alternative options process undertaken at Narromine being the Narromine to Burroway Section (N2B).

Issues:

1) N2B alignment was radically changed from the Western 'Concept Alignment' researched by the Inland Rail Alignment Study (IRAS) 2010. This concept alignment was ratified in 2015 by the Inland Rail Implementation Group Report (IRIG) and Business Case. IRAS 2010 found the Western concept alignment to have less flood risk, community and property impact than an alternative study route SE of Narromine (see IRAS extracts below).

   IRAS N2B section map and route description:

   "*The alignment passes to the west of Narromine airfield and follows property boundaries across irrigated land for about 15 km until crossing the Macquarie River. The alignment would then cross several flood-prone areas near the Macquarie River.*
   An option to the east was considered but found to be less favourable from a land-use and flooding perspective." Appendix E Sect 4.4.2



   Notable features of the 2010 Western concept route include:

   i) 13km of existing track utilized south and west of Narromine. This translates to 13km less green field disturbance to local farms and businesses. This route includes an existing, fully up graded, Backwater Cowal bridge crossing at the cowal's narrowest point (concrete upgraded 2017)
   ii) Less flood exposure (blue hashing) as referenced from the gazette 2008 Narromine to Oxley Flood Management Plan.
   iii) 8km less new track required and over 5 minutes transit time saving.

Below is the IRAS Narromine SE alternative route deemed "***less favourable from a land-use and flooding perspective***".

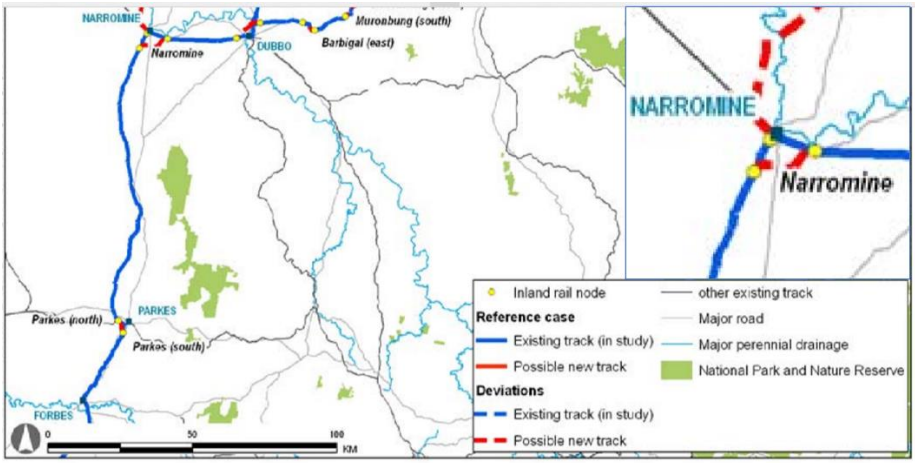


Figure 3-3 Parkes to Moree overview

As can be plainly seen the IRAS 2010 'Eastern alternative route' is very similar to current EIS route around Narromine. The 2016/17 MCA documentation never disclosed that the 2010 IRAS study had evaluated the same alignment option south and south east of Narromine nor that the IRAS report reached a completely opposite conclusion from a flooding and constructability perspective. This is a significant omission by ARTCs MCA process.

The 2010 Eastern study area has also been removed from the FIGURE A6.3 EIS map. This omission needs to be corrected and the EIS must provide the data and rationale for overturning the IRAS 2010 findings so the methodology and conclusions can be transparently reviewed.

Both the 2016/17 MCA and EIS fail to reference the gazette and current '2008 Macquarie River Narromine to Oxley Station Floodplain Management Plan'. This FMP contains significant flood data and information regarding the location of major Macquarie River outflows plus flood histories and descriptions. The 2008 FMP makes notable mention of Webbs Siding outflow and the significant flood mitigation roll the outflow provides for areas downstream, particularly Narromine township.

Issue 2) Concerns regarding the quality and type of evidence used by the MCA's to re-route the alignment has been raised by impacted landholders repeatedly at N2N CCC meetings (eg raised at the last Dec 7th meeting). ARTC has refused to discuss all 'route selection issues' citing them as 'Phase 1' issues and Ministerial decisions and not relevant to the EIS development and current phase 2 project work. Shareholder Ministers Joyce and McCormack when questioned on the decision process underpinning the route change repeatedly respond by stating, "Take your concerns up with the relevant NSW authorities during the EIS exhibition phase". As a community and N2N CCC member I question ARTC's authority to shut down discussion on a significant community consultation issue. Route selection is a key issue in the SEAR's. On what basis do ARTC justify deferring discussion and resolution of significant issues to the 'EIS exhibition phase'? Why not deal with these issues in the research and consultation phase, saving time, tax payers money and community frustration?

ARTC's adversarial stance regarding community concerns with data, consultation processes and assumption sources has resulted in considerable mistrust and tension between the proponent and the impacted community. This mistrust and tension is self-evident in light of the NSW Farmers and NSW CWA alliance to engage legal counsel to challenge the project's assumptions and findings. This alliance is historically unprecedented and a damning indictment of a project promoted as a 1 in 100 year regional infrastructure and nation building investment.

Below are extracts from the May 2017 MCA document. The MCA table summarizes ARTC West versus Eastern (Eumungerie Rd option) assumptions and the Map shows the alignment corridors studied. I have overlayed my summary notes in red on the RHS, these are further described in 'Summary of community issues' section below.

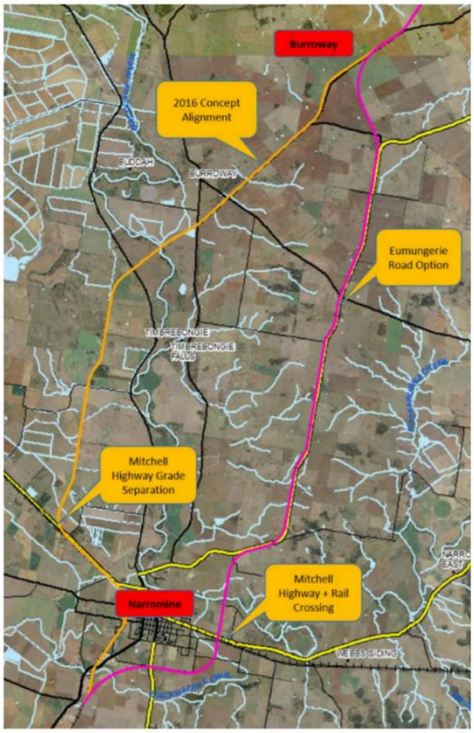


Figure 3-1 Narromine to Burroway options

N2N Final MCA Workshop Report

11th May 2017

3.1.3 Key statistics

The key statistics summarised in Table 3-2.

Table 3-2 Narromine to Burroway key statistics

Metric	2016 Concept Alignment	Eumungerie Road Option
Alignment		
Length	41.3 km	41.0 km
Transit time	25 mins	25 mins
Geotechnical conditions		
Brownfield reconstruction	7.5 km	0 km
Formation Type A (500 mm)	19.6 km	29.8 km
Formation Type B (1000 mm)	14.2 km	11.2 km
Local structural fill (~%)*	47%	72%
Flood immunity/hydrology		
Length in flood plain (1% AEP level)	15.9 km	1.6 km
Level Crossings		
Private level crossings	13	7
Public level crossings	15	15
Properties intersected by new rail alignment (excluding existing rail corridor)		
No. private properties	22	36
No. publicly owned properties	7	4

* - For options comparison only, estimated on percentage of underlying sandstone that may provide suitable opportunities for borrow pits.

Incorrect 49km & 34 mins

Geotec not accurately assessed see ARTC own limitations statements

Incorrect 2020 Eumungerie Option 1% AEP exposure is 16 km

Summary of community issues with MCA route selection data.

Alignment length: The Eumungerie Rd option alignment length quoted by the MCA is not representative of the final EIS alignment which is now 49 km. If consultation with local landholders had occurred regarding this corridor proposal it would have become immediately apparent that the Pink line was not tenable from a flooding and land use perspective (NB this is a historically proven point as the alignment was moved sometime between May & October 2017).

Local feedback would have immediately flagged that to gain access to reduced 1% AEP flood impacted land and improved Geotech conditions you would need to deviate much further south and east (and well outside ARTC's poorly chosen 2017 N2B Study Area). Once this claim was verified, ARTC would have realized that to achieve these allusive flooding and Geotech goals the alignment would be much longer and not viable from a service delivery perspective. The Western concept alignment however would have remained the same and could have been made shorter and more direct by removing the alignment bends around Narromine. As it stands in 2021 the Eumungerie Rd option is 8km and 5 minutes longer than the 2010 concept alignment (NB this transit time is based on the methodology established by the 2010 IRAS report – average 115kph super freighter operational speed achievable on flat, level ground 88kph).

Geotechnical Conditions: The community would like to see the soil tests results used by the May 2017 MCA (soil pit and soil core sample results and locations). ARTC should provide the test results for all alignment options with detailed description of the methodologies used as part of their revised EIS Sect.6 report.

The community is very concerned that the MCA claims are not based on actual soils tests. The EIS Scoping Report cites "*Geotechnical assumptions are based on limited visual inspections" … "restricted to those areas that could be observed from public roads and access tracks*" (Ref Inland Rail Narromine to Narrabri SCOPING REPORT 2-2500-000-EPA-AP-0001 REVISION F JULY 2018, Section 1.4.1. Scope of surveys).

This concern is compounded as EIS field work conducted in 2019/20 now indicates an entirely different Geotech picture for the Eumungerie Rd option. The location and requirement for 3 of the 4 N2N Burrow Pits directly around Narromine indicates the 'win' of structural fill quoted in the MCA assumption tables has not eventuated.

The above observation is reinforced by ARTC's own 'NARROMINE TO NARRABRI State Significant Infrastructure Application Report – Addendum 2-0000-250-EAP-00-RP-0020' which states:

"*Borrow pits A and B – a large volume of fill is required south of the Macquarie River where there are no cuts along the alignment to supply this material.*

Borrow pit C – a large volume of fill is required in the area north of the Macquarie River where there are a limited number of cuts along the alignment to supply this material. Further, preliminary geotechnical investigations have identified a substantial shortage of structural fill in this area"

These results confirm that the 2017 MCA geotechnical data was flawed and inaccurate.

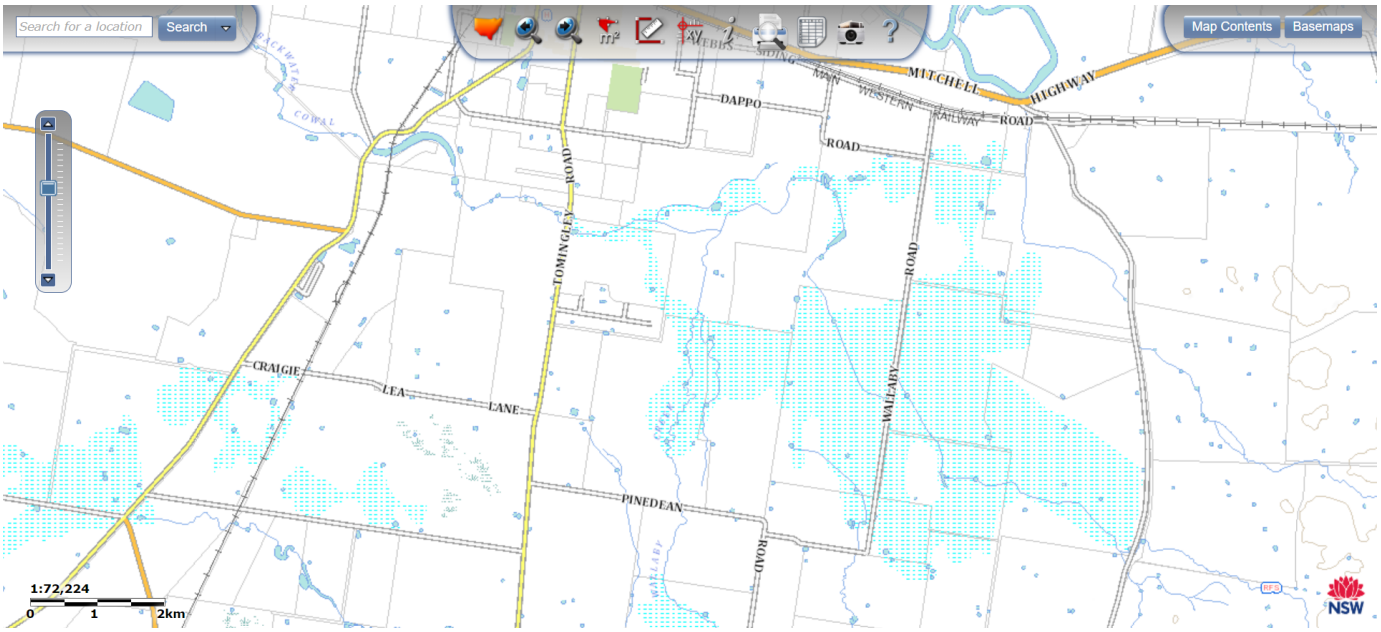
Flood immunity/hydrology:

The claim by the MCA that the **Length in flood plain (1% AEP level) -** 15.9km for the IRAS western concept alignment and 1.6km for the eastern Eumungerie Rd options are extraordinary and erroneous assumptions which require detailed explanation by EIS section 6. If consultation with local landholder had occurred before May 2017 these figures would have resulted in exclamations of profound surprise.

The current EIS flood study Figure B3.1 shows the Eumungerie alignment exposed to approximately 16 km of 1% AEP flood waters from the N2N starting point to North of the Macquarie River (NB the community has additional concerns that the current flood model does not accurately report flood extent, depth and duration; see Flood comments below). The reality for IR is there is no avoiding flood issues around Narromine. The MCA claims of only 1.6km flooding on the Eastern route is grossly misleading.

The failure of the MCA and EIS studies to reference topographic mapping of the route alignment compounds this massive assumption error. As can be plainly seen on the map image below the area south to east of Narromine contain extensive 'lands subject to inundation' including marshlands. This area is the confluence for six creek systems; a 5th and 4th Order stream, three 3rd Order streams and a 2nd Order stream. Cumulatively this results in the inundation mapping (with well over 30 sq kms mapped as inundation risk). No area within a 20km radius of Narromine comes remotely close to this level of mapped inundation. Local experience indicates the inundation extent has increased over the last 3 decades with approximately 10 to 20% more land regularly inundated. This may be due to land use practice change such as increase cropping and land clearing in the upper catchment areas.

Sappa Bulga 8533 1:50,000 Topographic Map



Placing the IR alignment in the Backwater Cowal landscape has increased the projects flood exposure risk very significantly. The draft Macquarie Valley FMP 2018 (Background document - flood extent mapping Figures 14 to 17) cover depth velocity and extent modelling for the green field Western concept alignment area. A 5% AEP event on the concept alignment would be confined to the Macquarie River channel only – approximately 400m of flood exposure. In comparison, based on topographic mapping and local experience, the Eastern EIS alignment will be subject to 10km of flood exposure. Significant portions of this flood length are high velocity water moving up to 1.5 sqm per second with flood depths commonly 1m and reaching up to 1.5m.

Below are pictures of a Wallaby Rd flood taken 5th March 2020. 65mm of rain in 24hrs (approx. 0.5 EY event).

A total of six flood events occurred between March - July. Wallaby Rd was closed to traffic for almost seven months. NB the region was in extreme drought condition in early February, a drought comparable to the 'federation drought' of 1902.

IR final alignment - Wallaby Rd 5th March 2020 – 65 mm of rain in 24hr
Minimum 5km of this section of the alignment inundated up to depth of 40cm

Wallaby Rd 4th April 2020 – 70mm in 24hrs. Too dangerous to navigate further than Dappo Rd.
Minimum 6 km of IR alignment inundated with flood water approaching 1m deep. Road access closed until late September.

The 2010 IRAS report was well justified to reject the Eastern alignment with frequent flooding impacts having significant negative implications for the safety and constructability criteria.

The above issues reinforce the requirement for the project to reassess the alignment choice for a more appropriate location for the IR alignment.

B3 Flooding

The EIS does not reference two significant flood studies which could have informed the project of serious flood issues.

These are:

1. The current, Gazetted 'Macquarie River (Narromine to Oxley) Floodplain Management Plan' 2008;
2. The 'Narromine Town Levee Concept Design', SMEC 2019.

The above documents provide insight into the significance and function of the Webbs Siding outflow located between the Narromine sand hill (High Park Rd) and Tantitha Rd. This EIS omission is a serious error in the desk top analysis conducted by the project.

Narromine to Oxley FMP extracts

1.2.2 Flooding overview

"Upstream of Narromine the floodplain of the Macquarie River is well defined and relatively narrow and hence flooding is confined and within river banks. A number of break-outs occur from the Macquarie River near Narromine, a significant one being at Webbs Siding.

4.2.1 Webbs Siding outflows

"In the 1955 flood in the Macquarie River, floodwaters left the Macquarie River catchment at a number of points by crossing over the Narromine to Nyngan Road (Mitchell Highway) and either flowing through culverts or overtopping the railway line which runs parallel to the road. In this flood, one of the largest outflows occurred at Webbs Siding just upstream of Narromine where the railway line was overtopped and washed out."

When active the Webbs Siding outflow removes high flood flows from the Macquarie into the Backwater Cowal system. These flood waters do not return to the Macquarie. Combined with over 400 sq kms of Backwater Cowal catchment flow the water dissipates across the floodplain to Nevertire, approximately 75km away.

In 2010 a 2.5% AEP event occurred (ref draft Floodplain Management Plan for the Macquarie Valley Floodplain 2018). Personal observation of this flood by many locals including myself witnessed the 2010 flood peak being millimeters short of activating the Webbs Siding outflow. In a > 2.5% AEP event the outflow will activate removing excess flood flow and relieving downstream flood levels. In a 1% AEP event the outflow is extremely active taking 10's of thousands of megalitres per day out of the Macquarie channel system. It performs a very important flood mitigation service for downstream Narromine and a very important ecological/hydrological service for our floodplains.

In 1955 a significant flood event impacted Narromine. The EIS Flood study cites the 1955 event as '*equivalent to about a 1% AEP event*' (EIS Doc 59 Sect 3.4.4). The Gazetted 2008 Narromine to Oxley FMP cites Webb Siding outflow extracting 92,700 ML per day in the 1955 event (Fig 4.1 Flow Distribution 1955 Flood).

The EIS describe Webbs outflows in Doc 59 Sect 3.4.4

"*A review of the available information (Bewsher, 1998) suggests that floodwaters broke out from the Macquarie River near Webbs Siding in the 1955 flood event due to failure of the railway embankment. These floodwaters moved through the railway culvert and over the washed out section of the railway line and joined with Backwater Cowal. Differences between the 1955 observed flood behaviour and modelled flood behaviour are likely to be due to how the existing rail embankments are represented in the flood model. The flood modelling for the proposal is based on the existing embankment at Webbs Siding remaining during a flood and would not be washed out due to overtopping of the embankment. This is considered an appropriate assumption as it is understood the rail embankment at Webbs Siding was reconstructed following the 1955 flood event and has not failed as a result of flooding since then*."

The Narromine to Oxley FMP references that the main Western line was rebuilt higher post the 1955 event. Community knowledge regarding the rebuild is that sections of track between Narromine and the sand hill were raised to allow passage of the Town Cowal flood runners. However, the section between the High Park and Tantitha Rd was not raised and was actually built lower due to a shortage of suitable embankment fill. It should be noted that in 1955 this rail line represented the most important supply and transit corridor for the Western region and over 2km of Webbs Siding embankment and rail line was washed away by the flood. The fill requirement to rebuild this section above the 55 level was not tenable and for expediency's sake the rebuild occurred with the embankment lower (Pers. Comm. Local landholder M. Corderoy with family ties to the landscape dating back to 1880's).

Given the lack of available detail regarding the emergency rebuild of this vital logistics corridor in 1955 it would be prudent to use hard evidence rather than assume the rail embankment will hold back a repeat 1955 event. What is indisputable is that in 1955 Webbs Siding outflows from the Macquarie were in the order of 90,000 ML/d. Until the Macquarie channel flow subsided to a level which stop the outflow the Backwater Cowal contained considerable flood waters from all sources - the 400 sq km tributary and local effluent catchments and the Macquarie River.

It is of considerable concern to the impacted community that the EIS cites '*This is considered an appropriate assumption as it is understood the rail embankment at Webbs Siding was reconstructed following the 1955 flood event and has not failed as a result of flooding since then*'. I question why the EIS does not disclose that no flood since 1955 has come close to a 1% AEP event. The closest being 2010 which is rate a 2.5% AEP event. This is a long way short of a 1% event especially when you factor in a climate change rainfall intensity escalation of 23% and local levee construction plan implications.

A recent Narromine flood levee study, 'Narromine Town Levee Concept Design', SMEC 2019 Sect 7.10 Emergency Spillway, cites the following description of the Webbs Siding outflow.

"*A significantly larger quantity of water breaks out from the river at Webbs Siding and discharges to the Backwater Cowal. This amount of flow in the Backwater Cowal backs up into Narromine via the Town Cowal approximately as far as the intersection of the Mitchell Highway and Warren Road (refer blue shaded area on Figure 4.8(L&A)). Downstream of Webbs Siding the Macquarie River is restricted to a narrow well-defined channel as it approaches River Drive. The width of the flow in the river is reduced to approximately 350m. The breakout over Webbs Siding is over a length of greater than 2km.*"

In March 2020 a group of impacted landholders and I attended a N2N drop-in session at Narromine. At this session we viewed the N2N predicted 1% AEP flood model depths around Webbs Siding Rd with the current hydrologists (NB he

had just recently replaced the projects first hydrologist). The model showed overtopping of the main Western rail embankment by 100mm (NB this model did not factor in climate change rainfall intensification increases or levee construction afflux increases). We noticed flood levels south of the rail embankment were consistently lower than local experience such as the 2016 7.5% AEP event. We questioned this and asked why ARTC considered the embankment would not fail under widespread overtopping by 100mm. The hydrologist at the time said he would investigate. This never eventuated as he left the project.

The community now faces yet another round of life changing assumptions because ARTC believes an embankment that held in a 2.5% flood will hold in a 1% flood. This tenuous assumption has also failed to incorporate the impact of the planned levee construction, with afflux predicted over the Webbs Siding area. Combine this with appropriate climate change rainfall intensity escalations you have an extremely dangerous situation waiting to happen.

Issues of community concern:

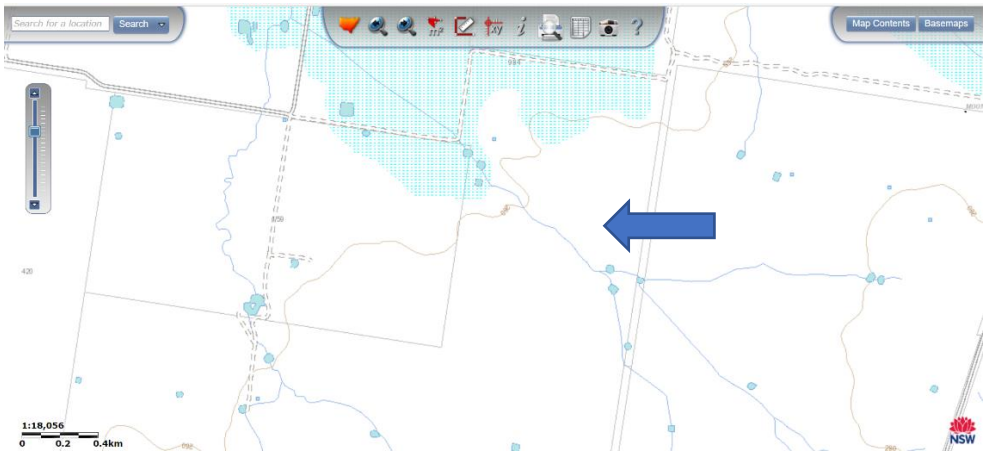
- The North – South running Inland Rail N2B alignment is positioned in the middle of the Webbs Siding outflow.
- An existing East – West rail embankment sits between the outflow origin (the Macquarie River) and its destination (the Backwater Cowal).
- The embankment has limited culvert drainage to relieve outflow flood waters.
- The embankment is assumed to be able to hold back the flood waters despite being comprehensively overtopped by ARTC own March 2020 flood model (a model which excludes town levee construction afflux and 23% climate change rainfall escalation).
- According to local experience the extent and depth of the Backwater Cowal 1% AEP flood model reads closer to a 10% AEP event and appears to be missing large areas of tributary catchment.
- The project has not run models other than the intact embankment assumption. It is indisputable that should an embankment failure occur it will result in a surge of flood waters entering the Backwater Cowal landscape. The associated erosive and destructive force of this surge will be channeled downstream with farm and rail infrastructure at risk. There is a heightened risk that combined with a coincidental 1% AEP peak in the Backwater Cowal flood waters, the surge could initiate an Inland Rail project embankment failure resulting in a second, more destructive surge event sending flood waters rapidly downstream into Narromine via the Town Cowal.
- As the AEP event increases Webbs Siding outflow becomes increasingly important for the removal of high flood flow from the Macquarie River system (ref. SMEC 2019 Sect 7.10 Emergency Spillway). As such there, **can be no doubt** a flood marginally greater than a 1% AEP event **will result in catastrophic rail line failure** with commensurate increase in the risk of a secondary surge scenario. This presents extreme risk to downstream farms, Inland Rail and Narromine township. This is not acceptable.

Additional Flood Study Issues

1. EIS Catchment sizes: Various catchment sizes figures are inconsistently quoted by the EIS flood study for the same stream, this needs to be reviewed and described accurately and consistently.
   The Backwater Cowal tributary catchments cover over 300 sq kms (NB excluding Yellow Ck). The community's expectation is that the EIS will transparently disclose the full size and nature of all catchments impacting on the alignment corridor. As the current 1% AEP event model resembles flood occurrences typical of recent floods such as the 2016 event the community has no confidence the model and the associated infrastructure designs are able to meet the required 1% AEP standards. The failure of the flood study to accurately calculate the various catchment sizes is a likely contributing factor.

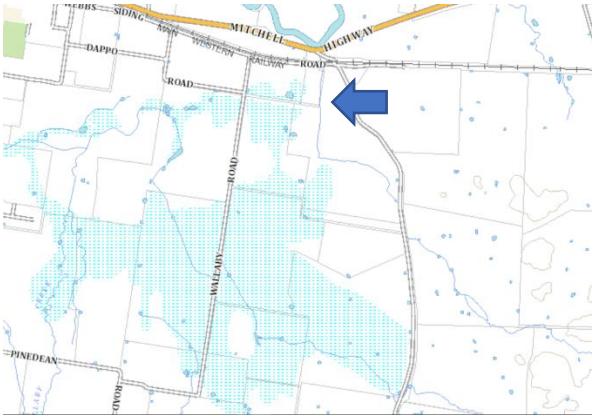
2. Flow Routing: The flow routing information provided is insufficient for the community to analyses the models routing flows. This is very concerning as landholders would like to assess where the model expects flood waters will be routed by embankments and structures, the depth and velocity of these waters on their properties. Please provide suitable flow routing, depth and velocity mapping definable at a property scale.

3. Missing creek systems: The description of the Backwater Cowal tributary system is missing two creeks, details provided below.
   Un named 2nd Order between Bootles Rd 3rd order and Wallaby Rd 4th order stream as referenced on topographic mapping below. This stream originates near Tantitha Rd and converges downstream with the Bootles Rd stream.



Un named creek north of the 4th order creek crossing Wallaby Rd. This 3rd order creek is assumed by the EIS to be draining into Macquarie billabong north of Tantitha Rd, see map reference below. The reality is the creek drains east as evidenced in the pictures provided below.

It contributes substantial flooding to the Wallaby and Dappo Rd area.



Un named 3rd order crossing Tantitha Rd

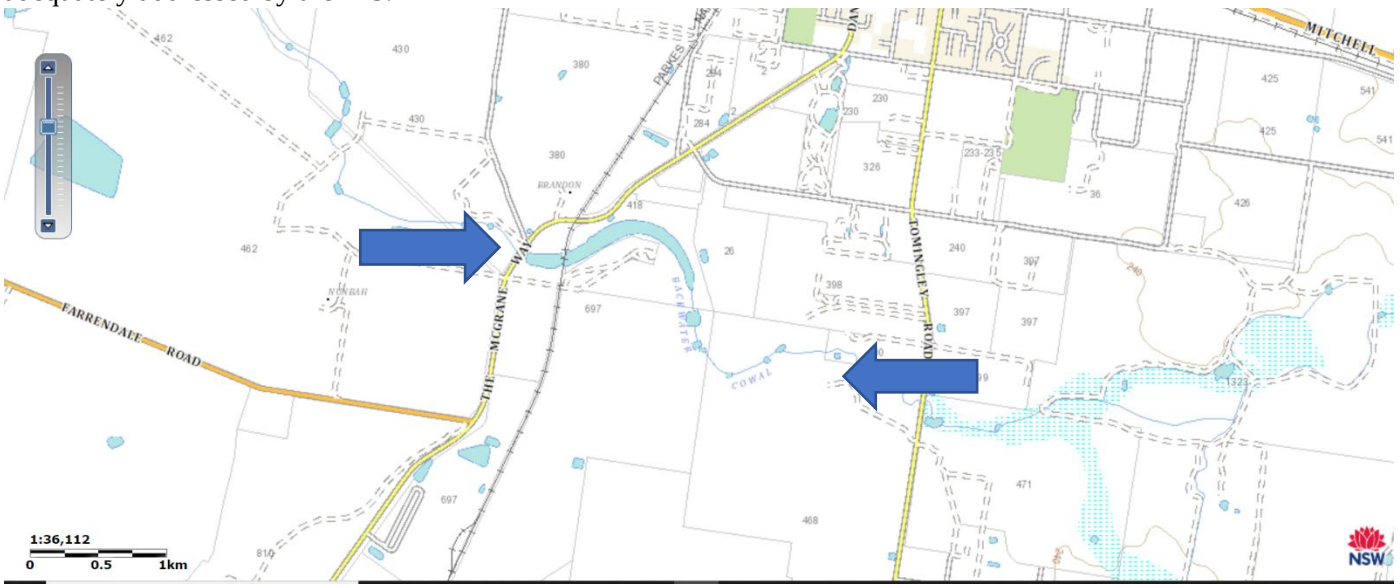
Flooding result on Webb Siding Rd looking W.

Photos 4th April 2020.

Un named 3rd order crossing Wallaby/Dappo Rd intersection. Photo looks NE toward Webbs Siding outflow route.

The above creeks contribute significant additional flood load which has not been account for by the model.

4. Constricted drainage: The Backwater Cowal has considerably restricted drainage capacity between the points marked on the map below. This constriction causes water to accumulate in the upper tributary flows, prolonging inundation and increasing flood depth. This has not been disclosed by the study. Understanding the drainage limitations is very important to fully appreciate landscape flood extent, depth and duration factors. These factors have significant impact on project safety and construction risks which have failed to be adequately addressed by the EIS.

5. 

6. **Impermeable landform considerations:** The Sappa Bulga Range located to the east and south east of the alignment proposal forms the headwaters of the Backwater Cowal catchment area. This landscape is characterized by relatively unfractured surface rock and substrate which resists infiltration and as such, I submit should be treated as an impermeable landscape area. The extent of impacted catchment is significant and needs to be calculated and considered as part of the flood study. I have a substantial property located in this landscape which includes four tributary streams draining to the Backwater Cowal (via Rays and Ugumjil Creeks), the property is over 30km SE of Narromine. Storm activity in this landscape result in very heavy flash flooding similar to the flood response you might experience in an urban environment. The elevated

nature of the range above the plain has a tendency of causing storm systems to release heavy rainfall on this landscape.

7. **Catchment springs and seeps:** The Sappa Bulga landscape is well know for it springs and seeps. Included in this variety are rare deep aquifer mound springs located along the Tantitha Rd landscape at various points. My property has approximately 1,000 spring and seepage points, some of which are hectares in size. A notable feature is that water which is absorbed by the soil layer can resurface at a point lower in the catchment several weeks/months later. The result is areas of the landscape become wetter long after rainfall events. Consequently, stream systems can run for almost a year on ground water recharge alone. In April 2020 we received a moderate storm event which saturated the soil system to such an extent that no vehicular movement was possible until late September. A 1st order tributary of Ugumjil Creek continually discharged > 200,000 liters of water per day for several months after this event. The Sappa Bulga range has many of these streams draining into the Backwater Cowal system.

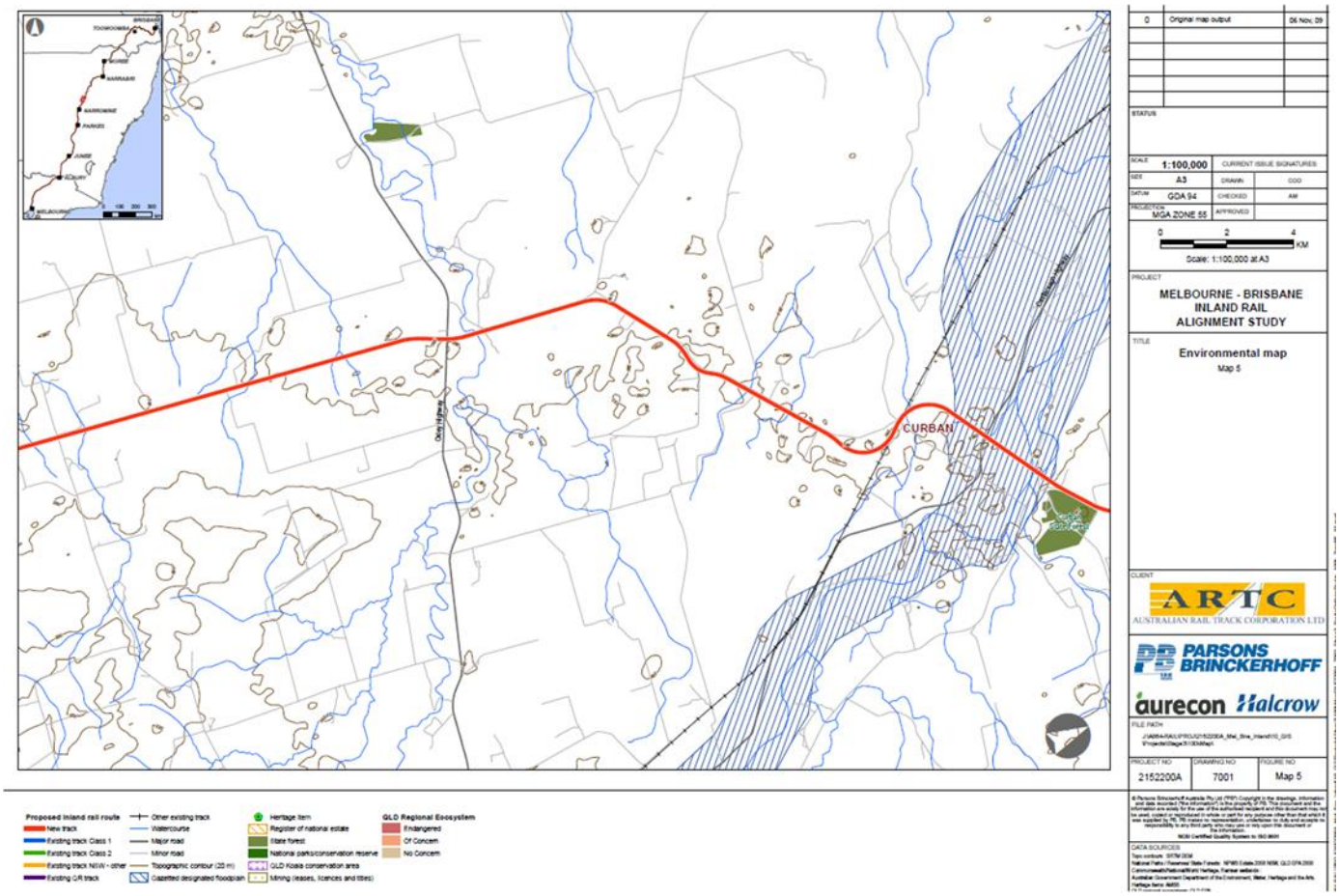
   The above situation creates a unique problem for the IR project which needs to be understood and evaluated from a construction and safety risk. In summary:

   - Initial rainfall on this catchment sheds quickly off surface rock, with normal infiltration into the surrounding regolith.
   - The regolith sits upon an impermeable substrate so excess water produces subterranean streams.
   - These streams resurface and keep the landscape saturated.
   - Subsequent storm events result in repeated near 100% runoff scenarios.
   - Combined with surface flow this results in flash flood intensity not normally experienced on other more permeable landscapes.
   - A succession of frequent rainfall events (such the 2016 May – Sept wet cycle) results in enormous flooding impacts and prolonged inundation (eg the mapped inundated lands of the Backwater Cowal remained continually inundated for 6 months with vehicular traffic extremely restricted).
   - In 2010-11 my Sappa Bulga property was unable to support vehicles for 18months as subsurface flow was so intense that quicksand formed in some locations.
   - By choosing to route the IR project through the Backwater Cowal landscape the following scenario is a very real risk: Our region experiences of a prolonged cycle of above average rainfall (as experienced in 2010, 2011, 2016). The Backwater Cowal systems inundated lands and remained inundated for many weeks or months. IR rail traffic risks causing liquefaction of the saturated soils and the embankment sinks potentially resulting in a train derailment into a landscape where vehicle access is extremely limited.

     This is a very tangible scenario and one which ARTC will need to have an emergency response for, both during and after construction. As local landholders are fully aware there are periods (sometimes very long periods) where no vehicle access is available across large potions of this landscape. ARTC should consider a policy of closing the alignment to rail traffic during these periods. It would be highly inappropriate for ARTC to lives at risk because they refused to heed local knowledge and wantonly continued to operate in high risk conditions.

Inadequate EIS Bridging allocation for the Castlereagh River.

There is major issue with EIS Castlereagh bridging allocation (of 805m) when the Castlereagh Flood Mapping study cites a flood width of 3.5 to 4km at the alignment crossing point. This crossing point is the same as the IRAS report and cited in IRAS Appendix J (see below).



It is self-evident that 805m of bridging is not sufficient for nearly 4km of Castlereagh flood plain. ARTC Castlereagh flood modeling is significantly smaller that the Gazetted flood study used by IRAS 2010. The EIS flood model needs to be review and the inconsistency found. Significant damage to surrounding farmland and the environmental will occur if ARTC funnels 4km of floodplain through a 800m gap.

EIS Sect B3.3.1 In this section ARTC states "*The construction phase assessment assumes a worst-case scenario where all temporary construction infrastructure (such as compounds and sediment basins) are in place and construction of the rail formation is complete*."

This statement is hardly a worst-case scenario. Given the issues raised above a likely scenario is ARTC construction equipment will be mired in flood waters at some point during the lengthy build phase through 16km of potentially flood impacted alignment and 10km of mapped 'lands subject to inundation'. Sect B3.3.1 needs to be revised to reflect actual on-ground conditions and risks to avoid endangering staff and damaging local environments in and around the construction zone.

Potential afflux at Mitchell Hwy crossing point.

The community is very concerned regarding the erection of a nearly 10m high, 300m long and 100m wide embankment directly adjacent to the Mitchell Hwy. This embankment will potentially:

- Divert dangerous flood currents onto the highway.
- Cause additional afflux onto the highway prolonging flooding impacts and endangering highway traffic.

- Result in radical alteration of flood flow causing erosion on adjacent farmland, roads and rail embankment. The EIS flood study needs to adequately account for these significant risks.

Afflux mapping: Along the entire alignment, areas marked 'now dry' are mapped however no corresponding afflux is mapped as occurring in the local area. On-ground condition dictate that removing water from one location will result a commensurate increase in water at some other location. How does the flood model account for the removal of this water from the impacted landscape?

B3.4 Impact assessment—operation Flood hazard

The EIS states "*Around Narromine, Curban and Narrabri no significant widespread changes in flood hazard are predicted except for highly localised areas. These areas are typically constrained to areas immediately adjacent to the rail corridor*."

I bring to the proponent's attention that the planned embankment located on Wallaby Rd represents a major changes to flow routing along its entire 4km length. Natural flow routing for this landscape is NW over a dispersed front several kilometers wide. The projects embankment will re-route and concentrate the flood flow directly North onto the Wallaby Rd, the road corridor and along the embankment. This will cause scouring along the rail embankment, adjacent land and infrastructure. Intermittent culverts in the rail embankment will periodically allow the accumulated flow to divert at a 90 degree angle.

The project design is effectively taking a naturally dispersed flood flow several kilometres wide, reforming it back into a concentrated channelised flow (through an embankment/culvert system) and introducing a lot of turbulence (through an abrupt 90 degree directional change). Water velocity in this landscape is approximately 1m per sec, the now concentrated and turbulent flow will exit the culvert and proceed across farming paddocks and pastures. There is no way the rail corridor can dissipate the flow concentration and turbulence so these paddocks will be subject to rill and potentially gully erosion. Ultimately impacted properties will have reduce production capacity and potential landscape safety hazards for stock and personnel.

The EIS needs to acknowledge the risks associated with re-routing flood flow and the use of culverts when flow direction is changed. Viaduct bridging is a more appropriate structure for these situations as it causes the least amount of disturbance to natural flow.

Inundation time

Local knowledge indicates the mapped topographic inundation areas can very commonly experience continual inundation durations of several weeks. This increases to several months in events such as 2010, 2011, 2016. And occasionally years, such the 1970's which experienced several long duration wet cycle events which kept the Backwater Cowal landscape inundated because of the watershed characteristic of the Sappa Bulga Ranges as described above.

Expected effectiveness

The EIS makes the following claim '*ARTC and its contractors have experience in managing potential flooding and watercourse impacts associated with the construction and operational phases of rail development projects*.'

This statement is directly contradicted by recent adjacent land manager experience of the P2N project where up stream landholders had several hundred hectares of crop land inundate by flood waters directly attributed to earth banks created along many kilometers by the P2N alignment construction zone. These earthen banks impeded flood flows up to 30cm deep across the floodplain causing extensive afflux on newly sown and fertilized cropping paddocks. Impacted landholders had to manually breech these levies during the flood event to mitigate extensive water logging damage to crops. Conversely downstream landholders had inflow into farm dams impeded by these embankments. At the time, these inflows were critical needed for farm use as the landscape was still in extreme drought conditions.

These issues were raised at our N2N CCC meeting as N2N landholders were concerned similar outcomes may occur on the greenfield. ARTC took the question on notice however provided an inaccurate account of the issue describing them as internal bunds within the construction zone. These are not internal storage bunds but levies which run continually for several kilometers on the upstream edge of the construction zone causing significant afflux and damage to upstream property. No opportunity has been provided by ARTC to resolve this pressing community concern despite questioning the validity of their response with the project management team. Additional concern regarding the quality of culvert installations along the P2N also remain outstanding with local landholders citing many culverts installed below flow level and filling with stagnant water to varying levels - some 100%. This creates a scenario were impacted culverts will quickly fill with sediment and vegetation and not meet their design specifications.

Examples of poorly installed culverts by the P2N project, these culverts are significantly below flow level causing the culvert to hold significant stagnate water. This results in sediment deposition and vegetation growth which ultimately comprises the function of culvert.

B1. Biodiversity

I raise the following issues concerning the biodiversity assessment at Narromine. The following observation have quality assurance implications for the entire alignment.

To avoid irreparable damage to our indigenous flora and fauna the study conclusions along the entire alignment need to be independently evaluated.

Issues:

The EIS references the following ecological community as commonly occurring between Narromine and Gilgandra.

PCT 88 Pilliga Box - White Cypress Pine - Buloke shrubby woodland in the Brigalow Belt South Bioregion.

Eucalyptus pilligaensis Narrow-leaved Grey Box is an uncommon tree around Narromine. It is referenced by the NSW herbarium as 'Locally frequent, in sclerophyll woodland on sandy or light loamy soils; north from Gilgandra.' (see description extracts below). *E. microcarpa* and *E. pilligaensis* are very similar trees with many overlapping identification characteristics. *E. microcarpa* is common South of Gilgandra through to Victoria.

Key differences relate to leaf size and color plus flower and fruit characteristics (see NSW Flora extracts below).

On the 30th Jan, I sampled 12 specimens south of Narromine along the EIS alignment. I found the specimens to be characteristic of *E. microcarpa* with leaf color being a consistently concolorous dull green and leaf size being consistent to the species description of 8 to 15cm long and 1 to 2 cm wide. Median length and width being approx. 10 cm and 16mm respectively. Habitat was also consistent with the species description. No flower or fruiting material was available on trees or in the surrounds.

No specimens having the distinctive characteristics of *E. pilligaensis* were seen near or along the EIS alignment.

Misidentification of the above species by the EIS will result in the incorrect PCT being selected. Ramifications include:

- Potential failure to recognize the occurrence of endangered ecological communities associated with E microcarpa, ie Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia (endangered) and Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions (endangered).
- Potential failure to recognize derived grassland communities in close proximity to E. microcarpa as being derived grassland communities of the above mention EECs.

Additionally, there is a distinct tendency for the EIS document to label adjacent grassland and woodland communities as 'Crop and/or Introduced grassland'. Many of these areas appear to be intact native vegetation when viewed on aerial imagery over recent time frames before the onset of the severe drought conditions 2018/19. These areas also lack aerial evidence of cultivation so are potentially inconsistent with this label.

A major issue of the EIS's 'rapid field assessments' during severe drought conditions has potentially led to widespread identification issues resulting in possible: inaccurate identification of native verse introduced grasslands; inaccurate identification to species and even genus level of herbaceous specimens; inaccurate condition assessments of all vegetation types; risk that endangered flora and fauna have been overlooked.

All the above issues require independent analysis and field work to be undertaken before the project causes irreparable damage to our natural heritage and biodiversity.

Additional notes on Webbs Siding Reserve.

The EIS identifies PCT 248 - Mixed box eucalypt woodland on low sandy-loam rises on alluvial plains in central Western NSW on Webbs Reserve. Please be aware the vegetation on the Western half of the reserve contains formally identified populations of Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia (EEC) and Fuzzy Box on alluvial soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South bioregions (EEC) in fair to good condition. Additionally, a disjunct population of *Eucalyptus albens* representing the regional Western extent of range for this species occurs in the area associated with the above-mentioned EEC's.

These populations have direct connectivity to two registered conservation properties located on the Western reserve boundary and the riparian corridor ecosystems of the Macquarie River. Care should be taken to minimize disturbance of these environmental significant areas.

Extracts

NEW SOUTH WALES FLORA ONLINE

Eucalyptus pilligaensis Maiden

Description: Tree to 25 m high; bark persistent on trunk and larger branches, grey with whitish patches, fibrous-flaky (`box'), smooth above, grey, shedding in short ribbons.

Juvenile leaves disjunct, linear, dull grey-green.

Adult leaves disjunct, linear or narrow-lanceolate, **5–13 cm long, 0.6–1.3 cm wide, green or grey-green, glossy, concolorous**. Conflorescence compound; umbellasters 7-flowered; peduncle terete, 3–8 mm long; pedicels terete, 1–5 mm long. Buds ovoid or fusiform, 2–5 mm long, 1.5–3 mm diam., scar absent; calyptra conical, shorter than or as long as and as wide as hypanthium. All stamens fertile.

Fruit conical, cylindrical or ovoid, 2–5 mm long, 2–5 mm diam.; disc depressed; valves enclosed. **Locally frequent, in sclerophyll woodland on sandy or light loamy soils; north from Gilgandra.**

Eucalyptus microcarpa (Maiden) Maiden

Description: Tree to 25 m high; bark persistent on trunk and larger branches, grey with whitish patches, fibrous-flaky (`box'), smooth above, grey, shedding in short ribbons.

Juvenile leaves disjunct, ovate, dull green.

Adult leaves disjunct, narrow-lanceolate or lanceolate**, 8–15 cm long, 1–2 cm wide, green, dull, concolorous**. Conflorescence compound; umbellasters 7–11-flowered; peduncle narrowly flattened or angular, 3–10 mm long; pedicels terete, 1–5 mm long. Buds ovoid to fusiform, 4–7 mm long, 2–4 mm diam., scar absent; calyptra conical, shorter than to as long as and as wide as hypanthium. All stamens ± fertile.

Fruit cylindrical or hemispherical or ovoid, 3–7 mm long, 3–5 mm diam.; disc depressed; valves enclosed or rim-level.

B.11 Traffic and transport

The proposal references that 53 new level crossing will be installed by the project. I object to the project transferring project costs onto regional communities by failing to provide grade separation structures.

Level crossings are being removed all around Australia and yet Inland Rail, a publicly funded project, is installing new ones. These crossing points will be exposed to 115kph super freighter operations. I point out that the regional communities being impacted by this project are not used to 115kph, double stacked 1.8km long trains and as such level crossings represents an enormous safety risk to our communities. It will additionally decrease regional road traffic efficiency through crossing delays which during busy harvest events can result in significant cost increases and road user stress.

The EIS risk assessment cites an increase in road user safety risk caused by the project. This is a very convoluted way of saying an increased accident risk. The project intends to deal with this by implementing a level crossing safety campaign. Once implemented the EIS then claims the risk is completely mitigated and the risk vanishes. This is an absurd assumption and takes ARTC's tendency to rely on assumptions to a preposterous level. It is an afront to our communities, as it our safety and business efficiency they are playing with. A green field project represents major landscape change. This change will be implemented at a minimum of 53 location currently regularly used by the public. The community has used those roads for decades and now there are altered road alignments and a 115kph train to be aware of. Some road users will be tired from 14 hours days in the paddock and be on autopilot, some will treat it like a race. ARTC need to firstly acknowledge in an accident with a 115kph super freighter the results will always be catastrophic.

The EIS then needs to run a variety of 'worst case' risk scenarios to explain the projects actual response to possible collision events involving a 115kph collision with farm machinery or B double stock transport. What emergency response equipment and training will the project ensure is in place before opening the line? How will the project prepare and assist regional community SES, VR, RFS and medical emergency teams? What support will be provided by the project to assist the community deal with the unprecedented mess – both short term and long term?

I am appalled that the EIS has brushed over this issue. It is an issue directly caused by the projects failure to install safer and more efficient grade separations. This project really needs to lift its game.

14. Economic assessment

This report fails assess the economic impact of the above mention traffic and transport issues. A cumulative analysis of additional transit time and accident costs needs to be evaluated and disclosed by the project.

Another significant issue the project fails to acknowledge is the impact on the supply of rural residential availability and desirability along the alignment. This is particularly noticeable in Narromine were the eastern rural landscape, including all of Eumungerie Rd, has desirable features to attract rural lifestyle property investment to our shire. These areas have ready access to Dubbo being less than 30 minutes drive. Dubbo is major regional growth centre which has limited rural acreage to service this unique market so Narromine was well situated to be able to capitalise on this growth area for years to come. This has been compromised by the N2N alignment which immediately stopped two approved rural residential projects NE of Narromine and is impacting three existing areas Macquarie view, Villeneuve and High Park.

You only need to look at other regional growth areas in NSW – Tamworth, Armidale, Orange, Bathurst, Wagga to realise small acreage within 30 minutes access to a major rural city is a big draw, attracting people to live and invest in regional NSW. Professional families can have something no one can afford in the major cities – lifestyle acreage and freedom to pursue associated quality of life goals while still having easy access to all services. An assessment of this lost growth opportunity needs to be accounted for.

Base cost overrun issues. At our December CCC meeting I formally raised concerns regarding the project base cost evaluation of IR and N2N. These comments can be found in Appendix 2 CCC minutes Item 12.

The risks raised have implications for the NSW State Government, landholders and regional communities.