pitt&sherry

# CopperString 2032

## Road Use Management Plan – Local Government Authorities

Prepared for

**CPB Contractors Pty Ltd**

Client representative

**Nick Poon**

Date

**3 November 2023**

Rev00

# Table of Contents


1. Overview ..... 5

1.1 Purpose and Scope ..... 5
1.2 Project Description ..... 5
1.3 Objectives ..... 6
1.4 Project Location ..... 6
1.5 Project Program ..... 8
1.6 Materials Supply and Delivery ..... 9

2. Stakeholder and Communications Management ..... 10

2.1 Consultation with Stakeholders and Communities ..... 10
2.2 Sensitive Sites Consultation ..... 10
2.3 Identify Key Stakeholders ..... 11
2.4 Complaints/Enquiries/Media Interest ..... 13

3. Road Network and Traffic Management ..... 14

3.1 Road Mitigation Measures ..... 14
3.2 Road Network Capacity ..... 15
3.2.1 Road Width ..... 15
3.2.2 Intersections ..... 15
3.2.3 Road Width Suitability and Level of Service ..... 15
3.3 Pavement/Road Surfaces ..... 15
3.4 Floodwater ..... 16
3.5 Rail ..... 16
3.6 Bridges ..... 16
3.7 Signage ..... 17
3.8 Speed ..... 17
3.9 Traffic Control ..... 17
3.10 Vehicle Management Plan ..... 18
3.10.1 Prestart ..... 18
3.10.2 Maintenance and Inspections ..... 18
3.10.3 Refuelling ..... 19
3.10.4 Parking ..... 19
3.10.5 Loading and Unloading ..... 19
3.10.6 Washdown Bays ..... 19
3.10.7 IVMS ..... 20

4. Safety ..... 21

4.1 Staff Onboarding ..... 21
4.1.1 Site Inductions ..... 21
4.1.2 Toolbox Meetings ..... 21
4.1.3 HSE Alerts ..... 22
4.1.4 Fitness for Work ..... 22
4.1.5 Fatigue ..... 22
4.1.6 Drugs and Alcohol ..... 23
4.1.7 Training ..... 23
4.2 Incident Management ..... 24
4.2.1 Reporting and Managing Incidents ..... 24
4.2.2 Notifiable Incidents ..... 24
4.2.3 Emergency Response Management ..... 24
4.2.4 Investigations ..... 24
4.3 Security ..... 24
4.4 Hazardous Material ..... 24
4.4.1 Transportation ..... 24
4.4.2 Storage and Handling ..... 24

5. Environmental Impact Management....26
5.1 Noise Management....26
5.2 Dust and Air Quality Management....26
5.3 Vehicle Strikes....27
5.4 Waste and Refuse Disposal Management....27
5.5 Hazardous Materials....27
5.6 Natural Disasters....28
6. Risk Management....29
7. Key Personnel and Responsibilities....31

## List of figures

Figure 1 - Project Map Geographic Location (source document https://www.powerlink.com.au/projects/copperstring-2032 )....7
Figure 2 - HSE Risk Management Methodology....30

## List of tables

Table 1 – Logistic Hubs....7
Table 2 – Camp Locations....8
Table 3 – Traffic Generation Project Phases....9
Table 4 - Key Stakeholders....11

## Appendices

**Appendix A —** Impacted Roads
**Appendix B —** CopperString 2032 Detailed Project Program
**Appendix C —** City of Townsville
**Appendix D —** Charters Towers Regional Council
**Appendix E —** Flinders Shire
**Appendix F —** Richmond Shire
**Appendix G —** McKinlay Shire
**Appendix H —** Shire of Cloncurry
**Appendix I —** City of Mount Isa

| | | |
|---|---|---|
| **Prepared by —** Catherine Ryan |  | **Date** — 19 Oct 2023 |
| **Reviewed by —** Stephen Masters (RPEQ No. 13621) |  | **Date —** 19 Oct 2023 |
| **Authorised by —** Stephen Masters (RPEQ No. 13621) |  | **Date —** 19 Oct 2023 |

**Revision History**

| Rev No. | Description | Prepared by | Reviewed by | Authorised by | Date |
|---|---|---|---|---|---|
| A | Draft for JV Comment | CR | | | |
| 00 | Final | CR | SM | SM | 19/10/2023 |
| | | | | | |

# 1. Overview

## 1.1 Purpose and Scope

The purpose of the Road Use Management Plan (RUMP), applicable to State and Local Authority controlled roads, is to outline measures that will be implemented to appropriately manage road impacts, particularly associated with construction heavy vehicles, during the life of the CopperString 2032 Project. The RUMP outlines measures which aim to "avoid", "manage" and "mitigate" project generated impacts and monitoring and reporting processes associate d with the implementation strategies.

The RUMP includes a review of the existing road network, constraints, intersection assessment, speed limits, construction vehicle management plan, haulage of major plant/equipment, site vehicle movements, heavy/over dimensional vehicle movements, maintenance, safety and environment, detailed traffic design and all changes to the road network.

The RUMP is based on the findings of the CopperString 2032 Traffic Impact Assessments (TIA).

## 1.2 Project Description

The CopperString 2032 Project will connect the North West Minerals Province (NWMP) of Queensland to the National Electricity Market (NEM) to reduce the cost of power supply and facilitate the large-scale development of the Hughenden wind resource and solar resources within the North Queensland Clean Energy Hub (NQCEH).

The project will traverse a region of significant potential renewable energy resources that are currently constrained by the lack of access to the state electricity grid. The project is expected to unlock potential areas for renewable energy generation in the Northern Queensland Renewable Energy Zone between Townsville and Hughenden, particularly wind resources, and in the NWMP.

The scope of work, traversing east to west, consists of the following sections:

- Mulgrave Substation and 275kV line augmentation as the CopperString 275kV connection point to the NEM
- Woodstock Substation as the CopperString 2032 500kV connection point to the Queensland SuperGrid
- Pentland Substation to support the NQCEH expansion and as the core for future load connections in the area
- Flinders Substation (Hughenden) as the core for the NQCEH
- Dajarra Road Substation (Cloncurry) as the core for distributions to larger load centres
- The primary CopperString 2032 transmission backbone; and
- Termination via the Mount Isa augmentation.

The NWMP is one the world's richest producing mineral regions and is emerging as an exploration area for new economy minerals and metals, such as vanadium, that are critical to the production of renewable energy technologies such as solar panels, wind turbines and large scale batteries. The project is predicted to reduce electricity prices in the North West Power System and has the potential to stimulate investment in the NWMP.

## 1.3 Objectives

The key objectives of the RUMP are as follows:

- To promote safe operation of vehicles
- To avoid and manage impacts to the safety and operation of the State and Local Authority Controlled Road Network
- To minimise traffic incidents that could be related to the project
- To avoid and manage impacts on transport infrastructure (e.g. pavements, intersections, vulnerable structures); and
- To avoid and manage traffic impacts on community amenity (e.g. vehicle dust and noise).

## 1.4 Project Location

The project is to be undertaken in stages, generally running east to west between Townsville and Mount Isa. The transmission line will run approximately parallel to the Flinders Highway at an average of 15km south of the Highway for its length.

The project traverses 7 local government areas:

- City of Townsville
- Charters Towers Regional Council
- Flinders Shire
- Richmond Shire
- McKinlay Shire
- Shire of Cloncurry; and
- City of Mount Isa.

The main towns within proximity to the project are Townsville, Charters Towers, Hughenden, Richmond, Julia Creek, Cloncurry and Mount Isa.

The project traverses the traditional lands of the Birriah, Jangga, Yirendali, Wanamara, Mitakoodi, Kalkadoon and Yulluna Peoples, Traditional Custodians of the land.

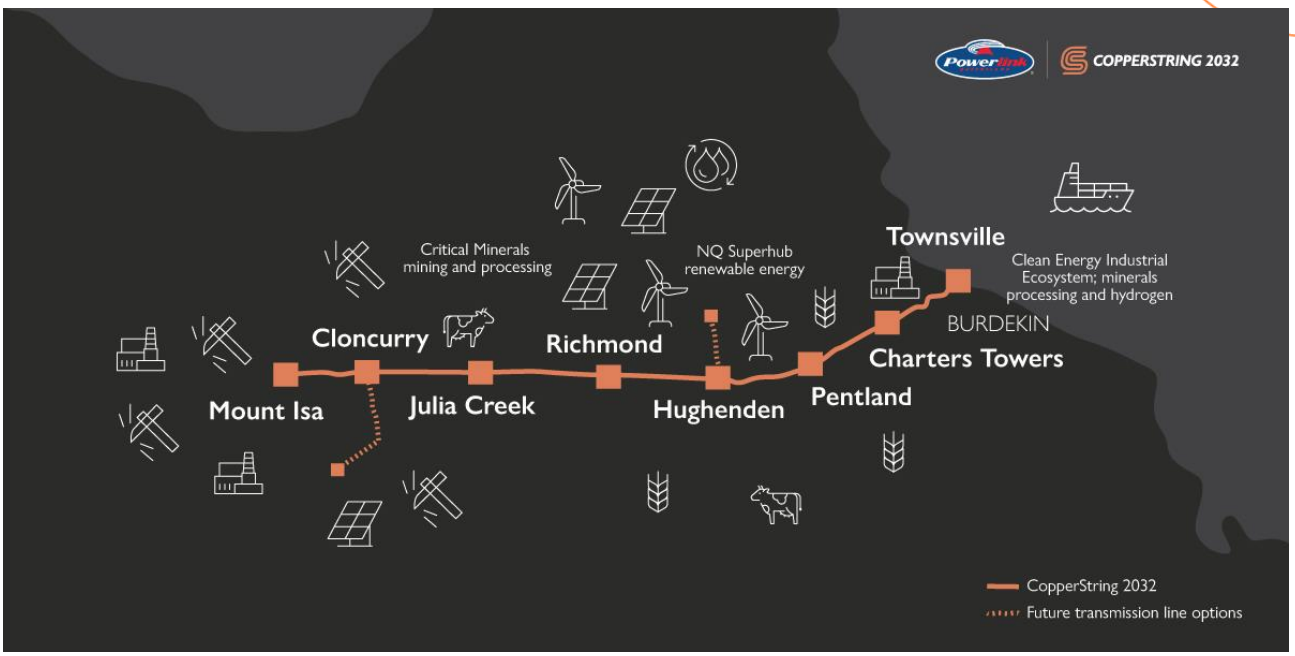



*Figure 1 - Project Map Geographic Location (source document https://www.powerlink.com.au/projects/copperstring-2032 )*

For the full list of impacted roads see Appendix A.

The CopperString 2032 project is divided into Work Zones, essentially creating Sub-Projects which have a defined scope based on the elements within their defined geographical area. Each Work Zone has a central Logistics Hub defined by the limiting the travel time from the Hub to the Tower Location to no more than 90 minutes.

At some Hub sites a construction camp is co-located. Table 1 outlines for each hub if it has a construction camp and what substation and which sections of the transmission line are being constructed from the Hub.

*Table 1 – Logistic Hubs*

| # | Hub | Camp | Substation | Towers – cross check other reports |
|---|---|---|---|---|
| 1 | Mt Isa | Local accommodation | Mt Isa Substation | Mt Isa Sub to Cloncurry & Mt Isa midpoint |
| 2 | Cloncurry | Camp | Dajarra Rd Substation | Darjarra Sub to Cloncurry River<br>Dajarra Sub to Cloncurry & Mt Isa midpoint<br>Dajarra Sub to Cloncurry & Julia Creek Midpoint |
| 3 | Julia Creek | Camp | | Cloncurry & Julia Creek midpoint to Julia Creek & Richmond midpoint |
| 4 | Richmond | Camp | | Julia Creek & Richmond midpoint to Richmond & Hughenden midpoint |
| 5 | Hughenden | Camp | Flinders Substation (330 and 500 KV) | Flinders Sub to Richmond & Hughenden midpoint<br>Finders Sub to Mt James<br>Flinders Sub to Hughenden & Pentland midpoint |
| 6 | Penland | Camp | Pentland Substation | Hughenden & Pentland midpoint to Pentland & Charters Towers midpoint |

| # | Hub | Camp | Substation | Towers – cross check other reports |
|---|---|---|---|---|
| 7 | Charters Towers | Camp | Nil | Pentland & Charters Towers midpoint to Burdekin River |
| 8 | Woodstock | Local accommodation | Woodstock Substation<br>Mulgrave Substation | Burdekin River to Woodstock Sub |

*Table 2 – Camp Locations*

| Location | Council | Distance from Nearest Town |
|---|---|---|
| Charters Towers | Charters Towers Regional Council | 3 Km |
| Pentland | Charters Towers Regional Council | 2 Km |
| Hughenden | Flinders Shire | 2 Km |
| Richmond | Richmond Shire | 1 Km |
| Julia Creek | McKinlay Shire | 1 Km |
| Cloncurry | Cloncurry Shire | 4 Km |

## 1.5 Project Program

A detailed project program for the CopperString 2032 project, as supplied by the JV is included in Appendix B.

The peak of construction around each Logistics Hub to the CopperString 2032 transmission line is expected to be as follows:

- Woodstock Apr 2025 – Feb 2027
- Charters Towers Nov 2024 – Sep 2026
- Pentland Aug 2024 – Jan 2026
- Hughenden Sept 2024 – Jul 2026
- Richmond May 2025 – Oct 2026
- Julia Creek Sept 2025 – May 2027
- Cloncurry Jun 2026 – Oct 2027
- Mount Isa Sep 2026 – Jan 2028.

The construction timing for each substation is expected to be as follows:

- Mulgrave May 2024 – Aug 2025
- Woodstock May 2024 – Oct 2025
- Flinders June 2024 – Mar 2026
- Dajarra June 2024 – May 2026
- Mount Isa Oct 2024 – Jul 2026.

It is noted that the construction program is still fluid at the time of publishing this report due to the ongoing changes to the permanent design scope.

## 1.6 Materials Supply and Delivery

Many different components of the CopperString 2032 project generate traffic onto the public road network including

- Construction, operation, and demobilisation of the logistics hubs / worker camps
- Construction and operational maintenance of the transmission lines; and
- Construction and operational maintenance of the substations.

The item that results in the highest traffic generational on the road network and has been assessed as shown in Table 3

*Table 3 – Traffic Generation Project Phases*

| Construction item | Construction phase traffic | Operational phase traffic |
|---|---|---|
| Construction Logistics Hubs / Camps | | X |
| Transmission line | X | |
| Substations | X | |

There are 6 camps located along the CopperString 2032 project length. Each camp is proposed to house a maximum number of workers with those numbers differing from camp-to-camp dependent on the location of the next nearby camp and the number of transmission towers and substations in its designated area.

The maximum workforce for each camp is as follows:

- Charters Towers 210
- Pentland 300
- Hughenden 410
- Richmond 210
- Julia Creek 210
- Cloncurry 230.

It is noted that existing local accommodation will also be utilised at Townsville and Mt Isa.

All movements in and out of the camps will take the most direct route to the nearest major highway (generally either the Flinders Highway or Barkly Highway) and travel to their destination.

Generally, all workers will depart the camp in the morning peak hour (6:30 am to 7:30 am) and head to their worksite on the CopperString 2032 corridor, in the afternoon peak hour (6:30 pm to 7:30 pm) they will return to the camp. Deliveries will occur periodically throughout the day.

More detailed information regarding the operation and traffic routes used by the camps can be found in the CopperString 2032 Camps TIAs.

Based on the construction program, roads and access routes which access a large number of towers may carry traffic for multiple construction stages.

Generally, the site establishment works occur well before other construction stages. For roads and access points that access few towers, this stage is likely to generate the highest traffic volumes.

# 2. Stakeholder and Communications Management

## 2.1 Consultation with Stakeholders and Communities

Engagement with project stakeholders and the community will continue for the life of the project and be delivered through the JV prepared Community Liaison Management Plan (CLMP) (0643-JV-PLN-CLM-0004). The CLMP will be designed to inform the community and stakeholders and build up two-way communication mechanisms. The CLMP will remain a live document and will be updated as required during pre-construction and construction periods to support CETC's implementation of the project's Stakeholder Engagement Strategy.

The outcomes and required actions arising from ongoing stakeholder consultation will be documented and reviewed to ensure completion.

## 2.2 Sensitive Sites Consultation

Standard construction hours will be Monday to Sunday 7 am to 7 pm with construction traffic expected to be evident between 6:30 am and 7:30 pm. There is potential for works to be undertaken outside of standard working hours work to undertake critical activities which may not be possible during standard hours due to other restrictions, and which will be subject to permitting requirements.

Where works are contemplated outside of normal working hours and may impact nearby sensitive sites such as school, hospitals, religious sites, and other key stakeholders, these parties will be notified of the impending works and provided details of the scope and duration of these activities and relevant contact details to lodge enquiries or complaints in accordance with the key stakeholder requirements and engagement activities outlined in the project CLMP.

The area in which CopperString 2032 will be delivered is of cultural significance to local Aboriginal communities. It has been identified in the Construction Methodology Management Plan that the project does not disturb areas of cultural heritage without authorisation. The JV will ensure that cultural heritage surveying is completed, and areas of significance are demarcated off in conjunction with cultural heritage monitors and onsite supervision, as required, for any works within road reserves, as per requirements of the Construction Environmental Management Plan (CEMP) and detailed Cultural Heritage Management Plans (CHMPs).

CETC has long been consulting with Traditional Owner groups for the CopperString 2032 project. The project has agreed CHMPs for the following entities.

- Kalkadoon Native Title Aboriginal Corporation RNTBC
- Mitakoodi People #5
- Wanamarra People Core Country Claim
- Yirendali People Core Country Claim
- Yulluna Aboriginal Corporation RNTBC ICN 7112
- Birriah People; and
- Jangga People #2.

CETC has partnered with a specialist consultancy to ensure cultural heritage (both Aboriginal and European) has been addressed.

## 2.3 Identify Key Stakeholders

*Table 4 - Key Stakeholders*

| Stakeholder | Stakeholder Representative | Contact Details | Stakeholder Category |
|---|---|---|---|
| Department of Transport and Main Roads | The Honourable Mark Bailey MP<br>Minister for Transport & Main Roads<br><br>A/Director General TMR: Sally Stannard<br><br>Deputy Director General Infrastructure Management & Delivery: Julie Mitchell<br><br>GM Statewide Network Operations: Vincent Doran | Phone: (07) 4421 8700<br><br>Email: engagement.northern@tmr.qld.gov.au | Government Organisation |
| Queensland Rail | CEO: Katarzyna Stapleton | Phone: 13 16 17 | Key Stakeholder |
| City of Townsville | CEO: Prins Ralston<br><br>Communications & Marketing: Katrina Appleton<br><br>GM Community Engagement: Sarah Sullivan | Phone: 13 48 10<br><br>Email: enquiries@townsville.qld.gov.au | Local Government |
| Charters Towers Regional Council | CEO: Martin Drydale | Phone: 07 4761 5300<br><br>Email: mail@charterstowers.qld.gov.au | Local Government |
| Flinders Shire | CEO: Hari Boppdui<br><br>Director of Community Services & Wellbeing: Barbra Smith | Phone: (07) 4741 2900<br><br>Email: flinders@flinders.qld.gov.au | Local Government |
| Richmond Shire | CEO: Peter Bennett | Phone: (07) 4719 3377<br><br>Email: enquiries@richmond.qld.gov.au | Local Government |

| Stakeholder | Stakeholder Representative | Contact Details | Stakeholder Category |
|---|---|---|---|
| McKinlay Shire | CEO: Trevor Williams<br><br>Directory of Corporate & Community Services: Tennell Cody | Phone: (07) 4746 7166<br><br>Email: reception@mckinlay.qld.gov.au | Local Government |
| Shire of Cloncurry | CEO: Philip Keirle<br><br>Director of Community Services: Jessica Greenaway | Phone: (07) 4742 4100<br><br>Email: council@cloncurry.qld.gov.au | Local Government |
| City of Mount Isa | CEO: Tim Rose<br><br>Director Corporate & Community Services: Chileya Luangala | Phone: (07) 4747 3200<br><br>Email: city@mountisa.qld.gov.au | Local Government |
| Port of Townsville Limited | CEO: Ranee Crosby<br><br>COO: Drew Penny | Phone: 07 4781 1500<br><br>Email: info@townvillleport.com.au | Adjacent Landholder |
| Emergency Services | Queensland Police Service<br><br>Queensland Fire and Rescue Services<br><br>Queensland Ambulance Service<br><br>State Emergency Services | Police Phone: 131 444<br><br>Fire & Rescue Phone: 13 QGOV (13 7468)<br><br>Ambulance Phone: 13 QGOV (13 7468)<br><br>SES Phone: 132 500 | Emergency Services |
| Northern Stevedoring Services Port Logistics | General Manager: David King | Phone: 07 4722 4800<br><br>Email: info@nsspl.com.au | Freight Services |
| NQ Freighters | | Phone: 07 4772 6118<br><br>Email: admin@nqfreighters.com.au | Freight Services |
| TransLink | | Phone: 07 4771 9800<br>Email: townsville@tagroup.net.au | Transport Operator |
| Greyhound Australia | | Phone: 1300 473 946 | Transport Operator |

The CLMP will identify any further interested parties for consideration as to the road use impact. Other key stakeholder groups identified may include but not be limited to:

- Schools
- Hospitals
- Public transport operators
- Freight companies
- Adjacent residents and landowners
- Road owners; and
- All road users.

## 2.4 Complaints/Enquiries/Media Interest

The official spokesperson for Powerlink is the Chief Executive. Contractors, subcontractors, or consultants will not make comments to the media, or say ‘no comment’.

All CopperString 2032 media enquiries will be managed by Powerlink’s 24/7 media hotline on 07 3860 2654 or email: projects@powerlink.com.au.

For community complaints/enquiries, these will be managed by the Powerlink CopperString 2032 project team via 1800 635 369, email: copperstring2032@powerlink.com.au, or via community notices or public updates available on the project webpage: www.powerlink.com.au/copperstring2032.

# 3. Road Network and Traffic Management

Both State controlled and local roads will be utilised for the haulage of construction materials and equipment for the CopperString 2032 project. The construction of the transmission line and associated infrastructure will require significant movements of materials, equipment, and personnel. The transportation of the workforce and required materials will result in a significant number of vehicle movements along state-controlled roads and numerous local council operated roads.

The principal road is the Flinders Highway, which becomes the Barkly Highway west of Cloncurry. This Highway forms the east-west backbone of the project. Other major roads provide links to the north and south from the Flinders Highway. The most notable of these roads are Gregory Development Road, Kennedy Development Road, Landsborough Highway and Burke Development Road.

## 3.1 Road Mitigation Measures

To maintain road condition and safety the following may be implemented as a minimum to aid in risk mitigation measures.

- Investigate car and bus pooling arrangement for workforce mobilisation to reduce volume and likelihood of fatigue, animal interactions and congestion
- Procedures (and technology) to make project personnel aware of road conditions and road safety concerns in daily toolbox meetings and reinforce the need to obey road speed restrictions, drive to conditions, including reducing speed as dictated by the conditions and road surface, and that sight distances are often limited due to topography
- Driver assessment and training, if required
- Mechanism for project personnel to submit road condition and safety concerns, including:
    - Sight distance obstructions
    - Potholes
    - Loss of road traction
    - Corrugations in road surface
    - Faded linemarking
    - Missing or damaged road signs
    - Missing or damaged delineators/reflectors
    - Impacted safety barriers/fences
    - Deterioration of road surfaces
- Maintaining or improving sight distances by:
    - Clearing obstructing vegetation in the road zone by mowing grass, removing tree branches and/or clearing re-sprouting vegetation
    - Install advance warning signage notifying of the presence of an intersection where it obscures sight distance
    - Contacting relevant road authorities to have signs or other road furniture relocated where it obscures sight distance
- Scheduling heavy vehicle movements in the vicinity of schools, outside of school start and finish times and bus commute times (7:00 am to 9:00 am and 3:00 pm and 5:00 pm) as far as practicable

- Inspecting the condition of the road networks being used for the works prior to construction to establish a baseline road standard, and regularly during construction activities to identify any road deterioration that may require repair (i.e. dilapidation survey)
- Maintaining the roads, repairing and rectifying issues as soon as practicable and in consultation with relevant Road Authorities (i.e. in accordance with a road user agreement)
- Manage traffic on narrow roads by using:
    - Shuttle flow or similar where the road width is less than standard for predicted traffic volumes following consultation with the relevant Road Authorities
    - Use of relevant traffic control devices where heavy vehicles are required to cross the centreline following consultation with the relevant Road Authority
    - Vehicles suitable for the road geometry and/or carrying out minor road/shoulder works in agreement with the relevant Road Authority or using alternative routes
- Plan heavy, oversize and overmass (OSOM) vehicle routes considering:
    - Vehicle and load specifications
    - Bridge load limits and carriageway dimensions and geometry; and
    - Detail route assessments undertaken in accordance with National Heavy Vehicle Regulator (NHVR) requirements.

## 3.2 Road Network Capacity

### 3.2.1 Road Width

See **Appendices C to I** for Local Government Authority specific roads.

### 3.2.2 Intersections

See **Appendices C to I** for Local Government Authority specific intersections.

### 3.2.3 Road Width Suitability and Level of Service

All intersections and new driveways in the study area for the project will be upgraded to accommodate B-double vehicles if they do not currently have the capacity to do so. In addition, right and left turn lanes will be added, if required to ensure efficient and safe movements at intersections.

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## 3.3 Pavement/Road Surfaces

The impact of the increase in traffic and the number of heavy vehicles will accelerate the deterioration of the road pavement resulting in an increase in surface defects. If water enters the pavement layers through the surface defects this will impact the long-term strength and performance of the pavement.

The TIA identifies the roads that are expected to see an increase of more 5% in pavement traffic volumes (Standard Axle Repetitions or SAR) in at least one year of the project.

To provide a continuous safe and efficient movement of vehicles and safe environment for the construction workforce, regular scheduled inspections of pavement surface will be conducted.

The Queensland Department of Transport and Main Roads Guide to the Visual Assessment of Pavements will be used as a resource to assist in the identification of pavement performance issues and possible causes and modes of pavement distress or failures.

If a notable deterioration of the pavement surface is identified this may implement an agreed series of routine maintenance to repair and rectify issues as soon as practicable in consultation with relevant authorities and/or road owners.

See **Appendices C to I** for Local Government Authority specific roads.

## 3.4 Floodwater

Drivers shall be required to drive to the conditions of the road. They will not be permitted to drive through flooded floodways and roads.

When the road is either closed or a limitation is placed on the road due to e.g. wet weather or flooding, temporary road restrictions will be in place and the appropriate signage will be displayed.

If flooding is likely, plans will be made, and alternative routes may be investigated.

Drivers will obey all road closure signs. If flooding occurs drivers will not drive on roads until the road is open again, and access approved by the relevant authorities and/or road owners.

## 3.5 Rail

All drivers shall be required to obey all level crossing signs and signals to avoid incidents. The following safety precautions will be conveyed to drivers at level crossings;

- Slow down to a speed which allows drivers to stop quickly
- Drivers will stop at a crossing if:
    - There is a stop sign
    - Red lights are flashing
    - The boom arm is in the lowered position
    - A traffic controller or emergency services personnel signals to stop; and
- Be aware of the surroundings and avoid distractions.

The TIA and separate rail crossing assessments have reviewed the risks associated with the increased volume of traffic crossing the rail corridor, and have proposed controls, upgrades or modifications as required. This will be in consultation with Queensland Rail.

## 3.6 Bridges

The JV Logistics Management Plan (draft 0643-JV-PLN-LMP-0016) for CopperString 2032 had identified a number of over-size over-mass (OSOM) loads will be required to be transported from their point to origin to their final position at the various substations along the alignment during the construction schedule. Permits for these loads will be managed by the Project through the heavy haulage logistics suppliers who are responsible for the delivery of this heavy equipment.

The path for heavy vehicle haulage from the Port of Townsville to Woodstock substation via Ayr has identified a restricted structure “Do Not Cross” exists on one of the bridge structures on Burdekin Falls Dam Road, the bridge is 6.3km northwest of Ravenswood.

The heavy haulage path from the Port of Townsville to the Mt Isa, Dajarra Road, Flinders, and Pentlands substations is via the Flinders Highway initially and then the Barkly Highway west of Cloncurry. A number of structures exist along this route which are designated as “Conditional Structures (Single Trip)”

- 13.8km Northeast of Pentland
- 20km West of Hughenden
- 48km East of Richmond
- 33km East of Richmond; and
- 41km East of Cloncurry.

This information has been obtained from the National Heavy Vehicle Regulator Route Planner Tool (nhvr.gov.au). The path of the heavy vehicles shall be mapped out by heavy haulage experts to determine if any infrastructure amendments shall be made along the way.

Based on the outcome of the assessment it is expected that the freight haulers and contractors will be required to implement appropriate controls to protect bridge integrity including;

- Reducing speed and travelling at a uniform speed across the bridge; and
- Restricting other traffic and using the full width to distribute the load.

For bridges where the proposed vehicle types and configuration exceeds the load limits or dimensions the following is proposed to be implemented:

- Conduct an engineering assessment of the bridge structure and seek permission for travel over the bridge from the relevant owner or authority if deemed safe to do so
- Use an alternative vehicle configuration; and
- Adopt an alternative route to avoid the bridge and undertake bridge assessment if the new routes are outside project travel routes.

## 3.7 Signage

To provide a continuous safe and efficient movement of vehicles and safe environment for the construction workforce regularly scheduled visual inspections of signage will be conducted, to identify damaged and/or missing road signs.

If a notable deterioration of the signage is identified or signs are missing this may implement an agreed series of routine maintenance and replacements as agreed with relevant authorities and road owners.

## 3.8 Speed

Travel on the open road will be in accordance with the legal posted speed limits or as otherwise advised depending upon the condition of the road. If required additional project specific speed limits maybe applied as agreed with the road asset owner.

Except where a lower speed limit applies all heavy vehicles are limited to a maximum speed of 100 kilometres per hour.

## 3.9 Traffic Control

A duty of care will be undertaken when planning and implementing traffic control, all works will be carried out in a manner that ensures it is at all times safe for road and track users, members of the public and workers. The JV Traffic Management Procedure will be used as a guideline for the development, review, and implementation of Construction Traffic Management Plans (CTMPs) and interfacing with live vehicle traffic.

CTMP's which are required for submission to Roads or other authorises for approval will be prepared by suitably experienced, licensed persons in accordance with local (state) requirements including Transport Operations (Road Use Management) Act 1995 and Transport Operations (Road Use Management – Accreditation and Other Provisions) Regulation 2015.

## 3.10 Vehicle Management Plan

Prior to the project's on-ground presence, approvals will be obtained for road usage, and the following management plans will be prepared as part of the project's response to ministerial conditions of approval:

- CTMP (having regard to the logistics management plan); and
- Heavy Vehicle Management Plan (subplan to the Health and Safety Management Plan 0643-JV-PLN-HSE-0002).

This will describe in detail the project's approach to vehicle management. The below information provides a high level summary of the approach. It is noted that wherever possible, sustainability initiatives will consider traffic impacts and opportunities to avoid long term effects from road use.

### 3.10.1 Prestart

The JV implements a pre-start process for all plant and equipment in accordance with the JV's Principal Contractor's Management System known as UGLMS. This system requires:

- Pre-authorisations of key plant prior to site arrival by an authorised inspector (i.e., plant inductions)
- General vehicle inspections on site arrival for all balance of equipment, including meeting all biosecurity requirements
- Daily pre-starts, maintained in vehicle log books, for each plant and equipment including:
    - Operating conditions are in accordance with manufacturer specifications (including fuel usage to minimise Scope 1 greenhouse gas emissions)
    - No weeps/leaks/damaged parts, and all safety equipment is present
- Verification of competency inspections by Supervisors of plant and equipment operators; and
- Mandatory daily blood alcohol concentration testing and random drug testing.

Should the plant or vehicle be found to not be conforming it will be stopped from working on site until the deficiency is rectified.

### 3.10.2 Maintenance and Inspections

Prior to commencing activity all equipment, plant and vehicles must be inspected daily for any damage and to ensure it is in good operational conditions. Equipment identified as damaged or faulty will be tagged out of service and quarantined.

The JV has designed each accommodation hub with a maintenance facility for light plant and equipment maintenance in accordance with manufacturer specifications. There may be occasions where plant and equipment may require offsite servicing due to failures or specialised parts however it is preferred that specialist support is engaged to attend site to avoid unplanned demobilisation.

All heavy vehicles must be maintained to meet the minimum requirements for vehicle road worthiness according to the applicable Heavy Vehicle (Vehicle Standards) Regulations.

All vehicles must:

- Be appropriately registered
- Be roadworthy and in good working order
- Have comprehensive insurances; and
- Be suitable for the work task for which it is to be used.

Prior to work commencing on site all trucks, vehicles and equipment must be washed down and declared as weed free. All plant will undergo a hazard assessment and inspection prior to commencing on site.

All heavy vehicles may be required to be fitted with In-Vehicle Monitoring Systems (IVMS). Vehicles fitted with IVMS must be monitored to provide prompt feedback to drivers not conforming with road regulations and safe driving practices.

### 3.10.3 Refuelling

Refuelling of plant and equipment on site will be facilitated by an onsite fuel storage facility and refuelling bay set up. This will be accessed primarily by light and medium rigid vehicles and freely issued to staff and contractors.

Refuelling of plant and equipment at work fronts will be via dedicated refuelling trucks.

Refuelling of the fuel storage facility is likely to be weekly by an external supplier depending on the size of storage tanks and peak demand.

Use of existing refuelling facilities in the region will be required to support peak demand and ad hoc requirements.

### 3.10.4 Parking

All parking will be at camp sites or work areas in designated areas.

Roadside parking is not envisaged to be required; it will be by exception only.

### 3.10.5 Loading and Unloading

All vehicle loads must be restrained to prevent load movement during transit.

Loading/unloading exclusion zones will be clearly delineated with controls to prevent unauthorised access.

In order to ensure the offloading of materials operates efficiently the use of the correct equipment will ensure all tasks on site are managed safely and efficiently. The plant requirements for the offloading will be detailed in the relevant Safe Work Method Statements. Project employees completing the loading and unloading activities must complete training in loading/unloading or be verified as competent through a VoC process.

Heavy specialist loads may be transported by freight companies arranged by the supplier. Where justified, suppliers and contractors will be required to provide transportation and heavy lift plans. These plans will be reviewed by the JV or a specialist heavy lift consultant will be engaged as necessary to facilitate the review.

### 3.10.6 Washdown Bays

Washdown bays to meet biosecurity requirements will be implemented at each accommodation hub.

Use of the existing truck wash facilities in Charters Towers, Hughenden, Richmond, Julia Creek and Cloncurry will be required to support site movement and larger sized plant and equipment. In this case the facilities are maintained by Avdata.

The project will implement the requirement for all plant and equipment being sourced outside the region to washdown at the point of origin and be third party certified before entering the region in order to mitigate risk of introducing new weeds, pests and diseases locally.

### 3.10.7 IVMS

An in vehicle monitoring system may be proposed for use on this project by staff and contractors, excluding delivery drivers who operate in accordance with Heavy Vehicle National Laws, and ad hoc personnel.

This system would be set up to monitor speed and safe driving behaviour with alarm triggers inbuilt. The JV would monitor individual driving performance and in the event of any notifications exceeding general driving standards, a report would be issued, and action taken accordingly.

For any other unsafe practices on roads not captured by the IVMS, this will be recorded as an incident. All general complaints will be actioned upon receipt.

# 4. Safety

## 4.1 Staff Onboarding

### 4.1.1 Site Inductions

All employees and contractors working on the CopperString 2032 project will be required to complete a full induction on arrival to the project and be provided with a position description confirming role, responsibilities, accountabilities and authorities. The site induction will include (but is not limited to):

- Safety
- Driving and Road Use (applies to delivery drivers and onsite personnel)
- Environment
- Land Access
- Cultural Heritage, and
- Community.

Inductions are developed by suitably qualified persons that will translate approval requirements and commitments in plans in a way which targets the blue and white collar workers onsite for compliance.

The site induction process will capture all required (third party) qualification records to support each job description and verify competency as part of site authorisations. The system will identify any expiry/renewal dates for qualifications to ensure no lapse in records and skill sets emerge when operating plant and equipment on roads.

Verification of all tickets, competencies, and licences for all plant and tasks will be obtained and copies kept for record management purposes.

### 4.1.2 Toolbox Meetings

Toolboxes will be prepared by suitably qualified persons on a range of planned topics relevant to traffic management (refer to 0643-JV-PLN-TMP-0005), health and safety (refer to 0643-JV-PLN-HSE-0002) and road use safety management (as per this plan), amongst other requirements. Toolboxes will also be unplanned in the event of an incident or lessons learnt to ensure transparent communication internally and continuous improvement.

Toolboxes at minimum in relation to road use will include (but are not limited to):

- Operation of plant and equipment (inclusive of emissions, speed, safety etc.)
- Driver fatigue
- Journey management
- Queuing limitations
- Emergency exit plans
- Reporting road damage and driver hazards
- Securing loads
- Dust
- Vehicle fauna strikes
- Loading and unloading; and
- Additional topics identified in the traffic impact assessments are relevant to mitigate impacts on roads and external Stakeholders.

At the end of all Toolbox Meetings all attendees will sign a record of staff toolbox meeting to record their attendance.

### 4.1.3 HSE Alerts

The JV HSE Risk Management Procedure is the process for the identification, assessment, control and management of occupational health, safety, psychosocial and environmental (HSE) hazards and risk associated with all JV controlled activities. This procedure will be the tool that will be used to manage risk.

The HSE Risk Register will be developed prior to the project commencement. This shall be developed, maintained, monitored and review by conducting Project/Site HSE Risk Workshops for all project employees, contractors, visitors, and other key stakeholders, and then updated regularly throughout the project life.

Records relating to the risk management process shall be maintained and retained in accordance with the document control and records management requirements of the applicable WHS Management Plan.

HSE Alerts will be used to communicate and raise awareness to JV personnel and subcontractors regarding any significant HSE issue which may pose a risk to personnel, plant and equipment, environment, or the company.

### 4.1.4 Fitness for Work

All personnel directly employed on the project must undertake a pre-employment health assessment.

Contractors and subcontractors are directly responsible for ensuring their workers are fit and medically capable to undertake the work they are engaged to perform and are drug and alcohol free.

### 4.1.5 Fatigue

Fatigue will be managed for all employees, contractors, and visitors in association with the JV Fatigue Management Procedure which defines the requirements for managing the risk associated with fatigue in JV workplaces. The risks associated with fatigue will be assessed and controls identified as part of the Hazard identification and Risk Management Process.

Supervisors will be trained to identify if a worker is showing symptoms of fatigue prior to and during their shift, by visually assessing workers behaviour and indicators including:

- Tiredness
- Giddiness
- Irritability
- Loss of appetite; and
- Sleepiness, including falling asleep against ones will.

Supervisors and Project Leaders will plan and monitor working activities to minimise work factors that may lead to fatigue including, however, not limited to:

- Prolonged or intense mental or physical activity
- Sleep loss and/or disruption of an individual’s internal body clock
- Organisational change
- Exceptionally hot or cold working environments
- Irregular work scheduling
- Excessively long shifts
- Not enough time to recover between shifts

- Strenuous jobs; and
- Long commuting times.

The JV has performed an extensive analysis on the access of site from the various logistics hubs during the ECI phase. This is to verify the total travel times required to be undertaken by staff and workforce to access the alignment and comply with fatigue management.

For operators for heavy vehicles the UGL Heavy Vehicle Management – Chain of Responsibility Procedure will be used as a guideline.

- Drivers of heavy vehicles or combinations that exceed 12T must not operate the vehicle outside of the prescribed standard hours and must comply with rest requirements
- Drivers must not be permitted to exceed the Standard Hours for Solo Drivers as detailed in Appendix 3 – Standard Hours for Solo Drivers Fatigue-Regulated Heavy Vehicle or their journey plan (if applicable); and
- Heavy Vehicles Drivers must complete a work diary, the work diary must be completed and maintained in accordance with Appendix 5 – Work Diary Requirements.

### 4.1.6 Drugs and Alcohol

All employees, contractors, and visitors will be provided with information regarding the requirements regarding the use, possession, consumption, and distribution of alcohol and drugs and related procedures to ensure understanding and awareness of the processes as part of the induction process.

Possession, consumption, and distribution of illegal drugs is prohibited. All employees, contractors or visitors must be fit for work and not impaired by alcohol and/or illicit/prescription drugs whilst at site.

Regular monitoring of drivers to verify that they are fit to drive, both physically and mentally and not affected by fatigue, drugs and/or alcohol testing will be undertaken.

### 4.1.7 Training

The training requirements will be identified in a project detailed Training Needs Analysis and will include at minimum:

- Risk based driver training including 4-wheel drive (4WD) training for high risk users
- Operators of plant and equipment having the required competencies and relevant licenses for the plant item
- AHCBIO203 Inspect and clean machinery, tools and equipment to preserve biosecurity; and
- Emergency drill scenarios relevant to vehicle incidents.

Verification of Competencies will be completed by a JV representative and records will be maintained for project staff and contractors of all qualifications and competencies.

All heavy vehicles drivers will hold the appropriate licence to the class of heavy vehicle that is being driven. The driver will always have their licence with them when operating the vehicle.

Project employees who are working as part of the supply chain must as a minimum receive base level Chain of Responsibility training.

The JV will ensure that monitoring activities are implemented for all activities that apply to their site and that non-conformances are tracked and managed. Division audit programs may be undertaken and include assessments of activities that is consistent with operations being completed.

## 4.2 Incident Management

### 4.2.1 Reporting and Managing Incidents

The JV will implement and maintain a documented process that ensures workers can report all hazards and incidents. The JV Management System 'Synergy' will be utilised to record all hazards, incidents and resulting actions including journey and non-work related travel.

### 4.2.2 Notifiable Incidents

The JV will implement and maintain a process for reporting notifiable incidents on roads relating to work travel to the Regulator 'WorkSafe Queensland'. The Project will ensure all regulatory requirements around reporting are maintained including ensuring that notifiable incidents are reported within the nominated timeframes.

### 4.2.3 Emergency Response Management

The JV will put in place a process to identify and respond to emergencies on public roads, with trained personnel available. The JV will coordinate with local responders in such events.

### 4.2.4 Investigations

For all incidents, the JV will determine the level of investigation required and investigate accordingly. The investigation will be undertaken in a timely manner by a nominated competent person. Investigation findings will be documented in Synergy linked to actions. Lessons learnt will be included in a HSE Alert.

## 4.3 Security

Security services and provisions have been identified via risk analysis. On-site security services are required at all camp and project work sites. Security services will vary between static and roaming services and electronic surveillance sites at the likes of substations and laydown areas.

All emergencies will be managed in line with locally established Emergency Management Plans.

## 4.4 Hazardous Material

### 4.4.1 Transportation

Transport of hazardous substances to the project area will be in accordance with the Australian Dangerous Goods Code 7$^{th}$ Edition (National Transport Commission 2014), in accordance with the Queensland Transport Operations (Road Use Management – Dangerous Goods) Regulation 2018 and the Transport Infrastructure Act 1994.

Access to a delivery route for hazardous substances to the project will be dependent on the origin of the material.

This applied to fuel storage deliveries and daily refuelling carried out by fuel carts operating between camps and the transmission line and substation locations.

### 4.4.2 Storage and Handling

The storage and handling of all flammable and combustible liquids will be in accordance with the requirement of Australian Standard AS1940–2017 which provides requirements for the planning, design, construction, and safe operation of all installations in which flammable or combustible liquids are stored or handled.

All chemicals, gases and hazardous substances shall be assessed for risk prior to purchase and delivery to site. All hazardous materials shall have Safety Data Sheets (SDS) available. An SDS will be supplied by the Supplier for all hazardous materials prior to the material being delivered to site. The safety team and materials team shall maintain copies of all SDS's applicable to the relevant work area and ensure the details of each chemical includes an initial risk assessment. Copies of all SDS's will be made readily available to all employees.

# 5. Environmental Impact Management

The JV is required to prepare a Construction Environmental Management Plan (CEMP) (0643-JV-PLN-CEM-0003) as part of the final approval to construct two (2) months from scheduled works. This CEMP will provide details of the requirements identified at a high level below in relation to traffic and road use management.

This section has identified environmental aspects relevant to road use management and controls to minimise risk to as low as reasonably practicable and comply with conditions of approval.

## 5.1 Noise Management

The JV proposes to undertake:

- Noise assessments in relation to the accommodation hub operation as part of design to ensure impacts are mitigated from any external noise sources (e.g. Rail), and JV activities do not cause an unacceptable impact to existing sensitive receptors, including from road traffic noise; and
- Noise assessment of proposed haulage routes and sensitive receptors, based on risk, to identify whether road traffic noise will be increased from background level as a result of the project's construction traffic volumes.

Noise will be mitigated via:

- Dedicated construction hours of 6.30 am to 6.30 pm Monday to Sunday
- Maintaining plant and equipment to manufacturer specifications (through onsite facilities)
- Good driving practices to ensure no excessive noise from revving and braking
- Regular community consultation based on the schedule and any changes that are identified as potentially impacting sensitive receptors
- No queuing near sensitive receptors or idling; and
- Risk-based/complaint triggered noise and vibration monitoring.

## 5.2 Dust and Air Quality Management

The JV proposes to undertake:

- Air assessments in relation to the accommodation hub operations as part of design to ensure impacts are mitigated from any external sources, and JV activities do not cause an unacceptable impact to existing sensitive receptors, including from dust, particulates and odour.

Dust, particulates and odor will be mitigated via:

- Sealing trafficked areas in close proximity to sensitive receptors, predominantly at accommodation hubs
- Upgrading road infrastructure to enable sealed turn ins at property entrances and B-double de-coupling areas to avoid tracking of soil particles onto sealed bitumen
- Erosion and sediment controls and dust suppression on internal access tracks (on and off easement) to avoid generating dust emissions that may limit visibility on public roads
- Covering (organic material natured) loads
- Driver behaviour monitoring to reduce excessive emissions
- Smokey vehicle monitoring
- Rescheduling construction activities where required during windy conditions; and
- Risk-based/compliant triggered air quality monitoring.

## 5.3 Vehicle Strikes

Vehicle fauna strikes may occur through increased plant and equipment usage on roads. Vehicle fauna strikes will be mitigated via:

- Minimising traffic movements during dawn and dusk by vehicle sharing/bussing workers to construction sites
- Identifying at risk biodiversity areas, based on ecological surveys associated with the project clearing areas, and establishing site specific controls
- Removing road kill associated with construction traffic from the pavement to ensure birds of prey scavenging are not within the kill zone; and
- Restricting speed in areas of livestock hazard or stock routes.

Detailed control measures during construction will be specified in the CEMP sub plans on biodiversity and threatened species management.

## 5.4 Waste and Refuse Disposal Management

The JV will rigorously implement measures to ensure no littering from plant and equipment on roads by:

- Working closely with our suppliers to reduce packaging of materials
- Securing loads
- Providing waste containers on vehicles; and
- Ensuring adequate waste facilities at accommodation hubs, with lids as required, collected at a suitable frequency to avoid overtopping.

A detailed Waste Management Plan (0643-JV-PLN-WRD-0017) has been prepared to predict waste streams and volumes and identify relevant controls.

## 5.5 Hazardous Materials

The JV will maintain stringent controls around the:

- Fuel storage refuelling at accommodation hubs
- Plant and equipment maintenance (as per above prestart requirements) to ensure no unplanned spillages from condensate, oils and fuels; and
- Bulk fuel transfer between accommodation hubs and construction sites by dedicated fuel trucks.

The fuel supplier must comply with the dangerous goods code for the transport of hazardous substances.

In the event of any hazardous materials releases, the JV will manage the response through either incident processes or emergency management depending on the nature and scale of the spill. Clean up measures for the safety of the road users will be a priority in corrective action in accordance with the project's spill response procedures.

## 5.6 Natural Disasters

The project is located in a region susceptible to natural disasters, specifically severe weather and bushfire. The JV proposes to:

- Prepare a detailed Bushfire Management Plan (0643-JV-PLN-BMP-0012); and
- Prepare a detailed Severe Weather Management Plan (0643-JV-PLN-SWP-0011).

Approval of both plans will involve consultation with local, regional and State emergency response agencies and will seek to promote improvements in the current level of awareness and response for the safety of the project personnel and community we work with and live in.

The approach at minimum will consider:

- Bushfire assessments at accommodation hubs
- Muster locations
- Firefighting facilities being available
- Weather watch process
- Hot works permit to manage any risk from construction sources
- Landholder consultation to identify wet weather affected areas
- Planned wet weather days in scheduling, aligning with known wet seasons
- Bushfire and severe weather preparedness inspections; and
- Emergency response training.

# 6. Risk Management

The JV HSE Risk Management Procedure describes the process for process for the identification, assessment, control and management of occupations health, safety, psychosocial and environmental hazards and risk associated with JV activities. This document will be used as a guideline for the HSE Risk Management tools to be used in order to document and manage risk.

Key risks identified to date include impacts to road users and road infrastructure which will be managed in accordance with:

- Traffic impact assessments
- Dilapidation surveys (pre and post construction phase)
- Health and Safety Management Plan including:
    - Fatigue Management Plan (yet to be developed)
    - Emergency Response Plan (yet to be developed)
- Construction Traffic Management Plan
- Logistics Management Plan
- Construction Environment Management Plan; and
- This Plan (informed by the TIA).

The following Figure 2 illustrates the HSE Risk Management Methodology to be used in risk assessment.

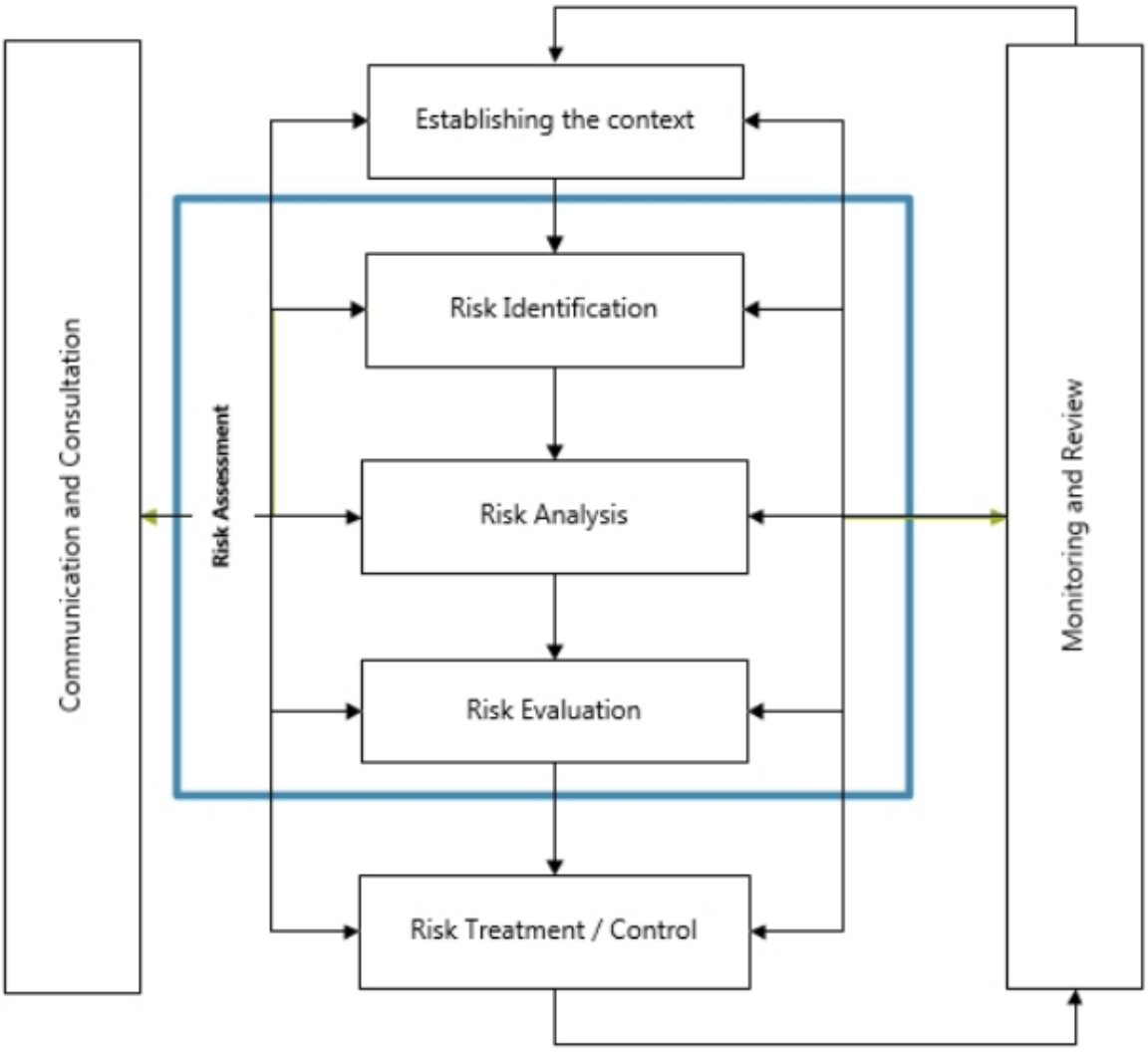



*Figure 2 - HSE Risk Management Methodology*

# 7. Key Personnel and Responsibilities

The key person responsible for the management and implementation of this plan is the CopperString 2032 Project Manager. The Project Manager is responsible for:

- Road Use Agreements
- Traffic Management
- Emergency Planning
- Environmental Compliance; and
- Safety Compliance.

# Important information about your report

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Report may only be used and relied on by the Client for the purpose set out in the Report. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

The services undertaken by pitt&sherry in connection with preparing the Report were limited to those specifically detailed in the report and are subject to the restrictions, limitations and exclusions set out in the Report. The Report's accuracy is limited to the time period and circumstances existing at the time the Report was prepared. The opinions, conclusions and any recommendations in the Report are based on conditions encountered and information reviewed at the date of preparation of the Report. pitt&sherry has no responsibility or obligation to update the Report to account for events or changes occurring after the date that the report was prepared. If such events or changes occurred after the date that the report was prepared render the Report inaccurate, in whole or in part, pitt&sherry accepts no responsibility, and disclaims any liability whatsoever for any injury, loss or damage suffered by anyone arising from or in connection with their use of, reliance upon, or decisions or actions based on the Report, in whole or in part, for whatever purpose.

# Impacted Roads

Appendix A

pitt&sherry

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Downing Street | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Christie Street | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Silver Valley Road | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Amity Road | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Millchester Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Macdonald Street | Council | Charters Towers Regional Council | Charters Towers Hub |
| Broughton Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Lornesleigh Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Cameron Downs Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Hewett Street | Council | Charters Towers Regional Council | Charters Towers Hub |
| Macpherson Street | Council | Charters Towers Regional Council | Charters Towers Hub |
| Corinda Avenue | Council | Charters Towers Regional Council | Charters Towers Hub |
| Phillipson Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Bluff Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Braceborough Road (east) | Council | Charters Towers Regional Council | Pentland Hub/ Charters Towers Hub |
| Red Road | Council | Charters Towers Regional Council | Pentland Hub |
| Homestead Lascelles Road | Council | Charters Towers Regional Council | Pentland Hub |

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Helenslee Road | Council | Charters Towers Regional Council | Pentland Hub |
| Laidlow Crossing | Council | Charters Towers Regional Council | Pentland Hub |
| Paterson Street | Council | Charters Towers Regional Council | Pentland Hub |
| Longton Road | Council | Charters Towers Regional Council | Pentland Hub |
| Lauderdale Road (east) | Council | Charters Towers Regional Council | Pentland Hub |
| Lyons Creek Road | Council | Charters Towers Regional Council | Pentland Hub |
| Archer Street | Council | City of Townsville | Townsville/ Ayr |
| Hubert Street | Council/ private | City of Townville / private | Townsville/ Ayr |
| Andrew Daniels Drive | Council | Cloncurry Shire Council | Cloncurry Hub |
| Hensley Drive | Council | Cloncurry Shire Council | Cloncurry Hub |
| Round Oak Road | Council | Cloncurry Shire Council | Cloncurry Hub |
| Unnamed Road (off Round Oak Road) | Council | Cloncurry Shire Council | Cloncurry Hub |
| Powerhouse Road (Cloncurry) | Council | Cloncurry Shire Council | Cloncurry Hub |
| Roxmere Road | Council | Cloncurry Shire Council | Cloncurry Hub |
| Chinaman Creek Dam Road | Council | Cloncurry Shire Council | Cloncurry Hub |
| Mount Frosty Road | Council | Cloncurry Shire Council | Mount Isa |
| East Leichardt Road | Council/ private | Cloncurry Shire Council | Mount Isa |
| Mount Isa Duchess Road (Council-owned section) | Council | Cloncurry Shire Council | Mount Isa |
| Townsville Port Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Bruce Highway | TMR | Department of Transport and Main Roads | Townsville/ Ayr |

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Ayr Dalbeg Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Flinders Highway | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Ayr Ravenswood Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Burdekin Falls Dam Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Gregory Developmental Road (north) | TMR | Department of Transport and Main Roads | Charters Towers Hub |
| Gregory Developmental Road (south) | TMR | Department of Transport and Main Roads | Charters Towers Hub |
| Aramac Torrens Creek Road | TMR | Department of Transport and Main Roads | Pentland Hub |
| Kennedy Developmental Road (south) | TMR | Department of Transport and Main Roads | Hughenden Hub |
| Richmond Winton Road | TMR | Department of Transport and Main Roads | Richmond Hub |
| Julia Creek Kynuna Road | TMR | Department of Transport and Main Roads | Julia Creek Hub |
| Landsborough Highway | TMR | Department of Transport and Main Roads | Cloncurry Hub |
| Barkly Highway | TMR | Department of Transport and Main Roads | Cloncurry Hub |
| Burke Developmental Road | TMR | Department of Transport and Main Roads | Cloncurry Hub |
| Cloncurry Duchess Road | TMR | Department of Transport and Main Roads | Cloncurry Hub |
| Mount Isa Duchess Road | TMR | Department of Transport and Main Roads | Mount Isa |
| Diamantina Developmental Road | TMR | Department of Transport and Main Roads | Mount Isa |
| Boulia Mount Isa Road | TMR | Department of Transport and Main Roads | Mount Isa |

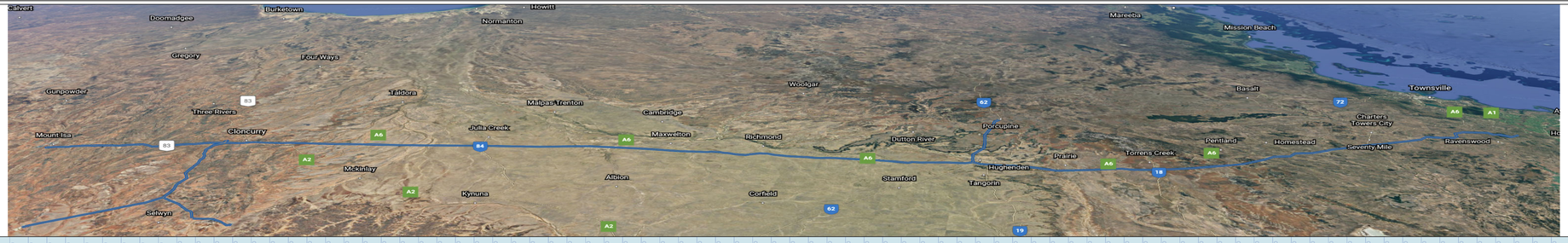
| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Prairie Road | Council | Flinders Shire Council | Hughenden Hub |
| Redcliffe Road | Council | Flinders Shire Council | Hughenden Hub |
| Unnamed Road (off Flinders Highway at Hughenden - to Hughenden Store) | Council | Flinders Shire Council | Hughenden Hub |
| Unnamed Road (off Flinders Highway at Hughenden - to Hughenden Camp) | Council | Flinders Shire Council | Hughenden Hub |
| Unnamed Road (off Flinders Highway - to PTL-FLR_284 to FLR-DJR_82) | Council | Flinders Shire Council | Hughenden Hub |
| Marathon Stamford Road | Council | Flinders Shire Council | Richmond Hub |
| Barabon Terranburby Road | Council | Flinders Shire Council | Richmond Hub |
| Minamere Nelia Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Yorkshire Nelia Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Proa Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Yorkshire Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Allison Street | Council | McKinlay Shire Council | Julia Creek Hub |
| Old Normanton Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Mckinlay Gilliat Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Ivellen Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Oorindi Mckinlay Road | Council | McKinlay Shire Council | Cloncurry Hub |
| Twenty Third Avenue | Council | Mount Isa City Council | Mount Isa |
| Diamantina Developmental Road (Council-owned section) | Council | Mount Isa City Council | Mount Isa |
| Benwell Street | Private | Private | Townsville/ Ayr |
| Unnamed Road (off Silver Valley Road) | Private | Private | Townsville/ Ayr |
| Braceborough Road (west) | Private | Private | Pentland Hub |
| Cotonvale Road | Private | Private | Hughenden Hub |
| Woodbine Access | Private | Private | Hughenden Hub |

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Kennedy Energy Park Access Track | Private | Private | Hughenden Hub |
| Thornhill Tamworth Road | Private | Private | Hughenden Hub |
| Oorindi Park Access Road | Private | Private | Cloncurry Hub |
| Powerhouse Road (Mount Isa) | Private | Private | Mount Isa |
| Benean Road | Council | Richmond Shire Council | Richmond Hub |
| Crawford Street | Council | Richmond Shire Council | Richmond Hub |
| Macgoffin Street | Council | Richmond Shire Council | Richmond Hub |
| Pattel Drive | Council | Richmond Shire Council | Richmond Hub |
| Maxwelton Kynuna Road | Council | Richmond Shire Council | Richmond Hub |
| Unnamed Road (off Maxwelton Kynuna Road) | Council | Richmond Shire Council | Richmond Hub |

# CopperString 2032 Detailed Project Program

Appendix B

pitt&sherry












Powerlink

COPPERSTRING 2032

# CopperString 2.0 Final ECI Submission

TiLOS

**Print Date: 17.07.2023**

CPB CONTRACTORS

UGL

Produced Luke Charet

Plan A

# CopperString 2032
# City of Townsville

Appendix C

pitt&sherry

# City of Townsville Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Archer Street | Council | City of Townsville | Townsville/ Ayr |
| Hubert Street | Council/ private | City of Townville / private | Townsville/ Ayr |
| Townsville Port Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Bruce Highway | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Ayr Dalbeg Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Flinders Highway | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Ayr Ravenswood Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Burdekin Falls Dam Road | TMR | Department of Transport and Main Roads | Townsville/ Ayr |
| Benwell Street | Private | Private | Townsville/ Ayr |
| Unnamed Road (off Silver Valley Road) | Private | Private | Townsville/ Ayr |


## Road Width

The City of Townsville roads in the study area and the width of each of these is shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 1 | Archer Street | 14.2m | No shoulder |
| 2 | Benwell Street | 4.2m lanes with central median | No shoulder |
| 3 | Hubert Street | 13.8m | No shoulder |

## Intersections

The City of Townsville intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| 1.1 | Archer Street | Hubert Street | | B-double approved | Unsignalised T-intersection |
| 4.1 | Townsville Port Road | Archer Street | | Type 2 road train approved | Unsignalised T-intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

# CopperString 2032
# Charters Towers Regional Council

Appendix D

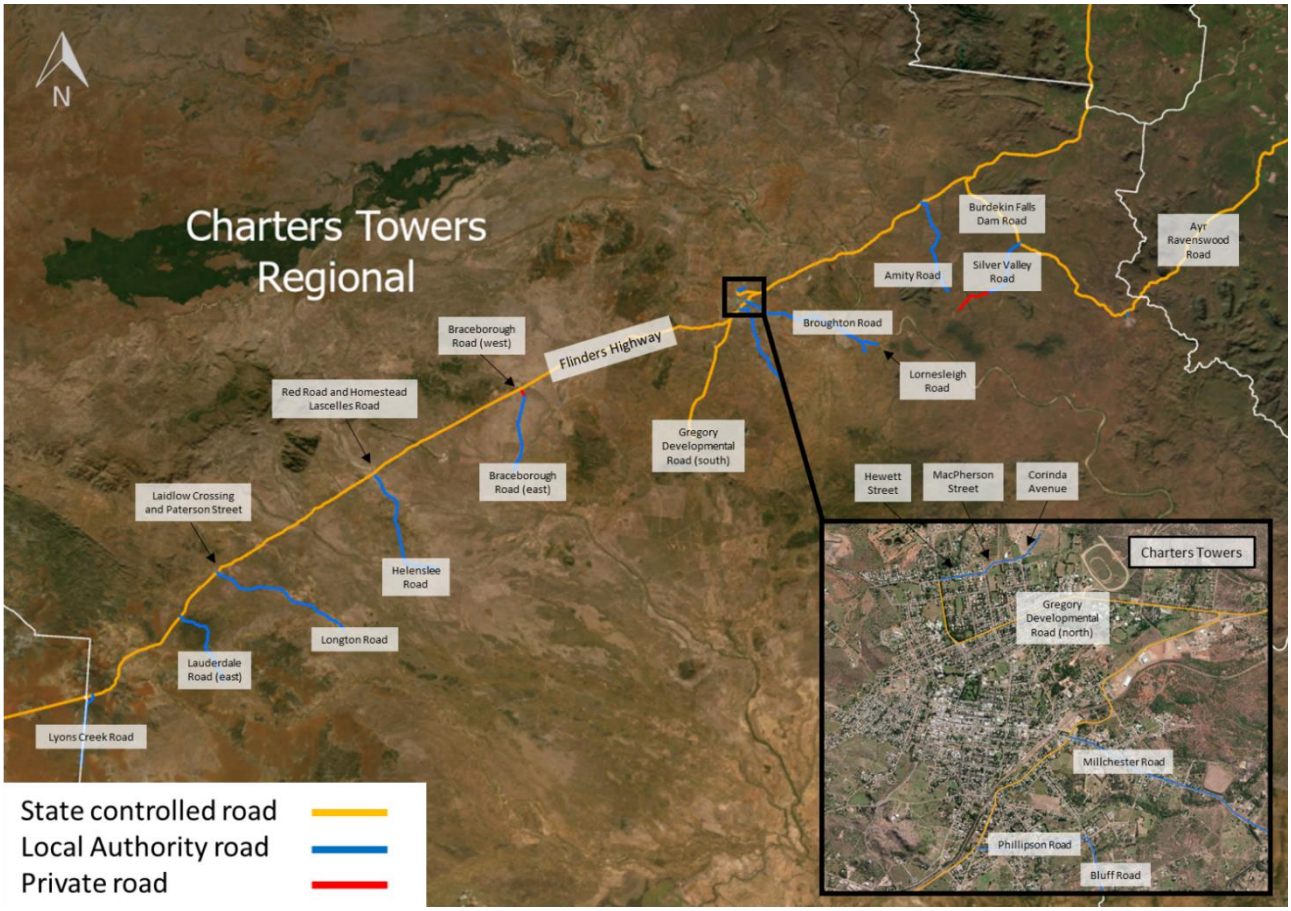
pitt&sherry

# Charters Towers Regional Council Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Downing Street | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Christie Street | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Silver Valley Road | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Amity Road | Council | Charters Towers Regional Council | Townsville/ Ayr |
| Millchester Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Macdonald Street | Council | Charters Towers Regional Council | Charters Towers Hub |
| Broughton Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Lornesleigh Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Cameron Downs Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Hewett Street | Council | Charters Towers Regional Council | Charters Towers Hub |
| Macpherson Street | Council | Charters Towers Regional Council | Charters Towers Hub |
| Corinda Avenue | Council | Charters Towers Regional Council | Charters Towers Hub |
| Phillipson Road | Council | Charters Towers Regional Council | Charters Towers Hub |
| Bluff Road | Council | Charters Towers Regional Council | Charters Towers Hub |

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Braceborough Road (east) | Council | Charters Towers Regional Council | Pentland Hub/ Charters Towers Hub |
| Red Road | Council | Charters Towers Regional Council | Pentland Hub |
| Homestead Lascelles Road | Council | Charters Towers Regional Council | Pentland Hub |
| Helenslee Road | Council | Charters Towers Regional Council | Pentland Hub |
| Laidlow Crossing | Council | Charters Towers Regional Council | Pentland Hub |
| Paterson Street | Council | Charters Towers Regional Council | Pentland Hub |
| Longton Road | Council | Charters Towers Regional Council | Pentland Hub |
| Lauderdale Road (east) | Council | Charters Towers Regional Council | Pentland Hub |
| Lyons Creek Road | Council | Charters Towers Regional Council | Pentland Hub |
| Gregory Developmental Road (north) | TMR | Department of Transport and Main Roads | Charters Towers Hub |
| Gregory Developmental Road (south) | TMR | Department of Transport and Main Roads | Charters Towers Hub |
| Aramac Torrens Creek Road | TMR | Department of Transport and Main Roads | Pentland Hub |
| Braceborough Road (west) | Private | Private | Pentland Hub |




## Road Width

The Charters Towers Regional Council roads in the study area and the width of each of these roads is shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 8 | Ayr Ravenswood Road | Variable - 4.2m to 10.5m | 0.0 to 0.3m |
| 9 | Downing Street | 9.6m | No shoulder provided |
| 10 | Christie Street | 9.3m | No shoulder provided |
| 11 | Burdekin Falls Dam Road | 6.0m to 8.5m | No shoulder provided |
| 12 | Silver Valley Road | 4.2m | No shoulder provided |
| 14 | Amity Road | 3.5 to 5.5m | 1.0m where provided |

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 15 | Gregory Developmental Road | 7.0m | 0.6m or greater |
| 16 | Millchester Road | 7.5m | 7.7m |
| 17 | Macdonald Street | 6.9m | No shoulder provided |
| 18 | Broughton Road | 6.0m | No shoulder provided |
| 19 | Lornesleigh Road | 3.9m | No shoulder provided |
| 20 | Cameron Downs Road | 3.8m | No shoulder provided |
| 21 | Hewett Street | 8.5m | No shoulder provided |
| 22 | Macpherson Street | 8.5m | No shoulder provided in areas, up to 2.0m in sections |
| 23 | Corinda Avenue | 6.0m | No shoulder provided |
| 24 | Phillipson Road | 10.2m | No shoulder provided |
| 25 | Bluff Road | Varies - 3.5m (gravel) to 7.8m (Charters Towers) | None on sealed sections, 0-1m on gravel |
| 26 | Gregory Developmental Road (south) | 6.7 to 7.0m | 0.0m to 1.3m |
| 27 | Braceborough Road (east) | 3.5m | No shoulder provided |
| 29 | Red Road | 4.9 to 6.1m | No shoulder provided |
| 30 | Homestead Lascelles Road | 4.4 to 6.0m | No shoulder provided |
| 31 | Helenslee Road | Variable - 2.3m to 10.0m | No shoulder provided |
| 32 | Laidlow Crossing | 6.1m | No shoulder provided |
| 33 | Paterson Street | 6.1m | No shoulder provided |
| 34 | Longton Road | Variable - 3.8 to 6.1m | No shoulder provided |

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 35 | Lauderdale Road (east) | Variable - 3.3 to 7.2m | No shoulder provided |

## Intersections

The Charters Towers Regional Council intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| **Intersections between SC and SC roads** | | | | | |
| 7.1 | Flinders Highway | Burdekin Falls Dam Road | | Type 2 road train approved | Unsignalised T-intersection |
| 11.1 | Burdekin Falls Dam Road | Ayr Ravenswood Road | | Not approved | Unsignalised T-intersection |
| 11.3 | Burdekin Falls Dam Road* (Hervey Street) | Burdekin Falls Dam Road | | Type 2 road train approved | Unsignalised T-intersection |
| 7.3 | Flinders Highway | Gregory Developmental Road (north) | | Type 2 road train approved | Unsignalised T-intersection |
| 7.6 | Flinders Highway | Gregory Developmental Road (south) | | Type 2 road train approved | Unsignalised T-intersection |
| **Intersections between SC and CTRC roads** | | | | | |
| 8.1 | Ayr Ravenswood Road | Downing Street | Murray Street | Not approved | Unsignalised 4-way intersection |
| 11.2 | Burdekin Falls Dam Road | Silver Valley Road | | Not approved | Unsignalised T-intersection |
| 7.2 | Flinders Highway | Amity Road | | Not approved | Unsignalised T-intersection |
| 7.4 | Flinders Highway | Millchester Road | | Type 1 road train approved | Unsignalised 4-way intersection |

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| 15.1 | Gregory Developmental Road (north)* (Dalrymple Road) | Bridge Street | Hackett Terrace | Type 2 road train approved | Unsignalised 4-way intersection |
| 15.2 | Gregory Developmental Road (north) | Hewett Street | | Not approved | Unsignalised 4-way intersection |
| 7.5 | Flinders Highway | Phillipson Road | | Not approved | Unsignalised T-intersection |
| 7.7 | Flinders Highway | Braceborough Road (west) | | Not approved | Unsignalised T-intersection |
| 7.8 | Flinders Highway | Red Road | | Not approved | Unsignalised T-intersection |
| 7.9 | Flinders Highway | Lauderdale Road (east) | | Not approved | Unsignalised T-intersection |
| 7.10 | Flinders Highway | Lyons Creek Road | | Not approved | Unsignalised T-intersection |
| **Intersections between CTRC and CTRC roads** | | | | | |
| 22.1 | Macpherson Street | Hewett Street | | Not approved | Unsignalised Y-intersection |
| 25.1 | Phillipson Road | Bluff Road | | Not approved | Unsignalised 4-way intersection |
| 19.1 | Lornesleigh Road | Cameron Downs Road | | Not approved | Unsignalised T-intersection |
| 27.1 | Braceborough Road (east) | Braceborough Road (east) | | Not approved | Unsignalised T-intersection |
| 31.1 | Helenslee Road | Helenslee Road | | Not approved | Unsignalised T-intersection |
| 33.1 | Paterson Street | Laidlow Crossing | | Type 2 road train | Unsignalised T-intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## Pavement/Road Surfaces

The Charters Towers Regional Council identified roads with an increase of 5% traffic volume are shown in the table below.

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 7 | Flinders Highway | TMR | Jun 2024-Sep 2028 (construction duration) | Overlap of:<br>• Transport of large items from Townsville Port to camps and transmission line<br>• Transmission line construction<br>• Substation construction; and<br>• Movements to/ from camps. |
| 8 | Ayr Ravenswood Road | TMR | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works<br>• Tower Assembly and Erection; and<br>• Line stringing. |
| 9 | Downing Street | CTRC | Nov 2025-Jun 2026 | Potential use of concrete batching plant |
| 10 | Christie Street | CTRC | Nov 2025-Jun 2026 | Potential use of concrete batching plant |
| 11 | Burdekin Falls Dam Road | TMR | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection |
| 12 | Silver Valley Road | CTRC | Nov 2025-Jun 2026 | Site establishment, civil and earthworks |
| 13 | Unnamed Road (off Silver Valley Road) | | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 14 | Amity Road | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works<br>• Tower Assembly and Erection; and<br>• Line stringing. |
| 15 | Gregory Developmental Road (north) | TMR | Nov 2025-Jun 2026 | Charters Towers camp operational traffic |
| 16 | Millchester Road | CTRC | Nov 2025-Jun 2026 | Site establishment, civil and earthworks |
| 17 | Macdonald Street | CTRC | Nov 2025-Jun 2026 | Site establishment, civil and earthworks |
| 18 | Broughton Road | CTRC | Nov 2025-Jun 2026 | Site establishment, civil and earthworks |
| 19 | Lornesleigh Road | CTRC | Nov 2025-Jun 2026 | Site establishment, civil and earthworks |
| 20 | Cameron Downs Road | CTRC | Nov 2025-Jun 2026 | Site establishment, civil and earthworks |
| 21 | Hewett Street | CTRC | Nov 2025-Jun 2026 | Charters Towers Camp Traffic |
| 22 | Macpherson Street | CTRC | Nov 2025-Jun 2026 | Charters Towers Camp Traffic |
| 23 | Corinda Avenue | CTRC | Nov 2025-Jun 2026 | Charters Towers Camp Traffic |
| 24 | Phillipson Road | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |
| 25 | Bluff Road | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 26 | Gregory Developmental Road (south) | TMR | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works<br>• Tower Assembly and Erection; and<br>• Line stringing. |
| 27 | Braceborough Road (east) | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |
| 29 | Red Road | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |
| 30 | Homestead Lascelles Road | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |
| 31 | Helenslee Road | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection |
| 32 | Laidlow Crossing | CTRC | Nov 2025-Jun 2026 | Pentland Camp Traffic |
| 33 | Paterson Street | CTRC | Nov 2025-Jun 2026 | Pentland Camp Traffic |
| 34 | Longton Road | CTRC | Nov 2025-Jun 2026 | Pentland Camp Traffic |
| 35 | Lauderdale Road (east) | CTRC | Nov 2025-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower Assembly and Erection. |

# CopperString 2032

# Flinders Shire

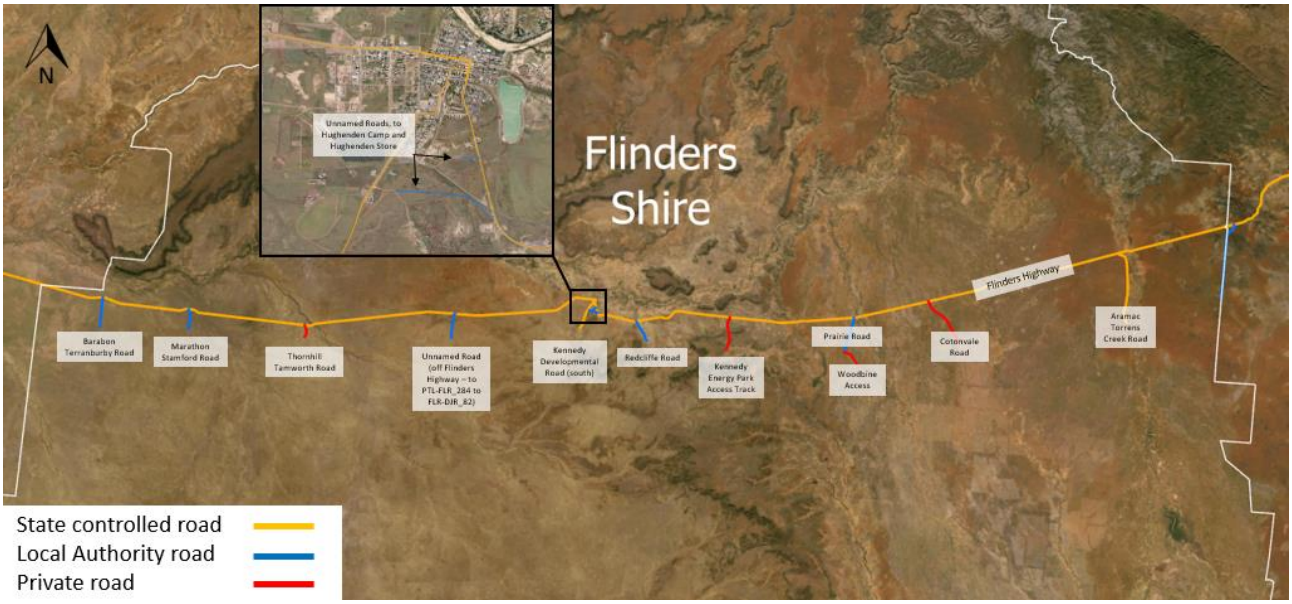
Appendix E

pitt&sherry

# Flinders Shire Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Aramac Torrens Creek Road | TMR | Department of Transport and Main Roads | Hughenden Hub |
| Kennedy Developmental Road (south) | TMR | Department of Transport and Main Roads | Hughenden Hub |
| Prairie Road | Council | Flinders Shire Council | Hughenden Hub |
| Redcliffe Road | Council | Flinders Shire Council | Hughenden Hub |
| Unnamed Road (off Flinders Highway at Hughenden - to Hughenden Store) | Council | Flinders Shire Council | Hughenden Hub |
| Unnamed Road (off Flinders Highway at Hughenden - to Hughenden Camp) | Council | Flinders Shire Council | Hughenden Hub |
| Unnamed Road (off Flinders Highway - to PTL-FLR_284 to FLR-DJR_82) | Council | Flinders Shire Council | Hughenden Hub |
| Marathon Stamford Road | FSC | Flinders Shire Council | Hughenden Hub |
| Barabon Terranburby Road | FSC | Flinders Shire Council | Hughenden Hub |
| Cotonvale Road | Private | Private | Hughenden Hub |
| Woodbine Access | Private | Private | Hughenden Hub |
| Kennedy Energy Park Access Track | Private | Private | Hughenden Hub |
| Thornhill Tamworth Road | Private | Private | Hughenden Hub |




## Road Width

The Flinders Shire roads in the study area and the width of each of these roads is shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 37 | Aramac Torrens Creek Road | 7.8 to 8.1m wide | No shoulder provided |
| 38 | Cotonvale Road | Unknown | Unknown |
| 39 | Prairie Road | 5.8 to 6.5m | No shoulder provided |
| 40 | Woodbine Access | Unknown | Unknown |
| 41 | Kennedy Energy Park Access Track | Unknown | Unknown |
| 42 | Redcliffe Road | Unknown | Unknown |
| 43 | Unnamed Road (off Flinders Highway at Hughenden – to Hughenden Store) | Unknown | Unknown |
| 44 | Unnamed Road (off Flinders Highway at Hughenden - to Hughenden Camp) | 3.0m | No shoulder provided |
| 45 | Kennedy Developmental Road (south) | 6.4 to 7.6m | Typically no shoulder provided, >6m shoulder at Hughenden |

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 46 | Unnamed Road (off Flinders Highway – to PTL-FLR_284 to FLR-DJR_82) | Unknown | Unknown |
| 47 | Thornhill Tamworth Road | Unknown | Unknown |
| 48 | Marathon Stamford Road | Variable - 3.6 to 6.3m | No shoulder provided |
| 49 | Barabon Terranburby Road | 6.4 to 7.9m | No shoulder provided |

## Intersections

The Finders Shire intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| **Intersections between SC and SC roads** | | | | | |
| 7.11 | Flinders Highway | Aramac Torrens Creek Road | | Type 2 road train approved | Unsignalised T-intersection |
| 7.17 | Flinders Highway | Kennedy Developmental Road (south) | | Type 2 road train approved | Unsignalised 4-way intersection |
| 45.1 | Resolution Street | Kennedy Developmental Road (south) | | Type 2 road train approved | Unsignalised 4-way intersection |
| **Intersections between SC and FSC roads** | | | | | |
| 7.11 | Flinders Highway | Aramac Torrens Creek Road | | Type 2 road train approved | Unsignalised T-intersection |
| 7.12 | Flinders Highway | Prairie Road | | Not approved | Unsignalised 4-way intersection |
| 7.14 | Flinders Highway | Redcliffe Road | | Not approved | Unsignalised T-intersection |

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| 7.15 | Flinders Highway | Unnamed Local Road (off Flinders Highway at Hughenden - south of Mount Isa Line) | | Not approved | Unsignalised T-intersection |
| 7.16 | Flinders Highway | Unnamed Road (off Flinders Highway at Hughenden - to Hughenden Camp) | | Not approved | Unsignalised T-intersection |
| 7.17 | Flinders Highway | Kennedy Developmental Road (south) | | Type 2 road train approved | Unsignalised 4-way intersection |
| 45.2 | Kennedy Developmental Road (south) | Mclaren Street | | Type 2 road train approved | Unsignalised T-intersection |
| 7.18 | Flinders Highway* (Gray Street) | Stansfield Street | | Type 2 road train approved | Unsignalised 4-way intersection |
| 7.19 | Flinders Highway | Unnamed Road (off Flinders Highway - to PTL-FLR_284 to FLR-DJR_82) | | Not approved | Unsignalised T-intersection |
| 7.20 | Flinders Highway | Marathon Stamford Road | | Not approved | Unsignalised 4-way intersection |
| 7.21 | Flinders Highway | Barabon Terranburby Road | | Not approved | Unsignalised 4-way intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## Pavement/Road Surfaces

The Flinders Shire identified roads with an increase of 5% of traffic volume is shown in the table below.

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 7 | Flinders Highway | TMR | Jun 2024-Sep 2028 (construction duration) | Overlap of:<br>• Transport of large items from Townsville Port to camps and transmission line<br>• Transmission line construction<br>• Substation construction; and<br>• Movements to/ from camps |
| 37 | Aramac Torrens Creek Road | TMR | Jun-Sep 2025 | Overlap of:<br>• Foundation works<br>• Tower assembly and erection; and<br>• Line stringing |
| 38 | Cotonvale Road | Private | Jun-Aug 2025 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |
| 39 | Prairie Road | FSC | Jun-Aug 2025 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |
| 40 | Woodbine Access | Private | Jun-Aug 2025 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |
| 41 | Kennedy Energy Park Access Track | Private | Jun-Sep 2025 | Overlap of:<br>• Foundation works<br>• Tower assembly and erection; and<br>• Line stringing |
| 42 | Redcliffe Road | FSC | Jun-Aug 2025 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |
| 44 | Unnamed Road (off Flinders Highway | FSC | Sep 2024-Jul 2026 | Operation of Hughenden Camp Hub |

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| | at Hughenden - to Hughenden Camp) | | | |
| 45 | Kennedy Developmental Road (south) | TMR | Apr-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |
| 46 | Unnamed Road (off Flinders Highway - to PTL-FLR_284 to FLR-DJR_82) | FSC | Apr-Jul 2026 | Overlap of:<br>• Foundation works<br>• Tower assembly and erection; and<br>• Line stringing |
| 47 | Thornhill Tamworth Road | Private | Apr-Jun 2026 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |
| 48 | Marathon Stamford Road | FSC | May-Jun 2025 | Site Establishment, Civil and Earthworks |
| 49 | Barabon Terranburby Road | FSC | May-Jul 2026 | Overlap of:<br>• Foundation works; and<br>• Tower assembly and erection |

# CopperString 2032
# Richmond Shire

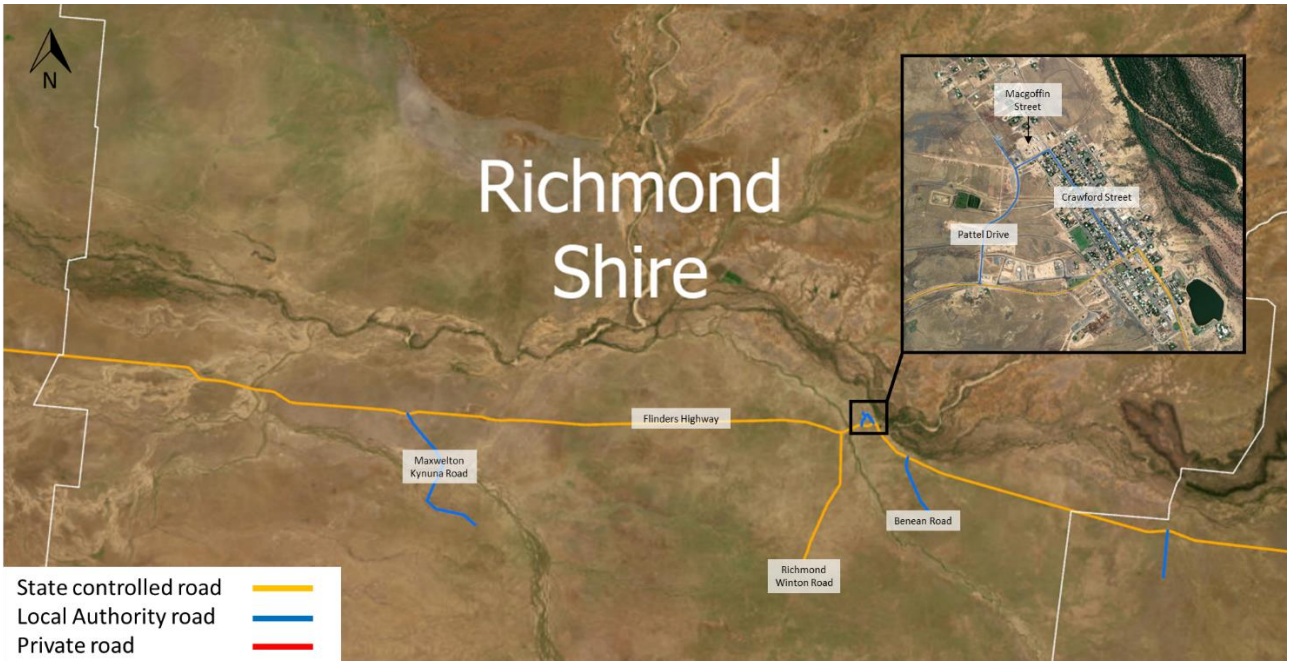
Appendix F

pitt&sherry

# Richmond Shire Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Benean Road | Council | Richmond Shire Council | Richmond Hub |
| Crawford Street | Council | Richmond Shire Council | Richmond Hub |
| Magoffin Street | Council | Richmond Shire Council | Richmond Hub |
| Pattel Drive | Council | Richmond Shire Council | Richmond Hub |
| Richmond Winton Road | TMR | Department of Transport and Main Roads | Richmond Hub |
| Maxwelton Kynuna Road | Council | Richmond Shire Council | Richmond Hub |
| Unnamed Road (off Maxwelton Kynuna Road) | Council | Richmond Shire Council | Richmond Hub |




## Road Width

The Richmond Shire roads in the study area and the width of each of these roads is shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 50 | Benean Road | 4m | No shoulder provided |
| 51 | Crawford Street | 32.3m | No shoulder provided |
| 52 | Magoffin Street | 22m | No shoulder provided |
| 53 | Pattel Drive | 8.3m | No shoulder provided |
| 54 | Richmond Winton Road | 2.9 to 4.7m | No shoulder provided |
| 55 | Maxwelton Kynuna Road | Variable - 3.4 to 5.9m | No shoulder provided |
| 56 | Unnamed Road (off Maxwelton Kynuna Road) | Variable - 3.5 to 5.9m | No shoulder provided |

## Intersections

The Richmond Shire intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| **Intersections between SC and SC roads** | | | | | |
| 7.23 | Flinders Highway* (Goldring Street - Richmond) | Flinders Highway (Larsen Street) | | Type 2 road train approved | Unsignalised 4-way intersection |
| 7.26 | Flinders Highway | Richmond Winton Road | | Type 2 road train approved | Unsignalised T-intersection |
| **Intersections between SC and LGA Roads** | | | | | |
| 7.22 | Flinders Highway | Benean Road | | Not approved | Unsignalised T-intersection |
| 7.24 | Flinders Highway | Crawford Street | | Type 2 road train approved | Unsignalised 4-way intersection |
| 7.25 | Flinders Highway | Pattel Drive | | Not approved | Unsignalised T-intersection |
| 7.27 | Flinders Highway | Maxwelton Kynuna Road | | Not approved | Unsignalised 4-way intersection |

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| **Intersections between LGA and LGA Roads** | | | | | |
| 52.1 | Crawford Street | Magoffin Street | | Not approved | Unsignalised T-intersection |
| 53.1 | Pattel Drive | Magoffin Street | | Not approved | Unsignalised T-intersection |
| 55.1 | Maxwelton Kynuna Road | Unnamed Road (off Maxwelton Kynuna Road) | | Not approved | Unsignalised Y-intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## Pavement/Road Surfaces

The Richmond Shire identified roads with an increase of 5% of traffic volume is shown in the table below.

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 50 | Benean Road | RSC | Jun-Aug 2026 | Tower assembly and erection |
| 53 | Pattel Drive | RSC | Feb 2025-Sep 2026 | Richmond Camp Hub operation |
| 54 | Richmond Winton Road | TMR | May-Aug 2026 | Overlap of:<br>• Tower Assembly and Erection; and<br>• Line stringing. |
| 55 | Maxwelton Kynuna Road | RSC | May-Aug 2026 | Overlap of:<br>• Tower Assembly and Erection; and<br>• Line stringing. |
| 56 | Unnamed Road (off Maxwelton Kynuna Road) | RSC | May-Aug 2026 | Overlap of:<br>• Tower Assembly and Erection; and<br>• Line stringing. |

# CopperString 2032
# McKinlay Shire

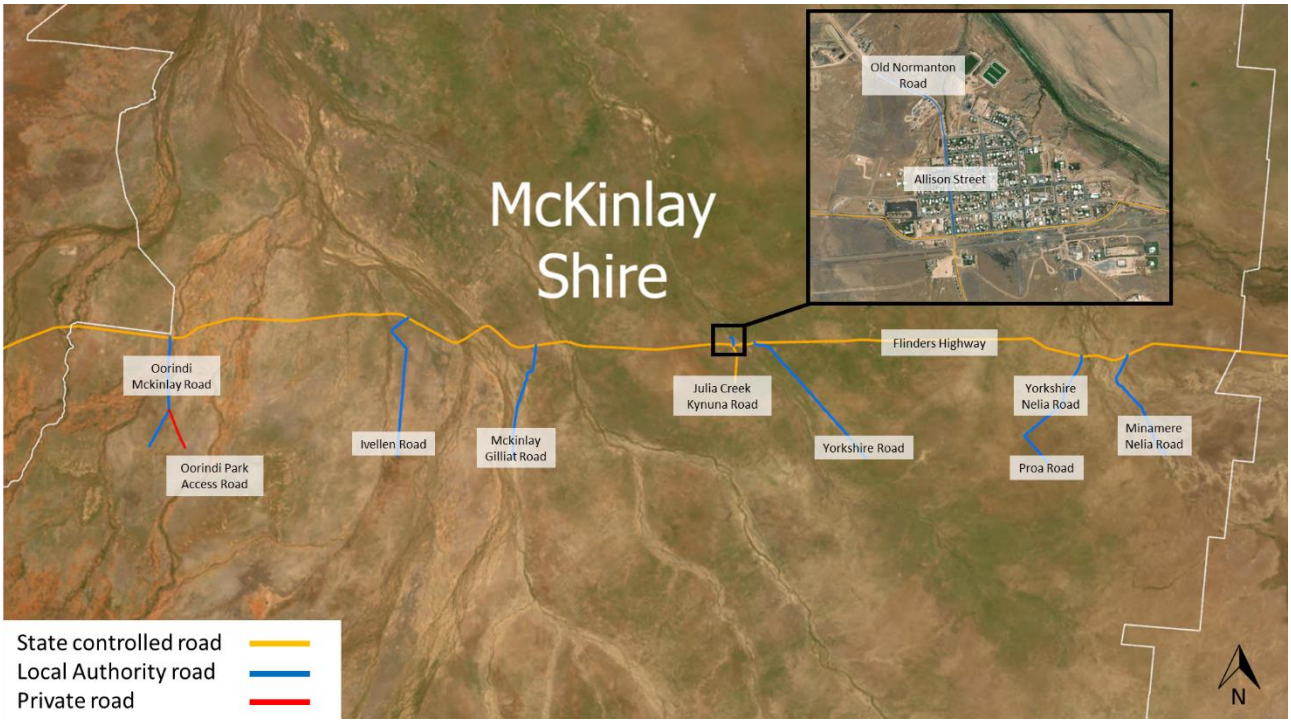
Appendix G

pitt&sherry

# McKinlay Shire Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Julia Creek Kynuna Road | TMR | Department of Transport and Main Roads | Julia Creek Hub |
| Minamere Nelia Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Yorkshire Nelia Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Proa Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Yorkshire Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Allison Street | Council | McKinlay Shire Council | Julia Creek Hub |
| Old Normanton Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Mckinlay Gilliat Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Ivellen Road | Council | McKinlay Shire Council | Julia Creek Hub |
| Oorindi Mckinlay Road | Council | McKinlay Shire Council | Cloncurry Hub |
| Oorindi Park Access Road | Private | McKinlay Shire Council | Cloncurry Hub |




## Road Width

The McKinlay Shire roads in the study area and the width of each of these roads is shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 57 | Minamere Nelia Road | Variable - 5.5m to 12.1m | No shoulder provided |
| 58 | Yorkshire Nelia Road | Variable - 8.2m to 10.5m | No shoulder provided |
| 59 | Proa Road | Variable - 3.0m to 3.7m | No shoulder provided |
| 60 | Yorkshire Road | Variable - 6.8m to 10.6m | No shoulder provided |
| 61 | Julia Creek Kynuna Road | Variable - 4.1m to 6.0m | No shoulder provided |
| 62 | Allison Street | 12.6m | 4.4m |
| 63 | Old Normanton Road | Variable - 4.5m to 6.5m | No shoulder provided |
| 64 | Mckinlay Gilliat Road | Variable – 3.5m to 6.4m | No shoulder provided |
| 65 | Ivellen Road | Variable - 3.4 to 10.1m | No shoulder provided |

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 66 | Oorindi Mckinlay Road | Variable - 5.6 to 6.0m | No shoulder provided |
| 67 | Oorindi Park Access Road | Inaccessible due to road conditions | |

## Intersections

The McKinlay Shire intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| **Intersections between SC and SC roads** | | | | | |
| 7.33 | Flinders Highway | Julia Creek Kynuna Road | | Type 2 road train approved | Unsignalised 4-way intersection |
| **Intersections between SC and MSC roads** | | | | | |
| 7.28 | Flinders Highway | Minamere Nelia Road | | Not approved | Unsignalised 4-way intersection |
| 7.29 | Flinders Highway | Yorkshire Nelia Road | | Not approved | Unsignalised T-intersection |
| 7.30 | Flinders Highway | Yorkshire Road | | Not approved | Unsignalised T-intersection |
| 7.31 | Flinders Highway | Burke Street (eastern intersection) | | Not approved | Unsignalised T-intersection |
| 7.32 | Flinders Highway | Burke Street (western intersection) | | Not approved | Unsignalised T-intersection |
| 7.34 | Flinders Highway | Allison Street | | Not approved | Unsignalised 4-way intersection |
| 7.35 | Flinders Highway | Mckinlay Gilliat Road | | HML approved | Unsignalised T-intersection |
| 7.36 | Flinders Highway | Ivellen Road | | Not approved | Unsignalised T-intersection |

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| 7.37 | Flinders Highway | Oorindi Mckinlay Road | | Not approved | Unsignalised T-intersection |
| **Intersections between MSC and MSC roads** | | | | | |
| 58.1 | Yorkshire Nelia Road | Proa Road | | Not approved | Unsignalised T-intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## Pavement/Road Surfaces

The McKinlay Shire identified roads with an increase of 5% of traffic volume is shown in the table below.

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 7 | Flinders Highway | TMR | Jun 2024-Sep 2028 (construction duration) | Overlap of:<br>• Transport of large items from Townsville Port to camps and transmission line<br>• Transmission line construction<br>• Substation construction; and<br>• Movements to/ from camps. |
| 57 | Minamere Nelia Road | MSC | Aug-Nov 2026 | Overlap of:<br>• Tower assembly and erection; and<br>• Line stringing. |
| 58 | Yorkshire Nelia Road | MSC | Aug-Nov 2026 | Overlap of:<br>• Tower assembly and erection; and<br>• Line stringing. |
| 59 | Proa Road | MSC | Aug-Nov 2026 | Overlap of:<br>• Tower assembly and erection; and<br>• Line stringing. |

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 60 | Yorkshire Road | MSC | Sep-Dec 2026 | Overlap of:<br>• Tower assembly and erection; and<br>• Line stringing. |
| 61 | Julia Creek Kynuna Road | TMR | Oct 2026 | Tower Assembly and Erection |
| 62 | Allison Street | MSC | Sep 2025-May 2027 | Julia Creek Camp Hub operation |
| 63 | Old Normanton Road | MSC | Sep 2025-May 2027 | Julia Creek Camp Hub operation |
| 64 | Mckinlay Gilliat Road | MSC | Nov 2026 | Tower Assembly and Erection |
| 65 | Ivellen Road | MSC | Oct 2026-May 2027 | Overlap of:<br>• Tower assembly and erection; and<br>• Line stringing. |
| 66 | Oorindi Mckinlay Road | MSC | Oct 2026-May 2027 | Overlap of:<br>• Tower assembly and erection; and<br>• Line stringing. |

# CopperString 2032
# Shire of Cloncurry

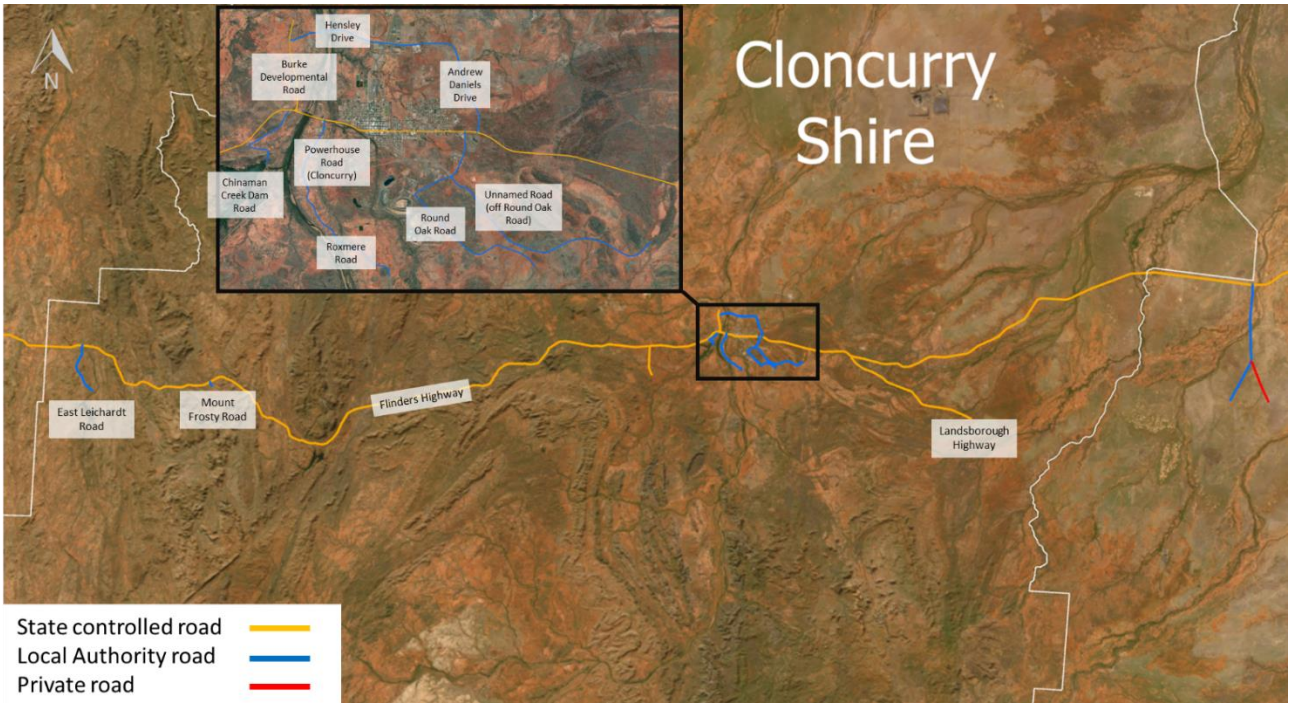
Appendix H

pitt&sherry

# Shire of Cloncurry Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Andrew Daniels Drive | Council | Cloncurry Shire Council | Cloncurry Hub |
| Hensley Drive | Council | Cloncurry Shire Council | Cloncurry Hub |
| Round Oak Road | Council | Cloncurry Shire Council | Cloncurry Hub |
| Unnamed Road (off Round Oak Road) | Council | Cloncurry Shire Council | Cloncurry Hub |
| Powerhouse Road (Cloncurry) | Council | Cloncurry Shire Council | Cloncurry Hub |
| Roxmere Road | Council | Cloncurry Shire Council | Cloncurry Hub |
| Chinaman Creek Dam Road | Council | Cloncurry Shire Council | Cloncurry Hub |
| Mount Frosty Road | Council | Cloncurry Shire Council | Mount Isa |
| East Leichardt Road | Council/ private | Cloncurry Shire Council | Mount Isa |
| Mount Isa Duchess Road (Council-owned section) | Council | Cloncurry Shire Council | Mount Isa |
| Landsborough Highway | TMR | Department of Transport and Main Roads | Cloncurry Hub |
| Burke Developmental Road | TMR | Department of Transport and Main Roads | Cloncurry Hub |
| Cloncurry Duchess Road | TMR | Department of Transport and Main Roads | Cloncurry Hub |




## Road Width

The Shire of Cloncurry roads in the study area and the width of each of these roads are shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 68 | Landsborough Highway | 7.0 to 7.2m | 0.2 to 0.5m |
| 69 | Andrew Daniels Drive | 7.1 to 7.5m | 1.2 to 1.5m |
| 70 | Hensley Drive | 7.3 to 8.5m | Variable – 0.5 to 1.5m |
| 71 | Round Oak Road | 7.1 to 7.5m | 1 to 1.2m north of Mount Isa Line, not provided south of Mount Isa Line |
| 72 | Unnamed Road (off Round Oak Road) | 3.5m | No shoulder provided |
| 74 | Powerhouse Road (Cloncurry) | 7.0m | Variable – 0.8 to 2.1m |
| 75 | Roxmere Road | 7.0 to 8.5m | No shoulder provided |
| 76 | Burke Developmental Road | 7.0 to 7.2m | 0.3m |

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 77 | Chinaman Creek Dam Road | 6.7 to 7.5m | No shoulder provided |
| 78 | Cloncurry Duchess Road | 6.0 to 6.5m | No shoulder provided |
| 79 | Mount Frosty Road | 6.6m | No shoulder provided |
| 80 | East Leichardt Road | 5.0 to 6.3m | No shoulder provided |

## Intersections

The Shire of Cloncurry intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | HV approval | Intersection Type |
|---|---|---|---|---|
| | Road 1 | Road 2 | | |
| **Intersections between SC and SC roads** | | | | |
| 7.38 | Flinders Highway | Landsborough Highway | Type 2 road train approved | Unsignalised T-intersection |
| 73.2 | Barkly Highway | Burke Developmental Road | Type 2 road train approved | Unsignalised T-intersection |
| 73.4 | Barkly Highway | Cloncurry Duchess Road | Type 2 road train approved | Unsignalised T-intersection |
| **Intersections between SC and CSC roads** | | | | |
| 7.39 | Flinders Highway | Andrew Daniels Drive | Type 2 road train approved | Unsignalised T-intersection |
| 7.40 | Flinders Highway | Round Oak Road | Type 2 road train approved | Unsignalised T-intersection |
| 76.1 | Burke Developmental Road | Hensley Drive | Type 2 road train approved | Unsignalised T-intersection |
| 73.1 | Barkly Highway | Powerhouse Road (Cloncurry) | Type 2 road train approved | Unsignalised T-intersection |
| 73.3 | Barkly Highway | Chinaman Creek Dam Road | Not approved | Unsignalised T-intersection |
| 73.5 | Barkly Highway | Mount Frosty Road | Not approved | Unsignalised T-intersection |
| 73.6 | Barkly Highway | East Leichardt Road | Not approved | Unsignalised T-intersection |

| Intersection ID | Intersection | | HV approval | Intersection Type |
|---|---|---|---|---|
| | Road 1 | Road 2 | | |
| **Intersections between CSC and CSC roads** | | | | |
| 71.1 | Round Oak Road | Unnamed Road (off Round Oak Road) | Not approved | Unsignalised T-intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## Pavement/Road Surfaces

The Shire of Cloncurry identified roads with an increase of 5% of traffic volume are shown in the table below.

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 7 | Flinders Highway | TMR | Jun 2024-Sep 2028 (construction duration) | Overlap of:<br>• Transport of large items from Townsville Port to camps and transmission line<br>• Transmission line construction<br>• Substation construction; and<br>• Movements to/ from camps. |
| 68 | Landsborough Highway | TMR | Jun-Jul 2026 | Site establishment, civil and earthworks |
| 69 | Andrew Daniels Drive | CSC | Jul 2026-Oct 2027 | Cloncurry camp operational traffic |
| 70 | Hensley Drive | CSC | Jul 2026-Oct 2027 | Cloncurry camp operational traffic |
| 71 | Round Oak Road | CSC | Jun-Jul 2026 | Site establishment, civil and earthworks |
| 72 | Unnamed Road (off Round Oak Road) | CSC | Jun-Jul 2026 | Site establishment, civil and earthworks |
| 73 | Barkly Highway | TMR | Jun 2024-Sep 2028 (construction duration) | Overlap of:<br>• Transport of large items from Townsville Port to camps and transmission line |

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| | | | | • Transmission line construction<br>• Substation construction; and<br>• Movements to/ from camps. |
| 74 | Powerhouse Road (Cloncurry) | CSC | Jun-Jul 2026 | Site establishment, civil and earthworks |
| 75 | Roxmere Road | CSC | Jun-Jul 2026 | Site establishment, civil and earthworks |
| 76 | Burke Developmental Road | TMR | Jul 2026-Oct 2027 | Cloncurry camp operational traffic |
| 78 | Cloncurry Duchess Road | TMR | Mar-Apr 2027 | Tower Assembly and Erection |
| 79 | Mount Frosty Road | CSC | Aug-Sept 2026 | Site establishment, civil and earthworks |
| 80 | East Leichardt Road | CSC | Aug-Sept 2026 | Site establishment, civil and earthworks |

# CopperString 2032
# City of Mount Isa

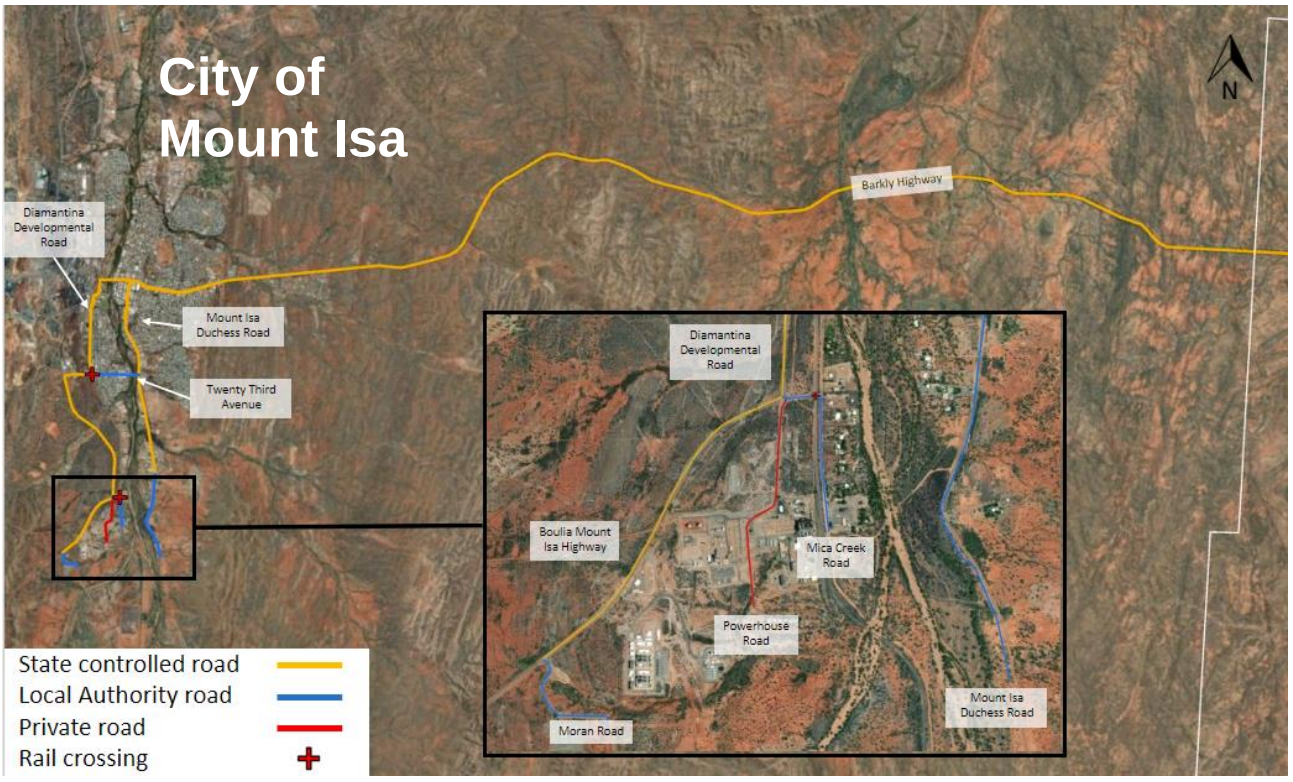
Appendix I

pitt&sherry

# City of Mount Isa Road Network

## Impacted Roads

| Road Name | ROAD OWNER | COUNCIL | HUB |
|---|---|---|---|
| Mount Isa Duchess Road | TMR | Department of Transport and Main Roads | Mount Isa |
| Diamantina Developmental Road | TMR | Department of Transport and Main Roads | Mount Isa |
| Boulia Mount Isa Highway | TMR | Department of Transport and Main Roads | Mount Isa |
| Mount Isa Duchess Road (Council-owned section) | MICC | Mount Isa City Council | Mount Isa |
| Twenty Third Avenue | Council | Mount Isa City Council | Mount Isa |
| Diamantina Developmental Road (Council-owned section) | Council | Mount Isa City Council | Mount Isa |
| Moran Road | MICC/ Private | Mount Isa City Council/ Private | Mount Isa |
| Mica Creek Road | MICC | Mount Isa City Council | Mount Isa |
| Powerhouse Road (Mount Isa) | Private | Private | Mount Isa |



## Road Width

The City of Mount Isa roads in the study are and the width of each of these roads is shown in the table below.

| Road ID | Road Name | Road Width | Shoulder Width |
|---|---|---|---|
| 81 | Mount Isa Duchess Road | Variable - Typically 6.2 to 8.8m south of Mount Isa CBD | No shoulder provided south of Mount Isa CBD |
| 82 | Mount Isa Duchess Road (Council-owned section) | Variable - 3.3m to 9.1m | No shoulder provided |
| 83 | Diamantina Developmental Road | 6.0m to 7.0m | No shoulder provided |
| 84 | Twenty Third Avenue | 12.5m | No shoulder provided |
| 85 | Diamantina Developmental Road (Council-owned section) | 7.6m | No shoulder provided |
| 86 | Powerhouse Road (Mount Isa) | 5.0m to 7.0m | 0.0 to 0.5m wide |
| 87 | Boulia Mount Isa Road | 8.0m | No shoulder provided |
| 88 | Moran Road | 6.6m to 7.7m | No shoulder provided |
| 89 | Mica Creek Road | 6.4m to 6.7m | No shoulder provided |

## Intersections

The City of Mount Isa intersections in the study area, their control type and current approval is shown in the table below.

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| 73.7 | Barkly Highway | Mount Isa Duchess Road | | Type 2 road train approved | Signalised 4-way intersection |
| 81.1 | Mount Isa Duchess Road | Rodeo Drive | | Type 2 road train approved | Roundabout |
| 81.2 | Mount Isa Duchess Road | Twenty Third Avenue | | Type 2 road train approved | Unsignalised T-intersection |

| Intersection ID | Intersection | | | HV approval | Intersection Type |
|---|---|---|---|---|---|
| | Road 1 | Road 2 | Road 3 | | |
| 73.8 | Barkly Highway | Diamantina Developmental Road | | Type 2 road train approved | Signalised T-intersection |
| 83.1 | Diamantina Developmental Road | Twenty Third Avenue | | Type 2 road train approved | Unsignalised Y-intersection |
| 83.2 | Diamantina Developmental Road | Diamantina Developmental Road (Council owned) | | Type 2 road train approved | Unsignalised Y-intersection |
| 89.1 | Mica Creek Road | Diamantina Developmental Road (Council owned) | | Type 2 road train approved | Unsignalised T-intersection |
| 87.1 | Boulia Mount Isa Road | Moran Road | | Not approved | Unsignalised T-intersection |

## Road Width Suitability and Level of Service

The Project's expectation is that all existing roads are suitable for two-way movements of B-double trucks.

## Pavement/Road Surfaces

The City of Mount Isa identified roads with an increase of 5% of traffic volume is shown in the table below.

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 73 | Barkly Highway | TMR | Jun 2024-Sep 2028 (construction duration) | Overlap of;<br>• Transport of large items from Townsville Port to camps and transmission line<br>• Transmission line construction<br>• Substation construction; and<br>• Movements to / from camps |
| 81 | Mount Isa Duchess Road | TMR | Oct 2026 | Site establishment, civil and earthworks |

| Road ID | Road | Road Owner | Expected busiest period | Activity/ies resulting in highest traffic generation |
|---|---|---|---|---|
| 82 | Mount Isa Duchess Road (Council-owned section) | MICC | Oct 2026 | Site establishment, civil and earthworks |
| 83 | Diamantina Developmental Road | TMR | Oct 2026 | Site establishment, civil and earthworks |
| 84 | Twenty Third Avenue | MICC | Oct 2026 | Site establishment, civil and earthworks |
| 85 | Diamantina Developmental Road (Council-owned section) | MICC | Oct 2026 | Site establishment, civil and earthworks |
| 86 | Powerhouse Road (Mount Isa) | Private | Oct 2026 | Site establishment, civil and earthworks |
| 87 | Boulia Mount Isa Road | TMR | Oct 2026 | Site establishment, civil and earthworks |
| 88 | Moran Road | MICC (initial 600m from Boulia Mount Isa Highway, private thereafter) | Oct 2026 | Site establishment, civil and earthworks |

pitt&sherry

# CopperString 2032

# Road Use Management Plan – Local Government Authorities