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Powerlink Queensland

Theodore Wind Farm Connection Project

Ministerial Infrastructure
Designation - Response to
Consultation Submissions &
State Agencies
Submissions

wsp

July 2026

Question today *Imagine tomorrow* Create for the future

Theodore Wind Farm Connection Project Ministerial Infrastructure Designation - Response to Consultation Submissions & State Agencies Submissions

Powerlink Queensland

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Appendix A Traffic Impact Assessment (Supporting Assessment Memo)

Abbreviations

AADT	Annual Average Daily Traffic
ADR	Accepted Development Requirements
ARR	Australian Rainfall and Runoff
AS	Australian Standard
ASS	Acid Sulfate Soils
BESS	Battery Energy Storage System
BHA	Bushfire Hazard Assessment
BMP	Biosecurity Management Plan
CHID	Cultural Heritage Implementation Document
CHMA	Cultural Heritage Management Agreement
CHMP	Cultural Heritage Management Plan
CEMP	Construction Environmental Management Plan
CSR	Corridor Selection Report
DCDB	Digital Cadastral Database
DETSI	Department of Environment, Tourism, Science and Innovation
DLGWV	Department of Local Government, Water and Volunteers
DPI	Department of Primary Industries
DSDIP	Department of State Development, Infrastructure and Planning
EAR	Ecological Assessment Report
EMP	Environmental Management Plan
EP	Equivalent Population
EP Act	<i>Environmental Protection Act 1994</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
ERA	Environmentally Relevant Activity
ESCP	Erosion and Sediment Control Plan
EWP	Environmental Work Plan
GTIA	Guide to Traffic Impact Assessment
IECA	International Erosion Control Association
MID	Ministerial Infrastructure Designation
MNES	Matters of National Environmental Significance
MSP	Managed Service Provider (if this is how Powerlink uses the acronym in EWPs)
MSES	Matters of State Environmental Significance

PMAV	Property Map of Assessable Vegetation
QFES	Queensland Fire and Emergency Services
QFD	Queensland Fire Department
Qld	Queensland
RE	Regional Ecosystem
RPEQ	Registered Professional Engineer of Queensland
RUMP	Road Use Management Plan
SCADA	Supervisory Control and Data Acquisition
SIMP	Social Impact Management Plan
SIA	Social Impact Assessment
SIDRA	Signalised and Unsignalised Intersection Design and Research Aid
SMP	Species Management Program
SRI	Significant Residual Impact
TIA	Traffic Impact Assessment
TMR	Department of Transport and Main Roads
WWBW	Waterway Barrier Works
WSP	WSP Australia Pty Ltd

Executive summary

The Theodore Wind Farm Connection Project (the Project) is being assessed under the Ministerial Infrastructure Designation (MID) process. As part of this process, the MID Proposal Report was put on public display, providing an opportunity for community members, government agencies and Banana Shire Council to provide feedback on the Project.

During the consultation period, submissions were received from members of the community, six State government agencies and Banana Shire Council. Key matters raised included agricultural land use and productivity, biosecurity, traffic and road infrastructure, waterway crossings, biodiversity, bushfire management, cultural heritage, cumulative impacts, workforce accommodation and stakeholder engagement.

This report documents Powerlink's response to all submissions received and outlines how stakeholder feedback has been considered during the ongoing development and assessment of the Project. Responses clarify assessment findings, provide additional technical information, and detail management measures to be implemented during the design, construction, and operational phases.

As a result of the consultation process, the environmental documentation for the Project has been reviewed and updated as appropriate. This includes updates to technical assessments, clarification of approval pathways and legislative requirements, refinement of environmental mitigation measures, ongoing engagement commitments with landholders and stakeholders, and confirmation of management measures for biosecurity, traffic, cultural heritage, waterway crossings, ecological values and construction practices, among others. In addition, refinements to the Project design have resulted in updates to the MID disturbance footprint, including infrastructure micro-siting, minor access track modifications, and alignment adjustments associated with cadastral updates and efforts to further avoid and minimise impacts on environmental values where practicable.

The consultation process has provided valuable input to support the continued development of the Project. Powerlink will continue to work collaboratively with landholders, Traditional Owners, government agencies, Council and the broader community throughout the remaining approvals, detailed design and delivery phases of the Project.

1 Project overview and assessment process

The Theodore Wind Farm Connection Project (the Project) forms part of the infrastructure required to connect the proposed Theodore Wind Farm to Queensland's electricity transmission network. The Project comprises the construction of a new 275 kilovolt (kV) substation, known as the Castle Creek Substation, and approximately 55.4 kilometres of new double-circuit 275 kV transmission line extending north to the proposed Mt Benn Substation, which forms part of the separate Banana Range Wind Farm Connection Project.

RWE Renewables Australia (RWE) is proposing the Theodore Wind Farm, a 1,100 megawatt (MW) renewable energy facility and associated 200 MW battery energy storage system (BESS), located approximately 22 km east of Theodore. Powerlink Queensland (Powerlink), as Queensland's transmission network service provider, has been engaged by RWE to deliver the connection between the wind farm and the high-voltage transmission network.

The Project is being assessed under the Ministerial Infrastructure Designation (MID) provisions of the *Planning Act 2016*. Following initial discussions with the Department of State Development, Infrastructure and Planning (DSDIP), including a pre-lodgement meeting held on 14 April 2025, it was confirmed that assessment through the MID process was the appropriate approval pathway.

Preliminary stakeholder engagement was undertaken during Project development to inform corridor selection and Project design. Following endorsement of the MID Proposal by the Minister for Planning on 21 November 2025, the MID Proposal Report was lodged on 8 December 2025 for assessment.

As part of the MID process, a public consultation period ran from 20 February 2026 to 24 March 2026. During this period, submissions were received from community members and technical government agencies. Banana Shire Council also provided a submission following the close of the consultation period.

This report has been prepared to document and respond to all submissions received during the consultation period. The report provides additional information, clarifies assessment findings, and outlines amendments, commitments, and management measures adopted by the Project in response to stakeholder feedback.

This document has been prepared to provide responses to all submissions received, please refer to section 3.

2 Project refinements and updated disturbance footprint

Since lodgement of the MID Proposal, ongoing design development, environmental reviews and constructability assessments have resulted in refinements to the Project footprint. The primary changes to the disturbance footprint are associated with infrastructure micro-siting undertaken during preliminary design development and the inclusion of additional turn-in areas required to facilitate safe access to and from access tracks. These refinements were undertaken to optimise the Project layout, improve constructability and operational access, and, where practicable, avoid and minimise impacts on environmental values. This included refining the location of infrastructure and temporary work areas to reduce impacts on watercourses, native vegetation and other environmentally sensitive features, while maintaining the Project's technical and operational requirements.

The footprint updates to cadastral information following a Digital Cadastral Database (DCDB) correction resulted in minor alignment adjustments across several land parcels, including Lots 47/SP232217, 9/FN319, 12/FN321, 1/RL6869 and 11/FN293. These adjustments reflect updates to property boundary locations and resulted in localised shifts to the Project alignment of up to approximately 15 metres. The alignment refinements do not alter the overall Project intent or function and have been incorporated into the updated disturbance footprint presented in the revised mapping and assessment figures in the MID Proposal Report.

The updated disturbance footprint serves as the basis for the revised environmental assessments in this addendum and reflects the most current design available at the time of assessment. These addendums are presented in the updated version of the MID Proposal Report and the Ecological Assessment Report (Appendix E of the MID Proposal Report).

2.1 Definitions

2.1.1 *Project Area*

The Project Area is the broader area associated with the Theodore Wind Farm Connection Project and encompasses all land potentially required for the development, construction, operation and maintenance of the Project, including the transmission line corridor, substation site, access tracks and associated temporary and permanent infrastructure.

2.1.2 *MID Proposal Area*

The MID Proposal Area is the area subject to assessment and approval under the MID process. It represents the designated planning footprint within which Project infrastructure and associated activities may occur and provides flexibility for detailed design refinement during subsequent Project phases.

2.1.3 *MID Disturbance Footprint*

The MID Disturbance Footprint is the specific area of land anticipated to be physically disturbed by Project activities within the area subject to ministerial designation. This includes permanent infrastructure such as transmission towers, substations and access tracks (located within easement), as well as temporary disturbance areas required during construction, including laydown areas, construction compounds, brake and winch sites and temporary workspaces. The MID Disturbance Footprint represents a subset of the MID Proposal Area and forms the basis of the environmental impact assessments presented in the Project documentation.

2.2 Other changes

2.2.1 *Construction hours*

A further amendment to the MID Proposal Report relates to the proposed construction hours for the Project.

Construction hours have been revised from Monday to Saturday, 6:30 am to 6:30 pm, to Monday to Sunday, 6:30 am to 6:30 pm. This amendment provides additional flexibility for construction scheduling and delivery of the Project, while maintaining the same daily operating hours.

No routine or planned night works are proposed as part of the Project. Should night works be required in exceptional circumstances, these activities will be infrequent and undertaken only when necessary. In such instances, Powerlink will consult with the relevant local authority and other applicable regulatory agencies, as required, and implement appropriate management measures to minimise potential impacts on nearby landholders and sensitive receivers. Construction activities will continue to be undertaken in accordance with the Project's environmental management commitments and any applicable approval conditions.

3 Submissions

3.1 Community submissions

3.1.1 Submission – MID-1225-0981 – SUB001

Table 3.1 Community Submissions - MID-1225-0981 – SUB001

Submission	Response
Hi, If you wish to talk my number is below and also my address. (my office door is always open). If you think you can leave you're shiny office for a few moments and come and see some real world issues my door is open. To me and my family you are not Honourable for the choices you are making without decent interaction and conversation. (communication is key something governing bodies know nothing about). But I guess that is government these days. Time to stand up and be present for the state not just fire crap emails out hiding behind silver door. And also if you want to put a bogus email address for the so called minister at least get it right. We are doomed with such incompetent people at the helm. Thanks (everyone dealing with you and power link).	Powerlink acknowledges the submission regarding the importance of communication with the Project's stakeholders. Powerlink is committed to effective and genuine engagement practices with landholders and has maintained regular communication with directly affected and adjacent landholders since October 2024. The Project has a dedicated Landholder Relations Advisor, who is responsible for leading engagement with landholders along the Project corridor, including providing Project updates, facilitating property access, and managing enquiries. Landholders have direct contact details for the Landholder Relations Advisor, providing convenient, personalised service for their Project-related matters. Powerlink will continue this engagement throughout the planning and environmental approvals phase, extending through to construction and operations. If you have any concerns or queries, please feel free to contact our Landholder Relations Advisor, Matthew Allen on 0429 214 892 or landholderrelations@powerlink.com.au.

3.1.2 Submission – MID-1225-0981 – SUB002

Table 3.2 Community Submissions - MID-1225-0981 – SUB002

Submission	Response
The applicant/developer is to engage further with Ergon in regard to the transmission line location and construction and the proximity of works to existing infrastructure and surrounding land uses.	Powerlink acknowledges the submission regarding the engagement and coordination of the proposed infrastructure and safety matters with Ergon. Powerlink is committed to ongoing engagement with Ergon Energy regarding the transmission line location and construction, including consideration of the proximity of proposed works to existing infrastructure and surrounding land uses.
Ergon’s existing infrastructure including the 12.7 kV overhead lines. Safety clearances and exclusion zones to overhead electricity wire must be achieved in accordance with the Electrical Safety Regulation 2013. <i>Note: Compliance with the Electrical Safety Act 2002, including any Code of Practice under the Act and the Electrical safety Regulation 2013 including any safety exclusion zones defined in the Regulation is mandatory.</i>	Powerlink will work closely with Ergon to determine a suitable methodology for the line crossing, including whether a brief supply interruption is required. The transmission line will be designed and constructed in line with the <i>Electricity Safety Act 2000</i> , including any Code of Practice under the Act and the Electrical Safety Regulation 2013, such that it does not cross the existing Powerlink transmission line.
All works proposed to be undertaken in close proximity to Ergon’s overhead electrical lines are to be undertaken in accordance with Ergon’s Works Practice Manual WP1323.	Powerlink will ensure that all works proposed to be undertaken in close proximity to overhead or underground electrical lines will be undertaken in accordance with Ergon’s Works Practice Manual WP1323.

3.1.3 Submission – MID-1225-0981 – SUB003

The purpose of this submission is to provide formal comment on the proposed Theodore Wind Farm Connection transmission line project.

LCC is a family-owned and operated sustainable beef enterprise located on Barfield Road in the Banana Shire, Central Queensland. Operating since 1988, LCC maintains a strong commitment to responsible land stewardship and recognises its role in supporting global food security and contributing to climate mitigation efforts. As producers of safe, nutritious, and sustainably raised beef, LCC understands the growing importance of reliable protein production to meet the needs of an increasing population.

LCC supports the transition to renewable energy and acknowledges the importance of developing clean energy infrastructure for Queensland’s long-term energy resilience. However, the company holds significant concerns regarding the construction and alignment of the proposed transmission line across productive agricultural land, as well as the broader effects on rural communities.

The current proposal directly impacts LCC through the placement of transmission infrastructure within the property boundary and the anticipated construction activities on neighbouring properties. These impacts require careful consideration to ensure that agricultural productivity, land use capability, and community wellbeing are not compromised during the planning and construction phases of the project.

Table 3.3 Community Submissions - MID-1225-0981 – SUB003

Submission	Response
Environmental Assessment	
There is a need for a comprehensive and site-specific environmental assessment that addresses the full range of potential impacts, including:	Powerlink acknowledges the submission regarding a comprehensive, site-specific environmental assessment, particularly regarding the use of the land and its interaction with existing activities.
— Land use and agricultural productivity, particularly the loss of high-value grazing land and disruption to established management practices.	A comprehensive, site-specific assessment of land use and agricultural productivity has been undertaken for the Project. While the proposed transmission line and substation will result in some land being used for infrastructure rather than agricultural purposes, the majority of the transmission line corridor traverses Class C grazing land, which is generally unsuitable for crop production. Accordingly, the assessment concluded that the Project is unlikely to result in significant impacts on agricultural land productivity or existing farming operations. Agricultural activities, including grazing and certain cropping practices, can continue within transmission line easements, subject to safety and operational requirements. Further information on permitted activities within and near Powerlink easements is available on Powerlink’s website here. Through ongoing landholder engagement and the infrastructure design process, Powerlink is committed to avoiding, minimising and mitigating impacts on existing land uses wherever practicable. Throughout the progression of planning and design of the 60m easement alignment which included detailed technical studies and ongoing engagement with landholders there was a focus on identifying specific areas to avoid and mitigation of impacts. Powerlink will continue to work collaboratively with landholders and stakeholders throughout the construction and operational phases of the Project to support the continued use and productivity of surrounding agricultural land.

Submission	Response
— Biosecurity risks, including increased vehicle movements, soil disturbance, and potential introduction or spread of pests, weeds, and diseases.	A biosecurity matters survey will be undertaken before and after construction. Where required, property-specific Biosecurity Management Plans (BMPs) will be developed in consultation with landholders. These BMPs will comply with the requirements of the <i>Biosecurity Act 2014</i> and will include measures to manage and mitigate risks associated with weeds and pests, thereby preventing their introduction and spread. Based on the nature of the proposed activities, the risk of increased weed invasion or the spread of animal pests is considered low.
— Traffic and transport impacts, especially the safety, condition, and capacity of local rural roads during construction, as well as potential conflict with agricultural machinery and livestock movements.	A traffic management plan will be prepared prior to the works commencing to ensure the Project's potential impacts are managed appropriately. A traffic impact assessment has been undertaken for the Project, in accordance with the Guide to Traffic Impact Assessment (GTIA) published by the Queensland Department of Transport and Main Roads (2018). The assessment covers both the construction and operational phases of the Project. The report found that the Project will generate minimal traffic during both construction and operation, with no significant impacts expected on the State-controlled road network, intersections, pavement conditions, or public and active transport infrastructure. Although some increases in traffic volumes and turning movements are anticipated, particularly during construction, these are considered negligible due to low existing traffic levels and will not affect operational performance. No sensitive transport infrastructure is located near the site, and road safety risks can be effectively mitigated through temporary signage during construction. Vehicles will only drive on designated roads and/or access tracks which will help address potential conflicts with machinery and livestock movements. Vehicle travelling speed will also be restricted (<40 km/hr unless specified) on unsealed and off-road access tracks.

Submission	Response
Community and Stakeholder Consultation	
Meaningful and ongoing engagement with directly affected landholders and the broader rural community is essential. LCC is concerned that current consultation processes may not sufficiently capture local knowledge, property-specific constraints, or cumulative impacts. Transparent communication, timely information sharing, and genuine consideration of landholder feedback are critical to ensuring that community wellbeing and agricultural livelihoods are respected throughout the project lifecycle. LCC acknowledges the genuine efforts made by Powerlink to consult with stakeholders to date and appreciates the attempts to engage with landholders throughout the planning process. However, LCC reinforces the importance of ensuring that consultation remains consistent, comprehensive, and responsive as the project progresses. Continued, two-way engagement is necessary to ensure that locally informed concerns are properly understood, addressed, and reflected in project decision-making.	Regarding our engagement approach, Powerlink is committed to maintaining open, transparent and ongoing communication with all directly impacted landholders, Traditional Owner groups, the wider community and other stakeholders. Our project team recognises the value of local knowledge and understands that each property and circumstance is unique. We strive to ensure that our engagement and consultation processes are inclusive, responsive and genuinely consider all concerns raised. Throughout the project lifecycle (finalising planning and environmental approvals, during construction and into operations and maintenance), Powerlink will continue to provide proactive, timely updates and actively listen and respond to stakeholder feedback. Powerlink is committed to effective and genuine engagement practices with landholders and has maintained regular communication with directly affected and adjacent landholders since October 2024. The Project has a dedicated Landholder Relations Advisor, who is responsible for leading engagement with landholders along the Project corridor, including providing Project updates, facilitating property access, and managing enquiries. Powerlink will continue this engagement throughout the planning and environmental approvals phase, extending through to construction and operations. If you have any concerns or queries, please feel free to contact our Landholder Relations Advisor, Matthew Allen on 0429 214 892 or landholderrelations@powerlink.com.au
Proximity of Laydown Areas to Property Boundaries	
LCC has significant concerns regarding the proposed location of construction laydown areas in close proximity to their property boundaries. Laydown areas that are positioned too near boundary fences create heightened risks for biosecurity breaches, unauthorised access, disturbance to livestock, and damage to water points, pastures, and internal property infrastructure. The temporary concentration of workers, machinery, materials, and vehicle movements so close to operational grazing areas increases stress on livestock and imposes avoidable management burdens on landholders. LCC expects that any	Laydown areas are a necessary and integral component of the project delivery strategy and are strategically located to support efficient construction sequencing, logistics coordination, emergency response readiness and the safe execution of works. Their location is determined based on constructability, safety, access constraints and delivery efficiency across the project corridor. Laydown areas are treated as a managed disturbance footprint and must comply with the same strict requirements that apply to all temporary and permanent Project infrastructure.

Submission	Response
laydown areas be situated at a responsible distance from property boundaries to minimise these impacts and ensure that normal agricultural operations can continue safely and effectively.	This includes adherence to approved environmental, biosecurity, safety, access management and property protection controls. Powerlink will ensure that laydown areas remain compliant with approved requirements, and is responsible for planning, establishing and managing laydown areas in a manner that minimises impacts to community. This includes compliance with approved biosecurity protocols to prevent the introduction or spread of weeds, pests and disease, implementation of appropriate site security controls to prevent unauthorised access, management of workforce, plant and vehicle movements and reinstatement of disturbed areas following demobilisation. Additionally, noise control measures will be implemented to minimise potential stress to livestock during the construction phase. These measures include: — Ensuring all machinery is fitted with appropriate noise attenuation devices and is maintained in accordance with the manufacturer’s specifications, to avoid unnecessary noise generation. — Scheduling high-noise activities at different times, where practicable, to reduce noise impacts on nearby sensitive receptors. — Switching off plant and equipment when not in use.
Rural Crime and Security Risks	
LCC holds serious concerns regarding the increased risk of rural crime, theft, and unauthorised access associated with the influx of workers, contractors, and vehicle movements during the construction phase. Rural properties already face heightened vulnerability due to their size, isolation, and limited surveillance coverage. A concentrated presence of non-local personnel in close proximity to property boundaries and internal infrastructure may exacerbate risks related to theft of tools, fuel, livestock interference, and damage to property. Given these increased security pressures, LCC considers it essential that the proponent implement appropriate crime-prevention measures. This should include the installation of security cameras or monitoring systems positioned to support neighbouring properties,	Regarding the proximity of laydown areas to property boundaries, rural crime and security risks, and workforce conduct and movement management. These matters are taken seriously and are considered integral to the safe and responsible delivery of transmission infrastructure projects. Powerlink operates under a strong framework of contractor management, with all contractors required to comply with established Powerlink policies, procedures, and behavioural expectations. This includes strict requirements relating to authorised access, workforce conduct, supervision, and adherence to defined work areas. These controls are designed to ensure that all personnel operate safely, respectfully, and in a manner that protects neighbouring landholders, their assets, and the broader community.

Submission	Response
particularly where construction activity or access routes are near boundary lines. Proactive security measures would help deter criminal behaviour, protect agricultural assets, and ease the burden on landholders who must continue to manage their operations safely during the construction period.	Powerlink’s internal Protective Security function is closely integrated with Project planning and delivery activities. The team undertakes Project-specific security risk assessments that consider asset attractiveness, workforce presence, local environmental factors, and regional crime risks. Based on these assessments, all reasonable and proportionate steps are taken to minimise the likelihood of security incidents. This includes implementing appropriate security controls across Project-impacted areas, which include construction locations, laydown areas and access roads/tracks. Throughout the preparation and construction phases of the project, Powerlink proactively engages with local Police to ensure targeted measures are considered to deter criminal activity and prevent unauthorised access. Powerlink also maintains a strong focus on incident preparedness and response. Any security incidents are taken seriously, investigated appropriately, and used to inform continuous improvement in security practices. The Protective Security team works closely with projects teams and local Police to ensure effective response, information sharing, and ongoing risk mitigation. It is noted that at higher-risk times, additional security measures (including guarding / patrols) may be required. Importantly, Powerlink maintains a regional security presence, with dedicated Local Security Officers residing in the region who oversee local security matters. This ensures that security approaches are informed by local knowledge, emerging risks, and direct engagement with community stakeholders and Police. Powerlink’s Protective Security Strategy prioritises the safety of people-including landholders, the community, and the workforce-alongside the protection of critical infrastructure assets. As an operator of critical infrastructure, Powerlink is subject to obligations under the Security of Critical Infrastructure Act 2018, requiring the implementation of robust, risk-based measures to prevent, detect, and respond to security threats. These obligations are embedded into Project planning and delivery to ensure all reasonable steps are taken to manage security risks. While specific security control measures cannot be detailed for operational and security reasons, Powerlink provides assurance that a thorough, project-specific security

Submission	Response
	assessment will be undertaken in collaboration with project teams. This process will consider the concerns raised and ensure appropriate, scalable controls are implemented to minimise risk, support landholder safety, and protect both Powerlink infrastructure and neighbouring properties. Powerlink remains committed to ongoing engagement and working collaboratively with landholders and stakeholders to ensure these risks are effectively managed throughout the project lifecycle.
Additional Considerations	
Property-Specific Access Protocols Given the operational requirements of a working cattle enterprise, it is essential that the proponent adopts clear, property-specific access arrangements before any investigative or construction activity occurs. These arrangements should detail approved access routes, staff supervision requirements, procedures for gate and fence management, and protocols for protecting livestock, water infrastructure, and internal roads. A formalised access protocol would minimise operational disruption and reduce the risk of unintended impacts on agricultural activities.	Construction and operation of the Project will be managed in accordance with Powerlink’s standard environmental controls, particularly the Environmental Management Plan (EMP) and Land Access Protocol (found on Powerlink’s website here). Powerlink’s Land Access Protocol outlines that while on a landholder’s property, Powerlink will take all reasonable measures to minimise interference, disturbance, injury, erosion, or damage to: — Any land or property of the landholder — Livestock or improvements on the relevant land or the surrounding area — The landholder’s use of the land — The landholder and people authorised by the landholder to be on their land — The natural environment, including any flora and fauna, and bed or banks of any watercourse or lake, or cultural heritage (unless authorised under an associated permit, approval, or licence). Further to the above protocols, workforce movements will be managed through an approved Traffic Management Plan defining vehicle routes, access points, timing of movements and road protection measures. These controls will be embedded within Powerlink approved management plans and reinforced through project inductions, daily toolbox talks, site planning activities and active supervision. Clear communication pathways will be established for landholders to raise concerns, ensuring workforce

Submission	Response
	presence is managed in a controlled, respectful and transparent manner throughout construction. The Project also has a dedicated Landholder Relations Advisor, who is responsible for leading engagement with landholders along the Project corridor, including facilitating property access. Our Landholder Relations Advisor, Matthew Allen, can be contacted on 0429 214 892 or landholderrelations@powerlink.com.au
Compensation Reflective of Long-Term Impacts Transmission infrastructure imposes both immediate disturbance and ongoing constraints on agricultural productivity and land management. LCC considers it important that compensation frameworks accurately reflect short-term operational impacts, reduced land use flexibility, potential productivity losses, and the lasting burden of transmission easements. Transparent communication and access to independent valuation processes are vital to ensuring fair and equitable outcomes for affected landholders.	Powerlink has a Landholder Payment Framework for landholders hosting new transmission lines. It is Powerlink's preference to enter into negotiations with landholders and to reach a negotiated/agreed outcome. Acquisition of land for the Project will be undertaken in accordance with the <i>Acquisition of Land Act 1967</i> (Acquisition of Land Act or ALA). Powerlink is committed to treating property owners fairly and to not financially disadvantage them by the corporation's activities. Compensation is assessed to reflect the difference between the market value of the property before and after the easement is acquired. The following items are considered in assessing the amount of easement compensation: - Restrictions to the landowner on the use of the easement area - Loss of land for structure sites - Effect of Powerlink access tracks on the property - Loss of any commercial or useable timber - Visual impact of the transmission line and or substation site on the property - Impact on residential improvements and any effect on the balance of the property - Allowance for disturbance during the construction period - Legal, valuation, and any associated costs Under the Acquisition of Land Act, a registered property valuer (under the Queensland Valuers Registration Board) assesses compensation. An independent valuer engaged by

Submission	Response
	Powerlink will be appointed to assist in determining the compensation package. The landowner can seek independent valuation and legal advice. Powerlink will meet reasonable cost for the landowner to seek independent advice.
Cumulative Regional Impacts LCC notes the increasing concentration of energy and transmission developments in rural Queensland and emphasises the need to consider cumulative impacts across the region—not just individual properties. Overlapping construction periods, increased vehicle movements, multiple workforce camps, and repeated land access events amplify pressures on agricultural operations, local roads, and community wellbeing. A coordinated and region-wide assessment would help mitigate these combined effects.	Acknowledging the numerous projects in the broader landscape, a cumulative impact assessment has been conducted for the Project and outlined within Section 24 of the MID Proposal Report. The cumulative impact assessment considered the combined effects of activities or development on environmental, social, economic, and cultural values (holistic assessment), including the Project's potential impacts in combination with the effects of current and reasonably foreseeable projects (cumulative assessment). <u>Agricultural operations</u> The proposed developments are not expected to result in the permanent loss or sterilisation of agricultural land. Following construction, agricultural activities, including grazing, are expected to continue within and around the project areas during operations. <u>Local roads and vehicle movement</u> The assessment determined that there is potential for cumulative road network impacts should the construction periods of projects overlap. Coordination of construction activities will be crucial to mitigating cumulative traffic and transport impacts. Powerlink will continue to engage and work collaboratively with the proponents of these projects to ensure impacts are minimised to the greatest extent possible. A traffic management plan will be prepared prior to works to ensure the Project's potential impacts are managed appropriately. <u>Community wellbeing</u> In addition to the Social Impact Assessment (SIA) developed for this project, Powerlink is undertaking a SIA for its projects in Central Queensland. Powerlink aims to manage, minimise and mitigate social impacts, while enhancing opportunities for lasting community benefits. The SIA will focus on five key matters including:

Submission	Response
	— Community and Stakeholder Engagement — Workforce Management — Housing and Accommodation — Local Business and Industry Procurement — Health and Community Well-being As part of that assessment, the cumulative impacts of other industries and projects with timelines overlapping with Powerlink’s projects have been considered. Local insights have strengthened Powerlink’s understanding of community priorities. Two rounds of engagement were completed with relevant stakeholders for the Project in July and November 2025. Insights from the SIA are being incorporated into our procurement practices, impact mitigation and community benefit activities. A Social Impact Management Plan (SIMP) summary will be prepared based on the insights and utilised to address locally identified challenges and opportunities linked to the Project. Health and community impacts will be managed in a coordinated manner across construction planning, workforce management, land access and stakeholder engagement.
Workforce Conduct and Movement Management The arrival of a significant non-local workforce requires proactive management to ensure worker movements are controlled and respectful of neighbouring agricultural properties. Clear behavioural expectations, strict adherence to designated access routes, and adequate supervision must be embedded into workforce management plans. These measures are essential to minimise risks to livestock, prevent unauthorised access, and maintain the safety and privacy of rural landholders.	Powerlink acknowledges the need for proactive management of workforce conduct and movement where a project construction workforce is required, particularly in rural and agricultural settings. The Project will implement clear, enforceable behavioural expectations for all personnel, supported by defined supervision arrangements and mandatory training. These expectations will be communicated through formal Project inductions and aligned with approved property specific access requirements, including protocols for unauthorised access to private land, interaction with livestock and respectful conduct within local communities. The Powerlink Land Access Protocol outlines our approach to accessing land and gives the landholder opportunity to address additional property specific information within the Schedule 4 of this document. Workforce movements will be managed through an approved Traffic Management Plan defining vehicle routes, access points, timing of movements and road protection measures. These

Submission	Response
	controls will be embedded within Powerlink approved management plans and reinforced through project inductions, daily toolbox talks, site planning activities and active supervision. Clear communication pathways will be established for landholders, neighbours and community members to raise concerns, ensuring workforce presence is managed in a controlled, respectful and transparent manner throughout construction. Advanced notifications will be provided to nearby residents of activities likely to cause temporary disruption, including timing, duration and contact details for enquiries.
Rural Road Protection and Traffic Management Local rural roads are critical to daily farm operations yet are particularly vulnerable to damage from heavy construction vehicles. LCC requests the implementation of a comprehensive Traffic Management Plan that includes speed controls, dust suppression, protective signage, and a commitment to repair any damage caused by construction activities. In addition, consideration must be given to the protection of livestock on unfenced rural roads that may be exposed to increased heavy-vehicle movements. Appropriate measures such as reduced speed zones, livestock warning signage, and protocols for coordinating vehicle movements during known livestock activities are essential to ensure animal safety and prevent incidents. Ensuring that road networks remain safe, functional, and compatible with agricultural use is critical for the continuity of day-to-day operations.	A traffic management plan will be prepared prior to works to ensure the Project's potential impacts are managed appropriately. In addition to this, Powerlink have their own environmental management plan that will be implemented to manage risks associated with transport and traffic. The measures proposed will ensure that vehicles operate in a proper and efficient manner to minimise impacts on the community (including local residents and other road users), associated with construction and maintenance activities (i.e. both on-site and vehicles transporting materials to and from the site).

3.2 Technical agencies

3.2.1 *Department of Transport and Main Roads*

Powerlink acknowledges the submission and has reviewed the transport assessment, traffic modelling and intersection requirements for the Project. The Project's transport impacts have been reassessed in consultation with relevant technical specialists, and the requested updates to the SIDRA modelling, turn warrant assessments and conceptual intersection upgrade layouts are provided below.

Table 3.4 Technical Agencies Submissions – DTMR.

Submission	Response
Amend the provided SIDRA model and apply the correct posted speed to the Leichhardt Highway intersections with Defence Road and Uncle Toms Road and provide the electronic SIDRA file.	The SIDRA models have been updated to incorporate the correct posted speed limits for the Leichhardt Highway intersections with Defence Road and Uncle Toms Road. Updated modelling confirms that the revised speed inputs do not materially alter the assessment conclusions. Detailed methodology and results are provided in Section 2 – SIDRA Update, with full SIDRA outputs included in Appendix A. An electronic SIDRA file can be provided to TMR.
Provide a turn warrant assessment for the construction traffic volumes in accordance with TMR’s Technical Note 199 ‘Guidance for the design of temporary roads’, dated December 2021 to demonstrate suitability of the existing turn treatments at all three (3) SCR intersections related to this development. Where any intersections do not comply with this technical note, provide conceptual layouts for the required intersection upgrade works.	A turn warrant assessment has been completed for the three State-controlled road intersections in accordance with TMR Technical Note 199 (December 2021). The assessment confirms that the existing turn treatments are appropriate, and no intersection upgrades are required. Further details are provided in Section 3 – Turn Warrant Assessment in Appendix A.
In accordance with RPDM Supplement to 4A s 7.2.2, provide a conceptual layout to upgrade the existing AUR for the Dawson Highway / Leichhardt Highway to a channelised right turn (short) (CHR(s)) turn treatment.	A conceptual layout has been prepared for Dawson Highway / Leichhardt Highway intersection. Please review Section 4 – Conceptual Layouts, with drawings included in Appendix B of Appendix A.
Provide a conceptual layout of the Leichhardt Highway / Uncle Toms Road intersection for the required upgrade work to facilitate a minimum 20m long sealed section of Uncle Toms Road. The required extent of the seal must be demonstrated by providing turn paths of the proposed design vehicle.	A conceptual layout has been prepared for the Leichhardt Highway / Uncle Toms Road intersection, including a minimum 20 m sealed section of Uncle Toms Road and demonstration of vehicle turn path requirements. Please review Section 4 – Conceptual Layouts, with drawings included in Appendix B of Appendix A.

3.2.2 Department of Primary Industries

Powerlink acknowledges the submission and has reviewed the Project's potential interactions with agricultural land uses, fisheries values, State-owned quarry and timber resources, and waterway crossings. Further consideration has been given to the relevant legislative requirements, including the *Forestry Act 1959* and fisheries-related approvals, with the requested information and clarifications provided below.

Table 3.5 Technical Agencies Submissions – DPI.

Submission	Response
Impacts to Agriculture	
DPI does not consider the development to impact the relevant state interests.	No further action required.
Impacts to Fisheries	
— No specific designs of the proposed waterway crossings have been provided. — It is stated that the bed level crossings will be constructed in accordance with the accepted development requirements, with existing crossings to be utilised where possible. — It is stated that cut/fill within waterways will be undertaken in accordance with a Riverine Protection Permit Exemption. This exemption does not apply to waterway barrier works and proposed cut/fill within waterways may constitute a waterway barrier. Any works creating a waterway barrier within waterways should comply with the recommended requirement below (in relation to Agriculture - Fisheries).	Specific designed are not yet available. Any waterway crossings required for the Project are located high in the catchments and fish habitat and passage are limited in these locations due to the ephemeral nature of the waterways. As such, potential impacts to fish passage are considered minor. However, infrastructure proposed to cross a waterway for waterway barrier works will be undertaken in accordance with the Accepted Development Requirements for operational works that is constructing or raising waterway barrier works (ADR for WWBW). If compliance with the ADR cannot be achieved, a separate development application for operational works will be lodged for approval once the detailed design of waterways crossings is available.
Impacts to Forestry	
— Under the authority of the <i>Forestry Act 1959</i>, the Department of Primary Industries (DPI) administers the commercial use of State-owned quarry material, forest products, and timber on State forests and timber reserves, as well as on other relevant lands where the resources are reserved to the State. — DPI has identified that the project footprint contains a number of land parcels where quarry and timber material is owned by the State under the provisions of the <i>Forestry Act 1959</i>. Section 3.9 of the MID report outlines how the project will require and use quarry material during construction and it is reasonable to expect that the proponent will interfere with and use State-owned quarry material on those land parcels during construction. It is unclear whether the project is likely to interfere with timber interests during development. The proponent must assess and identify whether the project will have a potential impact to State-owned timber or quarry material and	The Project footprint contains a number of land parcels where quarry and timber material is owned by the State under the provisions of the <i>Forestry Act 1959</i>. As outlined in Section 3.9.1.1 of the MID Report, quarry material required for construction will be sourced from approved, licensed quarries. Accordingly, the Project is not expected to interfere with or use State-owned quarry material. If sourcing material from approved licensed quarries is not feasible and the Project requires the use of quarry material from State-owned land, the relevant authority under the <i>Forestry Act 1959</i> will be obtained prior to any interference with or use of State-owned quarry material. Similarly, where interference with State-owned timber material is identified, the Project will comply with any applicable requirements under the <i>Forestry Act 1959</i> and address any relevant interests associated with the affected land.

Submission	Response
provide advice back to DPI for further consideration. The proponent must also consider the requirement to obtain an authority under the <i>Forestry Act 1959</i> to interfere with State-owned quarry or timber material. Compensation may be sought if projects sterilise resources or restrict access to the relevant materials. — Further, the <i>Forestry Act 1959</i> is currently not included in the list of relevant legislation in Table 26.2. DPI requests that this be updated accordingly based on the proponent's consideration of whether a Forestry Act permit is required to interfere with or use quarry or timber material during the project's construction. The table needs to be updated to include a reference to the <i>Forestry Act 1959</i>, as well as: — identify “The Department of Primary Industries” as the responsible authority, — identify the activity as “interfere with or use State owned quarry and timber material”, and — include “obtain a sales permit” in the licence/permit/approval section	The Project does not currently anticipate significant interference with State-owned timber resources; however, consultation with relevant stakeholders and government agencies is ongoing. Should detailed design or construction activities identify the potential to interfere with or use State-owned quarry or timber material, Powerlink will continue to liaise with the Department of Primary Industries and any other relevant interest holders, as required, to determine the appropriate approval pathway and management measures. In response to DPI's submission, the requested information has been incorporated into Section 26.2.12 and Table 26.2 of the MID Proposal Report, including reference to the <i>Forestry Act 1959</i>, identification of the Department of Primary Industries as the responsible authority, the relevant activity relating to interference with or use of State-owned quarry and timber material, and the potential requirement to obtain a sales permit where applicable.
Agriculture - Fisheries	
Waterway crossings must be constructed or upgraded in accordance with the Accepted Development Requirements for Constructing or Raising Waterway Barrier Works.	The Project acknowledges the requirement that waterway crossings be constructed or upgraded in accordance with the ADR for WWBW. Infrastructure proposed to cross a waterway, and that is considered a waterway barrier works, is intended to be designed and constructed in accordance with the ADR. Refer to Sections 7.2.3 and 26.2.10 of the MID Proposal Report and Section 9.2.3 of the updated EAR (Appendix E), where this commitment is incorporated. Where compliance with the ADR cannot be achieved, a separate development application for operational works will be lodged for approval following detailed design of the relevant waterway crossings.

3.2.3 Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development

Powerlink acknowledges the submission and has reviewed the Project's interaction with native vegetation, Matters of State Environmental Significance (MSES), State land interests, stock routes, soils, salinity constraints and resource tenures. Further consideration has been given to avoidance and minimisation opportunities, relevant legislative requirements, and applicable management measures, with the requested information and updates provided below.

Table 3.6 Technical Agencies Submissions – DNRMMRRD.

Submission	Response
Field-verified regional ecosystems	
Submit a PMAV application to NRMMRRD to confirm the validity of the regional ecosystem survey data and to update the certified vegetation management maps. — Provide the field verified vegetation communities and regulated vegetation (regional ecosystems) in a digital data format. — Submit the clearing statistics based on the certified PMAV, to demonstrate the ground truth clearing extent necessary to facilitate the construction of infrastructure. — When the PMAV is finalised, a revised significant residual impact assessment will be undertaken by NRMMRRD on the impacts to regulated vegetation.	Refer to section 7.2.1 of the updated EAR which quantifies the impact to regulated vegetation broken down by vegetation classification and regional ecosystem within proposed designation areas. Due to the linear nature of the transmission lines, environmental field surveys were limited to the substation sites and the transmission easement (including a buffer distance) and do not cover the entire land parcel in most circumstances. Field verified vegetation communities survey data is provided digitally to NRMMRRD for the purpose of updating the relevant regulated vegetation management maps. PMAVs are an agreement between the landholder and the Government. Outside of the Substation Sites, Powerlink is not the landholder / owner of these land parcels and is unable to submit PMAV applications without consent of the landholder.
Impacts on Category C and Category R regulated vegetation	
While State offsets are not required, and it is also acknowledged there is a limit on site options given the constraints associated with transmission lines, Powerlink should still provide details of any land based offsets being delivered under the EPBC Act or voluntary, and where possible, applicants should also consider opportunities to include rehabilitation for significant residual impacts (SRI) to MSES matters, particularly in cases where MNES offsets are already being provided. Please provide any available details on proposed offsets being considered to address MNES impacts and whether there is any overlap with MSES or potential to incorporate MSES rehabilitation to mitigate the identified SRI for this proposal.	Powerlink acknowledges the submission regarding the provision of information on proposed EPBC Act and voluntary offsets, opportunities to align MNES and MSES offset outcomes, and the potential incorporation of rehabilitation measures to address significant residual impacts to MSES. In this regard, please refer to section 8 of the updated EAR. This section shows how impacts to MNES and MSES were assessed in accordance with the pre-lodgement advice, adopting a first principles approach and focusing on avoidance, minimisation and mitigation of impacts.

Submission	Response
	Throughout project development, significant effort has been invested in implementing the avoidance and minimisation principles to minimise impacts to MSES values including: — Avoidance where possible through corridor selection process, which considered several transmission corridor options, informed by environmental constraints and extensive community and landholder consultation; — Alterations made to preliminary transmission line design, including shifting tower locations, increasing tower heights, reducing span lengths, adding additional towers near sensitive environmental areas, reducing impacts to key habitats by avoiding or minimising vegetation clearing requirements; — Extensive reviews of the vegetation modelling using LIDAR imagery, to identify areas where there was sufficient distance between the bottom of the conductor and the vegetation, which would allow the transmission line to overspan the vegetation, therefore avoiding the need to clear vegetation. — Utilising existing access tracks and previously cleared areas for the placement of ancillary construction activities such as brake and winch sites, laydowns, etc. — Adoption of hollow retention in trees where possible, particularly around watercourses and habitat connectivity areas. — Completion of pre-clearance surveys by fauna spotter catchers prior to the commencement of any vegetation clearing to minimise impacts to MSES values; — Adoption of staged clearing approaches and sensitive clearing methodologies in high value habitat areas. Section 9.2 of the EAR indicates that impacts to MNES resulting from Project activities are expected to be minor and localised and are unlikely to result in movement barriers for species across the broader landscape. At the time of this response, no specific voluntary EPBC Act offset requirements have been determined.

Submission	Response
	Due to the linear nature of the Project, and the requirement to maintain vegetation clearance within the transmission easement for operational and safety purposes, opportunities for voluntary offsets or rehabilitation within the Project footprint are limited and are not considered practicable. Notwithstanding, the MID proposal demonstrates that impacts to MSES values have been appropriately addressed through the avoid, minimise, mitigate and manage hierarchy.
Avoid and minimise impacts on MSES	
General principles for impact mitigation of avoid, minimise, mitigate and compensate have been followed. Disturbance footprint has avoided impacting remnant vegetation and habitats where possible. Where vegetation clearing is unavoidable, clearing activities will be managed in accordance with measures outlined in the EMP. <i>Note from DSDIP</i> - Requirement likely to be included with regards to EMP.	The mitigation and management measures for this Project have been proposed in line with Powerlink's Environmental Management Plan (EMP). In addition to this, Environmental Work Plans (EWP) will be developed prior to construction, which are a geospatial representation of key land- and water-based datasets that are of relevance to Powerlink's assets. EWPs shall be used by Powerlink staff, Contractors, relevant sub-contractors and relevant Managed Service Providers (MSPs) for the identification of key environmental features and/or constraints that have been highlighted to enable works to be undertaken on or in association with a Powerlink asset. The EMP and EWPs will be used by the third-party construction contractor to prepare a Construction Environmental Management Plan (CEMP) for the Project. The CEMP will outline the specific measures that the construction contractor will employ to ensure that the works are undertaken in accordance with the measures outlined in the EMP and EWPs.
Vegetation Management Watercourses and Drainage Features	
NRMMRRD has reviewed the proposed watercourse clearing against the Significant Residual Impact Guideline - RE 11.3.4 will have a significant residual impact of 0.41ha for an impacted stream order 2 and 3 watercourse or drainage feature and RE 11.12.4 will have a significant residual impact of 0.26ha for an impacted stream order 2 watercourse or drainage feature. NRMMRRD have requested Powerlink provide a land-based outcome in accordance with Appendix 12: (Better Environmental Outcome) of the Guide to State Development	Impacts to vegetation within watercourses have been minimised through implementing the principles of avoidance, minimisation, mitigation and management. Approaches taken to minimise impacts to watercourses include: — Locating towers outside of riparian vegetation areas. — Increasing tower heights and reducing span lengths near watercourses to minimise vegetation clearing requirements;

Submission	Response
Assessment Provisions– State Code 16: Native vegetation clearing, Department of Resources, version 3.0, March 2023 to compensate for the significant residual impact on remnant vegetation within the defined distance from the defining banks of a relevant watercourse or relevant drainage feature. <u>Note from DSDIP:</u> See note from DSDIP for point 2. <u>Request for information:</u> See RFI for point 2.	— Adopting sensitive clearing techniques to remove only hazardous vegetation located within the bed and bank of watercourses. Since the lodgement of the MID application, internal reviews of proposed tower locations have resulted in minor tower shifts and changes to the disturbance footprint to minimise impacts to watercourses. During construction, micro-siting of infrastructure footprints will continue to be refined to further reduce impacts to watercourses. Due to the linear nature of the Project, and the need for the transmission corridor to be largely clear of vegetation for electrical safety purposes, a land-based outcome within the MID boundary is not practical. Notwithstanding, the MID proposal provides appropriate assessment against the avoid, minimise, mitigate and manage hierarchy.
Interest – State Land, Land Act 1994	
<u>Recommendations:</u> — Throughout the MID documents, amend “road reserve” to “road”, to reflect the correct terminology under the <i>Land Act 1994</i>. — Lot 8 on DW2 is described as a Grazing Homestead Perpetual Lease in various sections of the MID Proposal report, this is incorrect as the property is freehold. — If infrastructure is to be located with a dedicated road, then <i>Land Act 1994</i> tenure is required. Contact NRMMRRD to request a pre-lodgement meeting by emailing lassismajorprojects@nrmmrrd.qld.gov.au. — Liaise with Banana Shire Council to ascertain their requirements or authority for works (if any) within local roads. — If any part of the road licence area is required to be used as road for access, then consultation with the council is required to ascertain their requirements. If the area is required to be re-opened as road for public use, then the options are: — liaise with the registered licensee to apply for the partial surrender of Road Licence 35/3869, or	Powerlink provides the following response: — Updates have been undertaken in the MID Report to amend “road reserve” to “road” and also to update the description of Lot 8 on DW2 to “freehold”. — Infrastructure within road corridors / parcels along the Project alignment includes access tracks and transmission lines (which are strung between transmission towers). Powerlink will liaise with DNRMMRRD and Banana Shire Council regarding these road corridors / parcels to ensure all requirements are met and any impacts are reduced (where possible). — The Project impacts Road Licence 1/RL3869 and proposes a 10m wide access track to connect the project to Ogdens Road. Consultation with the Road Licence holder has occurred and will continue to occur throughout the Project. Furthermore, Powerlink will liaise with DNRMMRRD regarding this road licence. — Public searches have not identified Road Licence 35/3869 so if the Project impacts this Road Licence please contact us further so we can identify where this road licence intersects with the Project.

Submission	Response
— if not able to obtain agreeance from the registered licensee for the partial surrender of Road Licence 35/3869, then the council can apply to cancel part of Road Licence 35/3869.	
Interest – Stock Routes, <i>Stock Route Management Act 2002</i>	
The proposed area of designation adjoins and is located within tertiary stock routes 901BANA and 424BANA. Stock route 901BANA is impacted by potential construction on and within the stock route. <u>Recommendation:</u> Ensure works do not adversely impact the pasture on the stock route or harm or impede the safe passage of travelling stock and/or authorised person/s under the offence provisions of the <i>Stock Route Management Act 2002</i>. <u>Note from DSDIP:</u> Requirement likely to be imposed.	Powerlink has previously liaised, and will continue to liaise, with the Rural Services Team at Banana Shire Council regarding the Project’s potential impact on stock routes. The Banana Stock Route Network Classification Map on the Banana Shire Council Rural Services and Land Management page indicates that these stock routes 901BANA and 424BANA are currently classified as inactive. Notwithstanding this classification, Powerlink acknowledges the need to appropriately manage any potential impacts. Accordingly, Project works will be designed and implemented to avoid or minimise impacts to stock routes where practicable, including safe passage of travelling stock and authorised persons is not impeded.
Interest – High risk soils, State Planning Policy 2017	
— <u>Recommendation:</u> Requirement for a targeted soil survey supplemented by existing Queensland Government soil data is recommended, relevant standards include: — Department of Resources (2021), Queensland Soil and Land Resource Survey Information Guideline, VEG/2018/4460 Version 2.00, Department of Resources, Brisbane, Queensland. — NCST (The National Committee on Soil and Terrain) (2009), <i>Australian Soil and Land Survey Field Handbook: Third Edition</i>, CSIRO Publishing, Collingwood, Victoria. — Guidelines for soil survey along linear features (Soil Science Australia 2013). — The EMP should also be guided by Carey BW, Stone B, Norman PL, Shilton P (2015). <i>Soil conservation guidelines for Queensland</i>, Department of Science Information Technology and Innovation, Brisbane. <u>Note from DSDIP:</u> Requirement likely to be imposed	Powerlink’s Environmental Management Plan includes requirements for soil investigation, erosion and sediment control and rehabilitation measures commensurate with the nature, scale and risk profile of the project. These measures will be informed by site-specific investigations undertaken during detailed design and construction planning, as required. Erosion and Sediment Control Plans will be prepared by suitably qualified and accredited Certified Erosion and Sediment Control Practitioners (CESCPS) in accordance with recognised industry best practice, including the International Erosion Control Association (IECA) Best Practice Erosion and Sediment Control Guidelines. Powerlink acknowledges the value of the guidelines referenced in the submission and will consider these documents, where relevant, as supporting resources to inform soil management, erosion control and rehabilitation planning. However, given the range of recognised industry standards and the need to apply the most appropriate methodologies based on site conditions and contemporary practice, Powerlink considers it unnecessary

Submission				Response
				and inappropriate for specific soil survey guidelines or standards to be prescribed as conditions of approval.
Interest – Mining and extractive resources, State Planning Policy 2017				
— <i>Recommendation:</i> Directly engage with the authorised holder representatives outlined to discuss the projects impact on resource development in the area.				Powerlink will engage with the relevant resource holders prior to construction to discuss the impacts of the transmission line (construction, operation and maintenance) on exploration activities. Mitigation measures will be developed and implemented where necessary, through consultation with stakeholders. The relevant resource holders will be provided with the Project newsletter as it is developed and distributed.
Authorised Holder Representatives for Resource Authorities				
Permit status	Authorised holder name	Authorised holder representative	Postal address	
Granted	TRUE NORTH COPPER LIMITED	UTM Global Pty Ltd	GPO BOX 1661 BRISBANE QLD 4001	
Granted	ANGLOGOLD ASHANTI AUSTRALIA LIMITED	GILLIS, Kathleen	C/- Ardent Group Pty Ltd PO Box 320 Red Hill QLD 4059	
Granted	TERRAIN MINERALS LTD	ARCUS, Helen	McMahon Mining Title Services Pty Ltd PO Box 6301 East Perth WA 6892	
Granted	TERRAIN MINERALS LTD	ARCUS, Helen	McMahon Mining Title Services Pty Ltd PO Box 6301 East Perth WA 6892	
Granted	TERRAIN MINERALS LTD	ARCUS, Helen	McMahon Mining Title Services Pty Ltd PO Box 6301 East Perth WA 6892	
Granted	ENDOCOAL PTY LTD	UTM Global Pty Ltd	GPO BOX 1661 BRISBANE QLD 4001	
Application	AUSTRALIS ENERGY PTY LTD	Hetherington Exploration & Mining Title Services (QLD) Pty Ltd	PO BOX 49 SPRING HILL LPO SPRING HILL QLD 4004	

Submission	Response
Acid Sulfate Soils	
The proposal is located on site elevations that are greater than 100m, eliminating risk of coastal types of acid sulfate soils (ASS) and while coastal ASS has a low probability to be present, inland ASS (while also rare) needs to be considered and managed appropriately if identified. <u>Recommendation:</u> EMP should be modified to reflect the lack of coastal ASS and limit to inland ASS, remaining aware of ASS identification and management requirements.	The EMP outlines the general requirements for soil surveys to inform high risk soils, including acid sulfate soils (ASS) to inform treatment and rehabilitation requirements of disturbed soils. Where detailed risk assessment for different soil types identify ASS risks, further soil sampling and analysis will be completed prior to construction to inform management requirements. A Project specific construction EMP will be developed by the principal Contractor prior to construction which will include specific management and mitigation actions to be implanted during construction to manage any ASS risks, noting that the risk of encountering these has been assessed as very low for the project.
Soils	
The data from Australian Soil Resource Information System (ASRIS) used is too broad for this purpose. It is understood that further investigations will be undertaken, however, better existing data is available at scales more informative than ASRIS. The north section of the windfarm connection project is covered by the Banana mapping project (Project code BAN) with many of its sites located in or closely adjacent to the footprint. Additional sites are also available within the Dawson River East mapping project (Project code DRE). Information on existing soils and land resource mapping projects throughout Queensland can be found on the soils section of the Queensland Government website and Queensland Globe. In Table 4.2 there are mismatches between dominant soils and the Australian Soil Classification (ASC), e.g. Map code Bz6 – Siliceous sands do not correlate with Chromosols and Sodosols; Map code Kb17 – Black self-mulch cracking clays do not correlate with Sodosols. More appropriate ASCs for these would be Tenosols/Arenosols and Vertosols respectively. <u>Recommendation:</u> Update the data.	In response to these comments, Section 4.1.4 of the MID Report has been updated to incorporate consideration of the additional soil and land resource information available.

Submission	Response
Salinity	
NRMMRRD has identified potential for elevated salinity concentrations in the soils underlying this proposed project. <u>Recommendation:</u> — Further investigations occur to identify the risk of creating/exacerbating, or confirm the extent of, any salinity expressions on site. — Either avoid locating infrastructure on salinity expressions, or undertake a salinity risk assessment in accordance with Part B of the Salinity Management Handbook, Investigating Salinity. This would include information such as: — changes to the hydrology of the site and surrounding areas resulting from the project/development. — demonstrate the proposed development will not result in secondary salinity or exacerbate the extent and/or severity of existing salinity. — provide details of the strategies that will be employed to monitor and manage (if possible) any identified salinity risks (See Part C of the Salinity Management Handbook)	The EMP outlines the general requirements for soil surveys to inform high risk soils, including saline soils to inform requirements of disturbed soils. Where detailed risk assessment for different soil types identify salinity risks, further soil sampling and analysis will be completed prior to construction to inform management requirements. A Project specific construction EMP will be developed by the principal Contractor prior to construction which will include specific management and mitigation actions to be implemented during construction to manage any salinity risks.
Soil Conservation Plans	
Non-statutory soil conservation plan SC202487 is crossed by the proposed project corridor. <u>Recommendation:</u> Ensure that there are no negative impacts from the proposed development which change the intent of the non-statutory soil conservation plan (e.g. removal of soil conservation works, change of overland flow patterns or increased erosion risk and runoff). Other properties (e.g. Lot 1 on RP617748 and Lot 2 on RP617749) without a statutory or non-statutory soil conservation plan, have clearly visible contour bank infrastructure. <u>Recommendation:</u> — Ensure structures are not negatively impacted leading to an increased erosion risk.	Powerlink acknowledges the submission regarding the non-statutory soil conservation plan SC202487 and the presence of contour banks and other on-farm soil conservation infrastructure within the Project area. Consultation with landholders has been ongoing throughout corridor development and project design to minimise impacts on existing land uses and agricultural operations, including contour banks and other soil conservation infrastructure. Project infrastructure has been sited, where practicable, to avoid or minimise impacts on existing soil conservation works. Where temporary disturbance to, or alteration of, soil conservation infrastructure is required for construction purposes, the affected works will

Submission	Response
— Infrastructure should be placed so it does not interfere with on-farm soil conservation works. If it cannot be avoided, any disturbed works must be properly stabilised and reinstated to minimise erosion risk. Extra care is required when trenching for underground cabling across contour banks and waterways, and the same applies to constructing access tracks for the wind farm.	be reinstated and stabilised following construction in consultation with the relevant landholder. Appropriate erosion and sediment control measures will also be implemented to maintain land stability and minimise erosion risk during and following construction activities. Accordingly, Powerlink considers that the intent of Non-Statutory Soil Conservation Plan SC202487 and the function of existing soil conservation infrastructure can be appropriately maintained through project design, construction management and landholder consultation.

3.2.4 QLD Fire Department

Powerlink acknowledges the submission and has reviewed the Project's exposure to bushfire hazards, including areas mapped as bushfire prone land. Bushfire risk has been considered as part of the Project design and environmental management framework, and further consideration has been given to the requirements for bushfire assessment, emergency management, infrastructure resilience and bushfire mitigation measures, as outlined below.

Table 3.7 Technical Agencies Submissions – QLD Fire Department

Submission	Response
A site based Bushfire Hazard Assessment (BHA) and Management Plan (BMP) in accordance with the Bushfire Resilient Communities Technical Reference Guide (QFES,2019) for mapped bushfire prone areas that the proposed transmission line will cross as well as where it is in close proximity to the proposed corridor particularly along the Banana Range (Lot 11 FN293 and Lot 12 FN294) to address: a) Potential radiant heat exposure impacting infrastructure from bushfire by calculating Radiant Heat Flux (kW/m2). b) Development footprints with revegetation arrangements with potential to increase bushfire hazard c) Identify access and egress for emergency services	Bushfire hazard and emergency management requirements for the Project will be addressed through the development and implementation of project-specific bushfire management and emergency response measures during the design, construction, and operational phases. Bushfire risks are considered during Project planning and design, with transmission infrastructure designed in accordance with: — Powerlink's Specification for Line Design Principles (ASM-SPE-A2647524) — Powerlink's Vegetation Management Specification (ASM-SPE-A462955); and — Australian Standard for the Construction of Buildings in Bushfire Prone Areas - AS3959 – 2009.

Submission	Response
d) Implement the recommendations of the Environmental Management Plan, and Bushfire Mitigation Plan e) Implement the measures identified in the Bushfire Hazard and Management Plan that can incorporate the Powerlink documents: i. Environmental Management Plan, Section: Bushfire, General Requirements prepared by Powerlink Queensland Version 2.0 (Ref. CP.03060) and dated 5 September 2025; and ii. Bushfire mitigation plan, prepared by Powerlink Queensland, Version B (Ref. A3-H-156762-002), dated 14 February 2019.	Powerlink’s transmission assets design is considered to meet or exceed the relevant bushfire performance requirements contained within these standards and specifications During construction and operation, project-specific bushfire management protocols and emergency response procedures will be developed and implemented through contractor Emergency Preparedness and Response Plans and other project management documentation. These measures will be informed by: — Powerlink’s Bushfire Mitigation Plan (ASM-PLN-A3285085), including vegetation management requirements for transmission corridors; — Powerlink’s Fire Prevention Procedure (ASM-O&FS-PRO-A2364455), which addresses matters including fire prevention, safe storage of flammable and combustible liquids, awareness of fire hazards, availability of and training for firefighting equipment and limiting use of fires during construction; and — Powerlink’s environmental management plan. Accordingly, Powerlink considers that bushfire hazards can be appropriately managed through existing design standards, operational procedures and project-specific management measures, and that a separate Bushfire Hazard Assessment and Management Plan is not required.
Prepare and submit a Bushfire emergency and evacuation plans for the construction and operation phases of the development to include: a) Display of Fire and emergency services of signage for access tracks and water points during construction, operational and decommissioning phases.	During the construction phase, project specific bushfire management protocols and emergency response procedures will be developed and implemented as part of contractor’s Emergency Preparedness and Response Plan, in accordance with the requirements of Powerlink’s Bushfire Mitigation Plan ASM-PLN-A3285085. These procedures will address bushfire prevention, preparedness and response measures, including emergency access arrangements, communication protocols, evacuation procedures, and the provision of appropriate signage where required to support emergency services access and response activities.

Submission	Response
Substations and any buildings used for control systems or operations are considered community infrastructure and should be separated from hazardous vegetation by an Asset Protection Zone that achieves a maximum radiant heat flux of 10kW/m ² .	Bushfire hazard assessments are undertaken during the Project planning and design phase, with substations and buildings designed in accordance with Australian Standard for the Construction of Buildings in Bushfire Prone Areas - AS3959 – 2009. Powerlink considers that the design of Project infrastructure appropriately addresses bushfire risk and meets the relevant Australian Standard requirements.

3.2.5 Department of Local Government, Water and Volunteers

Powerlink acknowledges the submission and has reviewed the Project's water management, watercourse crossing, quarry material sourcing and flood risk considerations. Further consideration has been given to the applicable requirements of the *Water Act 2000*, riverine protection provisions and associated approval pathways, and the requested clarifications and updates are provided below.

Table 3.8 Technical Agencies Submissions – DLGWV.

Submission	Response
In <i>Section 3.5.3.10 Watercourse crossings</i> and <i>4.1.3 Waterways</i> , it states works will be undertaken in line with the accepted development requirement for waterway barrier works. Works that involve watercourse crossings/waterways also need to be undertaken in accordance with DLGWV's riverine protection permit exemption document. If works are unable to meet the requirements, a riverine protection permit will be required.	It is recognised that some proposed infrastructure crossing locations may be subject to both the <i>Water Act 2000</i> and <i>Fisheries Act 1994</i> as a regulated watercourse can also constitute a mapped waterway for waterway barrier works. Compliance with each legislative framework's requirements will be assessed independently during detailed design. Where temporary waterway barrier works are proposed across a surface water feature that is defined both as a watercourse under the <i>Water Act 2000</i> and waterway under the <i>Fisheries Act 1994</i>, the intention is to comply with the ADR for WWBW. If detailed design cannot demonstrate compliance with the ADR, the relevant approvals for waterway barrier works will be obtained before construction. Where excavation, filling, vegetation clearing, or other disturbance activities are proposed within a watercourse regulated under the <i>Water Act 2000</i>, these works are intended to be undertaken in accordance with the Riverine Protection Permit Exemption Requirements (WSS/2013/726). If detailed design cannot demonstrate that the exemption requirements

Submission	Response
	can be met, the necessary approvals under the <i>Water Act 2000</i>, including a riverine protection permit where required, will be obtained before construction. Accordingly, Powerlink considers that the matters raised can be appropriately managed through established legislative approval processes and detailed design.
In Section 3.9.1.1 it states that materials will be sourced from local quarries, however in the absence of available registered quarries, permits will be sought for the extraction of required materials. Removal of any riverine quarry material that is used for a purpose other than waste will require a quarry material allocation notice and accompanying development approval. This should be acknowledged within this section of the report.	As outlined in Section 3.9.1.1 of the MID Proposal Report, quarry material required for construction will be sourced from approved, licensed quarries wherever practicable. The Project is therefore not anticipated to require the extraction or use of riverine quarry material. However, should the removal of riverine quarry material be required for any purpose other than disposal as waste, the necessary quarry material allocation notice and any associated development approvals will be obtained prior to extraction. Section 3.9.1.1 has been updated accordingly.
Further information should be provided under <i>3.9.1.2 Water supply</i> that discusses the anticipated volume of water required to facilitate all components of the proposed development, for example, dust suppression, concrete batching, machinery washdown, etc.	Detailed water demand estimates have not been generated at this stage, as these will be developed during detailed design and once construction methodologies are finalised. Water demand will vary depending on the final construction program, weather conditions, and construction activities, including dust suppression, access track construction, concrete batching, equipment washdown, and workforce requirements. Suitable and compliant water sources have been identified across the project alignment to support construction activities, with sourcing, management and use undertaken in accordance with relevant regulatory, environmental and biosecurity requirements. Section 3.9.1.2 has been updated to provide additional information regarding the anticipated construction water uses and potential water sources.
<i>Sections 7.2.6 Water use and sourcing, 26.5 Summary of legislative triggers</i> and <i>3.9.1.2</i> incorrectly reference DNRMMRRD as the agency to authorise water licences under the <i>Water Act 2000</i>. These should be amended to the Department of Local Government, Water and Volunteers (DLGWV).	Sections 7.2.6, 26.5 and 3.9.1.2 of the MID Proposal Report have been updated to reference the correct state department.

Submission	Response
In proposal report, <i>section 3.9.1.2: water supply</i> and <i>7.2.6: water use and sourcing</i> address the source/s of water and the total volume of water required for every stage of the project, and how the water will be lawfully accessed. If the use of reticulated water is proposed, this must be detailed. <i>Constructing authority</i> - Powerlink Queensland is a constructing authority for the purposes of section 99 of the <i>Water Act 2000</i> and may take water in accordance with the ‘<i>Exemption requirements for the take of water without a water entitlement</i>’. The exemption requirements and notification portal are at www.business.qld.gov.au/industries/mining-energy-water/water/authorisations/industry-government/constructing-authority-notification. The report states if the exemption requirements cannot be met, a water licence application will be submitted to DNRMMRRD, this should be amended to DLGWV. The area is managed by the <i>Water Plan (Fitzroy Basin) 2011</i>. An application for a new Water Licence may only be accepted for a purpose listed in section 53 of the Water Plan.	Water required for the Project will be sourced in accordance with the requirements of the Water Act 2000, including the <i>Exemption Requirements for the Take of Water Without a Water Entitlement</i> applicable to constructing authorities. Water is expected to be sourced from local dams, bores and, where lawful and appropriate, watercourses to support construction activities such as dust suppression, access track construction, concrete batching, equipment washdown and workforce requirements. The Project does not propose to utilise reticulated water supplies at this time. As Powerlink Queensland is a constructing authority under the <i>Water Act 2000</i>, water may be taken in accordance with the applicable exemption requirements. If the exemption requirements are not met, the necessary water authorisations will be obtained from the DLGWV prior to water extraction. Sections 3.9.1.2 and 7.2.6 of the MID Proposal Report have been updated accordingly.
<i>Proposal report, section 4.1.3: Waterways</i> - Within the project area is Castle Creek, a watercourse for the purposes of the Water Act 2000. There are also features that have not yet been determined to be either watercourses or drainage features, for the purposes of the Water Act 2000. The construction of bed level crossings must also comply with the ‘<i>Riverine Protection Permit Exemption Requirements</i>’. Powerlink is considered an approved entity under Attachment 2 (e) Electricity entities under the Electricity Act 1994. Please note limitations for the area limit and vegetation clearing requirements in Table 3.1. Powerlink (and its contractors, subcontractors and other agents engaged by the approved entity) must meet the Minimum Requirements in section 4.0.	Where bed level crossings are proposed within watercourses regulated under the Water Act 2000, works will be undertaken in accordance with the <i>Riverine Protection Permit Exemption Requirements</i>. As Powerlink Queensland is an approved entity under the exemption, all applicable requirements, including the area limits and vegetation clearing requirements, will be met. In addition, where a crossing constitutes waterway barrier works under the <i>Fisheries Act 1994</i>, the design and construction of the crossing will comply with the ADR for WWBW. Should detailed design demonstrate that the exemption requirements or ADR cannot be met, the necessary approvals under the <i>Water Act 2000</i> and <i>Fisheries Act 1994</i>, including a riverine protection permit and development application for operational works where required, will be obtained prior to construction.

Submission	Response
Proposal report, sections 7.1.1.3 - The northern section of the proposed project area is within the Callide Groundwater Management Area. You can only take or interfere with groundwater for a purpose listed in section 116 of the Water Plan (Fitzroy Basin) 2011. Outside of a groundwater management area, under section 101(1)(c) of the Water Act 2000 groundwater may be taken for any purpose.	Section 7.1.1.3 of the MID Proposal Report has been updated to clarify that the northern section of the Project area is located within the Callide Groundwater Management Area. The report now acknowledges that any take or interference with groundwater take within the Callide Groundwater Management Area must be consistent with the purposes prescribed under section 116 of the <i>Water Plan (Fitzroy Basin) 2011</i>. It also notes that, outside a groundwater management area, groundwater may be taken in accordance with section 101(1)(c) of the <i>Water Act 2000</i> (Qld). At this stage, water sourcing has not been fully defined. Notwithstanding this, should groundwater be identified as a viable option, Powerlink will apply its robust approvals identification process to ensure all required approvals are obtained and in place prior to the commencement of any groundwater extraction activities.
Although the flood risk may ultimately be low, particularly where access tracks are constructed at grade and tower structures are generally permeable, provide a site-based flood risk assessment certified by a Registered Professional Engineer of Queensland (RPEQ). This should confirm that flood risk to the infrastructure has been appropriately considered and that the infrastructure either avoids the risk, is designed to mitigate the risk, or is sufficiently resilient to it. This may include reliance on existing information, available data, prior studies, site observations, professional judgement, or targeted hydraulic assessment, as appropriate to the level of risk. Where further analysis is considered necessary, a proportionate approach could include a simple 1D hydraulic model for higher order streams and a simplified Manning's equation assessment for smaller tributaries, with design inflows derived in accordance with Australian Rainfall & Runoff (ARR) 2019 (version 4.2 or current version). It is suggested to include the 1% Annual Exceedance Probability (AEP) and 0.05% AEP to identify flood hazard.	Flood risk has been considered as part of the Project planning and will continue to be considered during the detailed design, particularly where infrastructure is proposed in proximity to waterways, drainage features or flood-prone areas. The Project predominantly comprises transmission line infrastructure, with access tracks generally constructed at grade and tower structures designed to permit the passage of floodwaters. During detailed design, Powerlink will review available flood information, site conditions and infrastructure design requirements to confirm that flood risk has been appropriately considered and managed. Where required, this may include targeted assessment of higher-risk locations to confirm that infrastructure avoids, mitigates or is resilient to flood impacts. Where required, mitigation measures will be incorporated into the detailed design, including appropriate scour and erosion protection for tower foundations and access infrastructure, structural design considerations for flood loading where relevant, and avoidance of flood-prone areas where practicable. Through the application of these measures, the Project will be designed and constructed to support the safe and reliable operation of the transmission network during and following flood events. Accordingly, Powerlink considers that flood risk can be appropriately managed through detailed design and construction measures.

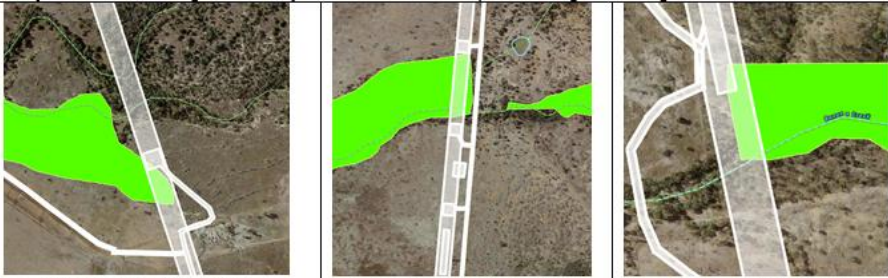
3.2.6 Department of Environment, Tourism, Science and Innovation

Powerlink acknowledges the information request and has reviewed the Project design, environmental assessment and disturbance footprint. The Project has undergone ongoing design refinement to avoid and minimise impacts on Matters of State Environmental Significance (MSES), watercourses and regulated vegetation to the greatest extent practicable, and the requested information is provided below.

Table 3.9 Technical Agencies Submissions – DETSI

Submission	Response
Information Request: Provide detailed design plans for the extent of the MID corridor including GPS co-ordinates that detail the area of disturbance, including the proposed area of vegetation removal (Eastings and Northings, GDA2020/MGA2020 in the relevant zone, including 3 decimal places)	Field verified vegetation communities survey data, along with the disturbance footprint for impacts to MID areas have been provided digitally to DETSI as part of this package.
Information Request: Provide GPS co-ordinates that detail the area of vegetation clearing. The above will inform matter 2 below, particularly in relation to MSES Koala Habitat. If the applicant cannot provide this information please justify why.	Field verified vegetation communities survey data, along with the disturbance footprint for impacts to MID areas have been provided digitally to DETSI as part of this package
MSES Koala Habitat With respect to impacts on koala habitat as a Matter of National Environmental Significance (MNES), it is acknowledged that the Environmental Assessment Report (EAR) concluded there would be no significant impact under commonwealth legislation, although this doesn't include a determination of the Significant Residual Impact (SRI) in relation to koala habitat as a MSES. While the MID assessment process is not classified as a prescribed activity under the <i>Environmental Offsets Act 2014</i>, the State Planning Policy 2017 requires that, in addressing the state interest of biodiversity, developments affecting MSES must be located in areas that avoid adverse impacts. Where adverse impacts cannot reasonably be avoided, they must be minimised to the greatest extent practicable. Information Request: Provide MSES and SRI determination for impacted koala habitat. Koala habitat is considered an MSES and the EAR should be updated to reflect this	Koala habitat has been identified and assessed within the EAR as part of the ecological impact assessment undertaken for the Project. For MNES, the EAR concluded that the Project is unlikely to result in a significant impact on koalas or koala habitat under Commonwealth legislation. For Matters of State Environmental Significance, the Project is being assessed under the MID framework. A Significant Residual Impact (SRI) assessment is generally not required under a MID pathway, as a MID is not a development approval granted through the <i>Planning Act 2016</i> development assessment framework and is not a prescribed activity under the <i>Environmental Offsets Act 2014</i> that would trigger a statutory offset obligation. Accordingly, the MID process focuses on the avoidance, minimisation and mitigation of environmental impacts rather than the assessment and offsetting of significant residual impacts. Notwithstanding the above, koala habitat has been considered as part of the Project's biodiversity assessment, and the design process has sought to avoid impacts where

Submission	Response
classification. An assessment of the SRI of the project should be undertaken using the SRI guideline relevant to the <i>Planning Act 2016</i>.	practicable and minimise unavoidable impacts through iterative alignment refinement and infrastructure siting. The revised MID Disturbance Footprint incorporates design refinements that reduce impacts on ecological values, including mapped MSES, where practicable.
Avoidance Measures — A review of the corridor alignment has identified areas where minor adjustments to the infrastructure alignment could avoid the clearing of regulated vegetation (see images below): — MSES regulated vegetation (category B – Endangered and of concern) associated with the Sawpit Creek Crossing (6DW447). minor alignment adjustment to the east would avoid impacting this vegetation. — MSES regulated vegetation (category B – Endangered and of concern and regulated vegetation defined watercourse) associated with unnamed watercourse that is a tributary to Taramba Creek Crossing (16DW264). A minor alignment adjustment to the east would avoid impacting this vegetation. — MSES regulated vegetation (category B – Endangered and of concern and regulated vegetation defined watercourse) associated with the Banana Creek Crossing (12FN294). A minor alignment adjustment to the west would avoid impacting this vegetation. Information Request: These opportunities to minimise impacts should be explored, and where re-alignment is not feasible, clear justification should be provided. Update plans as necessary with the changes. Further justification is sought to clearly demonstrate that impacts to regulated vegetation have been avoided to the greatest extent practicable, particularly in relation to the alignment of the transmission line, its corridor, and associated ancillary infrastructure.	Feasible alternatives for the alignment were investigated during the corridor selection process (section 2.4 of MID Proposal Report). The final corridor alignment was selected based on extensive feedback from landholders, traditional owners and the wider community. Unfortunately, realignment of the easement to completely avoid all vegetation communities is not feasible, as this adds considerable costs to the Project. However, throughout the Project development phase, significant effort has been invested in the avoidance, minimisation, mitigation and manage principles to minimise impacts to regulated vegetation. Approaches taken to minimise impacts include: — Alterations made to preliminary transmission line design, including increasing tower heights located adjacent to the riparian areas and reducing span lengths to minimise vegetation clearing requirements; — Extensive reviews of the vegetation modelling using LIDAR imagery to identify areas where there was sufficient distance between the bottom of the conductor and the vegetation, which would allow the transmission line to overspan the vegetation, therefore avoiding the need to clear vegetation. — Adoption of sensitive clearing techniques (i.e. hand clearing using chainsaws) within the wetland area to only remove hazardous vegetation that would cause a risk to the electrical safety of the asset during operations; Rehabilitation of temporary disturbance areas (e.g. brake and winch sites, laydowns, etc) progressively following completion of construction activities.

Submission	Response
 Sawpit Creek (6DW447) Tarramba Creek Tributary (16DW264) Banana Creek (12FN294)	
Water Quality In total there are 53 watercourse crossings along the alignment of the transmission line and ancillary infrastructure. It was unclear the transmission line and its infrastructure (e.g., the base of towers) intersects a watercourse, with associated impacts on hydrology and water quality. Relocate all infrastructure that intersects any watercourse (if relevant). Please provide justification if infrastructure cannot be relocated.	Field verification of mapped watercourse locations identified inconsistencies with the mapping information. Impacts to watercourses have been minimised through implementing the principles of avoidance, minimisation, mitigation and management. Approaches taken to minimise impacts to watercourses include: — Locating towers outside of riparian vegetation areas; — Increasing tower heights and reducing span lengths near watercourses to minimise vegetation clearing requirements; — Adopting sensitive clearing techniques to remove only hazardous vegetation located within the bed and bank of watercourses. Since the lodgement of the MID application, internal reviews of proposed tower locations have resulted in minor tower shifts and changes to the disturbance footprint to minimise impacts to watercourses. During construction, micro-siting of infrastructure footprints will continue to be refined to further reduce impacts to watercourses.

Environmentally Relevant Activities (ERAs)

- The activity has the potential to trigger Environmentally Relevant Activities (ERAs), including:
 - ERA 8: Chemical Storage
 - ERA 16: Extracting and Screening
 - ERA 63: Sewage Treatment
- Descriptions of these ERAs can be found in Schedule 2 of the Environmental Protection Regulation 2019 (EP Reg), accessible via the Queensland Government's legislation website: <https://www.legislation.qld.gov.au/>.
- The application has not included consideration of ERAs, and so this MID is not authorising land use approval for ERAs, and appropriate land use approval and environmental authority/ies for relevant ERAs should be sought at a future date if required.

Environmental Authority (EA) Requirements

- Under the *Environmental Protection Act 1994* (EP Act), an Environmental Authority (EA) is required to authorise the carrying out of an ERA. Preparatory activities, such as vegetation clearing or earthworks, are considered part of carrying out an ERA, and therefore, an EA must be obtained before commencing these activities.
- The EP Act outlines specific technical information requirements to support an EA application.

Other Legislative Requirements

- If an activity is not regulated as an ERA, other provisions under the EP Act must still be considered, including:
 - Section 319 – General Environmental Duty: A person must not carry out any activity that causes or is likely to cause environmental harm unless all reasonable and practicable measures are taken to prevent or minimise the harm.
 - Section 437 – Serious Environmental Harm: Offences related to causing serious environmental harm.

Chemicals used across construction, operation and decommissioning will include fuels (mainly diesel), oils, lubricants, solvents, acids, degreasers and cleaning agents. All chemicals will be managed in accordance with relevant Safety Data Sheets, Australian Standards and the Project Emergency Response Plan. Although most storage will occur during construction, quantities are not expected to trigger thresholds under the Environmental Protection Regulation 2019, Schedule 2 (ERA 8).

The Project will require quarry materials during construction and maintenance for access tracks, waterway crossings, erosion and sediment controls, and foundations. Materials may include rock, gravel, sand and soils, sourced from local registered quarries where available. If not, appropriate permits will be obtained. Material extraction is not currently anticipated and is therefore not expected to trigger thresholds under Schedule 2 (ERA 16) of the Environmental Protection Regulation 2019.

The Project does not involve any substantial sewerage treatment. During construction, portable toilets will be provided to workers. During operation, the Castle Creek site will include one toilet located within the amenities building, with sewage treated via an on-site septic tank system. No other buildings or facilities will require connection to a sewage treatment system. Therefore, the Environmental Protection Regulation 2019, Schedule 2 (ERA 63), will not be triggered.

Therefore, based on the current scope of works, the Project does not trigger any ERAs requiring an Environmental Authority under the *Environmental Protection Act 1994* (EP Act).

The Project will be undertaken in compliance with the relevant provisions of the EP Act. All activities will be carried out in accordance with the General Environmental Duty (s319) by implementing all reasonable and practicable measures to prevent or minimise environmental harm, and by avoiding actions that may result in serious or material environmental harm (ss437–438) or environmental nuisance (s440). The Project will also meet the requirements of the duty to notify (ss320–320G), ensuring that any actual or threatened environmental harm is promptly reported to the relevant authority and affected landholders.

Submission	Response
— Section 438 – Material Environmental Harm: Offences related to causing material environmental harm. — Section 440 – Environmental Nuisance: Offences related to causing environmental nuisance. — Sections 320 to 320G – Duty to Notify of Environmental Harm: Obligations to notify the relevant authority and landowners when environmental harm has occurred or is likely to occur. — Section 440ZG – Prescribed Contaminants in Waters: Prohibits depositing prescribed contaminants (as listed in Schedule 10 of the EP Reg) in waters, including waterways, the ocean, or stormwater drains. Should ERAs be identified as being proposed to be carried out, DETSI recommends that the proponent request a pre-lodgement meeting with SARA and/or DETSI to discuss potential ERAs and the application process.	In addition, the Project will comply with Section 440ZG – Prescribed Contaminants in Waters, ensuring that no prescribed contaminants are deposited into waters, including waterways, the ocean, or stormwater drainage systems, in accordance with Schedule 10 of the Environmental Protection Regulation 2019.
Erosion and Sediment Control — Implement erosion and sediment control measures in accordance with the IECA Best Practice Erosion and Sediment Control Guidelines. — Develop and maintain an Erosion and Sediment Control Plan (ESCP) to minimise soil erosion and sedimentation. — Stabilise disturbed areas promptly, achieving a minimum of 60% ground cover within 30 days of completing earthworks. — It is noted that the IECA guidelines seek 60-80% groundcover as quickly as possible, depending on rainfall, erosivity and timing. The area is characterised by short but high intensity rainfalls and highly erosive soils. The applicant should seek to achieve 80% groundcover with consideration of local environment.	A project-specific Erosion and Sediment Control Plan (ESCP) will be developed prior to construction by a suitably qualified person, consistent with recognised best practice including International Erosion Control Association (IECA) guidelines. This plan will include benchmarks for the stabilisation of disturbed areas and minimum ground cover requirements. This approach aligns with IECA Best Practice Erosion and Sediment Control Guidelines.

Submission	Response
Watercourse Crossings: — Use existing watercourse crossings and access tracks wherever possible. — Design and construct new crossings to avoid impeding surface water flow velocities or volumes.	Existing watercourse crossings and established access tracks will be utilised wherever practicable, where consistent with the approved project disturbance footprint. Where new watercourse crossings are required, they will be designed and constructed to maintain existing surface water flow regimes, including flow velocities and volumes, and to avoid obstruction to natural drainage pathways. Detailed crossing design will be developed during the detailed design phase and will incorporate erosion and sediment control measures consistent with relevant guidelines and site conditions. Construction methodologies will be selected to minimise temporary and permanent impacts on watercourses, with disturbed areas rehabilitated following completion of works.
Construction Practices: — Schedule construction works during the dry season to limit exposure of disturbed ground to rainfall. — Implement clean water diversions around stockpiles and exposed areas to prevent sediment-laden runoff.	Where practicable, ground disturbing construction works will be planned to occur outside of periods of heavy rainfall, through scheduling the majority of works during the dry season and consideration of daily weather forecasts. A project-specific ESCP will be developed prior to construction by a suitably qualified person, consistent with recognised best practice including IECA guidelines. This includes addressing appropriate controls for stockpiles and exposed areas on the Project. Erosion and sediment control measures will be progressively implemented, maintained and adapted in response to construction activities and prevailing weather conditions.
Hazardous Materials Management: — Refueling of vehicles and machinery will not occur within 50 m of watercourses. — Spill kits will be available at all work areas, and personnel will be trained in spill management.	Management protocols and procedures for hazardous materials management will be developed as part of the Project's overarching environmental and safety management documentation and will be aligned with applicable regulatory obligations and company requirements. The plan will define requirements for the storage, handling and refuelling of hazardous materials in accordance with applicable company procedures and relevant regulatory requirements, with the objective of minimising risks to land and waterways. This will include identification of appropriate controls for refuelling practices and requirements for spill kit availability in areas where hazardous materials are stored or used.

3.3 Local Government – Banana Shire Council

Table 3.10 Local Government Submissions – Banana Shire Council.

Council's submission	Response
Introduction Council acknowledges the opportunity to provide comment on the proposed Ministerial Infrastructure Designation (MID) for the Theodore Wind Farm Connection Project. Council recognises the strategic importance of electricity transmission infrastructure in supporting Queensland's energy transition, regional economic development, and network reliability-particularly in the Gladstone energy and industrial corridor. However, Council's support is conditional and subject to the matters outlined below being appropriately addressed through the MID conditions and associated management frameworks. Strategic Planning Context The Project is located within land zoned Rural under the Banana Shire Council Planning Scheme 2021, where the intent is to: — Maintain rural productivity and viability; — Protect agricultural land uses; and — Preserve rural character and amenity. While transmission infrastructure is anticipated within rural areas, the scale, linear extent (55 km), and cumulative impacts of multiple renewable energy projects in the region raise strategic land use planning concerns, particularly as the MID process removes the opportunity for full impact assessment under the Planning Act 2016. Key Council Matters are presented in the table.	Powerlink acknowledges Council's submission regarding the strategic planning context, cumulative impacts, workforce accommodation and housing, local road impacts and maintenance, agricultural land and land-use fragmentation, environmental impacts, bushfire risk, visual amenity and rural character, cultural heritage and non-indigenous, precedent of the MID process, and public infrastructure networks. As Queensland's transmission network service provider, Powerlink's role is to plan, develop, operate and maintain the high-voltage electricity transmission network that enables the safe, reliable and efficient transport of electricity across the state. Powerlink's role is to provide the transmission infrastructure necessary to connect generators to the electricity network. Powerlink has carefully considered Council's submission, and detailed responses to each matter raised are provided in the sections below.

Council's submission	Response
1. Cumulative Impacts Council considers that cumulative impacts are significantly understated, presented at a high level and not supported by sufficient detail, and do not provide sufficient detail to support a clear understanding of the nature, extent, or significance of cumulative impacts. The Project occurs within a region experiencing: — Multiple wind farms — Transmission corridors — Renewable energy developments 1.1 Council Concerns: — Road network degradation from overlapping construction programs — Workforce accommodation shortages in Theodore, Biloela, Moura and surrounds — Pressure on local services and infrastructure — Incremental loss of rural amenity and landscape character 1.2 Council Position: The MID must not assess this Project in isolation. A coordinated cumulative impact assessment and regional infrastructure strategy must be demonstrated to the satisfaction of the State and local governments.	The cumulative impacts which have been outlined in Section 24 of the MID Proposal Report has been prepared on publicly accessible information available at the time of preparation of the proposal. Furthermore, it is vital to highlight that Powerlink is a Queensland Government Owned Corporation that builds, owns, and maintains the state's high-voltage electricity transmission network. Section 24.3.12 of the MID Proposal Report outlines that Powerlink will continue to engage and work collaboratively with the proponents of projects within the vicinity of the Project to ensure traffic and transport impacts are minimised to the greatest extent possible. The cumulative impact assessment does not assess the Project in isolation and considers other existing and proposed developments within the region based on information available at the time of assessment. Powerlink will continue to coordinate with relevant stakeholders, including Council and nearby project proponents where practicable, to understand overlapping construction activities and manage cumulative traffic and transport impacts. Powerlink will continue engagement with Council and ensure an Infrastructure Agreement is in place for the Project. Section 24.3.9.2 of the MID Proposal Report outlines that an accommodation strategy will be developed for the construction phase of the Project to ensure that the construction workforce can be appropriately accommodated. Furthermore, a 50-bed on-site accommodation camp is proposed for the Theodore Wind Farm Project, which help minimise cumulative accommodation impacts. Section 24.3.9 of the MID Proposal Report further considers cumulative social and economic impacts, including potential pressures on local communities, services and infrastructure, and outlines mitigation measures aimed at reducing these impacts during construction. Section 24.3.8 of the MID Proposal Report outlines the cumulative visual amenity impacts. The Project has considered the visual impact on the surrounding visual receptors throughout the corridor selection process and the design the Project. The cumulative visual impact assessment acknowledges the presence of existing and proposed renewable energy developments within the region and assesses the Project's contribution to

Council's submission	Response
	cumulative visual change. The Project footprint and alignment have been refined through the corridor selection and detailed design process to avoid and minimise impacts where practicable, balancing environmental, social, technical and landholder considerations. Powerlink will continue to engage with Council, State agencies, landholders and other stakeholders throughout detailed design and construction to identify opportunities for the coordinated management of cumulative impacts and infrastructure requirements within the region.
2. Workforce Accommodation and Housing The Project anticipates a peak workforce of ~145 personnel. Council does not accept the conclusion that impacts are negligible: — The local housing market is already severely constrained — Concurrent projects will exacerbate shortages — Short-term accommodation demand can displace local residents and key workers The primary risk is short-term workforce demand displacing permanent residents and essential service workers within an already constrained housing market. 2.1 Council Position: The MID must include conditions requiring: — A Workforce Accommodation Management Plan — Demonstration of housing supply availability prior to construction — Demonstration that the Project will not result in a net worsening of local housing affordability or availability	Powerlink acknowledges Council's feedback regarding the potential impact of the Project workforce on the local housing market, particularly in the context of existing constraints and cumulative regional demand. Further, consideration of cumulative impacts on short-term accommodation availability and affordability are considered in Section 24.3.9.2 of the MID Proposal Report. Powerlink is currently developing a Workforce Accommodation Management Plan which is based on the principles of the Powerlink Workforce Accommodation Strategy and is designed to; — Respond to the SIA findings, Council's feedback and the cumulative impact findings to ensure that accommodation solutions identify, assess and mitigate potential impacts to local communities. — Prioritise minimising impacts to local housing availability. A key objective of the Plan is to avoid placing additional pressure on existing housing stock, particularly where it may displace permanent residents or essential service workers. This aligns with stakeholder feedback and SIA mitigation principles. — Identify potential accommodation solutions prior to construction — Embed mitigation and management measures to monitor impacts and adapt as necessary (aligned to SIMP)

Council's submission	Response
3. Local Road Impacts and Maintenance While the submitted Traffic Impact Assessment (TIA) identifies State-controlled roads may operate within capacity, there has been no assessment on the impact of the development on local roads such as Uncle Toms Road and Defence Road outside of the state-controlled intersections. The TIA cites an assumed base traffic peak hour volume of 14 vehicles on Uncle Toms Road (7 in, 7 out per Figure 3.19) and 14 vehicles on Defence Road (7 in, 7 out per Figure 3.20). In figure 4.3, the expected volumes on Uncle Toms Road escalate to 139 and the volumes on Defence Road jump to 139 in figure 4.4. This represents an increase of some 992% based on their assumed volumes Under the planning scheme, Rural Major Collector Roads which carry between 1 00-249vpd are to be at least 6. 5m wide and be sealed shoulder to shoulder. The Banana Shire Council Planning Scheme 2021, identifies Uncle Toms Road as a Rural Minor Access carrying between 21-40 vehicles per day. The last count undertaken in 2025 identified an AADT of 19. Defence Road is identified as a Rural Major Access carrying an AADT of 41-99vpd, with the last traffic count in 2025 recording an AADT of 34. The level of traffic utilising Defence Road is expected to escalate following our ongoing project to seal the remainder of the ~60km corridor. Whilst the assessment is conservative and sends 100% of traffic down both roads, the true impact of the project on the local roads is not known at this stage. It is recommended that	It is vital to highlight that Powerlink is a Queensland Government Owned Corporation that builds, owns, and maintains the state's high-voltage electricity transmission network. Powerlink will continue to engage and work collaboratively with the proponents of projects within the vicinity of the Project to ensure traffic and transport impacts are minimised to the greatest extent possible. Powerlink will continue engagement with Council and ensure an Infrastructure Agreement is in place for the Project. Powerlink acknowledges Council's comments regarding local road impacts and maintenance. Powerlink will continue to engage with Council throughout detailed design and construction planning and will enter into a legally binding Infrastructure Agreement with Council. The Infrastructure Agreement will address matters relating to road use, maintenance, rehabilitation and the management of Project-related impacts on Council-controlled infrastructure, including ensuring that Council roads are not worse off as a result of Project construction activities.

Council's submission	Response
the MID request further investigation into these impacts or conditions that a road infrastructure agreement is entered into with Council to manage these safety impacts. 3.1 Council concerns: — Increased heavy vehicle use on local government roads — Intersection upgrades not fully scoped — Long-term pavement damage from construction traffic — Lack of clear funding commitments for road and associated infrastructure (bridges/culverts, drainage/signage etc) upgrades and repairs 3.2 Council Position: Conditions must require: — A Road Impact Assessment (including local roads) to Council's satisfaction — A Road Use Management Plan (RUMP) — Binding agreements for: — Road upgrades — Maintenance — Post-construction rehabilitation at no cost to Council These requirements should be secured through a legally binding infrastructure agreement with Council.	
4. Agricultural Land and Land Use Fragmentation Although mapped as predominantly Class C land, and is generally considered to have limitations for cropping; however, this classification does not, in itself, mean the land is of low value for agricultural purposes, particularly for grazing. The conclusion that the Project is unlikely to significantly impact agricultural land and operations is not sufficiently demonstrated and requires further qualification. The assessment appropriately recognises that grazing activities may continue beneath	The Project is a 60m wide easement with off-easement tracks. Powerlink is committed to reducing and mitigating impacts to the surrounding land use and will continue to collaborate with all landholders and stakeholders throughout the construction and operation of the Project. Impacts to agricultural land use during construction of a transmission line tend to be short to medium term impacts resulting from:

Council's submission	Response
transmission infrastructure; however, it does not adequately consider the extent to which the Project may: — constrain farm management practices (e. g. movement of machinery, stock handling, aerial operations); — introduce operational inefficiencies or biosecurity risks; — result in a cumulative reduction in the productive use of the land over time. 4.1 Council Position: Greater weight should be given to: — Quantification of operational impacts on agricultural businesses. — Long-term constraints, not just land capability classification. — Demonstrate how design and mitigation measures will maintain agricultural functionality. — Confirmation that the Project will not result in a material reduction in the long-term productive capacity of the land.	— Temporary loss of land use within easement during periods of active construction activities; — Localised disturbance from construction activities, particularly at tower locations; — Reduced access, compaction, or disturbance can temporarily lower yields or stocking rates (often compensated through agreements) Impacts to agricultural land use during operational period of transmission line assets, are generally compatible, typically allowing grazing and some cropping to occur within easements. The land access protocol addresses agricultural land use impacts through operational controls, including access timing, biosecurity measures, and landholder coordination. It minimises disruption to ongoing farming activities during construction and operation. With regard to the introduction of operational inefficiencies, directly affected landholders are compensated for the impacts that the infrastructure has on their land (including their operations). Powerlink is committed to treating property owners fairly and to not financially disadvantage them by the corporation's activities. An independent valuer engaged by Powerlink will be appointed to assist in determining the compensation package. Compensation is assessed to reflect the difference between the market value of the property before and after the easement is acquired.
5. Environmental Impacts Council acknowledges the relatively limited vegetation clearing (-7.7 ha), however raises concern regarding: (a) Watercourses (46 crossings) — High risk of: — Erosion — Sedimentation — Bank instability	a) Watercourses Impacts to watercourses have been minimised through implementing the principles of avoidance, minimisation, mitigation and management. Approaches taken to minimise impacts to watercourses include: — Locating towers outside of riparian vegetation areas. — Increasing tower heights and reducing span lengths near watercourses to minimise vegetation clearing requirements; — Adopting sensitive clearing techniques to remove only hazardous vegetation located within the bed and bank of watercourses;

Council's submission	Response
— Biosecurity risks, including weed spread; (b) Floodplain interaction — Transmission infrastructure within flood-prone areas — Potential localised hydraulic impacts not fully demonstrated (c) Biodiversity — Presence or likelihood of: — Squatter Pigeon — Greater Glider — Koala 5.1 Council Position: Conditions should require: — Detailed watercourse crossing designs. — Independent flood impact verification. — Strengthened Species Management Programs (SMPs). — Ongoing ecological monitoring and reporting. — Increased biosecurity management and monitoring.	Since the lodgement of the MID application, internal reviews of proposed tower locations have resulted in minor tower shifts and changes to the disturbance footprint to minimise impacts to watercourses. During construction, micro-siting of infrastructure footprints will continue to be refined to further reduce impacts to watercourses. Impacts to waterways and water quality resulting from the project will be managed in accordance with Powerlink's EMP mitigation measures, and any environmental approval conditions. A project-specific ESCP will be developed prior to construction by a suitably qualified person, consistent with recognised best practice including IECA guidelines. This plan will include monitoring benchmarks for the stabilisation of disturbed areas and minimum ground cover requirements. This approach aligns with International Erosion and Sediment Control Association Best Practice Erosion and sediment control guidelines. b) Floodplain interaction Flood risk and floodplain interaction has been considered as part of the Project planning and will continue to be considered during the detailed design, particularly where infrastructure is proposed in proximity to waterways, drainage features or flood-prone areas. The Project predominantly comprises transmission line infrastructure, with access tracks generally constructed at grade and tower structures designed to permit the passage of floodwaters. During detailed design, Powerlink will review available flood information, site conditions and infrastructure design requirements to confirm that flood risk has been appropriately considered and managed. Where required, this may include targeted assessment of higher-risk locations to confirm that infrastructure avoids, mitigates or is resilient to flood impacts. Where required, mitigation measures will be incorporated into the detailed design, including appropriate scour and erosion protection for tower foundations and access infrastructure, structural design considerations for flood loading where relevant, and avoidance of flood-prone areas where practicable.

Council's submission	Response
	Through the application of these measures, the Project will be designed and constructed to support the safe and reliable operation of the transmission network during and following flood events. Accordingly, Powerlink considers that flood risk can be appropriately managed through detailed design and construction measures c) Biodiversity The mitigation and management measures for this Project have been proposed in line with Powerlink's' EMP. Further to this, project specific Species Management Program approvals are being sought from DETSI for impacts to fauna breeding places. Impact management plans developed to support these approvals were developed by suitably qualified persons and include a hierarchy of controls for mitigating impacts to fauna during construction activities. In addition to this, Environmental Work Plans (EWP) will be developed prior to construction, which are a geospatial representation of key land- and water-based datasets that are of relevance to Powerlink's assets. EWPs shall be used by Powerlink staff, Contractors, relevant sub-contractors and relevant MSPs for the identification of key environmental features and/or constraints that have been highlighted to enable works to be undertaken on or in association with a Powerlink asset. The EMP and EWPs will be used by the third-party construction contractor to prepare a CEMP for the Project which identifies management measures to reduce environmental impacts including, biosecurity protocols, vegetation clearing, fauna management and soil erosion. The CEMP will outline the specific measures that the construction contractor will employ to ensure that the works are undertaken in accordance with the measures outlined in the EMP and EWPs
6. Bushfire Risk The identification that the majority of the project area is not mapped as bushfire-prone is noted. However, it is also acknowledged that the northern sections of the site intersect areas identified as having medium to very high bushfire hazard, which warrants careful consideration.	Bushfire hazard assessments are undertaken during the Project planning and design phase with Transmission design developed in accordance with: — Powerlink's Specification for Line Design Principles (ASM-SPE-A2647524) — Powerlink's Vegetation Management Specification (ASM-SPE-A462955); and

Council's submission	Response
The statement that vegetation clearing will reduce bushfire hazard is not sufficiently supported and requires further qualification. While fuel reduction can lower fire intensity in some circumstances, vegetation clearing associated with linear infrastructure can: — create new edge conditions that may alter fire behaviour; — increase ignition risk during construction and maintenance activities; — result in ongoing vegetation management regimes that require active and sustained intervention; and — cumulative clearing may change landscape fire dynamics. 6.1 Council Position: A Bushfire Management Plan must be: — Prepared in consultation with Council and QFES. — Confirm that the Project will not increase bushfire risk to surrounding land uses. — Integrated with local disaster management frameworks.	— Australian Standard for the Construction of Buildings in Bushfire Prone Areas - AS3959 – 2009. Powerlink's design of transmission assets is considered to meet or exceed these Australian Standards. During construction and operational phases, project specific bushfire management protocols and procedures will be developed and implemented as part of contractor's Emergency Preparedness and Response Plans for the project in accordance with: — Powerlink's Bushfire Mitigation Plan ASM-PLN-A3285085 which includes management requirements of vegetation underneath high voltage transmission lines; — Powerlink's Fire Prevention Procedure (ASM-O&FS-PRO-A2364455) which includes safe storage of flammable and combustible liquids, awareness of fire hazards, availability of and training for firefighting equipment and limiting use of fires during construction; and — Powerlink's environmental management plan. The Project is not expected to increase bushfire risk to surrounding land uses. Transmission infrastructure will be designed, constructed and operated in accordance with Powerlink's bushfire mitigation and vegetation management requirements, with ongoing vegetation management undertaken to maintain safe clearances and reduce fuel loads in accordance with established operational procedures. Construction and operational activities will be managed through project-specific bushfire prevention and emergency response measures, ensuring that bushfire risks associated with the Project are appropriately avoided, minimised and managed throughout the life of the asset.
7. Visual Amenity and Rural Character The identification of potential visual receptors, including isolated dwellings, the Dawson Highway corridor, and areas within the Belmont State Forest, appropriately recognises	Powerlink acknowledges Council's comments regarding the potential visual impacts associated with the proposed transmission line infrastructure and associated changes to the rural landscape. The Project will introduce new built form elements, namely transmission structures, conductors, access tracks and substation infrastructure, which will result in visual change within portions of the study area. Powerlink recognises that these

Council's submission	Response
that the Project will introduce new built form elements into a predominantly natural and rural landscape. However, the assessment of visual impact requires greater substantiation. The introduction of high-voltage transmission towers, substation infrastructure, and access tracks will permanently alter the rural landscape and impact visual amenity for: — Residents — Road users (Dawson Highway corridor) The assertion that surrounding vegetation and topography will "in most instances" screen the transmission line is not sufficiently supported by evidence, including mapping, photomontages, or a defined visual catchment analysis. Given the linear nature of transmission infrastructure, partial screening does not necessarily equate to acceptable visual impact outcomes. The proximity of ten residences within 2.5 km, including one at approximately 650 metres, indicates that foreground and middle-distance views are likely to be available in certain locations, particularly where topographic screening is intermittent 7.1 Council Position: Visual impacts are understated and should include: — Photomontages from key public and private viewpoints. — Consideration of corridor co-location with existing infrastructure. — A quantitative visual impact assessment, including a defined visual catchment analysis	changes may be experienced by nearby residents, road users and other receptors and that visual impacts form an important component of the overall Project assessment. Further to the assessment around visual amenity impacts provided in the MID Proposal, it is important to note that the visual impact for the Project should also be considered within the broader cumulative development context of the Theodore locality. The study area is subject to significant ongoing renewable energy development, including approved and proposed wind energy projects that are expected to alter the existing landscape character over time. These developments will introduce substantial new infrastructure into what has historically been a predominantly rural and agricultural landscape, including wind turbines, substations, overhead transmission infrastructure, access roads and associated operational facilities. In this context, the Project represents an enabling piece of regional infrastructure that facilitates the connection of renewable energy to the transmission network. The corridor selection process undertaken for the Project considered a broad range of factors, including environmental constraints, cultural heritage values, land use and property impacts, constructability, engineering requirements, project cost, stakeholder feedback and visual amenity considerations. Visual amenity was therefore one of several factors assessed during corridor refinement and alignment selection. As with any major infrastructure project, the final corridor represents a balance between sometimes competing environmental, social, technical and economic considerations, with the objective of identifying a corridor that minimises overall project impacts while maintaining a safe, reliable and feasible transmission connection. Accordingly, while Powerlink acknowledges that visual impacts will occur, the Project's contribution to cumulative visual change should be considered in the context of the broader transformation of the area associated with renewable energy development. The Project considers that the level of visual assessment undertaken is appropriate for the current stage of Project development and sufficient to inform the MID assessment process. Moreover, given the linear nature of the Project, the dispersed distribution of visual receptors, and the absence of prominent landscape features or identified scenic

Council's submission	Response
	amenity values within the Project area, the visual assessment undertaken as part of the MID Proposal is considered proportionate to the scale and nature of the potential impacts. While visual impacts are acknowledged, a quantitative visual impact assessment, a defined visual catchment analysis, or a photomontage assessment is not considered necessary to adequately understand the nature and extent of the Project's visual effects. The Project's visual impacts have been assessed having regard to the surrounding landscape character, likely receptor locations, topography, vegetation screening and the broader cumulative development context of the region.
8. Cultural Heritage (Indigenous and Non-Indigenous) The desktop cultural heritage assessment prepared by Niche confirms that no registered historical or Aboriginal cultural heritage sites have been identified within the subject area. However, it is acknowledged that the absence of recorded sites does not equate to an absence of cultural heritage values, particularly in areas where limited field investigation has occurred. The assessment appropriately identifies that portions of the site-specifically waterways and areas of remnant vegetation-are likely to fall within higher risk categories under the Aboriginal Cultural Heritage Act 2003 Duty of Care framework. It is important to clarify that compliance with the Duty of Care Guidelines under the Aboriginal Cultural Heritage Act 2003 is a statutory obligation of the proponent, independent of the development approval process. As such, these matters are not strictly enforceable through development conditions, but should be clearly communicated as advisory requirements. The advice that no places of non-Indigenous cultural heritage have been identified within or adjacent to the project area-based on available statutory and non-statutory database searches-is noted. However, it is acknowledged that the absence of recorded places may reflect a lack of previous heritage investigations rather than a definitive absence of heritage values.	<u>Indigenous Cultural Heritage</u> Powerlink has an existing 'Whole-of-Claim' CHMA with the Gaangalu Nation People which was executed in 2015, and recently executed project-specific CHMAs with both the Wulli Wulli People and Wulli Wulli People 3 in June 2026. Powerlink will manage Cultural Heritage in line with the terms of the agreements. The CHMAs are considered 'another agreement' in accordance with Part 3, section 23(3)(a)(iii) of the Aboriginal Cultural Heritage Act 2003 by both Powerlink and the identified traditional owner groups. Since November 2024, Powerlink has been engaging with all three traditional owner groups regarding cultural heritage management and compliancy for the project. Engagement with the traditional owner groups are ongoing and will continue for the entire duration of the project, in accordance with the terms and conditions stipulated within the respective CHMAs. In accordance with the terms and conditions of the respective CHMAs, Powerlink will organise and complete the initial cultural heritage surveys and reports with the three traditional owner groups and their respective technical advisors (archaeologists). Based on the outcomes of these surveys and reports, Powerlink will implement cultural heritage management measures on site, in consultation with the relevant traditional owners, including: — Avoiding and mitigating impacts to identified cultural heritage constraints within the Project Area, where reasonable and practicable; and,

Council's submission	Response
There remains a residual risk of encountering unrecorded historical archaeological material, particularly given the broader pattern of land use transformation since the mid-19th century. In this context, the recommendation to proceed with caution is supported, but should be more clearly framed as a risk management measure rather than a general statement. 8.1 Council Position: Indigenous cultural heritage should include, as part of best practice risk management: — A Cultural Heritage Management Plan (CHMP) (not just duty of care) — Ongoing engagement with Traditional Owners (Wulli Wulli) — Implementation of a Cultural Heritage Management Protocol, including clear procedures for the management of unexpected finds and the discovery of human remains; — Delivery of a site induction program for all personnel prior to works commencing; — Avoidance of disturbance within waterways and remnant vegetation where practicable, or alternatively, engagement with the relevant Aboriginal party where disturbance cannot be avoided. Non-Indigenous cultural heritage: — Implementation of an Unexpected Finds Procedure to manage the discovery of any historical heritage items during construction works; — Immediate cessation of works in the vicinity of any find, with further assessment undertaken by a suitably qualified heritage practitioner where required; — Notification of relevant authorities where a find may meet the threshold for statutory protection.	— Clear procedures for the management of unexpected finds and human remains. Powerlink has a standard suite of inductions, including cultural heritage inductions, for all Powerlink staff and contractors involved in this project to complete prior to the commencement of works. Powerlink will also draft a 'Cultural Heritage Implementation Document' (CHID) that will capture all required Indigenous cultural heritage management measures implemented for this project. Where required, the CHID will be issued to the relevant Powerlink staff and contractors, in order to ensure that all required Indigenous cultural heritage management measures are implemented appropriately for this project. <u>Non-Indigenous Cultural Heritage</u> While no places of non-indigenous cultural heritage were identified within the Project Area (MID Proposal Report, Section 17), Powerlink will also include the consideration of non-Indigenous cultural heritage within the CHID, which will contain: — Clear procedures for the management of unexpected finds and human remains. <u>The unexpected finds procedure will require:</u> — The immediate cessation of works in the vicinity of any find, with further assessment undertaken by a suitably qualified heritage practitioner, where required; and — Notification of relevant authorities where a find may meet the threshold for statutory protection, where required, in accordance with the <i>Assessing cultural heritage significance. Using the cultural heritage criteria</i> (DEHP 2013).

Council's submission	Response
9. Precedent of MID Process Council raises a broader governance concern as the use of the MID pathway — Removes third-party appeal rights — Limits Council's formal assessment role — Reduces transparency compared to impact assessable development 9.1 Council Position: Given the scale and cumulative impacts, the Project would ordinarily warrant impact assessment under the Planning Act 2016, and the use of MID should be clearly justified, with supporting reasons demonstrating why the MID pathway is appropriate in this instance.	The Project comprises electricity transmission infrastructure that may be designated under the <i>Planning Act 2016</i> and associated provisions of the Planning Regulation 2017. During project development, Powerlink consulted with the Department of State Development, Infrastructure and Planning (DSDIP), including through the pre-lodgement process, which confirmed that assessment under the MID framework was an appropriate approval pathway for the Project. The Project is a state-significant transmission infrastructure project required to support network reliability and facilitate the connection of renewable energy generation in Central Queensland. As a linear, multi-tenure infrastructure project extending approximately 55 km, the MID framework provides a coordinated assessment pathway specifically intended for infrastructure of this nature and scale. While the MID process differs from development assessment under the <i>Planning Act 2016</i>, it includes comprehensive environmental assessment, public consultation, agency review and consideration of submissions from Council, landholders, Traditional Owners and the broader community. Council's submission will be considered by the Minister as part of the designation decision. Powerlink considers that the MID pathway is appropriate for the assessment of the Project and has continued to engage with Council and other stakeholders throughout the assessment process.
10. Public infrastructure networks (Telemetry and communications) The following matters regarding critical infrastructure are not addressed: — Nature of telemetry and communication assets potentially affected (e. g. water supply monitoring, pump station SCADA systems, flood warning infrastructure, or other Council-controlled communications systems eg Council two-way radio); — Mechanism of potential impact, including whether interference is anticipated to arise from electromagnetic fields, physical disturbance of infrastructure, construction activities, or indirect network disruption;	Regarding public infrastructure network, Powerlink confirms: — The transmission line will be designed and constructed in accordance with AS/NZS 7000:2016, which includes requirements to manage electromagnetic interference, audible noise and corona effects — Compliance with AS/NZS 2344 will ensure radio interference voltage remains within acceptable limits across the relevant frequency range — As such, the design inherently mitigates the risk of interference with nearby telemetry and communications infrastructure

Council's submission	Response
— Assessment of operational risk, including whether impacts would be temporary (construction-phase) or permanent (operational-phase). 10.1 Council Position: Further information is required to: — identify all Council telemetry and communications assets within the vicinity of the Project; — provide a technical assessment of potential interference or disruption; and — outline any proposed mitigation or protection measures, including separation distances, shielding, or construction controls where relevant. These matters represent critical operational infrastructure risks that require resolution prior to construction.	— Notwithstanding this, Powerlink can commit to a targeted review where Council is to provide a list of relevant infrastructure and confirm associated communications details within proximity to the alignment, to enable PLQ to undertake an assessment of potential impacts during construction and operation, noting that typically AM signals are the most susceptible to interference. — Where any risks are identified, appropriate mitigation measures will be implemented

11. Recommended Conditions

Council recommends the following matters be addressed as mandatory MID conditions:

11.1 Road Impact & Maintenance

- Road Impact Assessment (including local roads)
- Road Use Management Plan
- Infrastructure Agreement with Council

11.2 Workforce Accommodation

- Workforce Accommodation Management Plan
- Demonstrated housing availability

11.3 Environmental Management

- Final EMP endorsed by relevant agencies and Council
- Watercourse crossing design certification
- Erosion and sediment control auditing

11.4 Flooding

- Hydraulic assessment demonstrating no adverse impacts

11.5 Biodiversity

- Species Management Programs (approved prior to works)
- Offset requirements where applicable

11.6 Bushfire

- Bushfire Management Plan

11.7 Cultural Heritage

- Cultural Heritage Management Plan

11.8 Public infrastructure networks (Telemetry and communications)

- assessment of potential interference or disruption; and
- mitigation or protection measures

11.9 Community Engagement

- Ongoing stakeholder engagement strategy
- Complaints management framework

11.10 Decommissioning

- Decommissioning and rehabilitation plan

Financial assurance for rehabilitation

Conclusion

Council supports the strategic intent of strengthening Queensland's electricity network and enabling renewable energy generation, storage and transmission.

However, cannot support the Theodore Wind Farm Connection Project in its current form without further assessment, particularly in relation to:

- Cumulative impacts;
- Housing and workforce pressures;
- Local infrastructure impacts, specifically roads; and
- Environmental safeguards.

Council requests that the Minister give full consideration to the matters raised and incorporate the recommended conditions into any designation approval.

4 Conclusion

Powerlink acknowledges and appreciates the feedback received from community members, government agencies and Banana Shire Council throughout the consultation process. The submissions received have assisted in informing the ongoing development of the Project and have provided valuable input into the refinement of Project design, environmental assessments and proposed management measures.

In response to the matters raised, Powerlink has reviewed and updated the MID Proposal Report and supporting technical documentation where appropriate, including clarification of assessment findings, refinement of impact management measures, updates to approval pathways and legislative requirements, and further consideration of stakeholder concerns relating to environmental, social, cultural heritage, traffic, agricultural and infrastructure matters.

Powerlink considers that the Project has appropriately applied the principles of avoidance, minimisation, mitigation and management to reduce potential impacts to the greatest extent practicable, while continuing to deliver essential electricity transmission infrastructure required to support Queensland's energy network and broader energy transition objectives.

Powerlink remains committed to ongoing engagement with landholders, Traditional Owners, Council, government agencies and the broader community throughout the detailed design, construction and operational phases of the Project. Powerlink respectfully requests that the Minister consider the responses and commitments outlined in this report when determining the Ministerial Infrastructure Designation application for the Theodore Wind Farm Connection Project.

Appendix A

Traffic Impact Assessment (Supporting
Assessment Memo)





Memo

To:

From: Nathan Durnin

Subject: **Re: MID-1225-0981 TMR RFI response**

Our ref: PS218956-ADV-BNE-PAM-MEM-001 RevA

Date: 18 June 2026

1. Introduction

The Theodore Wind Farm Connection Project MID proposal report was submitted to DSDIP and the following Request for Information (RFI), shown in Table 1.1 was received from TMR. This memo provides responses and supporting analysis and designs to these queries.

Table 1.1 TMR RFI

Item	Information requested
1.	Amend the provided SIDRA model and apply the correct posted speed to the Leichhardt Highway intersections with Defence Road and Uncle Toms Road and provide the electronic SIDRA file.
2.	Provide a turn warrant assessment for the construction traffic volumes in accordance with TMR's Technical Note 199 'Guidance for the design of temporary roads', dated December 2021 to demonstrate suitability of the existing turn treatments at all three (3) SCR intersections related to this development. Where any intersections do not comply with this technical note, provide conceptual layouts for the required intersection upgrade works.
3.	In accordance with RPDM Supplement to 4A s 7.2.2, provide a conceptual layout to upgrade the existing AUR for the Dawson Highway / Leichhardt Highway to a channelised right turn (short) (CHR(s)) turn treatment.
4.	Provide a conceptual layout of the Leichhardt Highway / Uncle Toms Road intersection for the required upgrade work to facilitate a minimum 20m long sealed section of Uncle Toms Road. The required extent of the seal must be demonstrated by providing turn paths of the proposed design vehicle.

2. SIDRA update

The SIDRA models for the three SCR intersections have been updated to reflect the posted speed limits, with the following inputs applied:

- Dawson Highway: 100 km/h
- Leichhardt Highway: 100 km/h
- Defence Road: 80 km/h

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

- Uncle Toms Road: 100 km/h (no posted speed limit is available; a speed of 100 km/h has been adopted)

Minor changes to intersection performance have been observed; however, these do not materially affect the conclusions of the assessment.

2.1 Dawson Highway / Leichhardt Highway

The results of this assessment for the without and with construction generated traffic scenarios is shown in Table 2.1 to Table 2.4. Further detailed SIDRA modelling results are attached in Appendix A.

The assessment of the operation of Dawson Highway / Leichhardt Highway intersection in the AM peak period under Scenario 1 shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.8)
- minimal changes to delays (largest increase of 2.1 s)
- minimal changes to queue lengths (largest increase of 2.5 m).

The results demonstrate the Project is not considered to have a significant impact on intersection operation and no mitigations are required.

Table 2.1 SIDRA modelling outputs – Dawson Highway / Leichhardt Highway (Scenario 1) – AM peak

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
AM	Southeast: Leichhardt Highway	Left	26	A	0.045	9.2	1.5	26	A	0.055	9.2	1.8
		Right	14	B	0.045	10.4	1.5	16	B	0.055	12.5	1.8
	Northeast: Leichhardt Highway	Left	23	A	0.014	8.4	0.0	25	A	0.016	8.6	0.0
		Through	96	A	0.056	0.0	0.0	96	A	0.056	0.0	0.0
	Southwest: Dawson Highway	Through	48	A	0.032	0.2	0.9	48	A	0.03	0.0	0.0
		Right	13	A	0.032	9.3	0.9	140	A	0.112	8.4	3.4
	Overall		220	NA	0.056	3.2	1.5	352	NA	0.112	5.2	3.4

The assessment of the operation of Dawson Highway / Leichhardt Highway intersection in the PM peak period under Scenario 1 shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.11)
- minimal changes to delays (largest increase of 0.8 s)
- minimal changes to queue lengths (largest increase of 3.1 m).

Table 2.2 *SIDRA modelling outputs – Dawson Highway / Leichhardt Highway (Scenario 1) – PM peak*

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
PM	Southeast: Leichhardt Highway	Left	21	A	0.040	9.2	1.3	148	A	0.15	8.5	4.4
		Right	13	B	0.040	10.8	1.3	15	B	0.15	11.6	4.4
	Northeast: Leichhardt Highway	Left	25	A	0.015	8.4	0.0	27	A	0.017	8.5	0.0
		Through	107	A	0.062	0.0	0.0	107	A	0.062	0.0	0.0
	Southwest: Dawson Highway	Through	60	A	0.039	0.3	1.1	60	A	0.039	0.3	1.1
		Right	15	A	0.039	9.5	1.1	15	A	0.039	9.5	1.1
	Overall		241	NA	0.062	2.9	1.3	373	NA	0.150	4.9	4.4

The assessment of the operation of Dawson Highway / Leichhardt Highway intersection in the AM peak period under Scenario 2 shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.07)
- minimal changes to delays (largest increase of 1.2 s)
- minimal changes to queue lengths (largest increase of 0.2 m).

The results demonstrate the Project is not considered to have a significant impact on intersection operation and no mitigations are required.

Table 2.3 *SIDRA modelling outputs – Dawson Highway / Leichhardt Highway (Scenario 2) – AM peak*

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
AM	Southeast: Leichhardt Highway	Left	26	A	0.045	9.2	1.5	26	A	0.052	9.2	1.7
		Right	14	B	0.045	10.4	1.5	16	B	0.052	11.6	1.7
	Northeast: Leichhardt Highway	Left	23	A	0.014	8.4	0.0	153	A	0.084	8.0	0.0
		Through	96	A	0.056	0.0	0.0	96	A	0.056	0.0	0.0
	Southwest: Dawson Highway	Through	48	A	0.032	0.2	0.9	48	A	0.033	0.5	1.1
		Right	13	A	0.032	9.3	0.9	13	A	0.033	10.1	1.1
	Overall		220	NA	0.056	3.2	1.5	352	NA	0.084	5.1	1.7

The assessment of the operation of Dawson Highway/Leichhardt Highway intersection in the PM peak period under Scenario 2 shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.16)
- minimal changes to delays (largest increase of 0.1 s)
- minimal changes to queue lengths (largest increase of 5.0 m).

Table 2.4 SIDRA modelling outputs – Dawson Highway / Leichhardt Highway (Scenario 2) – PM peak

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
PM	Southeast: Leichhardt Highway	Left	21	A	0.040	9.2	1.3	21	A	0.197	9.3	6.3
		Right	13	B	0.040	10.8	1.3	142	B	0.197	9.8	6.3
	Northeast: Leichhardt Highway	Left	25	A	0.015	8.4	0.0	27	A	0.017	8.5	0.0
		Through	107	A	0.062	0.0	0.0	107	A	0.062	0.0	0.0
	Southwest: Dawson Highway	Through	60	A	0.039	0.3	1.1	60	A	0.039	0.4	1.1
		Right	15	A	0.039	9.5	1.1	15	A	0.039	9.5	1.1
	Overall		241	NA	0.062	2.9	1.3	373	NA	0.197	5.3	6.3

2.2 Leichhardt Highway / Uncle Toms Road

The results of this assessment for the without and with construction generated traffic scenarios is shown in Table 2.5 and Table 2.6. Further detailed SIDRA modelling results are attached in Appendix A.

The assessment of the operation of Leichhardt Highway / Uncle Toms Road intersection in the AM peak period shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.07)
- minimal changes to delays (largest increase of 1.1 s)
- minimal changes to queue lengths (largest increase of 0.1 m).

The results demonstrate the Project is not considered to have a significant impact on intersection operation and no mitigations are required.

Table 2.5 *SIDRA modelling outputs – Leichhardt Highway / Uncle Toms Road (Scenarios 1 and 2) – AM peak*

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
AM	South: Leichhardt Highway	Left	36	A	0.025	0.0	0.2	36	A	0.026	0.1	0.2
		Right	3	A	0.025	8.4	0.2	3	A	0.026	9.1	0.2
	East: Uncle Toms Road	Left	3	A	0.006	8.9	0.2	3	A	0.01	8.9	0.3
		Through	4	A	0.006	8.5	0.2	6	A	0.01	9.6	0.3
	North: Leichhardt Highway	Through	4	A	0.027	8.5	0.0	134	A	0.097	7.9	0.0
		Right	39	A	0.027	0.0	0.0	39	A	0.097	0.0	0.0
	Overall		89	NA	0.027	1.4	0.2	221	NA	0.097	5.3	0.3

The assessment of the operation of Leichhardt Highway / Uncle Toms Road intersection in the PM peak period shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.11)
- minimal changes to delays (largest increase of 0.7 s)
- minimal changes to queue lengths (largest increase of 2.7 m).

Table 2.6 *SIDRA modelling outputs – Leichhardt Highway / Uncle Toms Road (Scenarios 1 and 2) – PM peak*

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
PM	South: Leichhardt Highway	Left	40	A	0.029	0.0	0.3	40	A	0.029	0.0	0.3
		Right	4	A	0.029	8.9	0.3	4	A	0.029	8.9	0.3
	East: Uncle Toms Road	Left	4	A	0.006	8.6	0.2	4	A	0.116	8.6	2.9
		Through	3	A	0.006	8.7	0.2	133	A	0.116	7.8	2.9
	North: Leichhardt Highway	Through	3	A	0.022	8.7	0.0	5	A	0.024	9.4	0.0
		Right	33	A	0.022	0.0	0.0	33	A	0.024	0.0	0.0
	Overall		87	NA	0.029	1.5	0.3	219	NA	0.116	5.3	2.9

2.3 Leichhardt Highway / Defence Road

The results of this assessment for the without and with construction generated traffic scenarios is shown in Table 2.7 and Table 2.8. Further detailed SIDRA modelling results are attached in Appendix A.

The assessment of the operation of Leichhardt Highway / Defence Road intersection in the AM peak period shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.07)
- minimal changes to delays (largest increase of 1.5 s)
- minimal changes to queue lengths (largest increase of 3.3 m).

The results demonstrate the Project is not considered to have a significant impact on intersection operation and no mitigations are required.

Table 2.7 *SIDRA modelling outputs – Leichhardt Highway / Defence Road (Scenarios 3) – AM peak*

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
AM	South: Leichhardt Highway	Left	36	A	0.025	0.0	0.2	36	A	0.096	0.2	3.5
		Right	3	A	0.025	7.4	0.2	131	A	0.096	6.8	3.5
	East: Defence Road	Left	3	A	0.006	8.9	0.2	3	A	0.01	8.9	0.3
		Through	4	A	0.006	8.5	0.2	6	A	0.01	10.0	0.3
	North: Leichhardt Highway	Through	4	A	0.027	8.4	0.0	6	A	0.028	8.9	0.0
		Right	39	A	0.027	0.0	0.0	39	A	0.028	0.0	0.0
	Overall		89	NA	0.027	1.4	0.2	221	NA	0.096	4.7	3.5

The assessment of the operation of Leichhardt Highway / Defence Road intersection in the PM peak period shows that with the addition of the heaviest expected peak period construction traffic the intersection continues to operate in an acceptable manner with:

- no change in intersection LoS
- minimal changes to approach DoS (largest increase of 0.08)
- minimal changes to delays (largest increase of 0.9 s)
- minimal changes to queue lengths (largest increase of 2.5 m).

Table 2.8 SIDRA modelling outputs – Leichhardt Highway / Defence Road (Scenarios 3) – PM peak

Construction year 2026			Base					With Project				
Peak	Approach	Movement	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)	Traffic volumes	LoS	DoS	Average delay (s)	95 th percentile queues (m)
PM	South: Leichhardt Highway	Left	40	A	0.029	0.0	0.3	40	A	0.029	0.0	0.3
		Right	4	A	0.029	7.7	0.3	4	A	0.029	7.7	0.3
	East: Defence Road	Left	4	A	0.006	8.6	0.2	132	A	0.089	8.0	2.7
		Through	3	A	0.006	8.7	0.2	5	A	0.089	9.6	2.7
	North: Leichhardt Highway	Through	3	A	0.022	8.6	0.0	5	A	0.024	9.2	0.0
		Right	33	A	0.022	0.0	0.0	33	A	0.024	0.0	0.0
	Overall		87	NA	0.029	1.4	0.3	219	NA	0.089	5.4	2.7

Further SIDRA output detail is provided in Appendix A – Sidra Reports.

3. Turn Warrant Assessment

A turn warrant analysis has been undertaken for three State-controlled road (SCR) intersections.

The construction activities are proposed to occur six days a week (Monday to Saturday) over a 12-hour day (6:30 AM to 6:30 PM) for up to 24 months starting mid-2026. The analysis is undertaken for 2026 which represents a worst case scenario using 2026 background traffic conditions and investigating a day of peak construction workers (121 trips in and out) and peak heavy vehicles (2 trips in and out) for the peak hours of 8:00 to 9:00 AM and 3:00 to 4:00 PM. Consistent with the broader traffic assessment, this test assumes the following staff origin scenarios for the purpose of a comprehensive assessment of potential impacts:

- Scenario 1: 100% workers from/to the west (Moura) (via the Dawson Highway / Leichhardt Highway intersection and the Leichhardt Highway / Uncle Toms Road intersection)
- Scenario 2: 100% workers from/to the east (Biloela) (via the Dawson Highway / Leichhardt Highway intersection and the Leichhardt Highway / Uncle Toms Road intersection)
- Scenario 3: 100% workers from/to the south (Theodore) (via Leichhardt Highway / Defence Road).

The turn warrant analysis followed the Austroads *Guide to Traffic Management Part 6* (AGTM Part 6) (Austroads, 2023), Road Planning & Design Manual (RPDM) *Supplement to Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (AGRD Part 4A) (TMR, 2025) and the Department of Transport and Main Roads (TMR) *TN199 Guidance for the design of temporary roads* (TMR, 2021) to identify the appropriate turn treatments for the three SCR intersections under short term (approximately 2 years) high volume conditions.

It is noted that Figure 4.8(a) of the TMR *TN199* (TMR, 2021) presents warrant curves for right turn treatments only (basic right-turn (BAR) and channelised right-turn (CHR)) (refer Figure 3.1). However, Figure 3.25 of the AGTM Part 6 (Austroads, 2023) shows that the warrant curves for left turn treatments (basic left-turn (BAL) and channelised left-turn (CHL)) are consistent with right turn treatments (BAR and CHR) (refer Figure 3.2). Accordingly, the following assessments apply the same warrant curves to both left turn and right turn treatments.

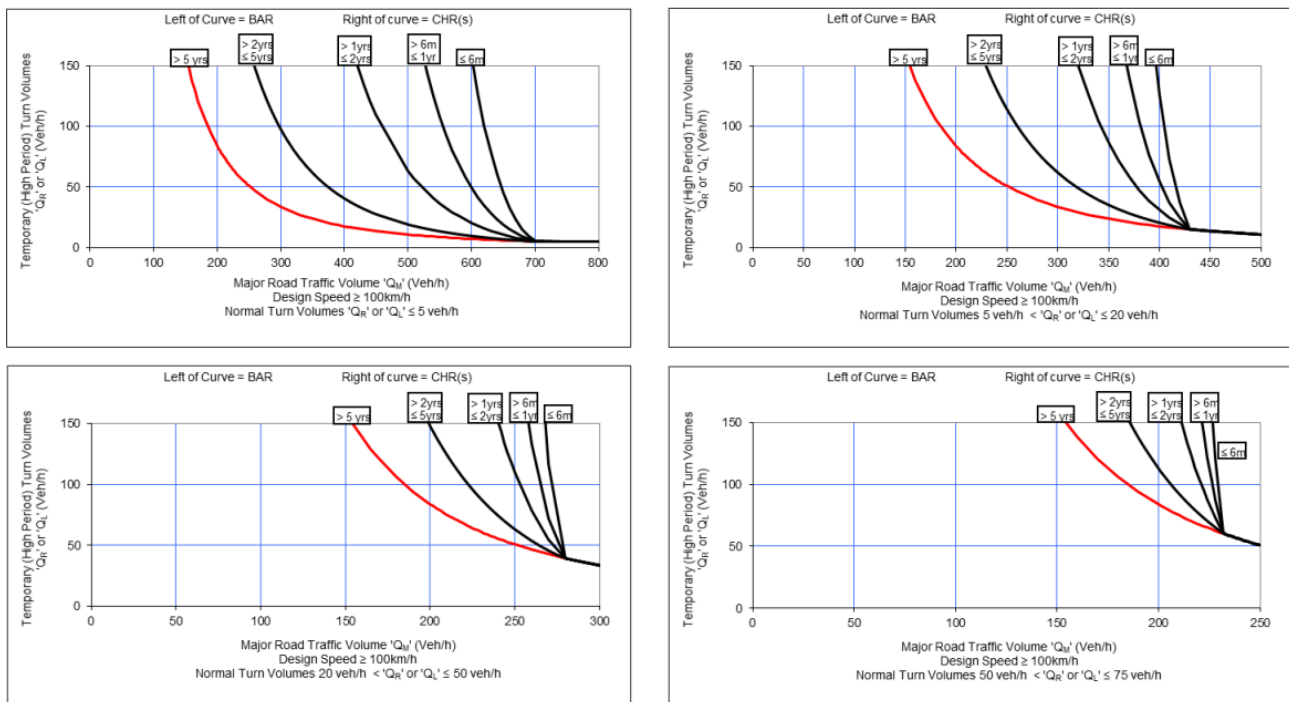


Figure 3.1 Warrant Analysis for short term high volume use of intersection – High Speed

Source: Austroads Guide to Traffic Management Part 6 (AGTM Part 6) (Austroads, 2023)

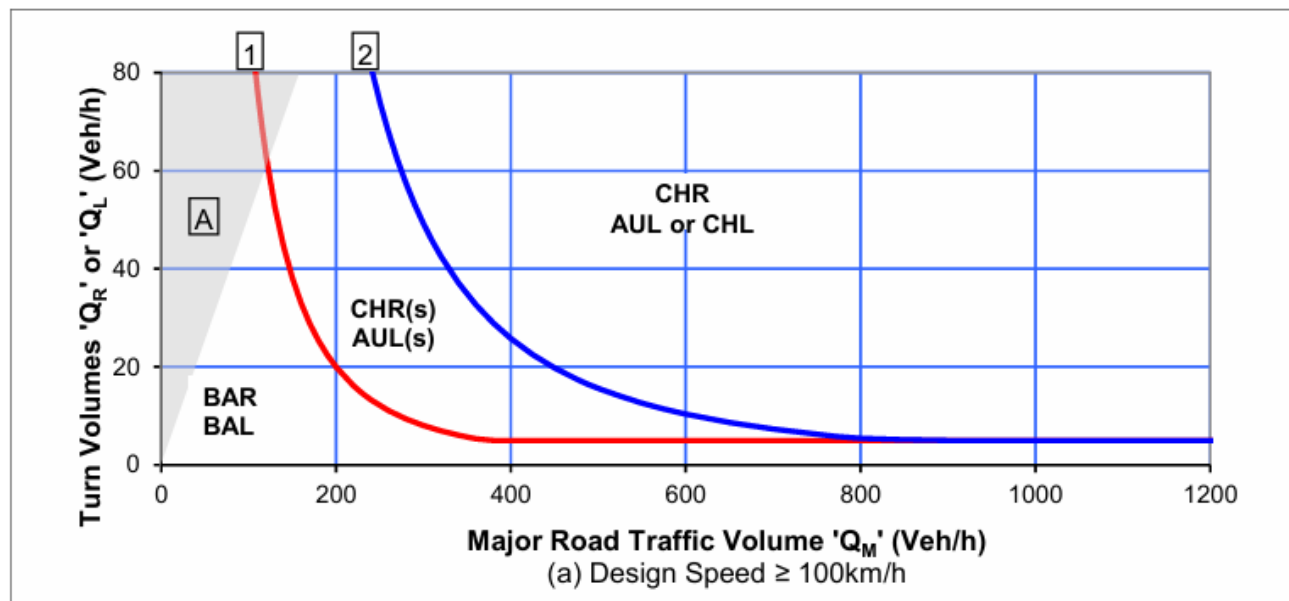


Figure 3.2 Warrants for turn treatments on the major road at unsignalised intersections

Source: TMR TN199 Guidance for the design of temporary roads (TMR, 2021)

3.1 Dawson Highway / Leichhardt Highway

This intersection is located approximately 17 km west of the Project site. The current configuration of the intersection is a priority controlled T-intersection, consisting of a 100 m auxiliary left-turn (AUL) lane on the eastern approach and a 70 m auxiliary right-turn (AUR) on the western approach of the Dawson Highway. The intersection is shown in Figure 3.3.



Figure 3.3 Dawson Highway / Leichhardt Highway intersection

Source: Google Maps

The turn warrant assessment results for the Dawson Highway / Leichhardt Highway intersection under Scenario 1 are shown in Table 3.1 and Figure 3.4. This shows:

- In the worst-case right turn assessment (AM Peak Hour), a BAR treatment is recommended
- In the worst-case left turn assessment (PM Peak Hour), a BAL treatment is recommended

In summary, the results suggest BAR and BAL treatments would be warranted under Scenario 1 based on the forecast turning volumes. The existing intersection layout includes an AUR and an AUL, which provide a higher level of control than the warranted treatments.

Table 3.1 Turn Warrant Analysis – Dawson Highway / Leichhardt Highway (Scenario 1)

Intersection	Peak	Turn Type	Q _M (Veh/hr)	Q _R / Q _L (Veh/hr)	Outcome
Dawson Highway/Leichhardt Highway (Scenario 1)	AM	Right	160	133	BAR
		Left	91	24	BAL
	PM	Right	185	14	BAR
		Left	102	26	BAL

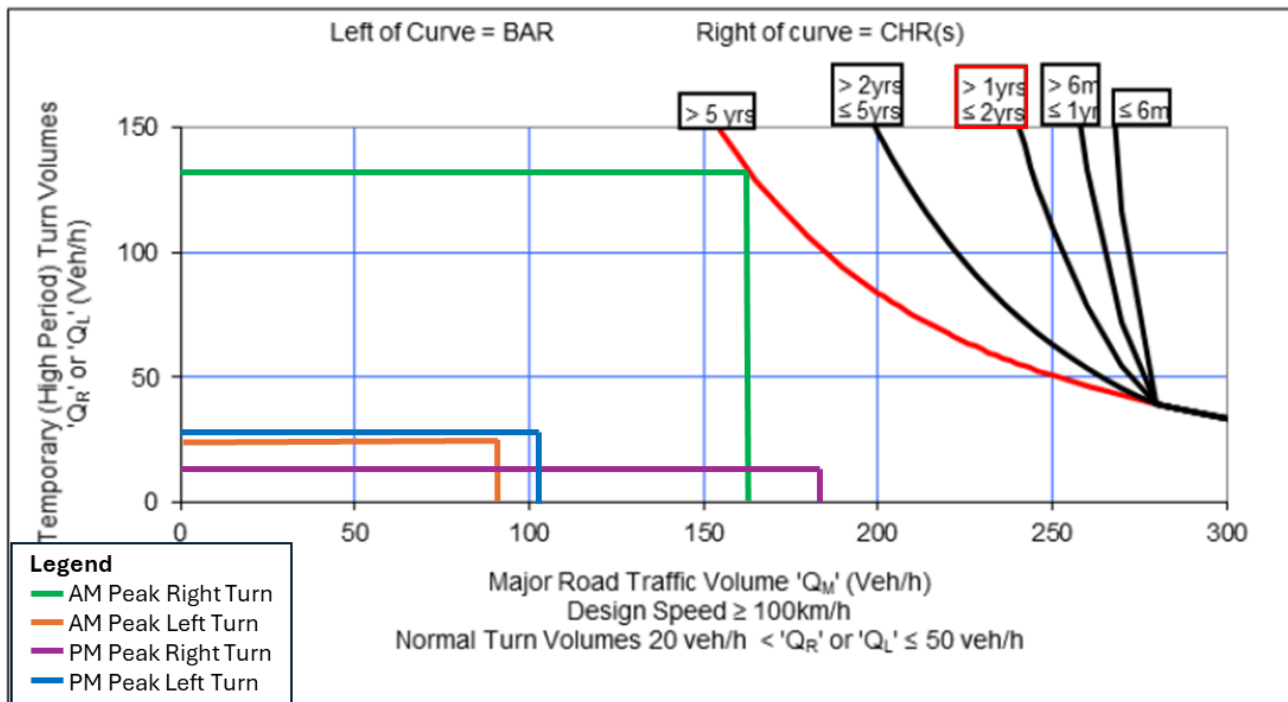


Table 3.2 Turn Warrant Analysis – Dawson Highway / Leichhardt Highway (Scenario 2)

Intersection	Peak	Turn Type	Q _M (Veh/hr)	Q _R / Q _L (Veh/hr)	Outcome
Dawson Highway/Leichhardt Highway (Scenario 2)	AM	Right	281	12	BAR
		Left	91	145	BAL
	PM	Right	185	14	BAR
		Left	102	26	BAL

Figure 3.4 Warrants for turn treatments on major roads at Dawson Highway / Leichhardt Highway intersection (Scenario 1)

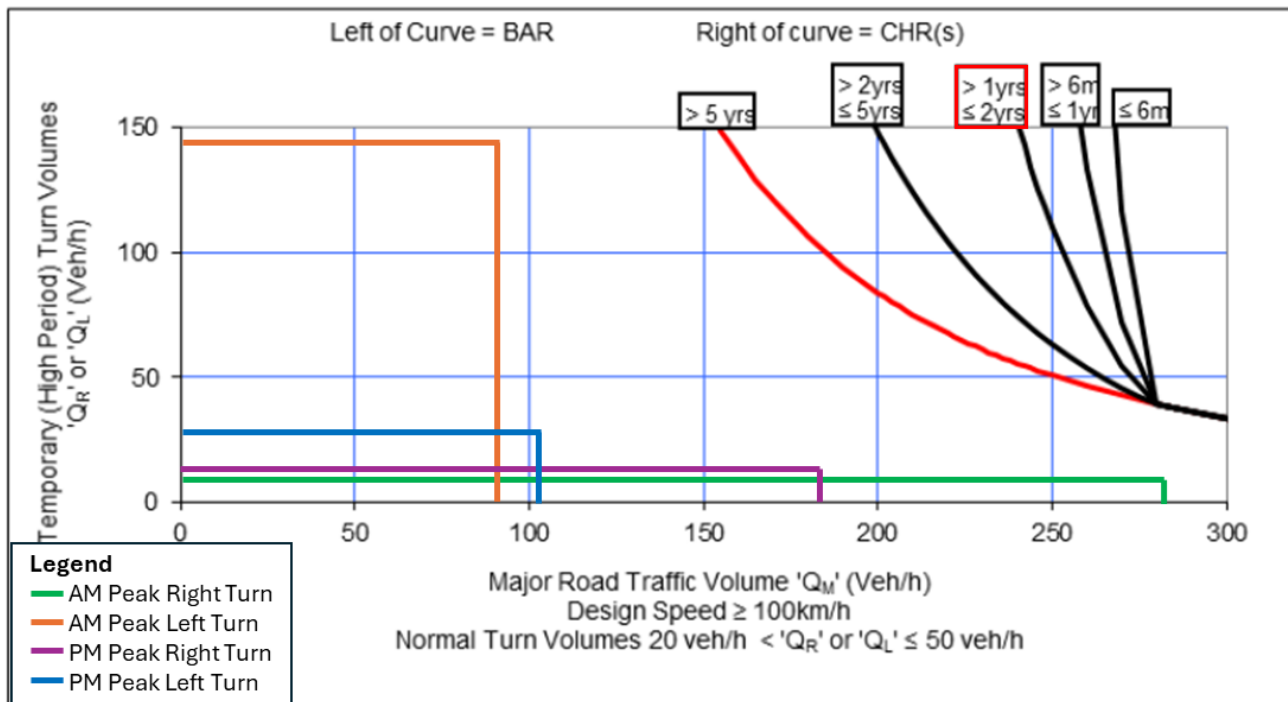


Figure 3.5 Warrants for turn treatments on major roads at Dawson Highway / Leichhardt Highway intersection (Scenario 2)

3.2 Leichhardt Highway / Uncle Toms Road

This intersection is located approximately 18 km west of the Project site. The current configuration of the intersection is a priority-controlled T-intersection, consisting of a BAL treatment on the northern approach. The intersection is shown in Figure 3.6.



Figure 3.6 Leichhardt Highway / Uncle Toms Road intersection

Source: Google Maps

The turn warrant assessment results for the Leichhardt Highway / Uncle Toms Road intersection under Scenario 1 and Scenario 2 are shown in Table 3.3 and Figure 3.7. This shows:

- In the worst-case right turn assessment (PM Peak Hour), a BAR treatment is recommended
- In the worst-case left turn assessment (AM Peak Hour), a BAL treatment is recommended

In summary, the results suggest BAR and BAL treatments would be warranted under both Scenario 1 and Scenario 2 based on the forecast turning volumes. As such, the current turn treatment is considered appropriate.

Table 3.3 Turn Warrant Analysis – Leichhardt Highway / Uncle Toms Road

Intersection	Peak	Turn Type	Q_M (Veh/hr)	Q_R / Q_L (Veh/hr)	Outcome
Leichhardt Highway/Uncle Toms Road (Scenarios 1 and 2)	AM	Right	198	3	BAR
		Left	37	127	BAL
	PM	Right	74	4	BAR
		Left	31	5	BAL

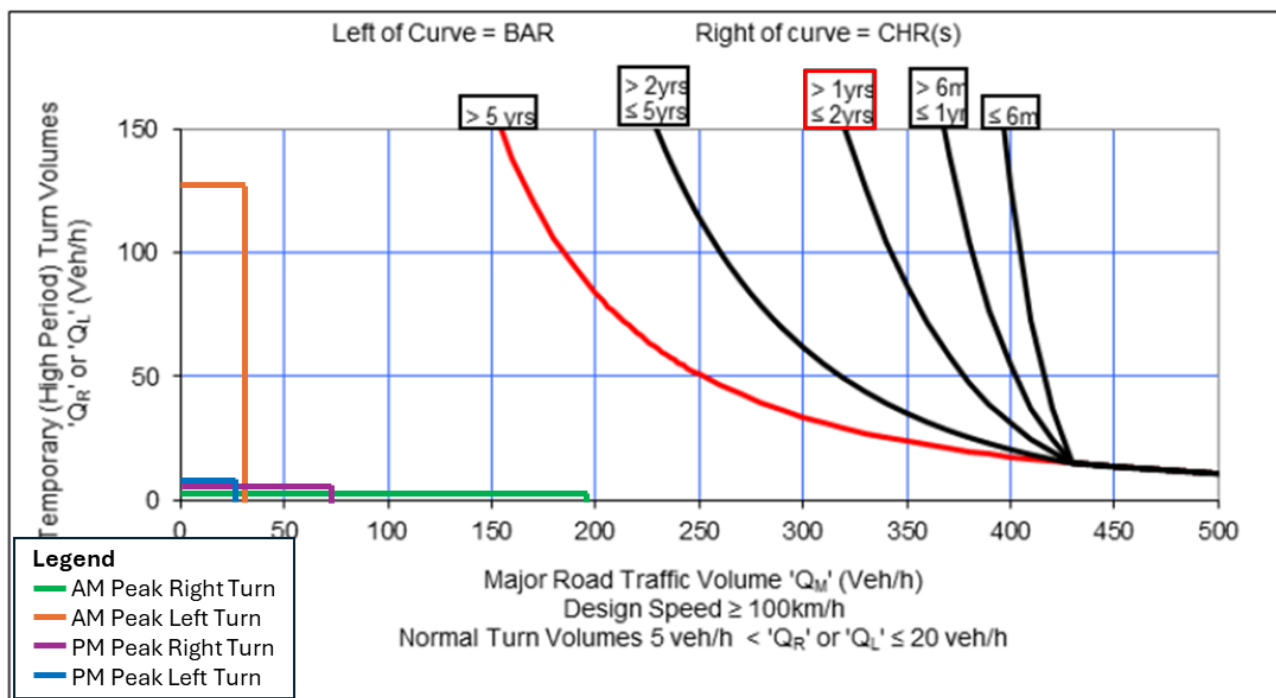


Figure 3.7 Warrants for turn treatments on major roads at the Leichhardt Highway / Uncle Toms Road intersection

3.3 Leichhardt Highway / Defence Road

This intersection is located approximately 20 km west of the Project site. The current configuration of the intersection is a priority-controlled T-intersection, consisting of a BAL treatment on the northern approach. The intersection is shown in Figure 3.8.

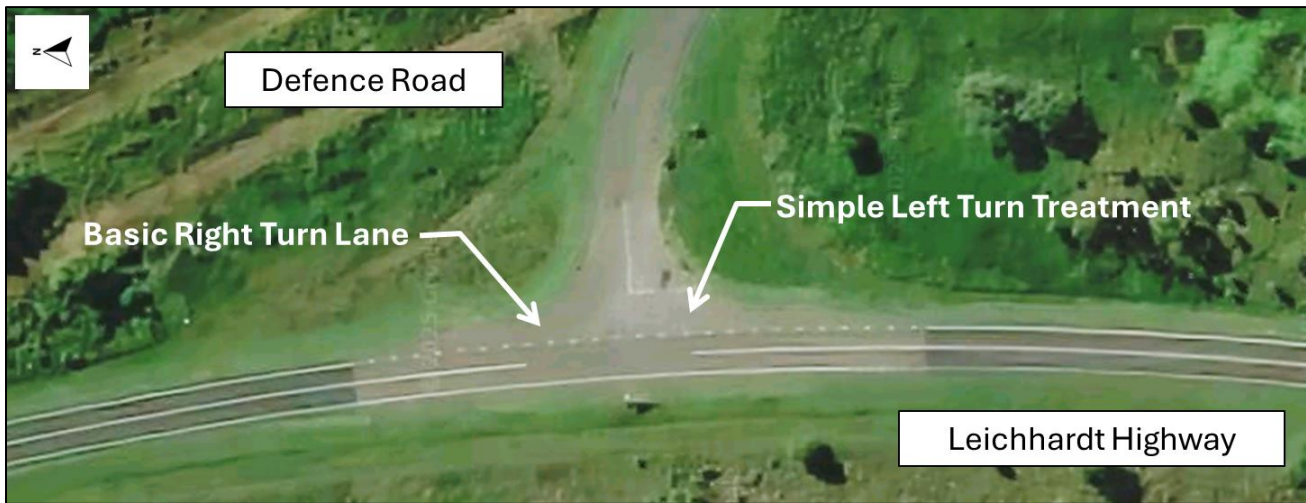


Figure 3.8 Leichhardt Highway / Defence Road intersection

Source: Google Maps

The turn warrant assessment results for the Leichhardt Highway / Defence Road intersection under Scenario 3 are shown in Table 3.4 and Figure 3.9. This shows:

- In the worst-case right turn assessment (AM Peak Hour), a BAR treatment is recommended
- In the worst-case left turn assessment (AM Peak Hour), a BAL treatment is recommended

In summary, the results suggest BAR and BAL treatments would be warranted under Scenario 3 based on the forecast turning volumes. As such, the current turn treatment is considered appropriate.

Table 3.4 Turn Warrant Analysis – Leichhardt Highway / Defence Road

Intersection	Peak	Turn Type	Q _M (Veh/hr)	Q _R / Q _L (Veh/hr)	Outcome
Leichhardt Highway/Defence Road (Scenario 3)	AM	Right	77	124	BAR
		Left	37	6	BAL
	PM	Right	74	4	BAR
		Left	31	5	BAL

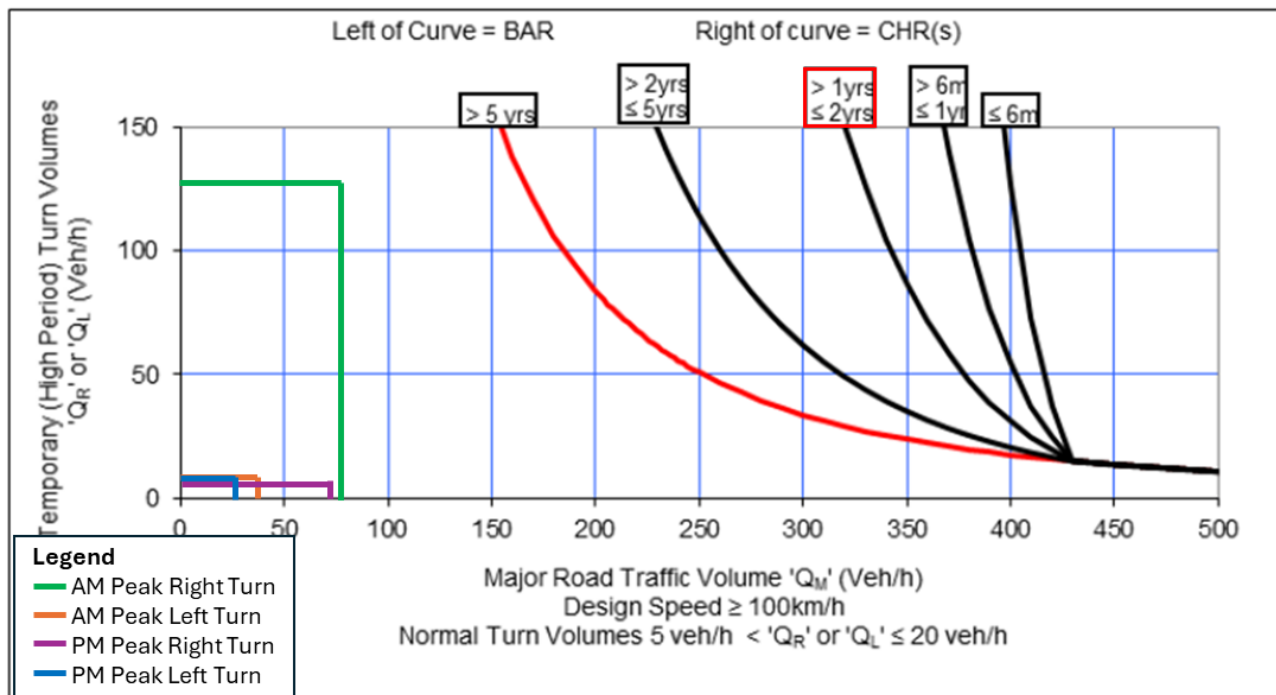


Figure 3.9 Warrants for turn treatments on major roads at the Leichhardt Highway / Defence Road intersection

4. Conceptual layouts

Conceptual layouts are provided in Appendix B for the following:

- Dawson Highway / Leichhardt Highway with a channelised right turn (short) (CHR(s)) turn treatment
- Leichhardt Highway / Uncle Toms Road intersection with a sealed section of Uncle Toms Road to accommodate vehicle turn paths

No concepts were developed for CHR configurations at Leichhardt Highway / Uncle Toms Road intersection and Leichhardt Highway / Defence Road intersection as the turn warrant assessment showed these interventions were not required and the current configuration meets the turn warrant outcomes.

5. Summary

The turn warrant assessment results suggest BAR and BAL treatments would be appropriate at all three SCR intersections under all assessed scenarios, which means that the existing turn treatments are appropriate and no upgrades are required. Updated SIDRA results show minor changes to intersection performance, with no change to overall assessment conclusions.



Appendix A SIDRA reports

MOVEMENT SUMMARY

Site: 101 [Dawson / Leichhardt AM - Base (Site Folder: 2026 - Without Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Leichhardt Highway															
21	L2	All MCs	26	32.0	26	32.0	0.045	9.2	LOS A	0.2	1.5	0.26	0.62	0.26	62.3
23	R2	All MCs	14	30.8	14	30.8	0.045	10.4	LOS B	0.2	1.5	0.26	0.62	0.26	62.6
Approach			40	31.6	40	31.6	0.045	9.6	LOS A	0.2	1.5	0.26	0.62	0.26	62.4
NorthEast: Leichhardt Highway															
24	L2	All MCs	23	22.7	23	22.7	0.014	8.4	LOS A	0.0	0.0	0.00	0.66	0.00	66.1
25	T1	All MCs	96	22.0	96	22.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			119	22.1	119	22.1	0.056	1.6	NA	0.0	0.0	0.00	0.13	0.00	90.9
SouthWest: Dawson Highway															
31	T1	All MCs	48	34.8	48	34.8	0.032	0.2	LOS A	0.1	0.9	0.11	0.15	0.11	94.9
32	R2	All MCs	13	33.3	13	33.3	0.032	9.3	LOS A	0.1	0.9	0.17	0.24	0.17	68.5
Approach			61	34.5	61	34.5	0.032	2.1	NA	0.1	0.9	0.12	0.17	0.12	87.8
All Vehicles			220	27.3	220	27.3	0.056	3.2	NA	0.2	1.5	0.08	0.23	0.08	83.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dawson / Leichhardt PM - Base (Site Folder: 2026 - Without Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Leichhardt Highway															
21	L2	All MCs	21	30.0	21	30.0	0.040	9.2	LOS A	0.1	1.3	0.28	0.63	0.28	62.7
23	R2	All MCs	13	33.3	13	33.3	0.040	10.8	LOS B	0.1	1.3	0.28	0.63	0.28	61.8
Approach			34	31.3	34	31.3	0.040	9.8	LOS A	0.1	1.3	0.28	0.63	0.28	62.3
NorthEast: Leichhardt Highway															
24	L2	All MCs	25	20.8	25	20.8	0.015	8.4	LOS A	0.0	0.0	0.00	0.66	0.00	66.7
25	T1	All MCs	107	21.6	107	21.6	0.062	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			133	21.4	133	21.4	0.062	1.6	NA	0.0	0.0	0.00	0.13	0.00	91.3
SouthWest: Dawson Highway															
31	T1	All MCs	60	35.1	60	35.1	0.039	0.3	LOS A	0.1	1.1	0.11	0.15	0.11	95.0
32	R2	All MCs	15	35.7	15	35.7	0.039	9.5	LOS A	0.1	1.1	0.17	0.24	0.17	67.8
Approach			75	35.2	75	35.2	0.039	2.1	NA	0.1	1.1	0.12	0.17	0.12	88.0
All Vehicles			241	27.1	241	27.1	0.062	2.9	NA	0.1	1.3	0.08	0.21	0.08	84.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 101 [Leichhardt / Uncle Toms AM - Base (Site Folder: 2026 - Without Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	36	41.2	36	41.2	0.025	0.0	LOS A	0.0	0.2	0.03	0.06	0.03	97.8
3	R2	All MCs	3	33.3	3	33.3	0.025	8.4	LOS A	0.0	0.2	0.03	0.06	0.03	70.8
Approach			39	40.5	39	40.5	0.025	0.7	NA	0.0	0.2	0.03	0.06	0.03	94.9
East: Uncle Toms Road															
4	L2	All MCs	3	33.3	3	33.3	0.006	8.9	LOS A	0.0	0.2	0.15	0.62	0.15	62.7
6	R2	All MCs	4	25.0	4	25.0	0.006	8.5	LOS A	0.0	0.2	0.15	0.62	0.15	64.5
Approach			7	28.6	7	28.6	0.006	8.6	LOS A	0.0	0.2	0.15	0.62	0.15	63.7
North: Leichhardt Highway															
7	L2	All MCs	4	25.0	4	25.0	0.027	8.5	LOS A	0.0	0.0	0.00	0.07	0.00	74.7
8	T1	All MCs	39	29.7	39	29.7	0.027	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	97.8
Approach			43	29.3	43	29.3	0.027	0.8	NA	0.0	0.0	0.00	0.07	0.00	94.9
All Vehicles			89	34.1	89	34.1	0.027	1.4	NA	0.0	0.2	0.02	0.11	0.02	91.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

▼ Site: 101 [Leichhardt / Uncle Toms PM - Base (Site Folder: 2026 - Without Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	40	39.5	40	39.5	0.029	0.0	LOS A	0.0	0.3	0.03	0.07	0.03	98.0
3	R2	All MCs	4	50.0	4	50.0	0.029	8.9	LOS A	0.0	0.3	0.03	0.07	0.03	65.3
Approach			44	40.5	44	40.5	0.029	0.9	NA	0.0	0.3	0.03	0.07	0.03	93.5
East: Uncle Toms Road															
4	L2	All MCs	4	25.0	4	25.0	0.006	8.6	LOS A	0.0	0.2	0.13	0.62	0.13	65.0
6	R2	All MCs	3	33.3	3	33.3	0.006	8.7	LOS A	0.0	0.2	0.13	0.62	0.13	62.0
Approach			7	28.6	7	28.6	0.006	8.7	LOS A	0.0	0.2	0.13	0.62	0.13	63.7
North: Leichhardt Highway															
7	L2	All MCs	3	33.3	3	33.3	0.022	8.7	LOS A	0.0	0.0	0.00	0.06	0.00	71.8
8	T1	All MCs	33	32.3	33	32.3	0.022	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	98.2
Approach			36	32.4	36	32.4	0.022	0.8	NA	0.0	0.0	0.00	0.06	0.00	95.1
All Vehicles			87	36.1	87	36.1	0.029	1.5	NA	0.0	0.3	0.03	0.11	0.03	90.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Leichhardt / Defence AM - Base (Site Folder: 2026 - Without Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	36	41.2	36	41.2	0.025	0.0	LOS A	0.0	0.2	0.03	0.06	0.03	96.9
3	R2	All MCs	3	33.3	3	33.3	0.025	7.4	LOS A	0.0	0.2	0.03	0.06	0.03	70.4
Approach			39	40.5	39	40.5	0.025	0.6	NA	0.0	0.2	0.03	0.06	0.03	94.0
East: Defence Road															
4	L2	All MCs	3	33.3	3	33.3	0.006	8.9	LOS A	0.0	0.2	0.15	0.62	0.15	58.0
6	R2	All MCs	4	25.0	4	25.0	0.006	8.5	LOS A	0.0	0.2	0.15	0.62	0.15	59.9
Approach			7	28.6	7	28.6	0.006	8.6	LOS A	0.0	0.2	0.15	0.62	0.15	59.0
North: Leichhardt Highway															
7	L2	All MCs	4	25.0	4	25.0	0.027	8.4	LOS A	0.0	0.0	0.00	0.07	0.00	73.5
8	T1	All MCs	39	29.7	39	29.7	0.027	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	95.6
Approach			43	29.3	43	29.3	0.027	0.8	NA	0.0	0.0	0.00	0.07	0.00	92.8
All Vehicles			89	34.1	89	34.1	0.027	1.4	NA	0.0	0.2	0.02	0.11	0.02	89.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Leichhardt / Defence PM - Base (Site Folder: 2026 - Without Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	40	39.5	40	39.5	0.029	0.0	LOS A	0.0	0.3	0.03	0.07	0.03	97.2
3	R2	All MCs	4	50.0	4	50.0	0.029	7.7	LOS A	0.0	0.3	0.03	0.07	0.03	64.9
Approach			44	40.5	44	40.5	0.029	0.7	NA	0.0	0.3	0.03	0.07	0.03	92.8
East: Defence Road															
4	L2	All MCs	4	25.0	4	25.0	0.006	8.6	LOS A	0.0	0.2	0.13	0.62	0.13	60.3
6	R2	All MCs	3	33.3	3	33.3	0.006	8.7	LOS A	0.0	0.2	0.13	0.62	0.13	57.4
Approach			7	28.6	7	28.6	0.006	8.7	LOS A	0.0	0.2	0.13	0.62	0.13	59.0
North: Leichhardt Highway															
7	L2	All MCs	3	33.3	3	33.3	0.022	8.6	LOS A	0.0	0.0	0.00	0.06	0.00	70.7
8	T1	All MCs	33	32.3	33	32.3	0.022	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	96.1
Approach			36	32.4	36	32.4	0.022	0.8	NA	0.0	0.0	0.00	0.06	0.00	93.1
All Vehicles			87	36.1	87	36.1	0.029	1.4	NA	0.0	0.3	0.03	0.11	0.03	88.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dawson / Leichhardt AM - Base+Project - Moura
(Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Leichhardt Highway															
21	L2	All MCs	26	32.0	26	32.0	0.055	9.2	LOS A	0.2	1.8	0.30	0.63	0.30	61.6
23	R2	All MCs	16	40.0	16	40.0	0.055	12.5	LOS B	0.2	1.8	0.30	0.63	0.30	59.5
Approach			42	35.0	42	35.0	0.055	10.5	LOS B	0.2	1.8	0.30	0.63	0.30	60.8
NorthEast: Leichhardt Highway															
24	L2	All MCs	25	29.2	25	29.2	0.016	8.6	LOS A	0.0	0.0	0.00	0.66	0.00	64.2
25	T1	All MCs	96	22.0	96	22.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			121	23.5	121	23.5	0.056	1.8	NA	0.0	0.0	0.00	0.14	0.00	89.5
SouthWest: Dawson Highway															
31	T1	All MCs	48	34.8	48	34.8	0.030	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32	R2	All MCs	140	3.0	140	3.0	0.112	8.4	LOS A	0.5	3.4	0.26	0.62	0.26	71.2
Approach			188	11.2	188	11.2	0.112	6.3	NA	0.5	3.4	0.19	0.46	0.19	76.9
All Vehicles			352	18.3	352	18.3	0.112	5.2	NA	0.5	3.4	0.14	0.37	0.14	78.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dawson / Leichhardt PM - Base+Project - Moura
(Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Leichhardt Highway															
21	L2	All MCs	148	4.3	148	4.3	0.150	8.5	LOS A	0.6	4.4	0.25	0.63	0.25	70.7
23	R2	All MCs	15	42.9	15	42.9	0.150	11.6	LOS B	0.6	4.4	0.25	0.63	0.25	59.5
Approach			163	7.7	163	7.7	0.150	8.8	LOS A	0.6	4.4	0.25	0.63	0.25	69.5
NorthEast: Leichhardt Highway															
24	L2	All MCs	27	26.9	27	26.9	0.017	8.5	LOS A	0.0	0.0	0.00	0.66	0.00	64.8
25	T1	All MCs	107	21.6	107	21.6	0.062	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			135	22.7	135	22.7	0.062	1.7	NA	0.0	0.0	0.00	0.13	0.00	90.0
SouthWest: Dawson Highway															
31	T1	All MCs	60	35.1	60	35.1	0.039	0.3	LOS A	0.1	1.1	0.11	0.15	0.11	95.0
32	R2	All MCs	15	35.7	15	35.7	0.039	9.5	LOS A	0.1	1.1	0.18	0.24	0.18	67.8
Approach			75	35.2	75	35.2	0.039	2.1	NA	0.1	1.1	0.13	0.17	0.13	88.0
All Vehicles			373	18.6	373	18.6	0.150	4.9	NA	0.6	4.4	0.14	0.36	0.14	79.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dawson / Leichhardt AM - Base+Project - Biloela
(Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Leichhardt Highway															
21	L2	All MCs	26	32.0	26	32.0	0.052	9.2	LOS A	0.2	1.7	0.29	0.63	0.29	62.0
23	R2	All MCs	16	40.0	16	40.0	0.052	11.6	LOS B	0.2	1.7	0.29	0.63	0.29	59.9
Approach			42	35.0	42	35.0	0.052	10.1	LOS B	0.2	1.7	0.29	0.63	0.29	61.1
NorthEast: Leichhardt Highway															
24	L2	All MCs	153	4.8	153	4.8	0.084	8.0	LOS A	0.0	0.0	0.00	0.66	0.00	71.9
25	T1	All MCs	96	22.0	96	22.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			248	11.4	248	11.4	0.084	4.9	NA	0.0	0.0	0.00	0.40	0.00	80.6
SouthWest: Dawson Highway															
31	T1	All MCs	48	34.8	48	34.8	0.033	0.5	LOS A	0.1	1.1	0.16	0.19	0.16	94.2
32	R2	All MCs	13	33.3	13	33.3	0.033	10.1	LOS B	0.1	1.1	0.26	0.30	0.26	67.8
Approach			61	34.5	61	34.5	0.033	2.5	NA	0.1	1.1	0.18	0.21	0.18	87.2
All Vehicles			352	18.3	352	18.3	0.084	5.1	NA	0.2	1.7	0.07	0.40	0.07	78.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dawson / Leichhardt PM - Base+Project - Biloela
(Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Leichhardt Highway															
21	L2	All MCs	21	30.0	21	30.0	0.197	9.3	LOS A	0.8	6.3	0.38	0.67	0.38	62.1
23	R2	All MCs	142	4.4	142	4.4	0.197	9.8	LOS A	0.8	6.3	0.38	0.67	0.38	69.7
Approach			163	7.7	163	7.7	0.197	9.7	LOS A	0.8	6.3	0.38	0.67	0.38	68.6
NorthEast: Leichhardt Highway															
24	L2	All MCs	27	26.9	27	26.9	0.017	8.5	LOS A	0.0	0.0	0.00	0.66	0.00	64.8
25	T1	All MCs	107	21.6	107	21.6	0.062	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			135	22.7	135	22.7	0.062	1.7	NA	0.0	0.0	0.00	0.13	0.00	90.0
SouthWest: Dawson Highway															
31	T1	All MCs	60	35.1	60	35.1	0.039	0.4	LOS A	0.1	1.1	0.11	0.15	0.11	95.0
32	R2	All MCs	15	35.7	15	35.7	0.039	9.5	LOS A	0.1	1.1	0.18	0.24	0.18	67.8
Approach			75	35.2	75	35.2	0.039	2.2	NA	0.1	1.1	0.13	0.17	0.13	88.0
All Vehicles			373	18.6	373	18.6	0.197	5.3	NA	0.8	6.3	0.19	0.37	0.19	78.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Leichhardt / Uncle Toms AM - Base+Project (Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	36	41.2	36	41.2	0.026	0.1	LOS A	0.0	0.2	0.06	0.08	0.06	97.4
3	R2	All MCs	3	33.3	3	33.3	0.026	9.1	LOS A	0.0	0.2	0.06	0.08	0.06	70.6
Approach			39	40.5	39	40.5	0.026	0.8	NA	0.0	0.2	0.06	0.08	0.06	94.5
East: Uncle Toms Road															
4	L2	All MCs	3	33.3	3	33.3	0.010	8.9	LOS A	0.0	0.3	0.19	0.62	0.19	62.5
6	R2	All MCs	6	50.0	6	50.0	0.010	9.6	LOS A	0.0	0.3	0.19	0.62	0.19	57.6
Approach			9	44.4	9	44.4	0.010	9.4	LOS A	0.0	0.3	0.19	0.62	0.19	59.1
North: Leichhardt Highway															
7	L2	All MCs	134	2.4	134	2.4	0.097	7.9	LOS A	0.0	0.0	0.00	0.52	0.00	74.8
8	T1	All MCs	39	29.7	39	29.7	0.097	0.0	LOS A	0.0	0.0	0.00	0.52	0.00	84.9
Approach			173	8.5	173	8.5	0.097	6.1	NA	0.0	0.0	0.00	0.52	0.00	76.9
All Vehicles			221	15.7	221	15.7	0.097	5.3	NA	0.0	0.3	0.02	0.45	0.02	78.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Leichhardt / Uncle Toms PM - Base+Project (Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	40	39.5	40	39.5	0.029	0.0	LOS A	0.0	0.3	0.03	0.07	0.03	98.0
3	R2	All MCs	4	50.0	4	50.0	0.029	8.9	LOS A	0.0	0.3	0.03	0.07	0.03	65.3
Approach			44	40.5	44	40.5	0.029	0.9	NA	0.0	0.3	0.03	0.07	0.03	93.5
East: Uncle Toms Road															
4	L2	All MCs	4	25.0	4	25.0	0.116	8.6	LOS A	0.4	2.9	0.18	0.64	0.18	65.0
6	R2	All MCs	133	2.4	133	2.4	0.116	7.8	LOS A	0.4	2.9	0.18	0.64	0.18	72.3
Approach			137	3.1	137	3.1	0.116	7.8	LOS A	0.4	2.9	0.18	0.64	0.18	72.1
North: Leichhardt Highway															
7	L2	All MCs	5	60.0	5	60.0	0.024	9.4	LOS A	0.0	0.0	0.00	0.09	0.00	63.4
8	T1	All MCs	33	32.3	33	32.3	0.024	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	98.1
Approach			38	36.1	38	36.1	0.024	1.3	NA	0.0	0.0	0.00	0.09	0.00	91.2
All Vehicles			219	16.3	219	16.3	0.116	5.3	NA	0.4	2.9	0.12	0.43	0.12	78.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Leichhardt / Defence AM - Base+Project (Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	36	41.2	36	41.2	0.096	0.2	LOS A	0.5	3.5	0.14	0.48	0.14	78.1
3	R2	All MCs	131	0.8	131	0.8	0.096	6.8	LOS A	0.5	3.5	0.14	0.48	0.14	69.9
Approach			166	9.5	166	9.5	0.096	5.4	NA	0.5	3.5	0.14	0.48	0.14	71.5
East: Defence Road															
4	L2	All MCs	3	33.3	3	33.3	0.010	8.9	LOS A	0.0	0.3	0.21	0.62	0.21	57.7
6	R2	All MCs	6	50.0	6	50.0	0.010	10.0	LOS B	0.0	0.3	0.21	0.62	0.21	52.9
Approach			9	44.4	9	44.4	0.010	9.6	LOS A	0.0	0.3	0.21	0.62	0.21	54.4
North: Leichhardt Highway															
7	L2	All MCs	6	50.0	6	50.0	0.028	8.9	LOS A	0.0	0.0	0.00	0.09	0.00	64.3
8	T1	All MCs	39	29.7	39	29.7	0.028	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	94.6
Approach			45	32.6	45	32.6	0.028	1.3	NA	0.0	0.0	0.00	0.09	0.00	88.8
All Vehicles			221	15.7	221	15.7	0.096	4.7	NA	0.5	3.5	0.12	0.41	0.12	73.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Leichhardt / Defence PM - Base+Project (Site Folder: 2026 - With Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Leichhardt Highway															
2	T1	All MCs	40	39.5	40	39.5	0.029	0.0	LOS A	0.0	0.3	0.03	0.07	0.03	97.2
3	R2	All MCs	4	50.0	4	50.0	0.029	7.7	LOS A	0.0	0.3	0.03	0.07	0.03	64.9
Approach			44	40.5	44	40.5	0.029	0.7	NA	0.0	0.3	0.03	0.07	0.03	92.8
East: Defence Road															
4	L2	All MCs	132	0.8	132	0.8	0.089	8.0	LOS A	0.4	2.7	0.11	0.62	0.11	68.3
6	R2	All MCs	5	60.0	5	60.0	0.089	9.6	LOS A	0.4	2.7	0.11	0.62	0.11	50.8
Approach			137	3.1	137	3.1	0.089	8.0	LOS A	0.4	2.7	0.11	0.62	0.11	67.4
North: Leichhardt Highway															
7	L2	All MCs	5	60.0	5	60.0	0.024	9.2	LOS A	0.0	0.0	0.00	0.09	0.00	61.5
8	T1	All MCs	33	32.3	33	32.3	0.024	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	94.9
Approach			38	36.1	38	36.1	0.024	1.3	NA	0.0	0.0	0.00	0.09	0.00	88.3
All Vehicles			219	16.3	219	16.3	0.089	5.4	NA	0.4	2.7	0.08	0.42	0.08	74.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Appendix B Concept Designs

THEODORE WIND FARM CONNECTION PROJECT

THEODORE EASEMENT CONNECTION WORKS



LOCALITY PLAN

DRAWING INDEX

DRAWING NUMBER	REVISION	DATE	DRAWING DESCRIPTION
PS218956-WSP-CIV-0001	1	18.06.26	LOCALITY PLAN AND DRAWING INDEX
PS218956-WSP-CIV-0101	1	18.06.26	GENERAL ARRANGEMENT – SITE 1
PS218956-WSP-CIV-0151	1	18.06.26	VEHICLE TRACKING PATHS SITE 1 – APPROACH SIGHT DISTANCE – EASTBOUND
PS218956-WSP-CIV-0152	1	18.06.26	VEHICLE TRACKING PATHS SITE 1 – MINIMUM GAP SIGHT DISTANCE – WESTBOUND
PS218956-WSP-CIV-0153	1	18.06.26	VEHICLE TRACKING PATHS SITE 1 – MINIMUM GAP SIGHT DISTANCE – EASTBOUND
PS218956-WSP-CIV-0154	1	18.06.26	VEHICLE TRACKING PATHS SITE 1 – SAFE INTERSECTION SIGHT DISTANCE
PS218956-WSP-CIV-0201	1	18.06.26	GENERAL ARRANGEMENT – SITE 2
PS218956-WSP-CIV-0251	1	18.06.26	VEHICLE TRACKING PATHS SITE 2 – MINIMUM GAP SIGHT DISTANCE – SOUTHBOUND
PS218956-WSP-CIV-0252	1	18.06.26	VEHICLE TRACKING PATHS SITE 2 – MINIMUM GAP SIGHT DISTANCE – SOUTHBOUND
PS218956-WSP-CIV-0253	1	18.06.26	VEHICLE TRACKING PATHS SITE 2 – MINIMUM GAP SIGHT DISTANCE
PS218956-WSP-CIV-0254	1	18.06.26	VEHICLE TRACKING PATHS SITE 2 – SAFE INTERSECTION SIGHT DISTANCE

TOTAL NUMBER OF DRAWINGS = 11

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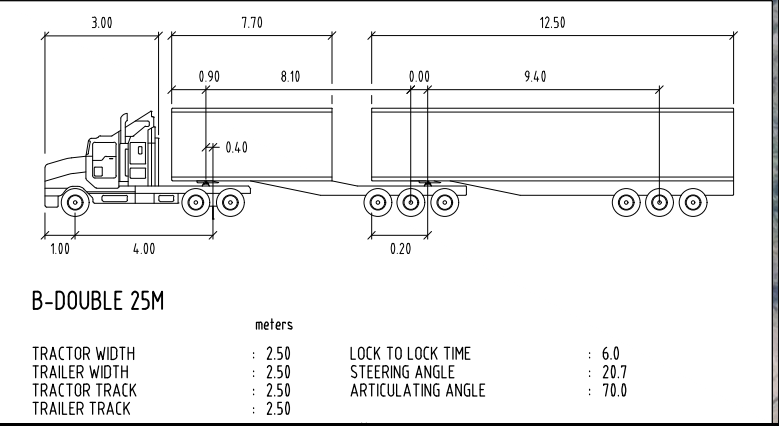
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								DATE:						TITLE:		N. ANDERSON		G. BIFFIN	
								RREQ:						GENERAL ARRANGEMENT		PROJECT No:		DRAWN:	
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REV	DATE	BY	DESCRIPTION	CHK	APPD	
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REFERENCE COORDINATION DRAWINGS			
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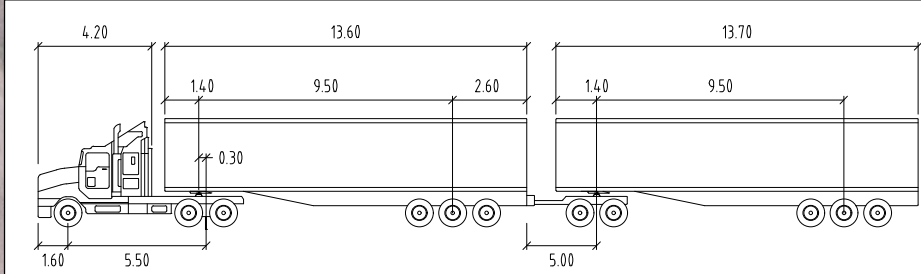
Level 2, 34 Nerang Street, Nerang
GPO Box 2807, QLD 4001, Australia
Tel: +61 7 3854 6200 Fax: +61 7 3854 6500
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PROJECT:		THEODORE EASEMENT CONNECTION WORKS	
TITLE:		VEHICLE TRACKING PATHS SITE 1 APPROACH SIGHT DISTANCE EASTBOUND	

DRAWING STATUS: FOR INFORMATION			
DESIGNED:	CHECKED:	APPROVED:	
N. ANDERSON	G. BIFFIN	R. BROZOVICH	
PROJECT No:	DRAWN:	DATE:	
PS218956	J. PARDO	18.06.26	
DRAWING No:			REV:
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PS218956-WSP-CIV-0152

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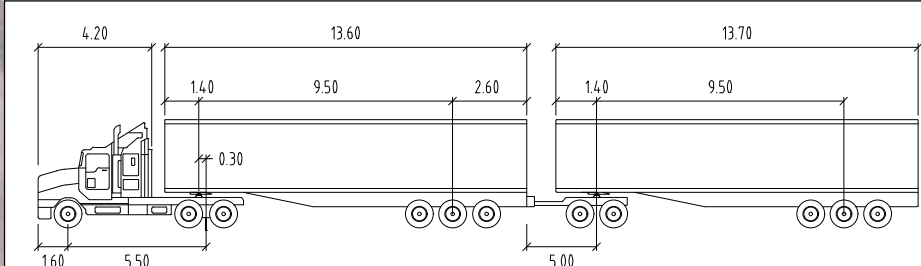


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TRAILER WIDTH	: 2.50	STEERING ANGLE	: 23.4
TRACTOR TRACK	: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		

1		18.06.26	J.P.	ISSUED FOR INFORMATION	G.B.	R.B.				
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REFERENCE COORDINATION DRAWINGS				SCALES						
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				AHD						
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APPROVED				SIGNED:						
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wsp				Level 2, 34 Nerang Street, Nerang GPO Box 2807, QLD 4001, Australia Tel: +61 7 3854 6200 Fax: +61 7 3854 6500 wsp.com						
CLIENT:				Powerlink QUEENSLAND						
PROJECT:				THEODORE EASEMENT CONNECTION WORKS						
TITLE:				VEHICLE TRACKING PATHS SITE 1 MINIMUM GAP SIGHT DISTANCE WESTBOUND						
DRAWING STATUS:				FOR INFORMATION						
DESIGNED:		CHECKED:		APPROVED:						
N. ANDERSON		G. BIFFIN		R. BROZOVICH						
PROJECT No:		DRAWN:		DATE:						
PS218956		J. PARDO		18.06.26						
DRAWING No:				REV:						
PS218956-WSP-CIV-0152				1						

PS218956-WSP-CIV-0153

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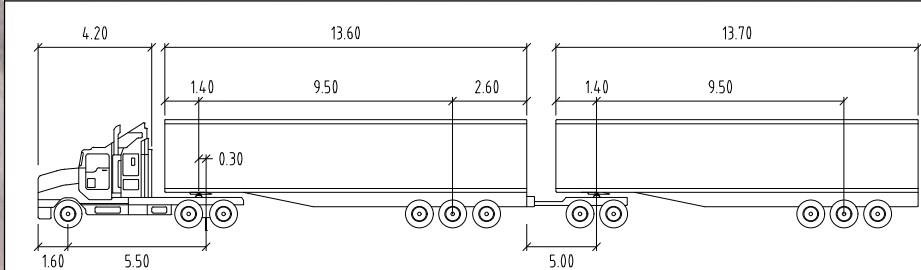


A-DOUBLE			
	METERS		
TRACTOR WIDTH	: 2.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 2.50	STEERING ANGLE	: 23.4
TRACTOR TRACK	: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		

1 18.06.26 J.P. ISSUED FOR INFORMATION		G.B. R.B. GDA2020 MGA ZONE 56		AHD		0 5 10 20 30 Full Size 1:500 : Half Reduction 1:1000 SCALE (m)		A1 ORIGINAL DO NOT SCALE THIS DRAWING APPROVED SIGNED: _____ DATE: _____ RREQ: _____ © WSP Australia Pty Ltd.		 Level 2, 34 Nerang Street, Nerang GPO Box 2807, QLD 4001, Australia Tel: +61 7 3854 6200 Fax: +61 7 3854 6500 wsp.com				PROJECT: THEODORE EASEMENT CONNECTION WORKS TITLE: VEHICLE TRACKING PATHS SITE 1 MINIMUM GAP SIGHT DISTANCE EASTBOUND		DRAWING STATUS: FOR INFORMATION DESIGNED: N. ANDERSON PROJECT No: PS218956 DRAWING No: CHECKED: G. BIFFIN DRAWN: J. PARDO APPROVED: R. BROZOVICH DATE: 18.06.26 REV: 1	
REV	DATE	BY	DESCRIPTION	CHK	APPD	HORIZONTAL DATUM:		VERTICAL DATUM:		CLIENT:		PROJECT:		DRAWING STATUS:		FOR INFORMATION	

PS218956-WSP-CIV-0154

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A-DOUBLE			
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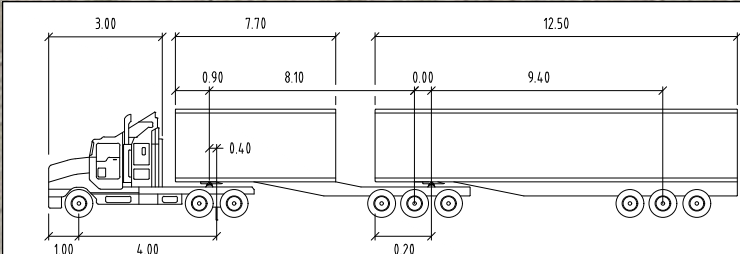
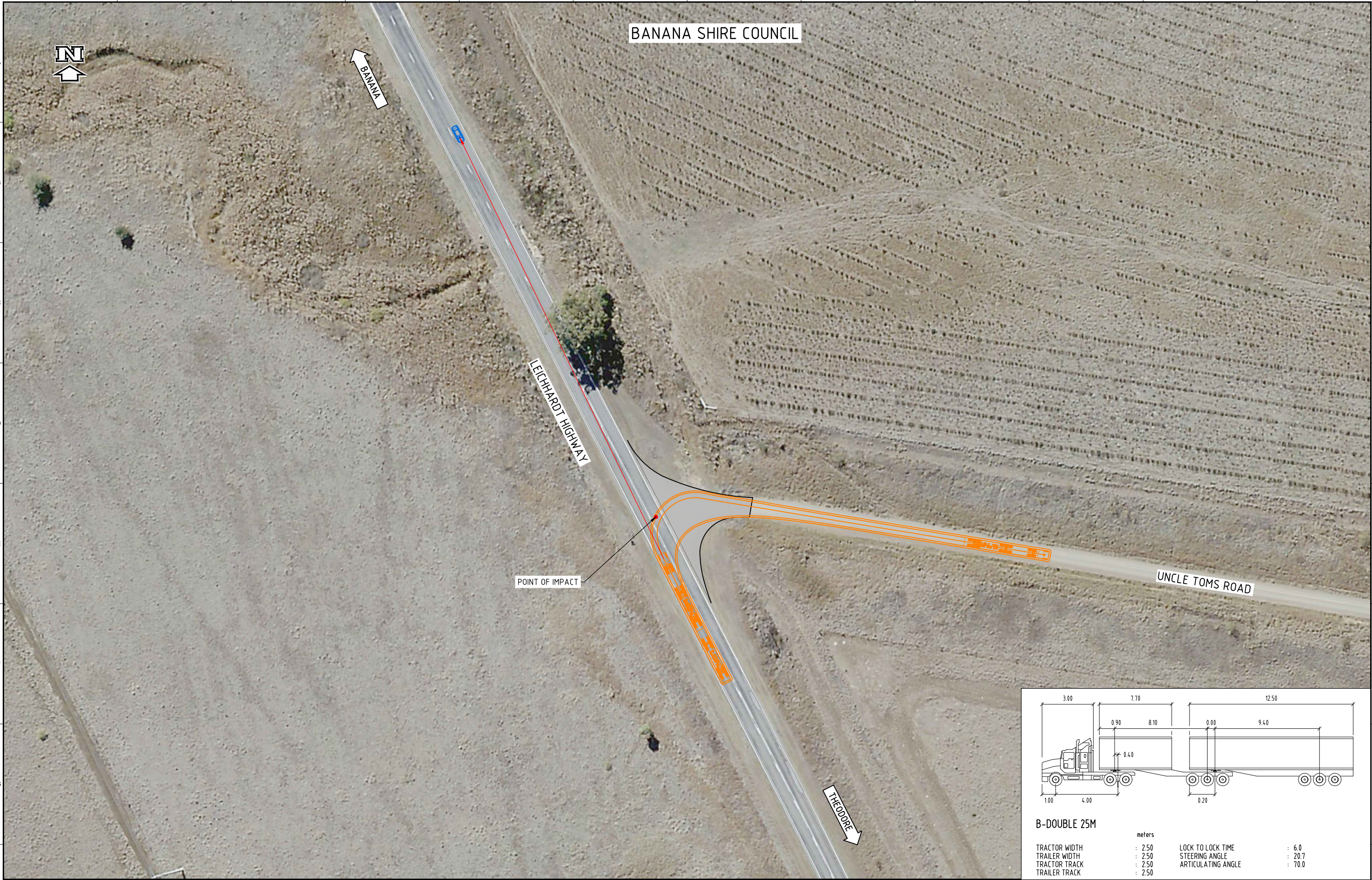
1	18.06.26	J.P.	ISSUED FOR INFORMATION	G.B.	R.B.	REFERENCE COORDINATION DRAWINGS				SCALES 0 5 10 20 30 Full Size 1:500 ; Half Reduction 1:1000 SCALE (m)	A1 ORIGINAL DO NOT SCALE THIS DRAWING				 Level 2, 34 Nerang Street, Nerang GPO Box 2907, QLD 4001, Australia Tel: +61 7 3854 6200 Fax: +61 7 3854 6500 wsp.com		CLIENT:	PROJECT: THEODORE EASEMENT CONNECTION WORKS				DRAWING STATUS: FOR INFORMATION							
						DESCRIPTION		DRAWING NO.			REV	CHK	APPROVED					DESIGNED: N. ANDERSON		CHECKED: G. BIFFIN		APPROVED: R. BROZOVICH							
						SURVEY DATUM					DATE:							REQ:				PROJECT No: PS218956		DRAWN: J. PARDO		DATE: 18.06.26			
						HORIZONTAL DATUM: GDA2020 MGA ZONE 56					VERTICAL DATUM: AHD							© WSP Australia Pty Ltd.				TITLE: VEHICLE TRACKING PATHS SITE 1 SAFE INTERSECTION SIGHT DISTANCE				DRAWING No: PS218956-WSP-CIV-0154			
						REV					DATE							BY				DESCRIPTION				CHK			

PS218956-WSP-CIV-0201

File name: C:\1\2\DATA\WSP\WSP218956 THEODORE EASEMENT CONNECTION_6910400_DELIVERY\ALIGNMENT02_DRAWINGS\PS218956-WSP-CIV-0201.DWG, printed on Thursday, 18 June 2026 10:20:21 AM, by Pardo Guzman, Julian



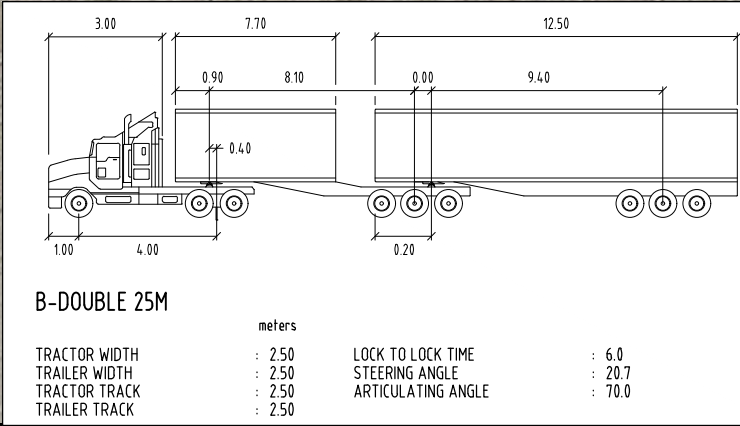
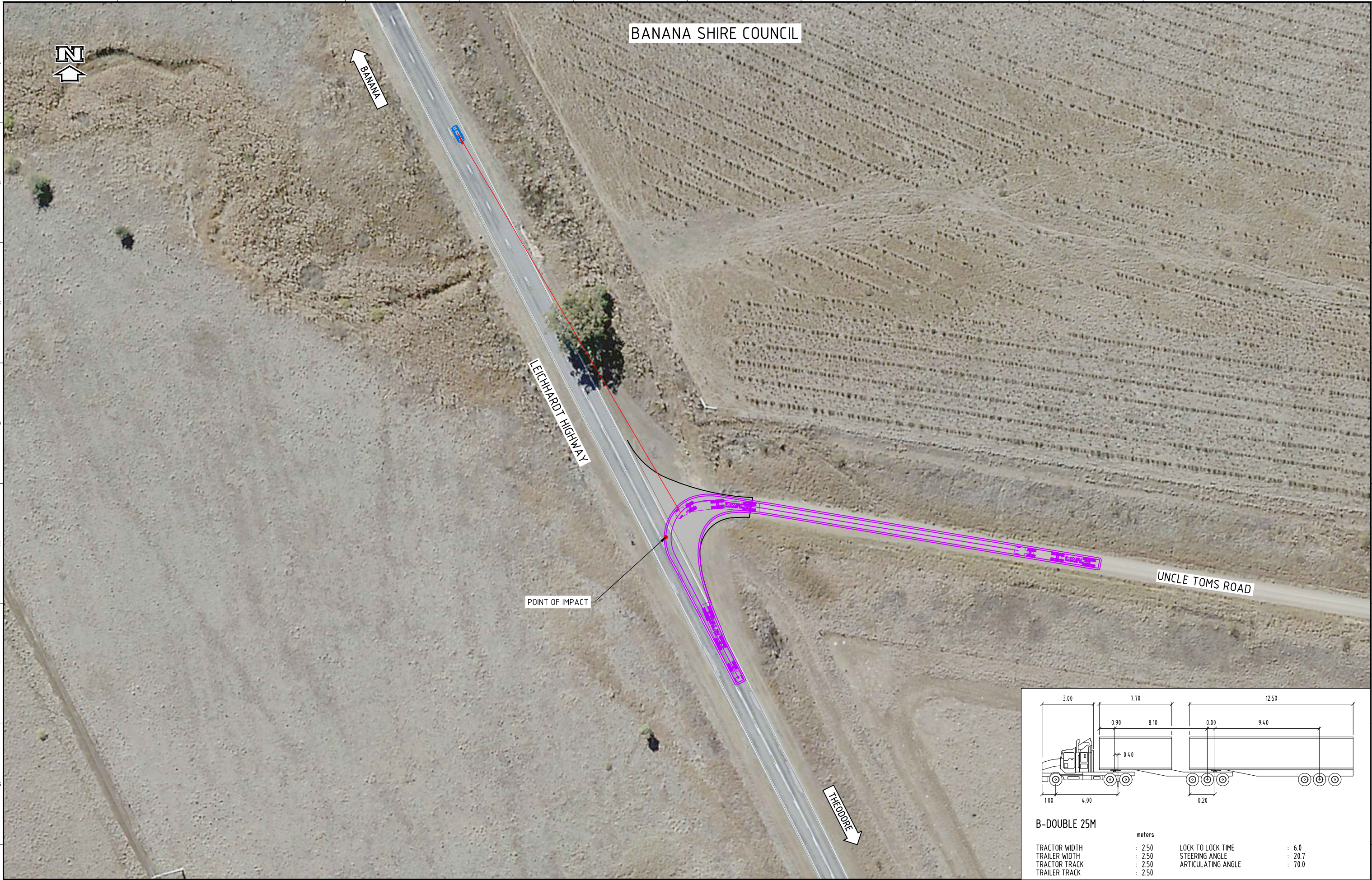
1	18.06.26	J.P.	ISSUED FOR INFORMATION	G.B.	R.B.	REFERENCE COORDINATION DRAWINGS				SCALES 0 5 10 20 30 Full Size 1:500 ; Half Reduction 1:1000 SCALE (m)	A1 ORIGINAL		wsp Level 2, 34 Nerang Street, Nerang GPO Box 2907, QLD 4001, Australia Tel: +61 7 3854 6200 Fax: +61 7 3854 6500 wsp.com	CLIENT: Powerlink QUEENSLAND	PROJECT: THEODORE EASEMENT CONNECTION WORKS		DRAWING STATUS: FOR INFORMATION		
						APPROVED		DESIGNED: N. ANDERSON			CHECKED: G. BIFFIN				APPROVED: R. BROZOVICH				
						SIGNED:		PROJECT No: PS218956			DRAWN: J. PARDO				DATE: 18.06.26				
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						© WSP Australia Pty Ltd.		GENERAL ARRANGEMENT SITE 2											



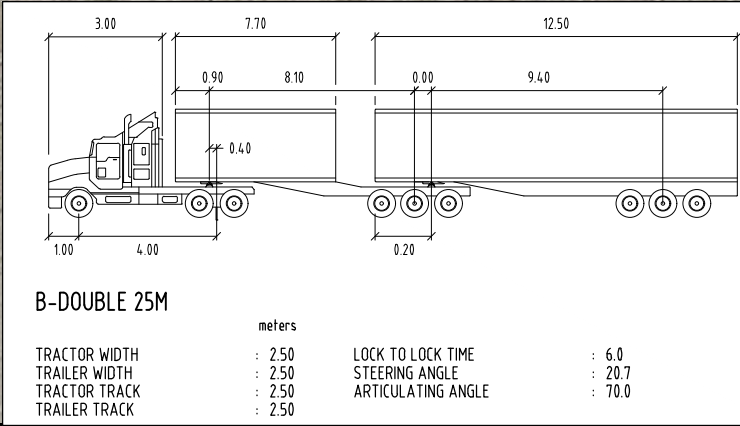
B-DOUBLE 25M

meters			
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TRAILER WIDTH	: 2.50	STEERING ANGLE	: 20.7
TRACTOR TRACK	: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		

REFERENCE COORDINATION DRAWINGS				SCALES		A1 ORIGINAL		CLIENT:		PROJECT:		DRAWING STATUS:	
DESCRIPTION		DRAWING NO.		REV	CHK	DO NOT SCALE THIS DRAWING		Powerlink		THEODORE EASEMENT CONNECTION WORKS		FOR INFORMATION	
						APPROVED		Level 2, 34 Nerang Street, Nerang GPO Box 2807, QLD 4201, Australia Tel: +61 7 3854 6200 Fax: +61 7 3854 6500 wsp.com		TITLE:		DESIGNED: N. ANDERSON CHECKED: G. BIFFIN APPROVED: R. BROZOVICH	
						DATE: RREQ:				VEHICLE TRACKING PATHS SITE 2 MINIMUM GAP SIGHT DISTANCE SOUTHBOUND		PROJECT No: PS218956 DRAWN: J. PARDO DATE: 18.06.26	
						© WSP Australia Pty Ltd.						DRAWING No: PS218956-WSP-CIV-0251	
												REV: 1	



1		18.06.26	J.P.	ISSUED FOR INFORMATION		G.B.	R.B.
REV	DATE	BY	DESCRIPTION		CHK	APPD	
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SURVEY DATUM							
HORIZONTAL DATUM:				VERTICAL DATUM:			
GDA2020 MGA ZONE 56				AHD			

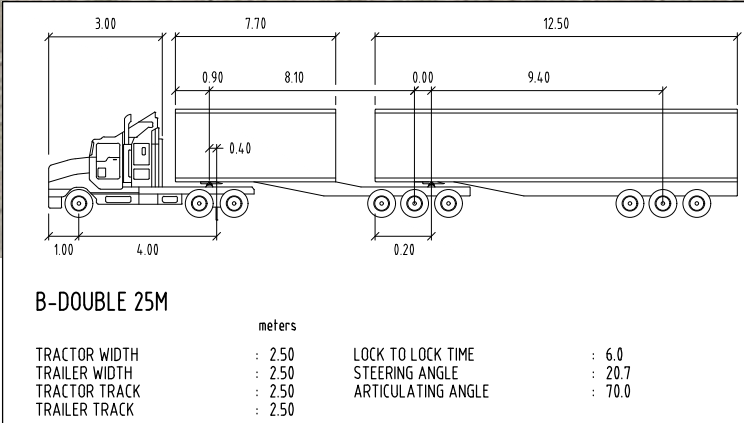


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REV	DATE	BY	DESCRIPTION	CHK	APPD	
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REFERENCE COORDINATION DRAWINGS				SCALES	
DESCRIPTION	DRAWING NO.	REV	CHK	0 5 10 20 30	
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HORIZONTAL DATUM:				DO NOT SCALE THIS DRAWING	
VERTICAL DATUM:				SIGNED:	
GDA2020 MGA ZONE 56				APPROVED	
AHD				DATE:	
				REQD:	
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wsp		CLIENT:	
Level 2, 34 Nerang Street, Nerang GPO Box 2807, QLD 4001, Australia Tel: +61 7 3854 6200 Fax: +61 7 3854 6500 wsp.com			

PROJECT:		THEODORE EASEMENT CONNECTION WORKS		DRAWING STATUS:	
TITL:		VEHICLE TRACKING PATHS SITE 2 MINIMUM GAP SIGHT DISTANCE		FOR INFORMATION	
DESIGNED:		N. ANDERSON		CHECKED:	
PROJECT No:		PS218956		G. BIFFIN	
DRAWN:		J. PARDO		APPROVED:	
DATE:		18.06.26		R. BROZOVICH	
DRAWING No:		PS218956-WSP-CIV-0253		REV:	
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