Construction Traffic, Transport and Access Management Sub-Plan

Narrabri to North Star (N2NS) SP1

6-0000-260-EAP-00-RP-0006 REV A

Document Control

REPORT TITLE	**CONSTRUCTION TRAFFIC, TRANSPORT AND ACCESS MANAGEMENT SUB-PLAN**
REPORT OWNER	Diana Loges Regional Director Northern NSW
PREPARED BY	Justin Bate HSE Manager
REVIEWED BY	Matt Mulcahy Principal Environmental Advisor <Enter Name/s and Title/s> <Enter Name/s and Title/s>
ENDORSED BY	Peter Borrelli Project Director N2NS

Approved by

	NAME	TITLE	DATE	SIGNATURE
DOCUMENT APPROVER	Belinda Jones	Head of Program Environment (acting)	20/01/2025	

Revision History

REVISION	REVISION DATE	DESCRIPTION OF CHANGES
A	20/01/2025	Updated to Inland Rail template. Replace the Trans4m systems and policies with Inland Rail requirements.
<Add #>	<Insert date>	<Enter Description>
<Add #>	<Insert date>	<Enter Description>

Table of Contents

Glossary **5**

1 Introduction **11**
1.1 Purpose and Scope 11
1.2 Objectives and Targets 11
1.3 Environment Policy 12
1.4 Project Description 12

2 Community and Stakeholder Engagement **13**

3 Legal and Compliance Requirements **15**
3.1 Legislation 15
3.2 Guidelines 15
3.3 Additional Permits and Approvals 16
3.3.1 Road Occupancy Licence 16
3.3.2 Speed Zone Authorisations 16
3.3.3 Works Authorisation Deeds 16
3.4 Conditions of Approval, Mitigation Measures and Performance Outcomes 17

4 Background – EIS Studies **17**
4.1 Regional Road Network 17
4.1.1 Newell Highway 18
4.1.2 Gwydir Highway/Alice Street 18
4.1.3 Projected Traffic Impacts 18

5 Condition Assessment of Road Network **20**
5.1 Pre-condition Assessments 20
5.2 Traffic Monitoring Program During Construction 20
5.3 Post Condition Assessment 22

6 Access Management **23**
6.1 Construction Access Locations 23
6.2 Accessing Construction Ancillary Facilities (CAFs) and Laydowns 28
6.3 Private Roads and Level Crossings 29
6.4 Resident Management 30
6.5 Emergency Vehicle Access Provisions 30

7 Transport Routes **31**
7.1 Rail Alignment Interface with Road Network 31
7.2 Primary Transport Routes 35
7.3 Secondary Routes 36

8 Materials Being Transported **37**
8.1 Quarry Materials 37
8.2 Precast Materials 37
8.3 Lime 38
8.4 Construction Water 38
8.5 Spoil 38
8.6 Concrete and Other Materials 39

9 Minimising Impacts on the Network **40**
9.1 Impacts on Bus Services 40
9.2 Impact on Bus Stops 40
9.3 Impacts on Harvest Trucks 40

9.4 Impacts on Local Parking 40
9.5 Other Transport Impacts 41

10 Traffic Safety Management During Construction 41
10.1 (Construction) Traffic Management Plan 41
10.2 Traffic Control Plans 41
10.3 Traffic Controllers and Training 42
10.4 Vehicle Movement Plans 42
10.5 Signage 42
10.6 Road Dilapidation Reports 42
10.7 Road Safety Audits 42
10.8 Road Occupancy Licences 43
10.9 Speed Zone Authorisation 43
10.10 Driver behaviour and Code of Conduct 43
10.11 Concurrent works on Newell Highway 43
10.12 Project Risk Assessment 44
10.13 Property Access 49
10.14 Level Crossings 49
10.14.1 Construction delivery and heavy vehicle routes 49

11 Compliance Management 49
11.1 Monitoring and Auditing 49
11.2 Incident Response 50
11.3 Reporting 50

12 71

Appendices

Appendix A Driver's Code of Conduct 51

Appendix B Pavement Condition Assessment Manual 53

Appendix C Local School Bus Routes 63

Appendix D Stakeholder Correspondence 64

Appendix E N2NS Current and Proposed Quarry Sources 70

Appendix F N2NS Current Water Source + Haul Routes 71

List of tables

Table 1: Terminology 5
Table 1: CoA (SSI 7474) Ministers Conditions of Approval 7
Table 2: RMMs 9
Table 3: SEARS Environmental performance outcomes 10
Table 5 Road Monitoring Program 20
Table 6 Major Access Gate Particulars (Requires temporary works TTM) 26
Table 7 Minor Access Locations (for executing any permanent design works required by ARTC). Accessed via TCP as needed. 27
Table 8 Roads to be used throughout the construction period 31
Table 9: Key access roads to be used 35
Table 10 Quarry Materials to be Transported by Supplier or Source Location 37
Table 11 Precast To Be Transported 38
Table 12: Traffic, Transport and Access Risk Assessment 44

List of figures

Figure 1 Inland Rail Gate Access Line Diagram..... 24
Figure 2 Typical VMP for a CAF..... 29

Glossary

Specific terms and acronyms used throughout this strategy are listed and described in the table below.

Table 1: Terminology

TERM / ACRONYM / ABBREVIATION	DEFINITION
AMS	Activity Method Statement
ARTC	Australian Rail Track Corporation
BMP	Biodiversity Management Plan.
CAD	Computer-Aided Design
CEMP	Construction Environmental Management Plan
CIZ	Construction Impact Zone
CoA	Conditions of Approval
CSEMP	Community and Stakeholder Engagement Management Plan
CSSI	Critical State Significant Infrastructure
CPESC	Certified Professional in Erosion and Sediment Control
CTTAMP	Construction Traffic, Transport and Access Management Sub-Plan
DPIE	Department of Planning Industry and Environment
ECM	Environmental Control Map
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environmental Protection Authority
EPBC Act	Environmental Protection and Biodiversity Conservation Act
EPL	Environment Protection Licence
EP&A Act	Environmental Planning and Assessment Act (1979)
ESCP	Erosion and Sediment Control Plan
ER	Environmental Representative
FEMP	Flood Emergency Management Plan
FERP	Flood Emergency Response Plan
GIS	Geographic Information System
HMP	Heritage Management Plan
HSEQS	Health, Safety, Environment, Quality and Sustainability
IMS	Integrated Management System
IR	Inland Rail
ISCA	Infrastructure Sustainability Council of Australia
N2NS	Narrabri to North Star (Separable Portion 1)
NATA	National Association of Testing Authorities, Australia
NVMP	Noise and Vibration Management Plan
REF	Review of Environmental Factors

RMM	Revised Environmental Management Measure
RTS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
SEMP	Site Establishment Management Plan
SPIR	Submissions Preferred Infrastructure Report
SuMP	Sustainability Management Plan
SWMP	Soil and Water Management Plan
TRA	Task Risk Assessment
TfNSW	Transport for NSW
WRA	Workplace Risk Assessment

Compliance Matrix

Table 2: CoA (SSI 7474) Ministers Conditions of Approval

<table>
<tr><th>REQUIREMENT REFERENCE</th><th>DETAILS</th><th>WHERE ADDRESSED</th></tr>
<tr><td>A19</td><td>ACCESS TO ANCILLARY FACILITIES
Where possible, ancillary facilities must be accessed via existing public roads and/or the existing rail corridor. Access directly via classified roads should be avoided where access from an existing local road is reasonably available. Where access via existing roads or the rail corridor is not possible, the Proponent may utilise existing private access tracks on private property but only with the written permission of the landowner. The Proponent must consult with each landowner whose property is required for access and agree on the terms and conditions relating to access arrangements. Nothing in this condition prevents the landowner from refusing the Proponent access to and via their land. New construction access tracks on private property must comply with the requirements of Condition A16.</td><td>Sections 9 and 10</td></tr>
<tr><td>A20</td><td>ACCESS TO ANCILLARY FACILITIES
The Proponent must ensure that all roads / tracks that will be used to access construction ancillary facilities are to the standard necessary to provide access as agreed with landowners and the relevant roads authority, including a trafficable surface suitable to accommodate the type of vehicle movements that are anticipated to be associated with the construction of the CSSI.</td><td>Section 6 and 10</td></tr>
<tr><td>C4</td><td>The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies and relevant councils identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS.
<table>
<tr><th></th><th>REQUIRED CEMP SUB-PLAN</th><th>RELEVANT GOVERNMENT AUTHORITIES TO BE CONSULTED FOR EACH CEMP SUB-PLAN</th></tr>
<tr><td>(a)</td><td>Traffic, Transport and access</td><td>TfNSW and relevant councils</td></tr>
</table></td><td>This Sub-Plan
Section 2
Appendix F</td></tr>
<tr><td>C5</td><td>The CEMP Sub-plans listed in Condition 0 must state how:
(a) the environmental performance outcomes identified in the documents listed in Condition A1, as modified by these conditions, will be achieved;
(b) the mitigation measures identified in the documents listed in Condition A1, as modified by these conditions will be implemented;
(c) the relevant terms of this approval will be complied with; and
(d) issues requiring management during construction (including coordination of concurrent activities of other projects as well as concurrent activities in this CSSI), as identified through ongoing environmental risk analysis, will be managed.</td><td>This Sub-Plan</td></tr>
<tr><td>C6</td><td>The CEMP Sub-plans must be developed in consultation with relevant parties identified in Condition 0. Details of all information requested by an agency to be included in a CEMP Sub-plan as a result of consultation, including copies of all correspondence from those agencies, must be provided with the relevant CEMP Sub-plan.</td><td>Section 2
Appendix F</td></tr>
<tr><td>C7</td><td>Any of the CEMP Sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP, but in any event, no later than one (1) month prior to construction.</td><td>Section 3</td></tr>
<tr><td>C8</td><td>The Traffic and Transport Management Sub-plan must be consistent with agreements with Councils about the use of local roads and include:
a) measures to minimise impacts on seasonal traffic, including harvest-related vehicles, and public transport (including school buses and bus stops) and inform freight operators of changes to traffic conditions; and</td><td>Section 6</td></tr>
</table>

<table>
<tr><td></td><td>b) measures to maintain pedestrian and vehicular access to affected properties, including mechanisms to consult with affected landowners and implement measures prior to any access disruption.</td><td></td></tr>
<tr><td>C13</td><td>Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Secretary. The CEMP and CEMP Sub-plans, as approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and sub-plans have been endorsed by the ER and approved by the Secretary.</td><td>Section 3</td></tr>
<tr><td>C14</td><td>CONSTRUCTION MONITORING ROGRAMS
The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies and relevant councils identified for the Construction Monitoring Programs to compare actual performance of construction of the CSSI against performance predicted in the documents specified in Condition A1.
<table>
<tr><th colspan="2">Required Construction Monitoring Programs</th><th>Relevant government authorities to be consulted for each Construction Monitoring Program</th></tr>
<tr><td>(d)</td><td>Physical condition of local roads</td><td>Relevant Councils</td></tr>
</table></td><td>Section 11</td></tr>
<tr><td>C15</td><td>Each Construction Monitoring Program must provide:
a. details of baseline data available;
b. details of any baseline data to be obtained and when;
c. details of all monitoring of the CSSI to be undertaken;
d. the parameters of the CSSI to be monitored;
e. the frequency of monitoring to be undertaken;
f. the location of monitoring;
g. the reporting of monitoring and analysis results against relevant criteria
h. procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and
i. any consultation required in relation to the monitoring programs.</td><td>Section 7
Section 11</td></tr>
<tr><td>C16</td><td>The Construction Monitoring Programs must be developed in consultation with relevant government agencies as identified in Condition C14 of this approval and must include information requested by an agency to be included in a Construction Monitoring Programs during such consultation. Details of all information requested by an agency including copies of all correspondence from those agencies, must be provided with the relevant Construction Monitoring Program.</td><td>Section 2
Appendix F</td></tr>
<tr><td>C17</td><td>The Construction Monitoring Programs must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one month before the commencement of construction.</td><td>Section 3</td></tr>
<tr><td>C18</td><td>Construction must not commence until the Planning Secretary has approved all of the required Construction Monitoring Programs, and all relevant baseline data for the specific construction activity has been collected.</td><td>Section 3</td></tr>
<tr><td>C19</td><td>The Construction Monitoring Programs, as approved by the Planning Secretary including any minor amendments approved by the ER must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater.</td><td>Section 3</td></tr>
<tr><td>C20</td><td>The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.</td><td>Section 5</td></tr>
<tr><td>E38</td><td>Construction traffic must not use local roads or privately-owned roads (other than to avoid direct access from ancillary facilities and construction sites to the Newell Highway) unless no alternative access is available. Use of private access roads must be in accordance with Conditions A19 and A20. Local or privately owned roads used for access to ancillary facilities and construction sites must be identified in the</td><td>Section 6</td></tr>
</table>

	Construction Traffic, Transport and Access Management Sub-plan required by Condition 0.	
E39	Before any local or private road is used by a heavy vehicle for the purposes of construction of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant road authority(ies) and landowners within one (1) month of completion of the survey and at least two weeks before the road is used by heavy vehicles associated with the construction of the SSI.	Section 6 Section 10
E40	If damage to roads occurs as a result of the construction of the CSSI, the Proponent must, within six months of the completion of construction, either (at the landowner or relevant road authority's discretion): (a) compensate the relevant road authority(ies) and landowner for the damage so caused. The amount of compensation may be agreed with the relevant road authority(ies) and landowners, but compensation must be paid even if no agreement is reached; (b) rectify the damage to restore the road to at least the condition it was in at the time of the dilapidation survey; or (c) where other agreements are in place, leave, maintain or remunerate for damages to these roads in accordance with these agreements.	Section 10 Section 11
E41	Where bus stops (including school bus stops) are required to be temporarily closed or relocated during construction, such closure must not occur until relocated bus stops are functioning and are within 400 metres of the original bus stop. The relocation of bus stops must be undertaken in consultation with the relevant council and bus operator, and details regarding the relocations provided to affected communities (and educational facilities in relation to school bus stops) at least 14 days prior to the relocation occurring.	Section 7
E42	The Proponent must consult with TfNSW prior to, and at regular intervals during, construction to co-ordinate and implement mitigation measures to reducing any potential concurrent impacts arising from the construction of the CSSI and Newell Highway upgrade works. Procedures for consultation must be outlined in the Traffic, Transport and Access Management Sub-plan required by Condition 0.	Section 2
E49	No part of any crossing loop may cross over any driveway, private road or public road unless decided in consultation with the relevant landowner and any other adjacent landowner whose access is impacted by the crossing loop.	Section 10
E50	The proponent must maintain access to properties during the entirety of works unless an alternative access is agreed in writing with the landowner(s) whose access is impacted by the CSSI works.	Section 10
E51	Where construction of the CSSI restricts a properties access to a public road, the proponent must, until their primary access is reinstated, provide the property with temporary alternate access to an agreed road decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the landowner.	Section 10
E52	Where construction of the CSSI restricts the ability of a resident or landowner to access other parts of their property via a level crossing, the Proponent must, until the permanent level crossing is reinstated, supply the property with a temporary alternate level crossing access at a convenient location decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the landowner. This can include other existing level crossings or a new alternative temporary level crossing access that is both safe and agreed to.	Section 10

Table 3: RMMs

REQUIREMENT REFERENCE	DETAILS	WHERE ADDRESSED

C2.1 General impacts of construction activities on traffic, transport, access, pedestrians and cyclists	A traffic, transport and access management sub-plan would be prepared and implemented as part of the CEMP. It would include measures to minimise the potential for impacts on the community and the operation of the surrounding road and transport environment. It would address all the aspects of construction relating to the movement of vehicles, pedestrians and cyclists, and the operation of the surrounding road network, including: ▸ Construction site traffic control, parking and access arrangements ▸ Construction material, equipment and spoil haulage, including arrangements for oversize vehicles ▸ Road pavement and access road condition management ▸ Management of impacts to public transport, including school buses, pedestrian and cyclist access, and safety ▸ Management of impacts to access for surrounding residents and business owners/operators ▸ Arrangements for level crossings during construction ▸ Road and driver safety. The traffic, transport and access management sub-plan would be developed in consultation with (where relevant) Narrabri Shire Council, Moree Plains Shire Council, Gwydir Shire Council, Roads and Maritime Services, and public transport/bus operators.	This CTTAMP
C2.2 Access	Access to individual residences, services and businesses, and access for livestock across the rail corridor, would be maintained during construction. Where alternative access arrangements need to be made, these would be developed in consultation with affected property owners/occupants.	Section 6
C2.3 Emergency Vehicle Access	Access for emergency vehicles would be maintained along key emergency access routes throughout the construction period, with suitable alternative access arrangements provided where required.	Section 6
C2.4 Rail Traffic Diversions	Diversions of existing rail traffic would be undertaken in consultation with relevant stakeholders, and alternative arrangements would be provided. Replacement public transport services would be provided during interruptions to operation of the passenger rail service.	Section 9 - (*Proponent (ARTC) responsibility)*
C2.5 Consultation	Consultation with relevant stakeholders would be undertaken regularly to facilitate the efficient delivery of the preferred infrastructure and to minimise congestion and inconvenience to road users. Stakeholders would include the relevant local councils, bus operators, Roads and Maritime Services, emergency services, and affected property owners/occupants. The community would be notified in advance of any proposed road and pedestrian network changes through signage, the local media, and other appropriate forms of communication. Where changes to access arrangements are required for individual properties, ARTC would advise relevant property owners/occupants and consult with them in advance regarding alternative access arrangements.	Section 2

Table 4: SEARS Environmental performance outcomes

KEY ISSUE (AS LISTED IN THE SEARS)	SEARS DESIRED PERFORMANCE OUTCOMES	PROPOSAL SPECIFIC CONSTRUCTION ENVIRONMENTAL PERFORMANCE OUTCOMES	WHERE ADDRESSED
9 Health and Safety	The project avoids, to the greatest extent possible, risk to public safety.	All dangerous goods are stored, handled and transported in accordance with relevant regulatory requirements and Australian Standards.	Soil and Water Management Plan

17 Traffic, Transport and Access	Impacts to traffic and transport are minimised. Motorist, pedestrian and cyclist safety will be maintained or improved. Safe access to properties is maintained. The proposal is integrated with existing and future local and regional transport infrastructure and planning strategies.	▸ Impacts to traffic and transport are minimised. ▸ Motorist, pedestrian and cyclist safety will be maintained or improved. ▸ Safe access to properties is maintained.	Construction Transport, Traffic and Access Plan.

1 Introduction

1.1 Purpose and Scope

This Construction Traffic, Transport and Access Management Plan (CTTAMP) forms part of the Construction Environmental Management Plan (CEMP) for the Narrabri to North Star (Separable Portion 1) (N2NS) Project and details the key management and mitigation measures that will be implemented in order to minimise and manage the potential impacts from construction traffic during the N2NS Project.

This CTTAMP addresses the relevant requirements of the Project Approval and all applicable guidelines and standards specific to traffic and transport during the Project. It has been developed based on the findings of the Environmental Impact Statement (EIS) and the Submissions Preferred Infrastructure Report (SPIR) and describes how construction traffic, transport and access impacts can be avoided, minimised and managed.

The purpose of this CTTAMP is to detail the key mitigation measures that will be implemented in order to minimise and manage the N2NS project impacts on the environment and community. This CTTAMP also outlines the potential traffic and access impacts likely to be experienced during the construction phase of the N2NS Project.

The CTTAMP addresses, as a minimum, the following key potential construction impacts as outlined in the EIS and SPIR:

- Temporary impacts on traffic and access and an increase in heavy and light vehicle movements on the local road network, including in the vicinity of the proposed Newell Highway and Jones Avenue overbridges (if constructed);
- Works on level crossings that may result in local traffic disruptions and short-term access restrictions;
- New temporary access tracks that will be required in some locations;
- Construction activities that will result in temporary impacts on existing rail operations; and
- Impacts on the local community and/or individual landowners/occupants resulting from changes to traffic, transport and access arrangements.

1.2 Objectives and Targets

The key objective of this CTTAMP is to ensure that all CoAs are adhered to, and the traffic and access controls are implemented to avoid or minimise impacts on traffic, pedestrian and cyclist access and the amenity of the surrounding environment. Supporting objectives and targets to achieve this are outlined below. These objectives and targets will be managed in accordance with the Traffic Management and Safety Plans.

The following traffic, transport and access management objectives will apply to construction:

- To minimise the potential transport / traffic impacts on public roads;
- To minimise impacts to public transport (incl. Emergency Services);

- Clearly communicate any impacts to road networks and public transport (i.e. temporary road closures, extra road entries) with the wider community; and
- Meet all project approval conditions and statutory requirements in relation to traffic management and transport.

The following traffic, transport and access management targets will apply to construction:

- Full compliance with and no breaches of the Road Occupancy Licence (ROL) conditions for the duration of construction;
- Traffic, transport and access management training is included in induction material and provided to all personnel, including subcontractors;
- Site specific traffic, transport and access management toolbox talks provided during construction;
- Response to all traffic related community complaints and issues within two hours of notification and reply in writing within seven days;
- Notification of all incidents within agreed notification period; and
- Conformance with provisions of all regulatory and other requirements to be achieved throughout construction phase.

The implementation of the mitigation measures will ensure the performance targets are achieved. This will be managed through project inductions, specialised training, toolbox talks, inspections, and traffic monitoring and auditing. Project inductions will inform Inland Rail personnel (including subcontractors) of the management measures, while toolbox talks and specialised training will ensure they are reinforced throughout the construction program.

1.3 Environment Policy

Inland Rail aims to protect the environment and heritage during the planning, design, construction, and operation of the Inland Rail Program through avoiding or mitigating harm and leaving an enduring regional asset for future generations. This commitment is described in Inland Rail's Environment Policy which can be found in Appendix A of the CEMP

1.4 Project Description

The N2NS Project is one of 13 projects that make up the Inland Rail Project. The route is within the Narrabri, Moree Plains and Gwydir Local Government Areas (LGAs) in north west NSW. N2NS extends approximately 171km from north of Narrabri Junction, terminating at North Star and the project is generally within the existing rail corridor. Works over the Gwydir Floodplain are excluded from the N2NS Project.

Further detail on the project, including construction scope of works and construction schedule can be found in Section 4 of the CEMP.

2 Community and Stakeholder Engagement

Inland Rail's Communication and Engagement Plan provides a clear framework for active communication and stakeholder engagement management. The Plan outlines how Inland Rail will meet best practice community and project outcomes by keeping the community and other stakeholders informed, minimising potential impacts and responding to the needs and requirements of stakeholders. The Communication and Engagement plan contains procedures and strategies to manage community and stakeholder engagement activities as they align to the Project delivery program. To the extent practicable, Inland Rail will provide stakeholders with open and transparent consultation.

CoA A5 and C4 require that the CTTAMP be prepared in consultation with:

- Transport for NSW (TfNSW);
- Narrabri Shire Council;
- Moree Plans Shire Council and
- Gwydir Shire Council.

A physical condition of local roads monitoring program has also been developed as part of the CTTAMP. In accordance with CoA C14, this program was developed in consultation with the above Shire Councils.

As required by CoA C6, details of all information requested by an agency to be included in a CEMP Sub-plan as a result of consultation can be found in Appendix F. Appendix F also provides an assessment of where comments have been addressed in the CTTAMP.

The community will be notified in advance of any proposed road and pedestrian network changes through signage, local media, and other appropriate forms of communication. Liaison with Councils, TfNSW and emergency services will occur at an early stage to establish requirements and measures to be adopted to maintain emergency vehicle movements. Diversions of existing rail traffic will also be undertaken in consultation with relevant stakeholders.

A Communication Strategy will be implemented to inform residents of proposed construction activities in accordance with the Community and Stakeholder Management Framework (ARTC). The program will be initiated prior to the commencement of construction to ensure that the community are aware of proposed construction activities and potential traffic and access impacts. The program will establish communication protocols for community feedback on traffic and access issues. Active community consultation and the maintenance of positive relationships with residents and businesses will assist in alleviating concerns related to traffic, access and road construction issues, thereby minimising potential traffic complaints. The aim of consultation and broad communication on traffic and access matters is to:

- Facilitate community feedback regarding traffic issues;
- Consider alternative and appropriate travel patterns during periods of change;
- Manage traffic impacts to protect affected residential and business amenity;
- Record and action any community complaints;
- Modify and reach compromises on traffic management measures as required to meet the broader needs of the community and minimise community disruption or inconvenience; and
- Provide timely, accurate and comprehensive traffic information using all relevant media to inform road users and the community of the project's potential traffic and access impacts.

The following communication mechanisms will be employed during the Project:

- Static road user signposting;
- Variable Message Signs (VMS);
- Meetings with individual groups, schools, businesses;
- Community updates and newsletter;

- Letterbox drops; and
- Community information telephone number, email address and website.

Inland Rail's Stakeholder Engagement Team will manage the distribution of information pertaining to changes in traffic and access conditions to the community.

Inland Rail will liaise with TfNSW and relevant Councils at monthly intervals with the aim of developing and implementing measures aimed at reducing the impact of the project on the regional and local road networks. This will include any potential cumulative impacts from the simultaneous construction of the rail link and Newell Highway upgrade works. Other stakeholders (i.e. emergency services, bus operators, etc) will be invited as required.

This forum will also be used to discuss the current and pending use of local roads by construction traffic and address any issues raised by TfNSW or Council/s. These forums will be facilitated by Inland Rail and minutes and actions taken and distributed.

Crossing loops that cross driveways, private or public roads must be avoided, wherever possible. Where this cannot be achieved, consultation must be undertaken, and agreement must be received from the impacted stakeholder allowing the crossing loops to be installed.

3 Legal and Compliance Requirements

This section details the relevant legal and compliance requirements for the N2NS project including the Minister's CoAs, RMMs and the Secretary's Environmental Assessment Requirements (SEARs) environmental performance outcomes (EPOs) and where they are addressed within this plan.

3.1 Legislation

Legislation relevant to traffic, transport and access associated with the construction of the project includes:

- *Road Transport Act 2013;*
- *Heavy Vehicle (Adoption of National Law) Act 2013;*
- *Transport Administration Act 1988;*
- *Roads Act 1993; and*
- *Work Health and Safety Act 2011.*

3.2 Guidelines

Guidelines and standards relating to transport, traffic and access management associated with construction of the project include:

- *AS 1742.3 Manual of uniform traffic control devices Part 3: Traffic control for works on roads*
- *AS 1742 Parts 1 to 14, Manual of uniform traffic control devices*
- *Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2019)*
- *Cycling Aspects of Austroads Guides (Austroads, 2014)*
- *Planning Guidelines for Walking and Cycling (DIPNR, 2004)*
- *Traffic Management Guide: Construction Work – Safe Work Australia*
- *Railway Crossings Policy (ONRSR, 2019)*
- *Australian / New Zealand Standard – AS/NZS3845 Road Safety Barrier Systems*
- *AGTM 02-08 Guide to Traffic Management Part 2: Traffic Theory*
- *AGTM 06-07 Guide to Traffic Management Part 6: Intersections and Crossings – General*
- *AGRD 04-09 Guide to Road Design Part 4: Intersections and Crossings – General*
- *RMS Traffic Control at Worksites Manual (TCAWS) Version 5.0*
- *RMS Specification G10 – Traffic Management Ed 7 Rev5 August 2020*
- *RMS Road Safety Audit Technical Direction TD2003/RS03, Version 2 – August 2005*
- *RMS Road Occupancy Manual May 2015*
- *RMS Road Design Guide Supplements to Austroads*
- *RMS Regulatory Signs Guide*
- *RMS VMS Policy – Technical Directions TDT 2002/11 and TDT2005/02A*
- *RMS R132 Safety barrier systems Ed3 Rev5 June 2020*
- *RMS R141 Pavement marking Ed6 Rv3 November 2011*
- *Relevant RMS Technical Directions and Guide updates*
- *RMS Supplements to Austroads and Australian Standards*
- *RMS Road Rules 2014*
- *Construction of New Level Crossing Policy (TfNSW, undated)*

3.3 Additional Permits and Approvals

The following permits and approvals, specific to traffic and access management, have been identified and will be required to be in place before associated works may commence.

3.3.1 Road Occupancy Licence

Where feasible, construction works will be staged to limit road occupancy and minimise potential impacts on the existing road network. However, where road occupancy is required, a Road Occupancy Licence (ROL) under Section 138 of the Roads Act 1993 will be sought from the relevant road authority (generally TfNSW and Council), to occupy a portion of the road network for an approved period. Inland Rail will liaise with these authorities and key stakeholders as required.

3.3.2 Speed Zone Authorisations

Temporary roadwork speed zones, both short and long term, will be implemented during construction to manage the speed of traffic approaching and passing through and/or past work sites. To temporarily alter a speed limit, a Speed Zone Authorisation (SZA) is required to be in place. Both long term and short term SZA will be sought from the responsible road's authority during construction.

Speed zone reductions are to be minimised and only where and when required. Speed Zone reductions to be agreed with and approved by TfNSW.Inland Rail acknowledges that roadwork speed zones must be logical and credible, as well as enforceable. When considering the use of a roadwork speed zone, Inland Rail will adopt the principles outlined in Australian Standard 1742.3-2009 Traffic control devices for works on roads, which states that roadwork speed zones must:

- Only be used where they are self-enforcing or will be enforced
- Be used in conjunction with other traffic control signs and devices, i.e. not a stand-alone management measure
- Not to be used in place of more effective traffic controls
- Only be used while road work is in progress or where lower standard road conditions exist
- Meet minimum clearance and lane width requirements.

3.3.3 Works Authorisation Deeds

If any agreed works authorisation deeds are utilised, they will be checked to ensure all planned TfNSW road works meet the prescribed requirements and conditions, where required and, amongst others these may include:

- Geometric Road Design and Pavement Design Approvals
- Construction Specifications
- Road Occupancy Licenses
- Project Management plans
- OH+S and quality
- Environmental impact assessment and management.

3.4 Conditions of Approval, Mitigation Measures and Performance Outcomes

As discussed in Section 3 of the CEMP, the N2NS project is a Controlled Action under the EPBC Act (1999) and a CSSI under the EP&A Act (1979). Under Section 45 of the EPBC Act (i.e. the bilateral agreement between the NSW and Federal Governments), the Project has been assessed by DPIE for both State and Federal approvals. The Project has been approved with conditions by both the NSW Minister for Planning and Public Spaces and the Federal Minster for Agriculture, Water and Environment. These conditions of approval relevant to the construction phase and where they have been addressed in this CTTAMP can be found in the Compliance Matrix at the beginning of this document.

Transport, traffic and access impacts as well as management and mitigation measures were identified in the EIS. Following consideration of the issues raised in the stakeholder and community submissions on the EIS and additional assessments were undertaken, mitigation measures were updated and included in the SPIR. RMMs relevant to transport, traffic and access and where they have been addressed in this CTTAMP can also be found in the Compliance Matrix at the beginning of this document.

The SEARs identified a number of desired environmental performance outcomes (EPOs) for the N2NS project. Based on the outcomes of the EIS and the implementation of the RMMs, EPOs have been established for the proposal. EPOs relevant to transport, traffic and access and where they have been addressed in this CTTAMP can also be found in the Compliance Matrix at the beginning of this document.

Construction will not commence until the CEMP and sub-plans and the Construction Monitoring Programs are endorsed by the Environmental Representative (ER) and approved by the Secretary of the Department of Planning, Industry and Environment (DPIE). The CEMP and Construction Monitoring Programs will be submitted to the Secretary for approval no later than one month prior to the commencement of construction as required by Conditions of Approval (CoAs) C7 and C17.

4 Background – EIS Studies

4.1 Regional Road Network

The study area consists of the project site and surrounding road network. The road network within the study area consists mainly of local roads and private rural roads. A summary of the key findings from the EIS and SPIR are outlined below. Further detail can be found in the N2NS EIS and associated Technical Report 1 (Traffic, Transport and Access).

- Even with growth, construction traffic and potential seasonal variation in traffic patterns, a level of service B on the Newell Highway would be maintained. The road network has spare capacity to cater for the estimated construction and operation traffic and no significant network impacts are predicted.
- The traffic, transport and access assessment undertaken as part of the EIS (Technical Report 1) used the traffic data for parts of the Newell Highway that was available at the time of the assessment. This data was traffic volume data (annual average daily traffic (AADT)) published in 2008. It was suggested in the EIS exhibition phase that this data was unacceptably old and that unpublished sample count data from April 2012 for similar locations (between Bellata and Gurley, and north of Croppa Moree Road) could be used.
- In 2008 the maximum one-way peak hour volumes for Newell Highway did not exceed 150 vehicles per hour, which is consistent with a level of service A. To exceed a level of service A by the start of construction, peak hour traffic volumes would need to grow at over eight per cent per annum, which is considered to be at the higher end of likely growth rates. However, the traffic, transport and access assessment assumed that, for the duration of construction with the additional construction traffic required by the proposal, this would be possible, and therefore a level of service B was likely for Newell Highway when construction commenced. Any further growth beyond a level of service B was considered unrealistic, as this would require peak hour traffic volume growth of more than 20 per cent per annum, with construction traffic added separately. Therefore, the assessment concluded that, even with growth, construction traffic and potential seasonal variation in traffic patterns, a level of service B on Newell Highway would be maintained.

4.1.1 Newell Highway

The Newell Highway runs generally north-south and connects between the Goulburn Valley Highway near the Victoria/New South Wales border and Leichardt Highway near the Queensland/New South Wales border. It forms the primary inland road route between Melbourne and Brisbane, via Narrandera, Parkes, Dubbo and Moree. Within the study area, the Newell Highway runs generally parallel to the rail line. The proposal site crosses the Newell Highway twice, at about three kilometres north of Narrabri Railway Station and four kilometres north of Bellata. At both these locations the rail line passes under the highway.

Outside of built-up areas the Newell Highway has a posted speed limit of 110 kilometres per hour and generally comprises a single lane of travel in each direction on a single carriageway. Overtaking lanes are provided in some locations.

At Moree, the Moree Bypass provides a limited access route through the eastern areas of Moree urban area. The northern part (stage one) of this bypass, north of the Gwydir Highway, was opened in April 2012 and the southern part (stage two) opened in August 2015. The Moree Bypass has a single lane of through traffic in each direction, with a posted speed limit of 60 kilometres per hour.

4.1.2 Gwydir Highway/Alice Street

The Gwydir Highway runs generally east-west and connects between Castlereagh Highway at Walgett and the Pacific Highway at Grafton. The Gwydir Highway passes through Moree as Alice Street and crosses the rail line at a level crossing. Within Moree, Alice Street has a single lane in each direction with a 50 kilometre per hour speed limit.

4.1.3 Projected Traffic Impacts

Construction of the proposal would result in temporary impacts to traffic and access within the study area and an increase in both heavy and light vehicle movements on the local road network. The extent of impacts will depend on the location of the works and the origin of material and/or workers. A worst-case assessment is detailed below.

Daily traffic generation associated with construction will likely be within that of the EIS - some 400 vehicle movements, including 234 heavy vehicle movements. The peak hour for traffic generation would occur at the beginning and end of each shift, with up to 116 vehicle movements (one-way), including some 41 heavy vehicles.

The EIS notes that the Newell Highway is the busiest of the roads likely to be used for construction access and has a peak hourly volume of approximately 130 vehicles in one direction. An additional 116 vehicles per hour (an 89 per cent increase, noting that trucks have a disproportionate impact compared to light vehicles) would bring the total directional volume to around 250 vehicles per hour. At this volume, the Newell Highway is forecast to operate at Level of Service B or better. The anticipated maximum hourly volume on all of the roads expected to be used for access is within the threshold for Level of Service B.

Even if the peak hourly volume were to be increased by around 50%, for example due to seasonal variation, Level of Service B is expected to be achieved. It should be noted that from a sustainability and safety perspective, Inland Rail intend to use buses to transport workers to and from construction sites where practicable.

Proposed works on level crossings may also result in disruptions to local traffic and temporary access restrictions to private property. Where this occurs, alternative access arrangements would be provided and/or appropriate traffic controls implemented. These will be detailed in a Construction Traffic Management Plan. The total expected peak hour flows will be within the nominal capacity of the roadway, remaining at Level of Service B or better.

Jones Avenue pedestrian overbridge

Whilst not currently in scope, in the event Inland Rail includes the construction of the Jones Avenue Overbridge in the scope of works, it is expected that there will be some disruption to local traffic on Jones Avenue as the

overbridge is constructed. All materials will be imported to site resulting in an increase in heavy vehicle traffic in the area. Traffic access to the construction site, and for the movement of local traffic, pedestrians and cyclists around the area whilst construction is occurring will be detailed in the construction Traffic Management Plan (TMP).

In the event that the Moree Intermodal Overpass (MIO) project does not proceed, and construction of the Jones Avenue overbridge is required in lieu of the pre-agreed contribution towards this project the CEMP and all relevant sub-plans would be updated as necessary to satisfy the requirements of CoA E57, E58 and E59.

5 Condition Assessment of Road Network

5.1 Pre-condition Assessments

Dilapidation reports will be undertaken to determine the pre-construction baseline conditions of the local road network. These will be performed within the jurisdiction of each of the three Councils no later than one month before the start of transport and haulage. A road dilapidation specialist will be engaged by Inland Rail to perform these independent assessments. ARTC and the three local Councils have agreed a standard pre-condition assessment tool to be used to establish that baseline. This will be:

> "*The Local Government Assessment manual for Pavement condition*" (based on the Bundaberg Regional Council Road Condition Assessment Manual)

This tool is attached as Appendix C.

As the independent condition reports are developed, these will be appended to this CTTAMP.

The Pre-condition Assessment/s will be issued to the relevant Council/s and requested that written acceptance of the findings provided. In the event that Council has concerns, questions or recommendations with the findings of the report, all practical and feasible measures will be taken to resolve the matter prior to construction works commencing.

In addition to this, the results of the Pre-condition Assessments will be submitted to the Planning Secretary (and other relevant agencies) for information.

5.2 Traffic Monitoring Program During Construction

CoA 14 requires the physical condition of local roads to be monitored during construction with consultation to be undertaken with the relevant government authorities. CoA C15 prescribes what a monitoring program must provide. Inland Rail's approach to compliance with this condition is detailed in the following table:

Table 5 Road Monitoring Program

COMPLIANCE ITEM NO.	COMPLIANCE ITEM DESCRIPTION	DETAILS OF ACTION
(a.)	Details of baseline data available	No baseline data has been provided as at the date of this CTTAMP.
(b.)	Details of any baseline data to be obtained and when	• The baseline data to be obtained is prescribed in the Pavement Condition Assessment Manual attached in Appendix C. This has been prescribed by ARTC as the baseline data gathering tool. • The baseline data will be a pre-condition assessment and returned pavement condition index derived by the scoring of: existing defects, patching cracking, roughness, ravelling, gravel depth and shape factor. • The baseline data will be obtained no later than one month prior to commencing anticipated vehicle movements.
(c.)	Details of all monitoring of the CSSI to be undertaken	• Assets being monitored are not CSSI related elements. That is, they are not being constructed as part of this SSI project. Rather, they are existing local road infrastructure assets being used to execute the SSI works. • Monitoring will be undertaken periodically against the criteria set out in the Pavement Condition Index at the intervals set out in (e.). Monitoring will be performed by visual inspections of the roads by suitably qualified Inland Rail project personnel (i.e. site engineer, supervisor).

		• Road condition will be documented on inspection records and representative footage recorded. • Monitoring will not be performed by road dilapidation specialists nor periodic dilapidation reports produced. These will only be performed to establish initial baseline condition and final condition assessments after construction is complete. Monitoring will commence (Pre-condition Assessment) 1 month prior to the commencement of construction and extend through until after the completion of construction or the completion of all rectification works, whichever is later. The commencement and completion of monitoring is linked to the Project staging.
(d.)	The parameters of the CSSI to be monitored	Refer above.
(e.)	The frequency of monitoring to be undertaken	• Asphalt and concrete roads – Monitored 12 monthly • Sealed roads and kerbs – Monitored 6 monthly • Unsealed roads – Monitored 3 monthly[1] • Footpaths (only where interfacing directly with project works) – Monitored monthly
(f.)	The location of monitoring	Only local roads and private roads being used as depicted in Appendix A transport routes and Section 7. With the exception of all national highways (Newell Highway).
(g.)	The reporting of monitoring and analysis results against relevant criteria	• Inland Rail will review all visual periodic monitoring assessments undertaken in (e) above. • Results will then be evaluated against key criterion in the Pavement Condition Report that are considered to have a direct impact on the safety of road users or present environmental risks. • Examples of these defects include deep surface deterioration of gravels (major potholing), excessive asphalt ravelling or broken kerbs and footpaths. • Road condition reports will be generated 6-monthly and provided to TfNSW, the relevant Council/s and to the Planning Secretary for information.
(h.)	Procedures to identify and implement additional mitigation measures where results are unsatisfactory	Inland Rail will review all periodic monitoring assessments. Where these results indicate a safety or environmental risk to road users, these defects will be scored by a qualified or experienced Project personnel (i.e. Engineer, Superintendent or otherwise) and a risk rating applied. A risk rating of "*high*" demonstrates an immediate risk to the lives and / or property of the travelling public. This will be rectified immediately (within 48hrs), which may include temporary, short term works or speed zone reductions to make the road safe for use until full rectification can occur. A risk rating of "*medium*" indicates that the condition of a road is deteriorating and with no rectification works occurring may present a risk to the lives and / or property of the travelling public within 2 weeks. "*Medium*" risks must be rectified within 2 weeks. A risk rating of "*low*" indicates that without rectification works occurring the defect may present an unacceptable risk to the travelling public (i.e. life and / or property) if the defect worsens. Low risk defects must be monitored weekly and repaired during the next scheduled rectification works OR if the risk rating increases during subsequent inspections.
(i.)	Any consultation required in relation to monitoring programs.	TfNSW, Narrabri Shire, Moree Plains and Gwydir Council's will be consulted via this CTTAMP in relation to monitoring program.

NOTE:

1. T4M will notify the relevant Council 5 days prior to the inspection occurring and provide an opportunity to attend.

5.3 Post Condition Assessment

Following completion of construction, and within six months from the date of completion, a dilapidation specialist will perform a post condition assessment of the road network used in Inland Rail's transport strategy.

Roads within this network will be reinstated to the same condition as defined by the pre-construction dilapidation report baseline established in consultation with each Council prior to construction commencing.

The Post-condition Assessment/s will be issued to the relevant Council/s and requested that written acceptance of the findings and actions provided. In the event that Council has concerns, questions or recommendations with the findings of the report, all practical and feasible measures will be taken to resolve the matter prior to rectification works commencing.

The results of the Post-condition Assessments will be submitted to the Planning Secretary (and other relevant agencies) for information.

6 Access Management

6.1 Construction Access Locations

The effective management of construction traffic to and from Inland Rail's construction sites will be critical for the efficient delivery of the project and to minimise impacts to road users and the surrounding community. Construction site access points would mainly be from the Newell Highway and public roads or existing access routes which are located within the rail corridor. Where existing level crossings exist, access would be off the Newell Highway and via these private roads into the construction impact zone (the CIZ). Once inside the CIZ, a construction access track will run parallel to the rail line along most of the alignment to provide all weather access for construction activities.

The following construction site access gate locations have been nominated for the duration of the project to provide safe access to all areas of the project. These locations have been chosen to favour national highways or public roads where possible and are aimed at minimising impact on existing road users.

Inland Rail has taken a two-part approach to this as follows –

1. **Major Accesses** – These are key access locations off the Newell Highway or public roads and will require modification of the existing asset with TTM temporary works. These accesses will serve as safe passage for large scale deliveries of precast materials, bridge elements, lime, water, ballast and capping. These access locations will be roughly 2km apart over most of the alignment and will be established and operated at various stages to suit the works.
2. **Minor Accesses** –Inland Rail will be required to upgrade level crossing and road pavements as part of the construction of the permanent design and these are intermittently spread between the major accesses. It is intended that access to these areas off the Newell Highway or public roads will be achieved using short term traffic guidance schemes to suit the timing of the construction programme. It is not intended to modify these locations with temporary works nor operate all of these access points concurrently.

Figure 1 below provides a representation of where along the full 171km alignment a major or minor access gate is anticipated, with Table 6 and 7 providing a detailed breakdown of the location and expected upgrade required and year of use for both Major and Minor access locations.

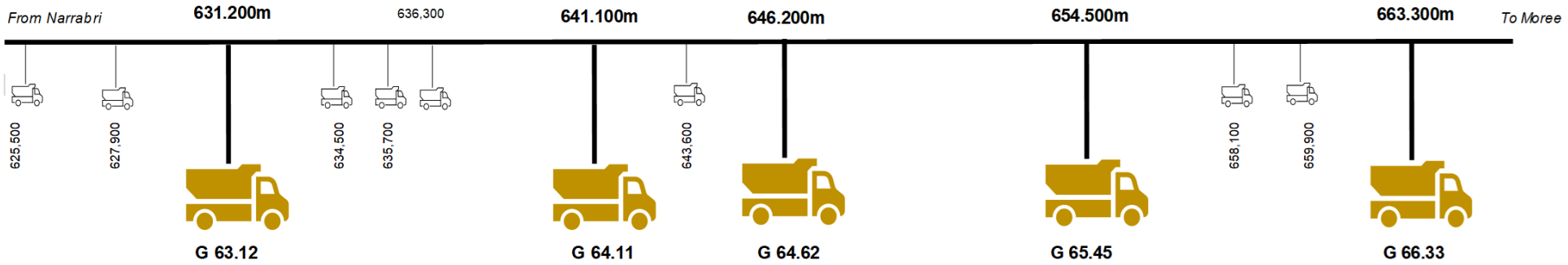
For the avoidance of doubt, these line diagrams provide the final locations intended for Stage 1, Stage 2 and Stage 3 gate accesses which have now been designed and included in the TMP for TfNSW.

Inland Rail will facilitate monthly meetings with ARTC, TfNSW and Council/s to discuss the current and pending use of local and regional roads by construction traffic to access the construction alignment and laydown areas. The monthly meeting will also be used to raise issues and identify actions to reduce the impact of the project on the regional and local road networks and to road users. These forums will be facilitated by Inland Rail and minutes and actions taken and distributed.

Figure 1 Inland Rail Gate Access Line Diagram

STAGE 1 SITE ACCESS LINE DIAGRAM (2022 – 2023 USE)

STAGE 2 SITE ACCESS LINE DIAGRAM (2021 – 2023 USE)



STAGE 3 SITE ACCESS LINE DIAGRAM (2021 to 2023 USE)

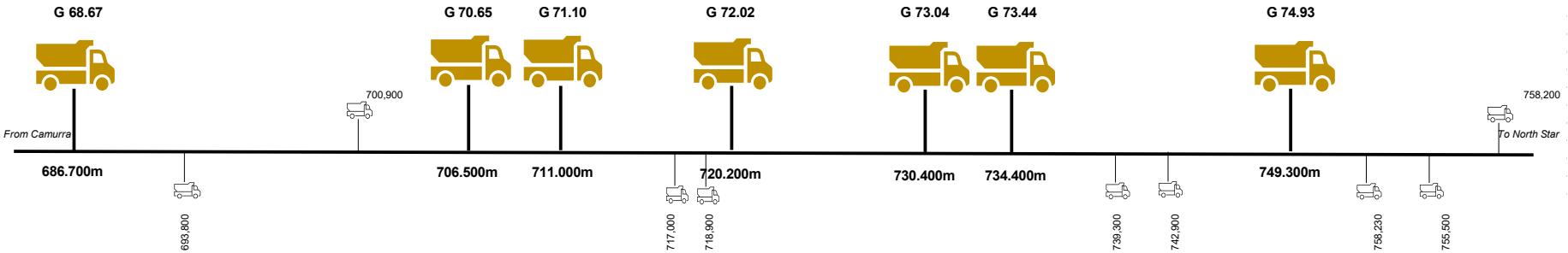


Table 6 Major Access Gate Particulars (Requires temporary works TTM)

RAIL CHAINAGE KM	ARTC LX ID	ROAD REFERENCE	PROPOSED INLAND RAIL GATE NAME	DETAILS OF MOVEMENTS PROPOSED AT INTERSECTION	STAGE AND YEAR IN USE
Stage 1					
575.900	LX3054	Private	57.59	BAR / BAL	Stage 1 2022
585.000	LX3058	Private	58.50	BAR / BAL	Stage 1 2022
593.400	LX543	Tarlee Road	59.34	AUR / AUL	Stage 1 2022
596.600	LX1827	Moree Road	59.66	BAR / BAL	Stage 1 2022
599.700	NA	NA	59.97	BAR / BAL	Stage 1 2022
603.000	LX545	Clump Road	60.30	AUR / AUL	Stage 1 2022
609.300	LX546	Ten Mile Lane	60.93	BAR / BAL	Stage 1 2022
613.300	LX547	Tremayne Property	61.33	BAR / BAL	Stage 1 2022
621.200	LX3065	Private	62.12	AUR / AUL	Stage 1 2022
625.500	LX552	Penneys Lane	62.55	CHR / CHL	Stage 1 2022
Stage 2					
631,160	LX553	Kanimbla Road	63.16	80km/hr Left In/Left Out/Right In (TTM)	Stage 2 2021 - 2023
641,100	LX556	Private	64.11	Right Out (Stop bar)	Stage 2 2021 - 2023
646,200	N/A	Private	64.62		Stage 2 2021 - 2023
654,400	N/A	Private	65.44		Stage 2 2021 - 2023
664,500	LX560	Bullus Drive	66.30	50km/hr All movements per existing	Stage 2 2021 - 2023
Stage 3					
686,700	LX1841	Roydon Road	68.67	50km/hr All movements per existing	Stage 3 - 2021 to 2023
706,500	LX911	County Boundary Road	70.64		Stage 3 - 2021 to 2023
711,000	LX912	Alma Lane	71.10		Stage 3 - 2021 to 2023
720,200	N/A	Private	72.02		Stage 3 - 2021 to 2023
730,400	LX917	Croppa Moree Road	73.04		Stage 3 - 2021 to 2023
734,400	LX918	Buckie Road	73.44		Stage 3 - 2021 to 2023
749,300	LX4378	Private	74.93		Stage 3 - 2021 to 2023

NOTE:
BAR / BAL – Basic Auxiliary Right / Basic Auxiliary Left
AUR / AUL – Auxiliary Right / Auxiliary Left
CHR / CHL – Channelised Right-turn / Channelised Left-turn

Table 7 Minor Access Locations (for executing any permanent design works required by ARTC). Accessed via TCP as needed.

RAIL CHAINAGE KM	ARTC LX ID	ROAD REFERENCE	STAGE AND YEAR IN USE
578.000	LX3055	Private	Stage 1 2022
580.400	LX3056	Private	Stage 1 2022
581.000	N/A	N/A – via TfNSW Laydown	Stage 1 2023
582.400	N/A	N/A	Stage 1 2023
582.900	N/A	N/A	Stage 1 2022
584.600	LX3057	Private	Stage 1 2022
586.100	N/A	N/A	Stage 1 2022
588.600	LX3059	Private	Stage 1 2022
589.700	LX3060	Private	Stage 1 2022
595.000	LX3061	Private	Stage 1 2022
596.700	N/A	Private – Gate 7 Entry	Stage 1 2022
596.900	N/A	N/A – Gate 7 Exit	Stage 1 2022
598.500	LX544	Galathera Lane	Stage 1 2022
600.350	N/A	Private	Stage 1 2022
601.400	N/A	N/A	Stage 1 2022
605.500	N/A	N/A	Stage 1 2022
608.200	N/A	N/A	Stage 1 2022
613.700	LX548	Private	Stage 1 2022
616.000	LX549	Millie Road	Stage 1 2022
617.500		Old Newell Hwy	Stage 1 2022
627,900	LX1828	Private	Stage 2 2021
634,500	LX3066	Private	Stage 2 2021
635,700	LX554	Gurley Creek Road	Stage 2 2021
636,300	LX555	Private	Stage 2 2021

643,600	LX557	Gurley Settlers Road	Stage 2 2021 - 2023
658,100	LX558	Tapscott Road	Stage 2 2021 - 2023
659,900	LX559	Burrington Road	Stage 2 2021 - 2023
693,800	LX909	Wongabindie Road	Stage 3 2021 to 2023
700,900	LX910	Calimpa Road	Stage 3 2021 to 2023
717,000	LX913	Gil Gil Creek Road	Stage 3 2021 to 2023
718,900	LX915	N/A	Stage 3 2021 to 2023
739,300	LX920	Tumba Road	Stage 3 2021 to 2023
742,900	LX921	Boonery Park Road	Stage 3 2021 to 2023
755,500	LX921	Croppa Creek Road	Stage 3 2021 to 2023
758,200	LX923	IB Bore Road	Stage 3 2021 to 2023

NOTES:
BAR / BAL – Basic Auxiliary Right / Basic Auxiliary Left
AUR / AUL – Auxiliary Right / Auxiliary Left

A number of temporary access gates will be required to be established to access the rail corridor. These are mostly located on the Newell Highway and will be designed, constructed, operated and maintained in accordance with Inland Rail's Traffic Management Plan. The construction methodology for these gate locations will generally involve extending the existing shoulder of the Newell Highway as per the approved gate design. NOTE: If works beyond the CIZ are required, then the relevant environmental approvals will be sought in accordance with the CEMP prior to works commencing. After establishing short term traffic guidance schemes, vegetation will be cleared in accordance with the Construction Biodiversity Management Sub-Plan and then the shoulders boxed out to foundation level. If foundations are found to be of adequate strength they will be compacted and then subbase and base layers of crushed rock will be installed. If they are inadequate, then foundations will likely be stabilised with lime and cured prior to installation of crushed rock. The top surface of base will then be primer sealed and a wearing coarse applied. This would likely be a double-double seal. Line marking and any road furniture will then be installed to complete the pavement works.

In some cases, where there is adequate width of existing highway, compliant gate accesses will be able to be established by water blasting off existing line marking or blacking out with bituminous emulsion and then reinstalling new line marking and seals.

Any planned major or minor access gate work will be completed with future projects where works may conflict with these projects. Narrabri to Moree Heavy Duty Pavements Project overlaps with a small number of N2NS project areas during works planned for 2022 / 2023.

Any projects such as these will be contacted to confirm and assess any future works. N2NS will collaborate on designs and co-ordinate our program to ensure best for all project outcomes at all times.

6.2 Accessing Construction Ancillary Facilities (CAFs) and Laydowns

The location of Construction Ancillary Facilities (CAF) and laydowns are detailed in Inland Rail's Construction Environmental Management Plan and the Site Establishment Management Plan (SEMP).

The SEMP allows for the establishment of two CAFs to accommodate around 60 staff each as well various other construction activities. Under the SEMP, CAFs may be established at the following locations:

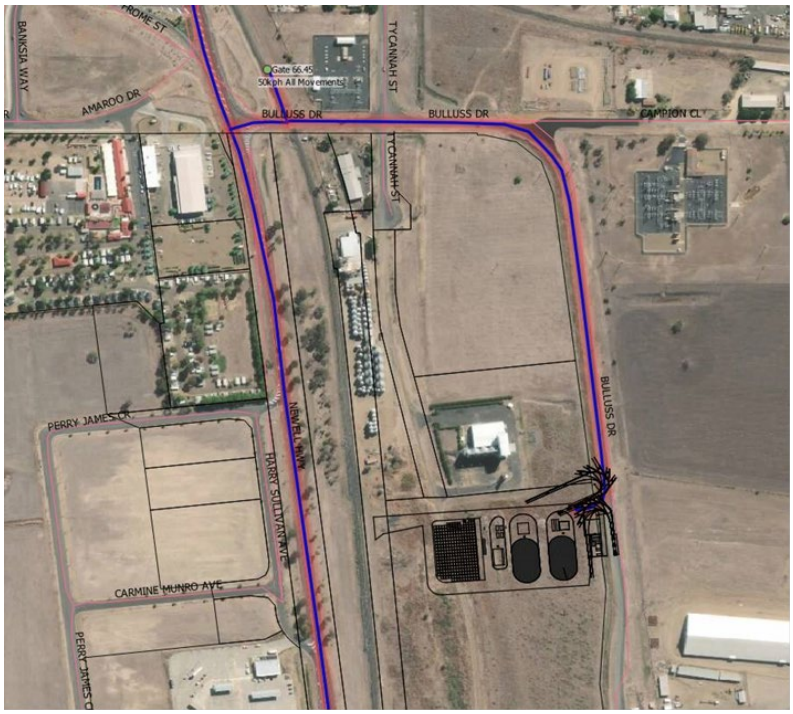
- Bellata at Ch 602,900 inside the CIZ; and
- Moree at Ch 664,000 inside the CIZ.

The access routes to and from CAF's and laydowns have been determined based on the following criteria:

- Access via state highways in the first instance;
- Once leaving state highways, access within the CIZ;
- Once leaving state highways, use of a suitably wide public road to achieve a single lane, two-way access;
- Provision of adequate turning circles for crane and heavy vehicles - at least a 25 metre turning radius capability (i.e. B-Double transport in mind);
- Minimal property impacts by using access alignments within the rail corridor and existing, agreed property access roads as far as practicable; and
- Provision of more than one access point where possible to allow access from either direction.

All roads used to access CAFs and laydowns are identified in Table 6 and Table 7. An example vehicle movement schematic is shown below:

Figure 2 Typical VMP for a CAF



This will be typical of all movement plans for all CAFs and laydowns.

Where temporary access roads are required to access the laydown areas, these will be generally constructed in the same fashion as the earthworks for the compound hardstands. That is, by removing topsoil, stabilising foundations with lime and constructing with rock and gravel materials. They will be of a standard matched to the vehicle loadings expected to be needed to carry out the works over the required duration.

6.3 Private Roads and Level Crossings

All private road level crossings identified in Table 5 will be closed prior to commencing construction works in those areas. This is in accordance with ARTC's Works Description and will be required to execute the permanent works. Where private roads are closed at level crossing locations, residents will be provided access at all times through the works. This will be controlled by Inland Rail's vehicle movement plans at each site.

6.4 Resident Management

Inland Rail will maintain access for all affected residents whose accesses interface directly with the rail alignment. Resident access will be managed through or around the works and moved periodically to suit the progression of the works. Residents will be provided with trafficable, all weather surfaces on which to travel within the scope of the permanent works. Inland Rail will remain in constant contact with affected residents to ensure they are aware of access particulars at all times.

Where livestock migration across Inland Rail's works is required, ARTC will undertake all consultation.

Where construction of the N2NS Project restricts a property's access to a public road, Inland Rail will, until their primary access is reinstated, provide the property with temporary alternate access to an agreed road decided through consultation with the landowner / landholder, at no cost to the property landowner / landholder, unless otherwise agreed with the landowner.

Where construction of the N2NS Project restricts the ability of a resident or landowner to access other parts of their property via a level crossing, Inland Rail will, until the permanent level crossing is reinstated, supply the property with a temporary alternate level crossing access at a convenient location decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the landowner. This may include other existing level crossings or a new alternative temporary level crossing access that is both safe and agreed to.

6.5 Emergency Vehicle Access Provisions

Access for emergency vehicles into Inland Rail's site accesses will be maintained at all times. Clear access will be maintained at all times for emergency vehicles through the works and emergency management protocols will take effect. Emergency vehicles travelling on all nominated transport routes will be given right of way by Inland Rail vehicles.

7 Transport Routes

7.1 Rail Alignment Interface with Road Network

The N2NS alignment crosses a number of roads both public and private. Local roads are managed by the relevant local government. State roads and the National Highway are managed by TfNSW. Regional roads are managed jointly by TfNSW and local government. The below table provides a list of all the roads that interface with the rail alignment that will need to be trafficked in some way while executing the construction works.

Table 8 Roads to be used throughout the construction period

ROAD NAME	CLASSIFICATION	EXISTING CHAINAGE	CONSTRUCTION POSSESSION STAGE	REVISED CHAINAGE	ROAD MANAGER
Narrabri LXing	Private	575,920	1	575,919	Arnekilly Pty Ltd
Narrabri LXing	Private	578,080	1	578,083	William Buchanan & Arnekilly Pty Ltd
Narrabri LXing	Private	580,444	1	580,445	LISA LOUISE SIMSHAUSER & SCOTT SIMSHAUSER (Maurice Simshauser)
Edgeroi LXing	Private	582,887	1	584,625	BOBBIWAA SOUTH PTY. LIMITED (Bryce Lampe)
Edgeroi LXing	Private	586,100	1	585,000	BOBBIWAA PASTORAL COMPANY PTY LIMITED (Tom Lampe)
Edgeroi LXing	Private	588,600	1	588,611	BOBBIWAA PASTORAL COMPANY PTY LIMITED (Tom Lampe)
Edgeroi LXing	Private	589,700	1	589,686	ALBATERRA PTY LIMITED (Paul White)
Bald Hill Road/Tarlee Road	Public	593,420	1	593,353	Narrabri Shire Council
Edgeroi LXing	Private	595,050	1	595,052	ANTHONY ALEXANDER GETT (Anthony Gett)
Moree Road	Public	596,630	1	596,638	Narrabri Shire Council
Galathera Lane	Public	598,550	1	598,577	Narrabri Shire Council
The Clump Road	Public	602,950	1	602,982	Narrabri Shire Council
Duncombers Road (Ten Mile Lane)	Public	609,350	1	609,301	Narrabri Shire Council
Tremayne Property	Public	613,080	1	613,088	Narrabri Shire Council
Sports Ground	Public	613,630	1	613,701	Narrabri Shire Council
Millie Road	Public	616,020	1	616,045	Narrabri Shire Council
Old Newell Highway	Public	617,460	1	617,506	Narrabri Plains Shire Council / Moree Shire Council (Moree owns the quarry and operates it)

Bellata LXing	Private	621,150	1	621,152	THOMAS ANGUS MCCULLOUGH (Thomas McCulloch)
Penney's Road	Public	625,460	1	625,509	Moree Plains Shire Council
Waterloo Road	Public	627,850	2	627,927	State of NSW (crown reserve)
Merimbula Road (Kanimbla)	Public	631,150	2	631,166	Moree Plains Shire Council
Gurley LXing	Private	634,490	2	634,531	ALLISON LEE TURNER & ANDREW JOHN TURNER (Andrew Turner)
Gurley Creek Road (Terry Hie Hie Road)	Public	635,600	2	635,705	Moree Plains Shire Council
To Temp Silo	Public	636,300	2	636,337	GrainCorp
Coomooma	Private	641,060	2	641,113	Private
Gurley (Old) Settlers Road	Public	643,570	2	643,627	Moree Plains Shire Council
Moree LXing	Private	648,100	2	648,118	JAMES GORDON GALL & STUART JAMES GALL (Stuart & James Gall)
Moree LXing	Private	649,350	2	649,424	STUART JAMES GALL & JEAN FRANCES GALL
Tapscott Road (Dunavants)	Public	658,027	2	658,116	Moree Plains Shire Council
Burrington Road	Public	659,800	2	659,888	Moree Plains Shire Council
Bullus Drive	Public	664,333	2	664,433	Moree Plains Shire Council
Alice Street	Public	665,846	2	665,947	tfnsw
Camurra LXing	Private	686,420	3	686,387	AFF Land PTY LTD
Roydon Road	Public	686,480	3	686,451	Moree Plains Shire Council
Camurra LXing	Private	689,505	3	689,494	CATHERINE DONNA PEARSE (Oscar Pearse)
Wongabindie Road	Public	693,970	3	693,959	Moree Plains Shire Council
Calimpa - County Boundary Road (Pallmallawa)	Public	700,930	3	700,932	Moree Plains Shire Council
Milguy LXing	Private	704,690	3	704,694	JACQUELINE LISA COSH (Jordie Cosh)
County Boundary Road (Milguy)	Public	706,560	3	706,550	Gwydir Shire Council
Alma Lane (Milguy - Crooble)	Public	710,950	3	710,961	Gwydir Shire Council

Crooble LXing	Private	716,360	3	716,359	Andrew Gillan
Gil Gil Creek Road	Public	717,045	3	717,020	Gwydir Shire Council
Crooble - Croppa Creek Road (Crooble)	Public	718,835	3	718,865	Gwydir Shire Council
Crooble LXing	Private	721,145	3	721,155	GRANT WESLEY TURNBULL (Grant Turnbull)
Crooble - Croppa Creek Road (Yamboon (Moree / Yallaroi Road))	Public	724,890	3	724,905	Gwydir Shire Council
Crooble LXing	Private	727,430	3	727,520	NORMA GILLIAN FORSYTH (Angus Forsyth)
Myall Downs Road (Croppa Moree Road)	Public	730,320	3	730,335	Gwydir Shire Council
Croppa Creek LXing	Private	732,555	3	732,555	ARDNO FARMING PTY LTD (Simon Cameron)
Buckie Road (Croppa Creek)	Public	733,920	3	733,944	Gwydir Shire Council
Murgo Access Road (Murgo 1) Plevna Road	Private	736,435	3	736,453	PETER FRANK BUTLER (Peter Butler)
Murgo Access Road (Murgo 2)	Public	739,315	3	739,332	State of NSW (crown reserve) + Nixon
Tumba Road (Murgo 3) + Nixon	Public	742,835	3	742,842	Gwydir Shire Council
North Star LXing	Private	744,965	3	744,977	ALAN TREVOR PEARLMAN (Alan Pearlman)
North Star LXing	Private	747,055	3	747,052	ALAN TREVOR PEARLMAN (Alan Pearlman)
North Star LXing	Private	749,250	3	749,254	STRATHAINE FARMS PTY LTD (Simon Doolin)
North Star LXing	Private	750,095	3	750,098	ANGUS WILLIAM SIDDINS & NIKKI ANNE SIDDINS (Angus Siddins)
North Star LXing	Private	752,730	3	752,637	JOCK WILLIAM WOODS, LENORE CATHERINE WOODS & THOMAS WILLIAM WOODS (Woods Family)
North Star - Croppa Creek Road (Moree North)	Public	755,565	3	755,578	Gwydir Shire Council

North Star LXing	Private	756,410	3	756,426	JENNIFER SUSAN DOOLIN & MALCOLM VICTOR DOOLIN (Doolin Family)
North Star Road	Public	758,240	3	758,252	Gwydir Shire Council

7.2 Primary Transport Routes

Heavy vehicle haulage and delivery routes to and from construction sites have been prepared with the objective of minimising impacts to local roads and maximising the utilisation of State and regional roads where feasible and reasonable. Requirements which have been considered during the development of the routes include the following:

- Identified impacts of the EIS;
- Conditions of Approval (CoA);
- Other major infrastructure projects; and
- Consultation with TfNSW and other authorities or emergency services (as required).

Stages 1 and 2 are predominately able to be constructed using access off the Newell Highway including within Moree. The Stage 3 rail formation diverges from the Newell Highway thereby requiring access to be provided via local roads.

Inland Rail has detailed the primary transport routes for heavy vehicles and light vehicles diagrammatically and this attached as Appendix A.

A summary of the key roads used to access each construction possession stage is outlined in the table below.

Table 9: Key access roads to be used

CONSTRUCTION POSSESSION STAGE	ROAD NAME	CATEGORY	USAGE DETAILS	ALTERNATIVE ROUTE AVAILABLE*
1	Newell Highway	National	PRIMARY Access to chainage 574,000 through 625,000	In the event of Newell Highway emergency closures, alternate public roads used will be Killarney Gap Road and Gouradda Road.
2	Newell Highway	National	PRIMARY Access to chainage 625,000 through 646,000 Access to chainage 659,000 through 666,000	In the event of Newell Highway emergency closures, alternate public roads used will be Gurley Creek Road, Terry Hie Hie Road, and state road Gwydir Highway.
2	Gwydir Highway	National	Access to ALICE STREET LX WORKS AND chainage 665,000 TO L.O.W	NEWELL HIGHWAY.
3	Newell Highway	National	Access to chainage 686,000	GWYDIR HIGHWAY.
3	Gwydir Highway	National	On route to access to chainage 706,000	NEWELL HIGHWAY.
3	County Boundary Road - Centre Street - Grattai Road	Public	Access to chainage 706,000	Public road. No other viable alternative.
3	Alma Lane	Public	Access to chainage 711,000	Via County Boundary Road 5km south, via Gil Gil Creek 6km north.
3	Gil Gil Creek – Oregon Road	Public	Access to chainage 717,000	Public road. No other viable alternative.
3	Croppa Moree Road	Public	Access to chainage 730,000 and 755,000	Public road. No other viable alternative.

3	Buckie Road	Public	Access to chainage 734,000	Public road. No other viable alternative.
3	Boonery Park Road	Public	Access to chainage 743,000	Via Buckie Road 9km south.
3	Croppa Creek Road	Public	Access to chainage 755,000	Nil.
3	IB Bore Road – Getta Getta Road	Public	Access to chainage 758,000	Via Croppa Creek Road 3km south.
3	North Star Road	Public	Access to chainage 758,000 to 766,000 (l.o.w)	Public road. No other viable alternative.

NOTE:
*The alternative routes nominated are proposed only and will depend on TfNSW and / or the relevant Council.

When in close proximity to residential dwellings (i.e. closer than 200m) the use of exhaust brakes will be limited where safe and practicable.

7.3 Secondary Routes

A majority of Inland Rail transport strategy is via the Newell Highway. It provides crucial access to the rail corridor during construction possession stages in 2021 and 2022. In the event of a planned or unplanned closure of the Newell Highway, Inland Rail has identified secondary transport routes to be able to maintain transport.

A map of these alternative routes to be used in the event of closures are shown in Appendix E. These will be further refined in consultation with TfNSW when the details of the closure are known.

8 Materials Being Transported

The main commodities being transported on the road network will be quarry materials and precast concrete materials.

8.1 Quarry Materials

The main quarry materials being transported will be ballast, capping, armour rock and select fill materials. The transport movements associated with quarry materials are expected to be:

Table 10 Quarry Materials to be Transported by Supplier or Source Location

QUARRY NAME	QUARRY LOCATION	STAGE 1 NARRABRI TO PENNEYS ROAD		STAGE 2 PENNEYS ROAD TO MOREE		STAGE 3 CAMURRA TO NORTH STAR		TOTAL
		Haul distance to centroid km	Tonne*km	Haul distance to centroid km	Tonne*km	Haul distance to centroid km	Tonne*km	TOTAL Tonne*km
'Tikitere'	1135 Croppa Creek Road, North Star NSW	147	32,869,494	104	14,622,922	40	31,737,254	79,299,699
'Wave Hill'	Lot77 Wave Hill Road, Narrabri NSW	40	7,511,860	92	15,639,908	-	-	23,151,771
'Runnymede'	530 Gil Gil Ck Road, Pallamallawa NSW	106	21,200,000	64	12,719,936	76,119,936	15,200,000	49,119,936
TOTALS			61,581,354		42,982,766		46,937,254	151,501,376

Haul routes will be communicated in monthly meetings as per CoA E42, acknowledging instructions under E38, (No local or private roads unless necessary whilst obeying road rules at all times).

Further updates to all N2NS quarry sources will be discussed in planned meetings and will be provided in Appendix G of this document upon any revisions.

Overall, the project is expecting:

- A heavy haulage total of 151,501,376 tonne*km.
- On average 45,000 heavy truck movements over the duration and length of the 26-month construction programme.
- Within each of the possession stages 1 and 2 in 2021 and 2022 respectively, the average movements per day is anticipated to rise slightly due to the compressed nature of the possession programme.

8.2 Precast Materials

The project requires a significant amount of precast to be transported to 250 rail culvert sites and 8 bridge sites. The transport movements associated with precast materials are expected to be :

Table 11 Precast To Be Transported

PRECAST CONCRETE ITEM	SUPPLIER LOCATION	QUANTITY (NO.)
Box culverts - rail	Likely 25-43 Showground Rd, Taminda NSW	3,760
Box culvert wingwalls - rail		3,970
Box culverts and pipe culverts - road		2,400
Bridge structural elements		96
TOTAL No.		10,226

On average, the project is expecting to receive 150 precast elements per week with peaks of up to 250 precast elements at several points in the project.

To reduce the impact upon the road network, Inland Rail has adopted a strategy of receiving all precast units prior to installation and stockpiling in advance in each of the approved laydown areas inside the construction corridor along the alignment. By doing this, the intensity of transport movements is smoothed and can be performed at a steadier delivery rate over longer duration. Note that at the intersections to each laydown location, the TMP has contemplated a full directional intersection and all associated temporary works to allow for multiple movements of precast concrete delivery vehicles at high frequencies.

8.3 Lime

The project design is a reconstruction of the existing rail formations with chemical enhancement. That chemical enhancement is provided by quicklime and around 50,000 tonnes are required over the duration of the project. Lime will likely be transported ex Graymont in Attunga NSW in 30 tonne tanker trucks and stored at each of the approved laydowns likely making use of onsite storage tankers. Total movements expected are in the order of 1,700 over the duration of the project.

8.4 Construction Water

Construction water is currently sourced from the locations identified in Appendix H. NOTE: this list is current at the time of revision (Rev. 4) and will be updated during future revisions of the CTTAMP.

Formal approval to be obtained from the relevant landholder or council prior to any use with the appropriate fees and charges to apply.

All road movements will adhere to local and regional road rules and signage on display. Haul rates via the local and regional road networks using vehicles complacent to the road requirements, rules and regulations.

Water will be transported in 30 tonne tanker trucks to on site storage facilities at each of the laydowns. As an alternative to this, to reduce truck traffic, Inland Rail will investigate additional sources of construction water at intermittent locations along the alignment and in close proximity to the rail corridor. Examples of this may include existing bores, surface water and new bores. One option currently exists around Gurley on the western side of the rail corridor.

Proposed haul routes will be communicated in monthly meetings as per CoA E42, acknowledging limitations under E38 (No local or private roads unless necessary whilst obeying road rules at all times).

Further updates to N2NS water sources will be discussed in planned meetings and will be provided in Appendix I of this document upon any revisions.

8.5 Spoil

The project is seeking an “Excellent” ISCA rating and therefore intends to utilise all site won materials to reconstruct the new rail formation. As such, it is not anticipated that excess spoil will be hauled on the road network. The only exception to this will be around Ch 623.000 and Penney’s Road where an excess of *in situ* cut material is expected and will need to be stockpiled in close proximity.

8.6 Concrete and Other Materials

The project is expecting a total concrete volume of around 2,500m3 on the project. This will be supplied by either the local market or by Inland Rail own means of on site concrete production. Likely source locations will be:

- Ex Hanson at Gwydir Street Moree, NSW and / or
- Ex Johnstone Concrete and Landscaping at Old Gunnedah Rd, Narrabri NSW and / or
- Ex Johnstone Concrete and Quarry at 35 Drive Inn Road, Moree.

Concrete will be hauled in agitators and the project is expecting on average 16 movements per month over the 26-month construction programme.

9 Minimising Impacts on the Network

9.1 Impacts on Bus Services

Inland Rail is committed to ensuring that the overall construction impact on the local traffic is minimised and as such, will consult with the affected Council's and local bus service providers on a regular basis. Whilst construction works are occurring within a LGA, Inland Rail will consult the relevant Council regarding all transport matters (incl. specific public bus routes and traffic impacts).

9.2 Impact on Bus Stops

Where bus stops including school bus stops are required to be temporarily closed or relocated during construction, Inland Rail will arrange for the relocation of these bus stops to within 400 metres of the original bus stop. The relocation of bus stops will be undertaken in consultation with the relevant council and bus operator and communicated to affected communities (and educational facilities in relation to school bus stops) through the consultation process. This will occur at least 14 days prior to the relocation occurring.

9.3 Impacts on Harvest Trucks

The nature of ARTC's construction possession staging between Narrabri and Moree is such that Inland Rail's construction operations will be confined to discrete seven-month work periods outside the grain operating seasons. Inland Rail will occupy stages 1 and 2 between April and October each year. The grain harvest operating season is between November and March each year. As such, it is not expected that there will be significant impact upon harvest trucks. In addition, Inland Rail is aware of cotton harvesting requirements in the Moree Plain Shire in April and May. Tapscott Road is expected to be affected. To mitigate any impacts on cotton harvest at that location, Inland Rail has ensured major gate accesses have not been located at Tapscott Road. During April and May, any interface with the level crossing there will be managed locally during construction by specific vehicle movement plans.

In the northern possession stage of the project, ARTC has provided unrestricted access between Camurra and North Star for the duration of the construction programme. In this stage, Inland Rail will liaise with landowners that are involved in harvesting through the consultation process to ensure they are aware of Inland Rail's anticipated heavy vehicle transport movements and identify any interfaces needing addressing

Inland Rail's Community and Stakeholder Engagement Team will liaise with representatives of the cotton and grain growers associations in the lead up to and during the harvest seasons detailed above. All legitimate concerns and recommendations will be considered by Project personnel and incorporated into the works during these periods. All practicable and reasonable measures will be implemented to avoid and / or reduce any impacts to grain and cotton harvesting and transport operations during this time.

9.4 Impacts on Local Parking

Construction workforce parking for light vehicles will be located within the project corridor and provided at each of the approved laydown facilities and construction ancillary facilities between Narrabri and North Star. Furthermore, where practical, construction workforce personnel would be bused to and from the work sites on a daily basis thereby reducing parking provisions needed. It is not expected that there will be any impacts on existing parking supply, surrounding roads or private properties, including parking for buses where necessary. Between 4 and 6 no. busses will collect staff from the N2NS construction camp location at Carmine Munro Avenue (next to the fuel service station beside the Newell Highway at the north end of the Moree Airport runway) and transport all personnel to the relevant project laydown areas via the Newell Highway accessed from the local public roads. They will leave the camp car park each morning between 530am and 6am depending on the work front location along the rail alignment so that they arrive ready for a work briefing at 630am. Given the camp location, it is not expected that there will be any impacts on existing parking supply, surrounding roads or private properties, including parking for buses.

9.5 Other Transport Impacts

General freight operators working in the region would be informed and kept updated of changes to traffic conditions via N2NS Project Newsletters (issued monthly), variable message sign (VMS) boards displayed on the Newell Highway or in prominent locations and ongoing stakeholder liaison with relevant industries in the region.

Pedestrian and cyclist activities through much of the construction alignment are of low volumes and there is not expected to be any significant impacts.

Passenger train movements are to be suspended during track possessions between Narrabri and Moree. So there will be no impacts to these services, ARTC will be arranging passenger coach services that would replace trains during rail possession closures.

If there are any emergencies, unplanned impacts, diversions or delays to the existing rail traffic this would be managed in consultation with relevant stakeholders, and alternative arrangements would be directed and provided in strict consultation with ARTC as this is within their scope.

Replacement public transport services would be provided during any of these unplanned interruptions to the operation of the passenger rail service.

10 Traffic Safety Management During Construction

10.1 (Construction) Traffic Management Plan

The Construction Traffic Management Plan (TMP) will detail the specific road safety and traffic management measures that will be applied whilst undertaking construction works. TMPs are based on the principles and strategies of the CTTAMP, inclusive of contractual requirements, environmental approvals and the requirements of relevant road authorities and other stakeholders. Site specific construction traffic management plans will be consistent with this CTTAMP and the CoAs.

TMPs will be discussed, reviewed and finalised in consultation with ARTC, Narrabri Shire Council, Gwydir Shire Council, Moree Plains Shire Council and TfNSW and will be subject to periodic review and update as agreed between the stakeholders.

TMPs will generally include:

- Overview of the construction activities and traffic management requirements;
- A description of how traffic management will be established;
- A description of traffic management during construction;
- A description of traffic management for specific construction events (e.g. full road closure);
- Traffic management measures/devices that will be implemented;
- Specific details of haulage and construction routes;
- Access points and upgrades of existing highways and roads;
- An analysis of resultant traffic conditions and impacts analysis; and
- Details of stakeholder consultations.

10.2 Traffic Control Plans

A Traffic Control Plan (TCP) is a diagram which illustrates the signs, road markings and devices that will be installed to warn traffic and guide it around, past or through the construction site.

All TCPs will be developed with the aim of

- Warning drivers of changes to the usual road conditions;
- Informing drivers about changed conditions;

- Guiding drivers through the work site; and
- Safety for workers, motorists, pedestrians and cyclists.

The impacts to oversized vehicles will be managed and reduced via the following:

- Allowances being made in the TCPs to facilitate the safe movement of oversized vehicles through any Project controlled work areas; and
- UHF Channels being provided at the approaches of a Project controlled work area to allow the Project's Traffic Control Team to escort any oversized vehicles through the work area.

10.3 Traffic Controllers and Training

A traffic control organisation registered under RMS' Registration Scheme Category G (Traffic Control) will be engaged to supply traffic control personnel when required. Prior to mobilisation, relevant construction risks as they relate to traffic, transport and access will be communicated, in writing, to the traffic control organisation. On site, all traffic control personnel will be inducted before starting any works on site. In addition to this, all site personnel will be required to participate in daily prestart meetings where any new risks or changes in the work site will be communicated.

10.4 Vehicle Movement Plans

A Vehicle Movement Plan (VMP) is a diagram showing the travel paths for vehicles entering or leaving a construction site or crossing the through traffic stream. VMPs will be prepared for all construction vehicle movements including at each interface with the existing road network, internal haul roads and points on routes remote from the work site. An example VMP is provided in Section 6.2 above.

10.5 Signage

The installation of roadwork information signs is considered the most effective method to notify road users of changes to the road network.

The design of all signs (i.e. letter height, colours and wording) will comply with the Australian Standards and RMS sign posting guidelines, TCAWS manual, RMS Delineation Manual, AUSTROADS Guide to Traffic Engineering Practice, Part 8 – Traffic Control Devices and the relevant parts of Australian Standard 1742 – Construction Traffic and Access Management Plan. In addition, for more complex messaging, Inland Rail will consider the use of letter box drop for affected local road users or other means of customised visual impact messaging.

10.6 Road Dilapidation Reports

As discussed in Section 5 road dilapidation report(s) will be prepared for affected roads (public and private) likely to be used by construction traffic within one month prior to commencement of construction.

10.7 Road Safety Audits

Project Road Safety Audits (RSAs) will be conducted in accordance with the AUSTROADS Road Safety Audit Guide, RMS Guidelines for Road Safety Audit Practices and RMS Technical Direction TD 2004/RS01 – Accident Reduction Guide Part 2: Road Safety Audits.

The audit will be conducted by a suitably qualified, independent, road safety and traffic engineering auditor. The lead auditor will have Road Safety Auditor Level 3 Certification, have undergone road safety audit training and received certification under the Institute of Public Works Engineering Australia Accreditation Scheme.

Audits will be undertaken for any new or modified local road, parking, pedestrian and cycle infrastructure (including ancillary facilities), in accordance with CoA E57, which require detail design.

Audits will also be undertaken where detailed in TfNSW Spec G10 - Traffic ManagemenThe recommendations made in the Road Safety Audit will be actioned before, if necessary, prior to construction commencing and after

completion of the traffic control installation to confirm compliance. The Audit Report will be made available to the Planning Secretary, upon request.

10.8 Road Occupancy Licences

In the case of an emergency, when directed by Police or Emergency Services, and where required by the relevant road authority, ROLs will be obtained prior to the commencement of any short-term works, which:

- Slows, stops or otherwise delays traffic;
- Diverts traffic from its normal course along the road carriageway, including lane closures, turning restrictions, detours and diversions; and
- Occupies any portion of a local road that is normally available as a trafficable lane.

Inland Rail is currently registered on the Oplink system. The ROL application (which includes a TCP) will be submitted to the relevant road authority responsible for processing and approving the ROL. The road authority will be provided at least 10 working days to process and then either grant or reject the application. Minor changes to a ROL application (to obtain approval) will occur within the 10-day period.

The contact details for ROL's are as follows:

Oplink

ROL_Western@rta.nsw.gov.au

Phone: 02-6861 1414

10.9 Speed Zone Authorisation

Guidance for applicants applying for SZA is provided in the Road Occupancy Manual issued by the Transport Management Centre (TMC) and applications for a SZA are made as part of the ROL application process. The SZA application will be forwarded to the TMC as it has the responsibility for processing and approving a SZA. The TMC generally requires at least 10 working days to process the application and will either grant or reject the application within this period. Where speed reductions are required on roads in local government jurisdiction, applications will be undertaken after the relevant Councils have approved the TCPs.

The contact details for SZA's are as follows:

Northern Region: SPEED_ZONE_NORTHERN@rta.nsw.gov.au

Phone 02-66401304

10.10 Driver behaviour and Code of Conduct

All drivers employed on the project, whether direct employees or not, have a responsibility to drive safely, comply with State road regulations and the Australian Road Rules and any other directives issued by Inland Rail. In particular, before any deliveries are undertaken all heavy vehicle drivers will be required to read and endorse the Drivers Code of Conduct (Appendix B).

10.11 Concurrent works on Newell Highway

In the event of any future planned roadworks on the Newell Highway, N2NS Project will work with these other planned projects, unplanned works or any incidents that occur to ensure best practice outcomes for all stakeholders.

The N2NS project will meet at monthly intervals (or as agreed) to ensure all planned projects that conflict with N2NS works can run concurrently, where possible and ensure all parties interests are considered, negotiated and agreed prior to any future works commencing.

10.12 Project Risk Assessment

Section 7 and Appendix D of Inland Rail's CEMP contains a project wide risk assessment including a high-level assessment of risks resulting from construction activities on traffic, transport and access. The risks specific to traffic, transport and access have been further defined and detailed in Table 12 below. Throughout the construction phase, these risks (and any new risk identified) will be re-assessed and managed via the process detailed in Section 7 of the CEMP.

Table 12: Traffic, Transport and Access Risk Assessment

Construction Activity / Aspect	Potential Impact	Risk level prior to mitigation	Indicative mitigation measures	Risk level following mitigation	Documents/procedures/training required
Temporary access roads Construction of level crossings General earthworks and construction Import of material/ plant/equipment Construction site compounds Construction vehicle movements and deliveries	Construction traffic impacts, including temporary delays to local and regional traffic	High	▸ Traffic and access would be managed in accordance with Traffic Control at Work Sites (RTA, 2010) and in consultation with TfNSW and local councils. ▸ Adequate road signage would be provided to inform drivers of the work, timing and alternative access arrangements. ▸ Measures to manage traffic flows around the area affected by construction would be provided, including required regulatory and directional signposting, line marking, variable message signs, and all other necessary traffic control devices. ▸ A traffic, transport and access management sub-plan would be prepared and implemented as part of the CEMP. It would include measures to minimise the potential for impacts on the community and the operation of the surrounding road and transport environment. It would address all the aspects of construction relating to the movement of vehicles, pedestrians and cyclists, and the operation of the surrounding road network,	Medium	CONSTRUCTION TRAFFIC, TRANSPORT AND ACCESS MANAGEMENT SUB-PLAN AMS ENVP18-Dust Management ENVP09-Spill Management Induction Toolbox Talk – Access and Careful Driving Delivery Driver Induction
	Congestion in surrounding road networks due to diversion of road users during construction	Low		Low	
	Reduced pedestrian, cyclist and road user access	Low		Low	
	Loss of parking spaces and loading zones in towns near construction areas	Medium		Medium	

	Impacts to emergency services through delays in access due to works	Medium	▸ The plan would specify routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and the local community. The plan would include measures to minimise impacts to local roads, including the condition of roads. It would include a requirement to prepare a road dilapidation report for all local public roads proposed to be used by heavy vehicles, and measures to restore any impacted roads to their pre-existing condition. ▸ Construction vehicles would park within the construction compound where practicable. ▸ The timing of deliveries accessing the site would be programmed to ensure there is sufficient space within the proposal site to accommodate deliveries. ▸ The queuing and idling of construction vehicles would be minimised. ▸ Designated queuing and idling areas would be determined near the work site to minimise disruption to the local community. ▸ Adequate sight lines would be provided to allow for safe entry and exit from the construction sites. ▸ Access to all private properties adjacent to the proposal site would be maintained during construction, unless otherwise agreed with relevant landowners. ▸ Councils, TfNSW and emergency services would be liaised with at an early stage to establish requirements and measures to be adopted to maintain emergency vehicle movements. ▸ Contractors, including transport/deliveries contractors, would be provided with a copy of the traffic, transport and access management sub-	Medium	
	Impacts on access to private properties	Medium		Medium	
	Impacts and damage to rural roads	Medium		Medium	

			plan to ensure disruptions to the local community are minimised. ▸ The plan would include measures to maximise safety and access for pedestrians and cyclists, including details of alternative access arrangements. ▸ Adequate road signage would be provided to inform pedestrians of the work and ensure that the risk of accidents and disruption to surrounding land uses is minimised. ▸ Adequate road signage would be provided to inform pedestrians and cyclists of the work, timing and alternative access arrangements. ▸ Appropriate controls would be established where vehicles are required to cross footpaths to access construction sites. This may include manual supervision, physical barriers or temporary traffic signals as required. ▸ Access for emergency vehicles would be maintained along key emergency access routes throughout the construction period, with suitable alternative access arrangements provided where required. ▸ Diversions of existing rail traffic would be undertaken in consultation with relevant stakeholders, and alternative arrangements would be provided. ▸ Replacement public transport services would be provided during interruptions to operation of the passenger rail service. ▸ Consultation with relevant stakeholders would be undertaken regularly to facilitate the efficient delivery of the preferred infrastructure and to minimise congestion and inconvenience to road users. Stakeholders would include the relevant local councils, bus operators, TfNSW,		

			emergency services, and affected property owners/occupants. ▸ The community would be notified in advance of any proposed road and pedestrian network changes through signage, the local media, and other appropriate forms of communication. ▸ Where changes to access arrangements are required for individual properties, ARTC would advise relevant property owners/occupants and consult with them in advance regarding alternative access arrangements. ▸ No part of any crossing loop may cross over any driveway, private road or public road unless decided in consultation with the relevant landowner and any other adjacent landowner whose access is impacted by the crossing loop. ▸ The proponent must maintain access to properties during the entirety of works unless an alternative access is agreed in writing with the landowner(s) whose access is impacted by the CSSI works. ▸ Where construction of the CSSI restricts a properties access to a public road, the proponent must, until their primary access is reinstated, provide the property with temporary alternate access to an agreed road decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the landowner. ▸ Where construction of the CSSI restricts the ability of a resident or landowner to access other parts of their property via a level crossing, the Proponent must, until the permanent level crossing is reinstated, supply the property with a temporary alternate level crossing access at a convenient location decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the		

			landowner. This can include other existing level crossings or a new alternative temporary level crossing access that is both safe and agreed to.		

10.13 Property Access

Inland Rail will minimise the impact and maintain the amenity of local residents in the vicinity of the construction works, including access to private property and public land, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier, in accordance with CoA.

10.14 Level Crossings

Closures, relocations or modifications of private level crossings, including the design of the crossing, will be agreed in advance between ARTC and the relevant landowner prior to any work on a crossing. All private level crossings will be closed during construction and signed accordingly.

10.14.1 Construction delivery and heavy vehicle routes

Heavy vehicles will be used during construction works, including for precast and materials deliveries, concrete transport, mobilisation and demobilisation of plant and equipment and street sweeping. Heavy vehicles will be limited to designated haulage routes as provided in Appendix A. Haulage routes will consist of public roads where possible and avoid local roads. Haulage routes will also be outlined on the Construction Traffic Management Plans, with these plans communicated to delivery drivers and site personnel through project inductions.

Materials such as embankment fill, capping, ballast, steel, precast culverts, bridge components, lime and fuel will be transported to each site from various locations along the alignment using heavy vehicles. Delivery trucks are typically single unit trucks (with and without dog trailers) and semi-trailers.

Concrete will be transported to the relevant construction site using concrete agitators.

11 Compliance Management

Traffic, Transport and Access compliance management will be undertaken as part of the compliance tracking, monitoring and reporting process detailed in Section 8 of Inland Rail's CEMP. Specific CTTAMP compliance management is detailed below.

11.1 Monitoring and Auditing

The Inland Rail Traffic Control Foreman, (in conjunction with the Inland Rail Traffic Manager), will undertake / review inspections, audits and reporting to develop and evaluate the effectiveness of controls. This will include:

Weekly inspections using the Traffic Control at Worksites Manual 6 (TCAWS) including:

- ✓ Traffic management measures
- ✓ Records of any traffic management monitoring completed (if required)
- ✓ Any traffic abatement actions, or controls implemented
- ✓ Records of any impacts avoided or minimised through construction/traffic management methods.

- General observations for the daily management of transport and access management access shall be documented in site dairies by the Site Supervisor
- Regular inspection of traffic, transport and access management shall be undertaken by the Traffic Control Foreman and / or Traffic Manager.
- Effectiveness of transport and access management controls shall be regularly reviewed by the Traffic Control Foreman and / or Traffic Manager for adequacy having regard for changing circumstances
- Six monthly independent audits by a suitably qualified professional
- ER regular monitoring of the implementation of the documents listed in the CoA.

A program of regular inspections will be implemented with appropriate checks of any traffic management and mitigation measures. A traffic monitoring program (i.e. traffic volumes, routes used, etc.), will also be implemented where required.

The broader EMP auditing process is discussed further in Section 8 of Inland Rail's CEMP.

11.2 Incident Response

In the event of an environmental, social performance, sustainability, heritage or other incident, an Incident and Emergency Response Plan will be implemented. The Incident and Emergency Response Plan will be supported by Inland Rail's Event Tracker as discussed in Section 7.1.1. The Incident and Emergency Response Plan will address the requirements of the POEO Act, ARTC's Project Environmental Incident and Reporting Procedure (5-9020-0000-EEC-PR0001), and relevant project approvals or licences.

The Incident and Emergency Response Plan will include:

- Site Emergency Plans and details regarding when the plans will be implemented
- Emergency response and induction procedures
- Incident definition, notification and reporting requirements (as required by indicative CoAs 37 and 38)
- List of key emergency personnel, a list of internal personnel and external agencies names, numbers and specific responsibilities for emergency planning and response.

The Incident and Emergency Response Plan will be kept on the Project EMS and at site offices.

All efforts will be undertaken immediately to avoid and reduce impacts of incidents. However, in the event of an incident, all required action will be taken to resolve it as quickly as possible in accordance with the Incident and Emergency Response Plan.

In the event of a traffic related incident, immediately notify the Inland Rail's Safety and Environmental Manager and the General Superintendent. Depending on the nature and / or severity of the event, emergency services may also need to be contacted.

The broader EMP incident response process is discussed further in Section 10 of Inland Rail's CEMP.

11.3 Reporting

Reporting will include six-monthly Construction Monitoring Program Reports as required by condition of approval C20. The six-monthly construction monitoring reports will provide the results of the monitoring of the physical conditions of local roads being used on the project.

Reporting requirements for the N2NS Project are discussed in further detail in Section 8 of Inland Rail's CEMP.

Appendix A Driver's Code of Conduct

Inland Rail Driver's Code of Conduct

Purpose and Objectives

This Driver's Code of Conduct aims to minimise the impacts of construction traffic on transport networks and adjoining properties. The purpose of this Code is to clearly define and detail acceptable behaviour for all heavy vehicle drivers operating in connection with the Works including Inland Rail, materials supply and subcontract drivers.

Responsibilities of Drivers

- Drivers are to follow ALL rules and regulations required by law including:
    - Hold a current and appropriate licence for the vehicle they are operating
    - Comply with speed limits on all roads
    - Obeying posted (road) load limits
    - Comply with all road works speed limits
    - Obey construction traffic signs and devices
    - NO overload or allow vehicles to be overloaded
- Drivers are to practise safe driving and behaviour which includes, but is not limited to:
    - Driving in a manner that is appropriate with road and weather conditions
    - Not operating any machines whilst suffering from fatigue or under the influence of drugs and/or alcohol.
- Drivers must behave in a professional manner at all times. No yelling at others.
- Drivers must adhere to routes nominated by Inland Rail for each specific construction activity and consistent with the Traffic Transport and Access Management Plan (TTAMP) and they must not use roads if their weight is over the posted load limit.
- Routes passing schools and childcare centres should be avoided during school zone periods (08:00-09:30 and 14:30 – 16:00). These locations and times will be identified and confirmed by Inland Rail during planning of the work and communicated to all drivers.
- Drivers should only park or wait in approved roadside lay-bys or hard shoulders as directed by Inland Rail (these will be agreed with the RMS and Local Councils). Do not queue at worksite gates.
- Drivers are to arrive and depart from project construction sites during approved hours, 06:00 – 18:00 Monday to Sunday, unless alternate approvals have been gained by Inland Rail. Drivers will be turned away if they arrive outside of approved hours.
- Drivers parking are to engage the park brake and leave the vehicle in gear. Never leave the vehicle with the engine running. Drivers leaving their vehicle must wear appropriate PPE (site standard).
- Vehicles must not transfer dirt or debris onto public roads. If any materials are deposited on the roads, then the Inland Rail Supervisor must be contacted immediately.
- Prior to leaving site covering truck loads is mandatory and when required, tailgates must be swept clean before leaving site.
- If approached by individuals with enquiries about the Works, drivers are not to engage with the individual beyond providing them with the community information line number.
- As a courtesy to individuals who may be impacted by driver behaviour, drivers will:
    - Not use compression braking unless it is an emergency situation

- Minimise idling
- Ensure that there is no littering
- Remain calm and courteous when in contact with other members of the public
- Maintain trucks in good working order and a clean and tidy condition
- Not block residential driveways or any other access points.

Appendix B Pavement Condition Assessment Manual

Create account or Sign in

Home | About | Sign Up | Search this site | Search

Site Index

0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Join this site

Content

- Asset Management
- Councils
- Council Services
- Drainage
- Finance & Accounting
- Forum
- Free Stuff
- Glossary
- Health & Safety
- Help / Tutorial
- How to contribute
- Ideas & Suggestions
- Information Technology
- News
- Parks
- Photo Library
- Policies & Procedures
- Recent Changes
- Recent Posts
- Records Management
- Roads & Transport
- Site Members
- Special Interest Groups
- Special Pages
- Top Contributors
- Town Planning
- Waste Management
- Wastewater
- Water
- Water Authorities

new page

Knowledge Bases Australia

Pavement Condition Assessment Manual

Fold

Table of Contents

1. Overview
2. Sealed Roads
   - 2.1 Roughness
   - 2.2. Crocodile Cracking
     - 2.2.1 Crocodile Cracking Severity
     - 2.2.2 Crocodile Cracking Extent
   - 2.3 Environmental Cracking (Block / Diagonal / Longitudinal / Transverse)
     - 2.3.1 Environmental Cracking Severity
     - 2.3.2 Environmental Cracking Extent
   - 2.4 Stripping
   - 2.5. Potholes
   - 2.6. Pavement Patches
   - 2.7. Rutting
   - 2.8. Asphalt Ravelling
   - 2.9. Pavement Defects
   - 2.10. Condition Index Calculations
     - 2.10.1. Pavement Condition Index
     - 2.10.2. Surface Condition Index
3. Unsealed Roads
   - 3.1. Gravel Depth
   - 3.2. Shape Loss
   - 3.3. Cross Section
   - 3.4. Resheeting Program Development
4. Footpaths
5. Kerb & Channel
6. Concrete Pavements
   - 6.1. Deformation
   - 6.2. Cracking
   - 6.3. Joint Sealant
7. Acknowledgments
8. Attachments

1. Overview

This page has been created to serve as a starting point for the development of a generic Pavement Condition Assessment Manual for Councils. It is based on the Bundaberg Regional Council Road Condition Assessment Manual

2. Sealed Roads

The overall condition of sealed roads is to be described by two parameters; Pavement Condition Index (PCI) and Surface Condition Index (SCI).
The PCI of a road section is a function of its roughness, and the extent and severity of crocodile cracking, rutting & patching.
The SCI of a section is determined by its roughness, and the extent and severity of environmental cracking, stripping & potholes.

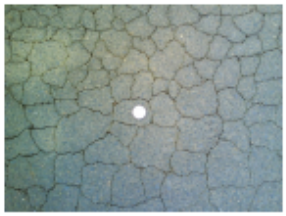
2.1 Roughness

Roughness is a condition parameter used to characterise deviations from the intended longitudinal profile of a road surface. Roughness data is typically measured with a laser profiler installed into a purpose built survey vehicle. An IRI score is recorded for each 10m section of road, and this data is averaged out over the length of each road segment.

The roughness score is used in calculating both the PCI and SCI for sealed roads.

2.2. Crocodile Cracking

Crocodile Cracking is interconnecting or interlaced cracking in a road seal resembling the hide of a crocodile. Cell sizes can vary in size up to 300mm across, but are typically less than 150mm across.



Both the extent & severity of crocodile cracking needs to be ascertained.

2.2.1 Crocodile Cracking Severity

The severity of crocodile cracking is determined by the width of cracks. Each 10m section of road is given a crack severity score in the range 0-3.

SEVERITY	
Score	**Crack Width**
0	no cracking

1	less than 2mm
2	2mm to 5mm
3	>5mm

The overall score for the road segment is the average of the individual scores.

2.2.2 Crocodile Cracking Extent

The extent of crocodile cracking is determined by the pecentage of road surface that is subject to cracking. Each 10m section of road is given a crack extent score in the range 0-3.

EXTENT	
Score	**Area subject to cracking**
0	no cracking
1	less than 5%
2	5% to 15%
3	more than 15%

The overall score for the road segment is the average of the individual scores.

2.3 Environmental Cracking (Block / Diagonal / Longitudinal / Transverse)

Both the extent & severity of environmental cracking needs to be ascertained.

2.3.1 Environmental Cracking Severity

The severity of environmental cracking is determined by the width of cracks. Each 10m section of road is given a crack severity score in the range 0-3.

SEVERITY	
Score	**Crack Width**
0	no cracking
1	less than 2mm
2	2mm to 5mm
3	>5mm

The overall score for the road segment is the average of the individual scores.

2.3.2 Environmental Cracking Extent

The extent of environmental cracking is determined by the pecentage of road surface that is subject to cracking. Each 10m section of road is given a crack extent score in the range 0-3.

EXTENT	
Score	**Area subject to cracking**
0	no cracking
1	less than 5%
2	5% to 15%
3	more than 15%

The overall score for the road segment is the average of the individual scores.

2.4 Stripping

Stripping is the loss of aggregate from the surface, resulting in exposed binder and/or pavement.

The stripping score is determined by the pecentage of road surface subject to stripping. Each 10m section of road is given a score in the range 0-4.

EXTENT	
Score	**Area subject to stripping**
0	no stripping
1	less than 5%
2	5% to 10%
3	10% to 20%
4	more than 20%

The overall score for the road segment is the average of the individual scores.

2.5. Potholes

A pothole is a hole in a road pavement, frequently rounded in shape, resulting from the loss of pavement material under traffic.

The pothole score is determined by the pecentage of road surface with potholes. Each 10m section of road is given a score in the range 0-4.

Score	Area containing potholes
0	no potholes
1	1% to 5%
2	5% to 10%
3	10% to 20%
4	greater than 20%

The overall score for the road segment is the average of the individual scores.

2.6. Pavement Patches

A pavement patch is pothole or other pavement or surface defect that has been repaired with premix.

The pavement patching score is determined by the pecentage of road surface that has been patched. Each 10m section of road is given a score in the range 0-4.

Score	Area subject to cracking
0	no patches
1	1% to 5%
2	5% to 10%
3	10% to 20%
4	greater than 20%

The overall score for the road segment is the average of the individual scores.

2.7. Rutting

Rutting is the longitudinal vertical deformation of a pavement surface in a wheelpath, measured relative to a straight edge placed at right angles to the traffic flow and across the wheelpath, with a length/width ratio greater than 4:1.

The standard measure for rutting is the maximum depth under a transverse 1.2m straight edge. The rutting score for a road segment is calculated by avergaging the maximum depth measurements for each 10m section of the segment, rounding down any depths over 25mm to 25mm.

For example, if the recorded maximum rut depths for a 100m road segment were; 10mm, 15mm, 35mm, 20mm, 5mm, 4mm, 50mm, 10mm, 9mm & 15mm.

The rutting score for the segment would be (10+15+25+20+5+4+25+10+9+15)/10 = 13.8

2.8. Asphalt Ravelling

Ravelling is the progressive disintegration of a pavement surface through loss of both binder and aggregate.

Ravelling is not currently used in calculating a road's SCI, but there is a ravelling field in MyData that can be used to store a road sections ravelling score.

EXTENT		
Level	**Degree**	**Area Affected**
0	Nil	No Defects
1	Brand New	Asphalt surface is brand new
2	New Surface < 3 years old	Asphalt surface is reasonably brand new and there is very little evidence of fretting or fatigue to the surface
3	Aging Surface <10 years old	Asphalt surface is showing signs of wear and tear, some associated fretting and wear/tear on the surface. Little evidence of any fatigue and or fine cracking
4	Aging Surface <20 years old	Asphalt surface showing signs of age, fatigue, wear and tear on the surface. There is also evidence of localised or spread out pockets of saturation of fatigue with the loss of material. More evidence of fine cracking
5	Aging Surface >20 years old	Asphalt surface is worn out, lots of wear and tear, typically the entire segment has pockets of fatigue saturation and loss of material. There is lots of wider cracking.

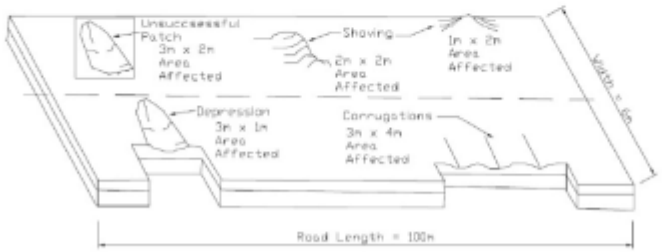
2.9. Pavement Defects

Pavement defects include, corrugations, shoving, depressions and unsucessful patches. The extent and severity of pavement defects is not currently used to calculate a road's SCI or PCI, but there are fields within MyData to record a score if it is known.

SEVERITY	
Level	**Description**
Slight	A Mean Displacement <25mm
Medium	A Mean Displacement of 25 mm to Less than 50mm
Extreme	A Mean Displacement of >50mm

EXTENT		
Level	**Degree**	**Area Affected**
0	Nil	No Defect Present
1	Negligible	Evident <2% of Total Area
2	Minor	Evident Between 2% To <5% of Total Area
3	Moderate	Evident Between 5% To <15% of Total Area
4	Extensive	Evident Between 15% To <50% of Total Area
5	Extreme	Evident >50% of Total Area

Example



Total the area of potholes, shoving, depressions and/or corrugation defects for the road segment
In this example defects = 3 x 2 + 3 x 1 + 2 x 2 + 3 x 4 + 1 x 2 = 30 m²

Road segment area = 100 x 6 = 600 m²

Extent of segment area affected = (21.39 / 600) x 100 = 5%

Looking at the Deformation Extent Table, 5% falls into rating 3 for this segment.

Now apply the most predominant severity level identified in the rated segment.

2.10. Condition Index Calculations

It is possible to calculate overall condition scores for road segments by applying a formula to the values of more specific condition information.

2.10.1. Pavement Condition Index

When AARB collected condition information for the BRC sealed road network they suggested the following default weightings for calculating a road segment's Pavement Condition Index (PCI).

Measure	Max Condition Score	Weighting			Multiplier		
		Urban	Rural	Short	Urban	Rural	Short
Roughness	6	35	50	17.5	5.8	8.3	2.9
Rutting	25	10	10	10	0.4	0.4	0.4
Crocodile Cracking Severity	1	10	5	22.5	10.0	5.0	22.5
Crocodile Cracking Extent	0.5	20	10	10	40.0	20.0	20.0
Patches	0.5	25	25	40	50.0	50.0	80.0

This means:

Short Urban (< 150m): PCI = 2.9*Roughness + 0.4*Rutting + 22.5*Crocodile Cracking Severity + 20*Crocodile Cracking Extent + 80.0*Patches
Urban: PCI = 5.8*Roughness + 0.4*Rutting + 10*Crocodile Cracking Severity + 40*Crocodile Cracking Extent+ 50*Patches
Rural: PCI = 8.3*Roughness + 0.4*Rutting + 5*Crocodile Cracking Severity + 20*Crocodile Cracking Extent+ 50*Patches

It is proposed to use these default values for the time being, and to update them if and when we being to gain a better understanding of the peculiarities of BRC's road network.

2.10.2. Surface Condition Index

When AARB collected condition information for the BRC sealed road network they suggested the following default weightings for calculating a road segment's Surface Condition Index (SCI).

Measure	Max Condition Score	Weighting			Multiplier		
		Urban	Rural	Short	Urban	Rural	Short
Roughness	6	30	60	15	5.0	10.0	2.5
Other cracking Severity	3	10	5	10	3.3	1.7	3.3
Other cracking Extent	0.5	25	15	25	50.0	30.0	50.0
Stripping	1	5	5	10	5.0	5.0	10.0
Potholes	1	30	15	40	30.0	15.0	40.0

This means:

Short Urban (< 150m): SCI = 2.5*Roughness + 3.3*Other Cracking Severity + 50*Other Cracking Extent + 10*Stripping + 40*Potholes
Urban: SCI = 5*Roughness + 3.3*Other Cracking Severity + 50*Other Cracking Extent + 5*Stripping + 30*Potholes
Rural: SCI = 10*Roughness + 1.7*Other Cracking Severity + 30*Other Cracking Extent + 5*Stripping + 15*Potholes

It is proposed to use these default values for the time being, and to update them if and when we being to gain a better understanding of the peculiarities of BRC's road network.

3. Unsealed Roads

There are three main condition parameters that can be recorded against unsealed roads
Gravel depth, shape loss & cross section.

3.1. Gravel Depth

Gravel depth is the average depth of imported gravel pavement.

Score	Gravel Depth
1	> 150mm
2	100mm to 150mm
3	50mm to 100mm
4	1mm to 50mm
5	No imported gravel

Gravel depth is the main indicator of when a road should be resheeted.

3.2. Shape Loss

Shape loss is a generic term for a number of defects including; rutting, scouring, corrugations, depressions, pothole, etc.



Score	Area Affected
0	No defects
1	Less than 2% of total area
2	Evident Between 2% to <5% of total area
3	Evident Between 5% to <15% of total area
4	Evident Between 15% to <50% of total area
5	Evident >50% of total area

3.3. Cross Section

Score	Description
1	Greater than 6% camber
2	0% to 6% camber
3	Less than 0% camber (no shape at all)

3.4. Resheeting Program Development

Unsealed Roads that have been identified as concern by the District Engineers during the year are assessed by a team of two inspectors. They are assessed visually and their pavement depth in determined.
Pavements with gravel depths of 50mm - 75mm or less are considered for resheeting, and prioritised on the basis of the number of properties they serve.

The visual inspection helps determine if maintenance grading is required and an assessment is also made about whether a low cost seal may be an option.

4. Footpaths

A footpath is a strip of concrete, asphalt, pavers, bitumen seal or crushed rock laid between the back of kerb and the property boundary (or elsewhere) for use as a path by pedestrians.


Trip Displacement


Cracked / Broken


Cracking / Trip


Tree Root

Defects associated with footpaths include, vertical joint displacements, cracking, panel displacement due to tree roots and spalling.

BRC's Asset Management System has the ability to calculate an Overall Condition Index (OCI) for footpaths based on values for stepping, cracking, displacement, gravel loss, utility and pram ramp, but we are curently just giving footpaths an overall condition score in the range 0 to 6 and entering that value into the stepping field.

The table below shows the relationship between condition and remaining useful life that is used by our Asset Management System, and a description of the footpath's condition.

Condition	RUL%	WDV%	Description
0	100	100	Brand new footpath in perfect condition
1	93	93	Very good condition - no visible defects
2	80	80	Good condition - only very minor defects visible
3	53	53	Average condition - a number of defects are visible, but is still quite serviceable
4	23	23	Below average condition - quite a few obvious defects are visible - substandard for CBD an other critical highly trafficked areas
5	12	12	Poor Condition - should be refered to capital works program for reconstruction
6	0	0	Very very poor condition - should be removed or replaced ASAP

In practice, the great majority of footpath defects are fixed one or two panels at a time under maintenance, and the overall condition scores for footpath segments rarely if ever drop below condition 4.

5. Kerb & Channel

Kerb & Channel is a concrete or stone structure typically located at the edge of a road designed to provide road drainage, and as a barrier to prevent vehicles from leaving the road carriageway.

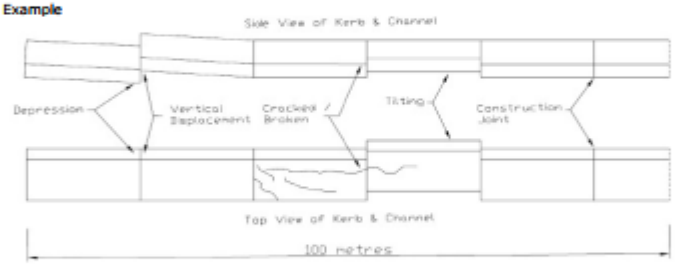
Rotation | Vertical Displacement | Cracked/Broken/Spalling | Ponding / Depression

Defects associated with kerb & channel include; rotation, vertical displacements, cracking, breaks, spalling, depressions & ponding.

SEVERITY	
Level	**Description**
Slight	A Mean Displacement <25mm
Medium	A Mean Displacement of 25 mm to less than 50mm
Extreme	A Mean Displacement of >50mm

EXTENT		
Level	**Degree**	**Area Affected**
0	Nil	No Defect Present
1	Negligible	Evident <2% of Total Length
2	Minor	Evident Between 2% to <5% of total length
3	Moderate	Evident Between 5% to <15% of total length
4	Extensive	Evident Between 15% to <50% of total length
5	Extreme	Evident >50% of total length

Example



Total the length of concrete kerb and channel bays displaying distresses such as vertical displacement, depression, cracking, tilting and/or heaving for the kerb and channel segment; Noting that the extent measurement should extend to the areas where the cuts will be.
Depression = 6m; Vertical Displacement (lifting of kerb) = 3m; Cracking and Tilting = 6m (NB. As this section has already been identified as tilted, there is no need to identify the cracking defects in this area)

The total of kerb length defected = 15 m

Kerb and channel segment length = 100 m

Extent of segment length affected = (15 / 100) x 100 = 15%
Looking at the extent table above, 15% falls in condition rating 4 for this segment.

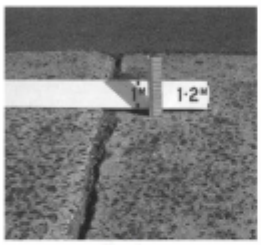
Now apply the most predominant severity of these defects.

Severity
Slight – defect ranges between 10 to 20mm Moderate – defects > 20mm

6. Concrete Pavements

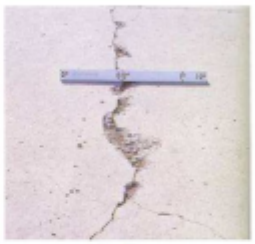
6.1. Deformation

Measurement: Area
Units: square metres (m2)



Stepping


Shattered/Disintegration

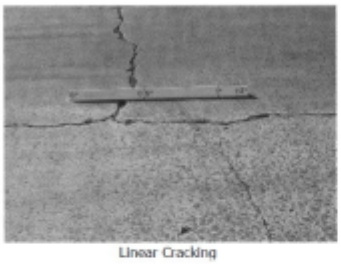

Spalling

SEVERITY	
Level	**Description**
Slight	A Mean Displacement <25mm
Medium	A Mean Displacement of 25 mm to less than 50mm
Extreme	A Mean Displacement of >50mm

EXTENT		
Level	**Degree**	**Area Affected**
0	Nil	No Distress Visible
1	Negligible	Evident <2% of total area
2	Minor	Evident Between 2% to <5% of total area
3	Moderate	Evident Between 5% to <15% of total area
4	Extensive	Evident Between 15% to <50% of total area
5	Extreme	Evident >50% of total area

6.2. Cracking

Measurement: Length
Units: metres (m)


Linear Cracking

SEVERITY	
Level	**Description**
Slight	Average Crack Width < 2mm
Medium	Average Crack Width Between 2mm and 5mm
Extreme	Average Crack Width > 5mm

EXTENT		
Level	**Degree**	**Area Affected**
0	Nil	No Defect Present
1	Negligible	Evident <2% of total length
2	Minor	Evident Between 2% To <5% of total length
3	Moderate	Evident Between 5% To <15% of total length
4	Extensive	Evident Between 15% To <50% of total length
5	Extreme	Evident >50% of total length

6.3. Joint Sealant

Measurement: Length
Units: metres (m)

EXTENT		
Level	**Degree**	**Area Affected**
0	Nil	No Defect Present
1	Negligible	Evident <2% of total joint seal length defective
2	Minor	Evident Between 2% To <5% of total joint seal length defective
3	Moderate	Evident Between 5% To <15% of total joint seal length defective
4	Extensive	Evident Between 15% To <50% of total joint seal length defective
5	Extreme	Evident >50% of total joint seal length defective

7. Acknowledgments

The photos used in this document have been sourced from a number of places, including the "A Guide to the Visual Assessment of Pavement Condition". published by Austroads in 1987. Clicking on a photo, will open a page explaining more about the photo and from where it was sourced.

8. Attachments

- Bundaberg PCI/SCI Calculation Methodology

g1 p road

Appendix C Local School Bus Routes

Inland Rail consult each local Council regarding specific public bus routes. Indicatively, school bus routes will interface with Inland Rail operations in and around the following collection locations:

- Narrabri north (Newell Highway)
- Edgeroi
- Bellata
- Gurley Station
- Tuensburra
- Kyntyre
- Kirramimgly
- Gurley
- Settlers Road
- Tycannah
- Wondah Road
- Kolora
- Livingston Farm
- Moree (Alice Street, Newell Highway)

Note – Gwydir Shire Council bus routes being sought by Inland Rail.

Appendix D Stakeholder Correspondence

STAKEHOLDER CTTAMP COMMENTS & RESPONSE				
MPSC		**Date - 28/11/2020**		
No	**Comment**	**Page No**	**Addressed**	**Response 12.01.2021**
1	**Section 3.3.2 and Section 10.9 Speed Zone Authorisation** - note Speed Zone authorisation for all roads – Both State and Local are all through Transport for NSW -	14	Yes	Comment uptaken in Section 3.3.2 - TfNSW added as issuing authority.
	For the Western Region : ROL_Western@rta.nsw.gov.au and the Phone number is 02-6861 1414	37	Yes	Contact details added to section 10.8
	Northern Region: SPEED_ZONE_NORTHERN@rta.nsw.gov.au and the phone number is 02-66401304	37	Yes	Contact details added to section 10.9.
	Please note that if a Speed reduction is required for a local road the Request for a Speed Zone reduction should be undertaken AFTER the Local Roads Authority (Council) has approved the TCP.	37	Yes	Comment uptaken in section 10.9.
2	**Section 9.1 Impacts on Bus Services** - Truck Bus Avoidance - Moree Plains shire Council's advice from our Road Safety officer is that any travel conditions that are placed on drivers around school busses must consider all factors relating to the road and travel conditions. Further discussion are requested with Council, as there are other more effective measures that should be explored first, and this therefore should be one part of a range of safety measures.	35	Yes	T4M agrees with this. Comment uptaken in Section 9.1. The TBAS system is a option to be discussed with Council and bus services providers. It is an additional measure intended to supplement baseline mitigations.
3	**Section 9.3 Impacts on Harvest Trucks** There are two harvest Periods in Moree Plains Shire –The Cotton Harvest is late April / May and would affect some of our local roads including Tapscott Road as this is the only access for LDC commodities	35	Yes	Section 9.3 updated. T4M has not located any major gate accesses at Tapscott Road so major impacts will be avoided in April/May. Any local interface with the level crossing will be managed during construction.
4	**Section 10.5 Signage** - a letter box drop of fridge magnet may be an effective way to get the message to the local road users.	37	Yes	T4M agrees. Comment uptaken in Section 10.5.
5	**Section 10.7 Road Safety Audits** – Moree Plains Shire Council has 3 staff trained in Road Safety level 1 and they would therefore benefit enormously to be able to accompany a level 3 Road Safety Officer as it is a requirement to maintain their qualifications, we would welcome any opportunity to be invited to attend to Road Safety Audits for this project..	n/a	Yes	T4M can confirm we would be more than happy to assist with this.
6	Appendix B: Could you consider adding "No Exhaust brakes" near residential areas.	AppB	Yes	Section 7.2 updated to include consideration of this.
7	Appendix C: Pavement Condition Assessment Manual; One critical deficit is not listed in this attachment is Edge break and Edge Drop-off that reduces the pavement width over time due to heavy vehicles.	AppC	No	T4M notes this from MPSC. However, the pavement condition assessment tool is the only tool issued to T4M by ARTC at this stage against which to measure condition. Can T4M suggest MPSC advise ARTC for further discussion?
TfNSW		**Date - 28/11/2020**		
1	Comment provided to JQ verbally by TfNSW -	App A	Yes	Transport route maps being updated to note source locations and distinguish

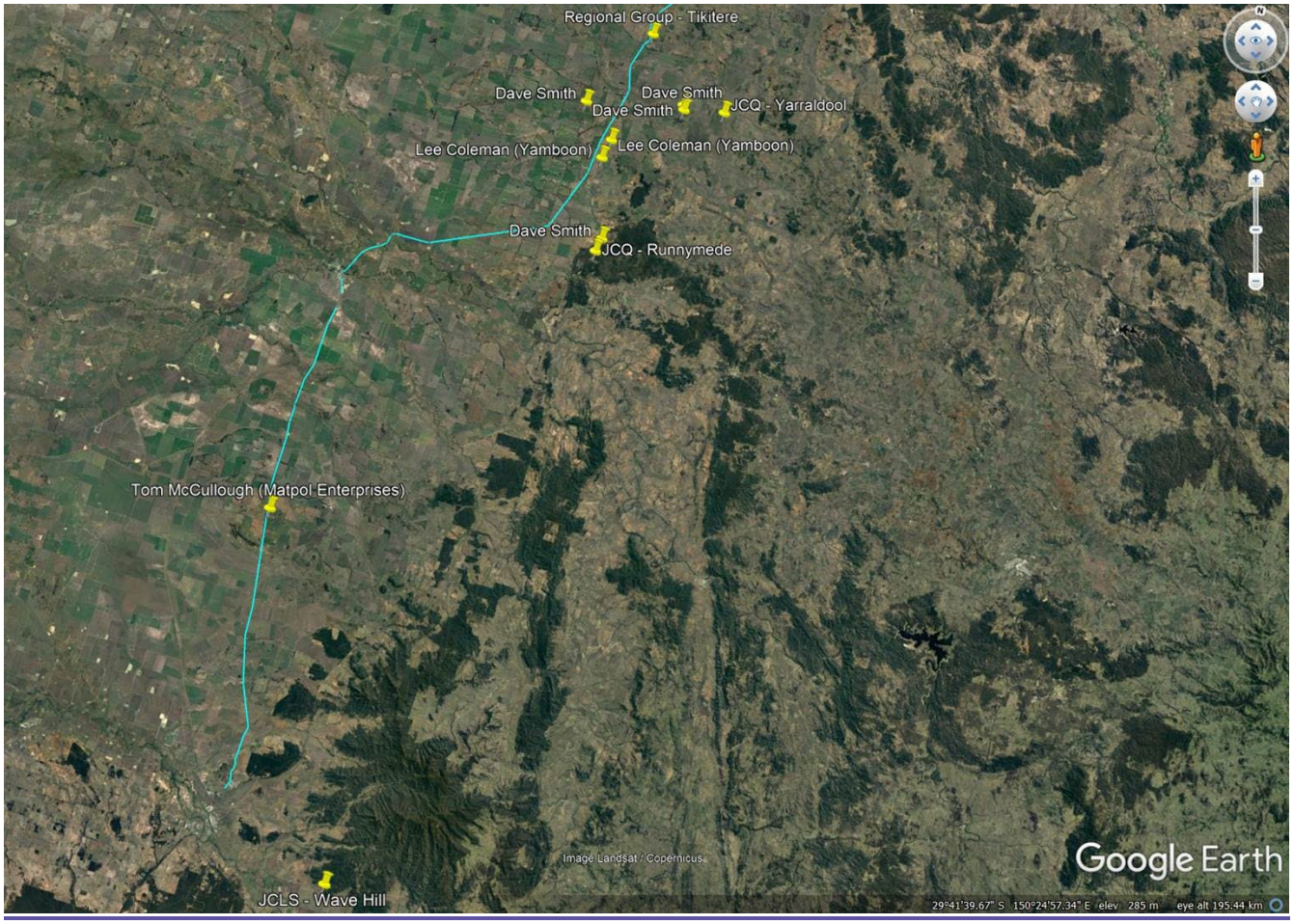
	Transport Routes in App B need to provide source locations for raw materials.			between major and minor accesses. In addition, all source location for materials are listed throughout section 8.
2	The CTTAMP is not current - the gate access location nominated do not align with TMP, need to correct.	22	Yes	Section 6.1 now updated to align with TMP locations and clarified for ease of understanding.
3	Can the CTTAMP and TMP be consolidated into one document?	n/a	No	CTTAMP is a subplan of the CEMP and is a planning condition tool. The TMP is specific to temporary roadworks design and operational specifics.
4	Generally, the CTTAMP needs more work and is not adequate to lodge with DPIE	n/a	Yes	T4M believe the CTTAMP has addressed specific planning conditions and is adequate. TfNSW are reminded it is not a TMP.
5	T4M to consider staging CTTAMP. Present stage 2 first only.	n/a	No	The CTTAMP is a holistic document and a planning CoA subplan at that. T4M have already agreed to stage the TMP for TfNSW.
6	Section 2 – Instead of TfNSW/Trans4MRail/ARTC meeting “at regular intervals” reword to “at monthly intervals”	Yes	Yes	Addressed
7	Section 3.3 – ‘Additional Permits and Approvals ‘ - this section should also include Works Authorisation Deeds.	17	Yes	Section 3.3.3 added.
8	Speed Zones - Amend the CTAMP in relation to reduced speed zones: “Speed zone reductions are to be minimised and only where and when required. Speed Zone reductions to be agreed with and approved by TfNSW”.	17	Yes	Section 3.3.2 amended
9	For stage 1 major construction access gates are proposed to be located on the Newell Hwy within the Narrabri to Moree Heavy Duty Pavements Project scope of works. As both the construction and operation of these access gates are likely to be in 2022 this will conflict with the N2M project construction. The locations are Gate 58.09 (N2MS1) and Gate 58.86 (N2MS2). For Gate 58.09 TfNSW will likely also be constructing a major construction access gate at the same location to the main compound/stockpile site to the East of the Highway. For Gate 58.86 this is within the project scope of a northbound overtaking lane as per detailed designs previously provided to ILR. There will need to be future assessment and collaboration on the designs for each of these as well as coordination of programs. Suggest Gate 58.86 be relocated or made a minor access gate.	43	Yes	N2NS project will meet at monthly intervals (or as agreed) to ensure all planned projects that conflict with N2NS works can run concurrently, where possible and ensure all parties interests are considered, negotiated and agreed prior to any future works commencing.
10	8.1 confirm that Tikitere, Wave Hill and Runnymede will be the only quarry sources for the project	37	Yes	Haul routes will be communicated in monthly meetings as per CoA E42, acknowledging instructions under E38, (No local or private roads unless necessary whilst obeying road rules at all times). Further updates to all N2NS quarry sources will be discussed in planned meetings and will be provided in Appendix H of this document upon any revision.

11	8.4 can further information be provided on construction water sources and haul routes	38	Yes	Haul Routes will be commuted in monthly meetings as per CoA E42, acknowledging limitations under E38 (No local or private roads unless absolutely necessary whilst obeying road rules at all times). Further updates to N2NS water sources will be discussed in planned meetings and will be provided in Appendix I of this document upon any revisions.
12	10.7 RSAs should also be done for each traffic control arrangement/set up on the Newell Hwy	42	Yes	Audits will also be undertaken for each traffic control arrangement on the Newell Highway unless there are legislative conditions or acts to the contrary.
13	10.11 – what mitigations will be put in place for concurrent works on the Newel Highway such as the Narrabri to Moree Newell Hwy Heavy Duty pavement upgrade?	43	Yes	In the event of any future planned roadworks on the Newell Highway, N2NS Project will work these other planned projects, unplanned works or any incidents that occur to ensure best practice outcomes for all stakeholders. N2NS project will meet at monthly intervals (or as agreed) to ensure all planned projects that conflict with N2NS works can run concurrently, where possible and ensure all parties interests are considered, negotiated and agreed prior to any future works commencing.
Narrabri Shire Council (05/02/2021)				
1	Page 4 – A19: This section states "Access directly via classified roads should be avoided where access from an existing local road is reasonably available." This statement essentially requires construction traffic to impact the Council local road network instead of the State Highways. It would be in Councils best interest to minimise all construction traffic on our local roads.	n/a	Yes	This is a condition of approval T4M are required to comply with (CoA A19). That being said, T4M does not intend to burden local roads where more suitable highways are available.
2	Page 4 – A20: This section states "…including a trafficable surface suitable to accommodate the type of vehicle movements that are anticipated…" Once the routes are identified, the developer will be required to undertake pavement testing and ensure the haul roads meet the required minimum standard (e.g. pavement design and reconstruction may be required).	n/a	Yes	This is a condition of approval T4M are requied to comply with (CoA A20). If the road/s is/are existing roads within the Narrabri Shire then T4M will ensure the road can accommodate the design loads / traffic movements needed.
3	Page 4 – C14 & C15: This section refers to a Construction Monitoring Program. More detail is required on the timing of this program and must be undertaken with a Council Officer as it requires the review of the pre-existing condition of local roads.	n/a	Yes	These are conditions of approval T4M are required to comply with (CoA C14 and C15). Refer to the monitoring program in Section 5.2 for details of the monitoring program. TfNSW, Narrabri Shire, Moree Plains and Gwydir Council's will be consulted in relation to the monitoring (delapidation surveys).
4	Page 5 – E38: This section states "Construction traffic must not use local roads…"This is just to highlight the conflict with the statement in Section A19.	n/a	Yes	This is a condition of approval and T4M can't amend this. NOTE: A19 is in relation to access to ancillary facilities. Wheres E38 provides an exemption where access to ancillary facilities dirtectly from the Newell Highway is being avoided. A19 and E38 need to read is their entirety and together to understand the intent of the conditions.

5	Page 5 – E39: This section refers to a Road Dilapidation Report. Similar to the comments on C14 & C15; more detail is required on the timing of this report and must be undertaken with a Council Officer as it requires the review of the pre-existing condition of local roads.			These are conditions of approval T4M are required to comply with (CoA C14 and C15). Refer to the monitoring program in Section 5.2 for details of the monitoring program. TfNSW, Narrabri Shire, Moree Plains and Gwydir Council's will be consulted in relation to the monitoring (delapidation surveys).
6	Page 11 states "A physical condition of local roads monitoring program has also been developed as part of the CTTAMP…"A copy of this program needs to be provided, if not already.	11	yes	Section 5.2
7	Page 11 states "…this program was also developed in consultation with the above Shire Councils" where Narrabri Shire Council is listed. It is unknow who from Council was involved in this review (to my knowledge no one from Infrastructure was included/invited).	11	yes	The consultation process of the CTTAMP serves as the consultation process of the proposed monitoring program.
8	Page 11 states "…including copies of all correspondence from those agencies can be found in Appendix B." This has not been included with the document.	11	Yes	Appendix G
9	Page 14 – Section 3.4: This section states "Transport, traffic and access management and mitigation measures where identified in the EIS". What comments were originally provided by Council, as this document was not reviewed by Council previously.	14	Yes	Please refer to the Project SPIR for Narrabri Shire Council's submission made during the EIS / SPIR Process. https://www.planningportal.nsw.gov.au/major-projects/project/10466 This comment is relation to the EIS, not this CTTAMP.
10	Page 16 states "These will be detailed in a periodic." This plan needs to be reviewed and approved by Council, prior to any works commencing.	10	Yes	TMPs will be discussed, reviewed and finalised in consultation with ARTC, Narrabri Shire Council, Gwydir Shire Council, Moree Plains Shire Council and TfNSW and will be subject to periodic review and update as agreed between the stakeholders.
11	Page 17 – Section 5.1: This section states "ARTC and three local Councils have agreed a standard precondition assessment tool to be used…" It is unknow who from Council was involved in this review (to my knowledge no one from Infrastructure was included/invited).	17	Yes	The consultation process of the CTTAMP serves as consultation of the proposed precondition assessment process.
12	Page 18 – Table 5e: This item states "unsealed roads – monitored 3 monthly". This needs to be conducted in conjunction with a Council Officer.	21	Yes	T4M will notify the relevant Council 5 days prior to the inspection occurring and provide an opportunity to attend.
13	Page 18 – Table 5f: Section 4.1.4 and Tables 3 & 4 do not form part of this report. Missing information – needs to be confirmed.	21 App A Section 7	Yes	Missing information provided. Refer table 5.
14	Page 18 – Section 5.3: This section states "Roads within this network will be reinstated to the same condition as defined by the pre-construction dilapidation report baseline established in consultation with each Council prior to construction commencing. "This is yet to occur and needs to be undertaken with Council.	18	Yes	Given the Project's current program, theres no action from T4M as yet. This will be completed prior to working in Narrabri Shire.
15	Page 24 – Section 6.2: This section refers to the establishment of a "Construction Ancillary Facility" located within the township of Bellata. Has this been approved	24	Yes	Bellata is not a camp site and not located within the township of Bellata. It's an ancillary facility which is approved as part of the CSSI.

	by Council, as this seems to be the main base of operations for this section of construction (i.e. large construction camp site)?			
16	Page 31 – Table 9: This table states" In the event of Newell Highway emergency closures alternate public roads used will be – Killarney Gap Road and Gouradda Road". This statement needs to be removed, as the alternate route will be the route/detour imposed by Transport for NSW (which may not include these roads).	35	Yes	The alternative routes nominated are proposed are proposed only and will depend on TfNSW and / or the relevant Council
17	Page 32 – Section 7.3: This section identifies "secondary transport routes" that intend to be used in the event of planned or unplanned highway closures. As per the previous comment; this statement needs to be removed, as the alternate route will be the route/detour imposed by Transport for NSW (which may not include these roads).	35	yes	These will be further refined in consultation with TfNSW when the details of the closure are known.
18	Page 33 – Table 10: This table identifies Wavehill Quarry with a haul distance of 40km It has been assumed that this quarry is the Johnstone quarry on Wavehill Road, which is south of the Narrabri township and therefore, has a much longer haulage distance. Needs to be confirmed.	n/a	yes	The pit is the Boral Wavehill quarry with a haulage distance to inside rail stage 1 of 40km.
19	Page 34 – Section 8.4: This section states "Construction water will be sourced from key Council sources at Narrabri". Formal approval needs to be obtained from Council for any use of water prior to construction (fees and charges apply).	34	Yes	Noted, Section 8.4 updated to reflect this.
20	Page 35 – Section 9.1: This section states that a "Truck-Bus Avoidance System (TBAS)" will be used as a means of minimising traffic safety issues, and also states that "The TBAS System is highly dependent on voluntary participation…" o This system should not be the only means of traffic safety for buses and should be an additional item that is used in conjunction with other measures (i.e. formal Traffic Management Plan required).	35	Yes	Agreed, it is an extra over mitigation system. Section 9.1 amended to confirm it is an additional mitigation measure
21	Page 35 – Section 9.4: This section states that "…construction workforce will be bused to and from the work sites on a daily basis…". o This does not include any information on how many buses will be required, the times of the bus runs, and where they are picking up workers? This needs to be confirmed.	35	Yes	T4M will confirm this detail when known.
22	Page 36 – Section 10.4: This section indicates an example VMP has been included but does not identify the Appendix. VMP to be submitted to Council for approval.	28	Yes	An example VMP has been included in Section 6.2
23	Page 42 – Section 10.13.1: This section states "Heavy vehicles will be limited to designated haulage routes as provided in Appendix A". This has not been included with the document.	App A	Yes	Appendix A attached.
Gwydir Shire Council				
1	"No Comment" received on the 03/02/2021			

Appendix E N2NS Current and Proposed Quarry Sources



NOTE: This image showing actual or proposed quarry sources is current at the time of revision (Rev 2). This will be updated in future revisions of the CTTAMP

Appendix F N2NS Current Water Source + Haul Routes

LOCATION	RAIL CH.	WATER SOURCE	SOURCE ADDRESS	SUBURB	ACCESS ROUTES
Stage 2	665	Council Water Source	Maude St - 100m from Tycannah St	Moree	Tycannah Street Moree to Gwydir and Newell Hwys
	664	Julian Smith's Place	54 James Street	Moree	James Street Moree to Gwydir and Newell Hwys
	641	RMS/ LLS Approved Dam	Entry at Stage 2 Area 2	Gurley	Newell Hwy, Pad 2 Access
Stage 3	720	Garry and Joanne Colley Source	Gill Gil Creek Rd / Junction with Croppa Moree Rd.	Crooble	Access off Gil Gil Creek Road

NOTE: This list of water sources is current at the time of revision (Rev 2). This will be updated in future revisions of the CTTAMP